

**A Typological Assessment of  
Iron Age Weapons in South Italy**

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## **ABSTRACT**

Typologies, especially of spearheads, have been decried as inadequate by the archaeological community. They have prevented the synthetic study of ancient weapons and obscured cultural contacts, changes in form and distribution, and changes in fighting style. This thesis presents new typologies of spearheads and swords which are not based on aesthetics or the need to communicate a large amount of material succinctly in the limited space of a site report. Rather, these typologies attempt to perceive the functional characteristics of these weapon classes. The thesis surveys a range of sites in Daunia, Basilicata and Southern Campania applying these new typologies to large suites of weapons. From this assessment a number of conclusions have flowed regarding cultural contacts between indigenous Southern Italic groups and with immigrating groups of Villanovan and Greek origin. The assessment reveals the variety of weapon forms in use and tracks changes over time. These changes expose cultural transformations and alterations in fighting styles. The tracking of paraphernalia often associated with weapons in modern scholarship has also revealed some nuances in patterns of association with weapons which were not previously apparent.

## ACKNOWLEDGMENTS

This thesis evolved from a long-standing interest in ancient warfare and a growing fascination with the proto-historic period in South Italy. Finding my attempts to understand the weapons and their cultural and military contexts frustrated by the lack of coherent weapons typologies led me to this particular topic.

I received the support and guidance of numerous individuals throughout the preparation of this thesis and I have greatly valued their insights. I wish to acknowledge the generosity of Dr John Robb, providing me with information and discussion about the osteological material from Pontecagnano, and for providing me with permission to use some of his excellent photographs. Dr Michael Turner assisted me with the study of weapons in South Italian red-figured vases, and I have tremendous gratitude to Dr Alistair Blanshard for elucidating Thucydides. I had many helpful discussions about fighting technique with Dr Michael Burns and have come to value his friendship. I wish to extend heart felt thanks to my friends and colleagues, who have been very supportive and understanding throughout the preparation of this thesis. Particularly, however, I wish to thank my supervisor Dr Edward G. D. Robinson for his wise comments and unflagging patience. Without Dr Robinson's critical guidance this work would be much poorer.

I wish to dedicate this work to the memory of my father, John Inall (1931-2001).

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## **Chapter 1 - Introduction**

This thesis aims to document and assess the weaponry used by the indigenous peoples of South Italy from the late 9<sup>th</sup> C until the end of the 4<sup>th</sup> C BC. The study will endeavour to understand cultural interactions through weapon technology, and the distribution of particular weapon forms. By focusing on the relationship between form and function, this study aims to identify the fighting styles that were employed and how these changed over time.

Given the large geographic area, it is not feasible to assess the entirety of South Italy. Therefore, I have chosen to take a sample of sites from Daunia, near the Adriatic coast, across the northern part of Basilicata to Southern Campania. Cutting across these three areas provides a sample that is known to include at least four cultural groups: the Daunians, the so-called north-Lucanian peoples, the *Fossakultur* of the Oliveto Citra and Cairano group, and the Southern Villanovan settlements of Campania. 'Lucanians' are thought by some to be an intrusive element from the Apennine regions from the 5<sup>th</sup> C onwards. I anticipate that a diachronic comparison of material from these regions will reveal patterns in the appearance, distribution and prevalence of the various weapon forms. These patterns will inform our understanding of the weapons South Italian warriors carried in the period from the late 9<sup>th</sup> to 4<sup>th</sup> C and how they may have fought with them, and give some information on cultural and economic ties between Italic groups, and with the Greek colonial and mercantile presence.

Due to a lack of well-published material dating to the 8<sup>th</sup> C in north-western Basilicata I will also include the Ionian coastal site Incoronata, an indigenous centre with numerous well-published tombs dated to the 9<sup>th</sup>/8<sup>th</sup> C, which will offer a point of

comparison to the Southern Villanovan sites in Campania. I also include the 'Oenotrian' site of Chiaromonte as this provides an indication of a different cultural area located in the southern part of Basilicata.

The chronological period I have chosen to focus on, from the late 9<sup>th</sup> and 8<sup>th</sup> C to the end of the 4<sup>th</sup> C, covers several important events. This study begins just before the important transition from bronze to iron as the preferred metal for the manufacture of weaponry in South Italy, which influenced greatly the design and efficacy of weapons, especially the form of spearheads. This period also includes several cultural shifts in the region, such as the establishment and eventual decline of the Southern Villanovan settlements of Sala Consilina and Pontecagnano, the advent of Greek colonisation in the region (between the 8<sup>th</sup> and 5<sup>th</sup> C) and the 'Lucanianisation' of parts of Basilicata and Southern Campania in the 5<sup>th</sup> and 4<sup>th</sup> C. The 5<sup>th</sup> and 4<sup>th</sup> C were times of historically recorded conflict in the region. For example, there were several conflicts between the Greek colony of Taranto and the neighbouring indigenous population recorded in the ancient sources. The Greek colonies were involved in the Peloponnesian War, in which Thucydides records the employment of indigenous mercenaries, and the indigenous peoples fought the Thurians in 389 BC. Alexander the Molossian conducted a campaign through South Italy from 335-331, followed by a number of other foreign military commanders. During the late 5<sup>th</sup> C and 4<sup>th</sup> C a number of sites in the interior of Basilicata erected fortification walls suggesting the possibility of conflict not merely with the Greeks but among indigenous groups. I have chosen to conclude the study at the end of the 4<sup>th</sup> C, before the Roman take-over of the region. While this chronological limit is arbitrary, continuing the study into the 3<sup>rd</sup> C would require a detailed investigation into the weaponry of Republican Rome and the impact of the cultural and technical exchange between the Roman military

and the peoples of South Italy. The complexity of that exchange would broaden this study beyond the scope of a Masters thesis.

Others have assessed the form and function of armour during the Iron Age in South Italy, the usage, distribution and technical and cultural evolution of which is now well understood.<sup>1</sup> The defensive functions of armour are simple and constant. Armour was essentially passive,<sup>2</sup> designed to protect vulnerable flesh. The form, function, evolution and distribution of offensive weapons are less well understood. Angelo Bottini's splendid catalogue *Armi: gli strumenti della guerra in Lucania* (1993) and Nava and Santi's *Genti in Arme* (2001) present an overview of the weapon and armour forms that appear in the region. They attend to the defensive panoply but include little discussion of the functional role of offensive weaponry, especially spearheads. Assessments of weaponry finds, principally from funerary and votive contexts, have largely sought to understand their function as symbols of rank, power and prestige, rather than as weapons. While the contexts from which these weapons are recovered are clearly ritual, their deposition expressing complex social statements, most of these objects were probably functional. An opportunity exists to look beyond the ritual to their profane function as tools created for the practices of warfare and hunting. This study seeks to fill this gap in our understanding of military practice in Iron Age South Italy. Without an understanding of the weapons little can be said about fighting styles.

The method chosen to assess the functional role of weaponry in this thesis is the construction of a morphological typology for each of the two principal weapon classes

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<sup>1</sup> For example: Bottini 1993; Connolly 1981; Connolly 1986; Nava and Santi 2001; Robinson 1995; Suano 1996; Romito ; Born and Hansen 1994.

<sup>2</sup> As an exception, shields may be considered an aggressive defensive accoutrement illustrated through practices such as the *othismos* in hoplite warfare, see Hanson 1993, 130 and note 48.

(spearheads and swords), using type-determinate criteria that affected their function. The question as to whether typological analysis is a valid tool to answer questions relating to the function of weapons must be explored. Typologies are interpretive constructs, laid over a sample of a perceived artefact 'class', to answer specific questions about that class of objects. The process is somewhat arbitrary and must be approached with cognisance of the impacts of the act of classification itself. The question, or purpose, underlying the construction of the typology will affect its usefulness in answering not only the question it was designed to answer but also its applicability to answer other questions which were not considered during the formation of the typology.<sup>3</sup> Existing typologies of weaponry in South Italy were constructed principally with aims to either understand their chronology—like Bianco Peroni's sword typology—or to succinctly communicate the existence of a number of artefacts with the economy of space required in the publication of excavation reports, like Bottini's spearhead typology.<sup>4</sup> Consequently, their type-determinate criteria were not based on functional considerations and are not well suited to answer questions about function. An opportunity exists to approach this material in a new way, by constructing a morphological taxonomy in which type membership is determined on the basis of functional criteria.

In the first two chapters of this thesis I shall explore and discuss the role and history of typological assessment for the principal weapon classes: spearheads and swords. I will examine those attributes which may be considered for type determination and the functional role of each. Concepts of type ideals and type variability will be

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<sup>3</sup> Adams and Adams 1991, 157-168 discusses the role and impact of purpose in type formation.

<sup>4</sup> Bianco Peroni 1970; Bottini 1982; Bottini *et al.* 1988; Bottini *et al.* 1991. See Pearce 2007, 24-28 for an overview of the historical development of typological studies in Italian archaeology.



considered, so that rather than merely presenting type ideals I aim to include a broad number of examples demonstrating the range of variation within types.

The assessment of spearheads has required the construction of a new typology drawing material from a greater number of sites in Basilicata, Northern Puglia (Daunia) and Southern Campania than has been considered in previous studies. This greater sample size has revealed broader contacts and patterns of technical exchange and military practice amongst the Iron Age South Italian peoples. I have also developed a comparative key of existing spearhead typologies.

Due to a number of pre-existing sword classifications that are commonly accepted in scholarship it is not feasible to construct a wholly new typology of swords, though a review of their morphology and functional implications will be undertaken. I offer a range of sub-types within these classifications, which could aid understanding of their evolution and function.

Additional weapon classes such as axes and arrowheads will also be discussed briefly in an appendix, along with other paraphernalia often associated with weapons such as armour, bronze belts and firedogs and iron spits. Axes fall into limited morphological types and do not require detailed typological assessment to understand their function. The very small number of arrowheads that have been recovered and published from sites assessed in this thesis precludes their examination on a typological basis, but they will nonetheless be discussed.

I will apply these weapon typologies to material from a representative sample of sites in Daunia, Basilicata and Southern Campania. This will be done in three chapters, one covering each geographic area. For each site I provide detailed tables of the published weapons and associated paraphernalia followed by a typological summary of the

material before offering conclusions about the weapons assemblage for each area throughout the period under examination.

Through the development and application of a functional typology a seriation has emerged, facilitating an understanding of diachronic development and evolution of weapons and their usage. The comparison of material across geographical and cultural zones may also reveal patterns of cultural exchange, factors that may provide answers to the following questions. Were weapons imported or were they locally produced? Did the weapons assemblage change following Greek colonisation, and, if so, in what ways? Were different types of weapons generally in use in different parts of South Italy? Do changes in the weapons assemblage indicate changes in fighting techniques?

## **Chapter 2 - Spearheads**

Spears were the principal weapon of the Iron Age in South Italy. Their frequent inclusion in burials and votive deposits and their repeated artistic representation demonstrates that they played an important role within indigenous society. Yet the study of this important artefact class has often been forgone in favour of the study of rarer objects, perceived elite indicators, such as the sword. Individual excavators have generated numerous spearhead typologies over the past century. These typologies have served principally as methods of efficiently communicating multiple artefacts, often in limited space. No single typology has emerged as authoritative and the disparate typologies lack cohesion, each excavator's approach both unrestrained by, and uncritical of, the type constructs of others. The lack of an authoritative spearhead typology is unfortunate and for those who have attempted to understand their functionality, the absence has proven an impediment to their work.<sup>1</sup> The development of a single typology, drawing on material from a range of sites, would be a useful tool to allow a more comprehensive understanding of the forms and functions of spearheads within the indigenous settlements of South Italy during the Iron Age.

There is a tendency for archaeologists to apply the terms 'spear' and 'javelin' inconsistently in discussion of the points of long-arms. The use of these terms is problematic, as they each have implicit connotations regarding function. The term 'javelin' in particular implies a point that is specifically designed or intended for throwing and, when used in direct contrast, imbues the term 'spear' with connotations of use as a thrusting weapon. The basis upon which scholars arbitrarily divide individual points into 'spears' or 'javelins' is often inconsistent<sup>2</sup>—a point described as a 'spearhead' by one

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<sup>1</sup> E.g. Small 2000.

<sup>2</sup> For example, Ruby 1995, 98 draws a distinction between spear and javelin on the basis of overall length, and particularly the proportionate length of the socket in relation to the blade, whilst Bottini *et al.* 1988,

author may be identical to a point defined as a ‘javelin’ by another—and the lack of uniformity in the use of these terms has been unhelpful for attempts to comprehend the actual function of long-arms in antiquity. Bottini appears to recognise this problem in the *Forentum II* volume in which the terms ‘*cuspidi di lancia*’ and ‘*cuspidi di giavellotto*’, which had been used in *Forentum I*, are replaced (without explanation) by the terms ‘*punte e puntali di armi lunghe*’.<sup>3</sup> Generally there has been very little discussion surrounding the use of these terms. Throughout this thesis I will use the term ‘spearhead’ as a general term to indicate the weapon points of any long-arm form (excluding counterpoints such as the *sauroter*). I avoid the use of the term ‘javelin’ altogether due to its quite specific functional implications, and use ‘spear’ as a term which does not necessarily imply a thrusting weapon.

### ***Current Typologies***

In this section I examine a sample of current typologies in an attempt to understand the formative processes employed by other archaeologists in constructing them. The typologies I have chosen to explore in this chapter come from several sites discussed in this thesis: Lavello, Incoronata and Chiaromonte (Basilicata), and Sala Consilina and Pontecagnano (Campania). Each of the excavators has offered descriptions of their individual type definitions. Further, several have offered revised typologies in subsequent publications of material from the same sites, suggesting that the processes of type formation are not fixed, and an examination of the evolution of their typologies may illuminate the formative processes employed and the impact which individual approaches

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248-249 draws a distinction based on the overall profile of the weapon: spearheads have distinct leaf-shaped blades while javelins do not feature blades, merely a tapering of the socket to a point, an interpretation which seems to be shared by Russo Tagliente and Berlingò 1992, 315-319. d'Agostino and Gastaldi 1988, 77-79, in contrast, distinguish a javelin from a spear on the basis of its small dimensions, with points of less than 18cm total length categorised as javelins, longer points being identified as spears.

<sup>3</sup> Bottini *et al.* 1988, 248-249; Bottini *et al.* 1991, 106.

have had on the typologies created. I shall comment on these typologies below and include a more detailed critique in an appendix to this chapter.

It is clear that each of the typologies examined in this thesis is communicative in purpose. Individual archaeologists, confronted with a great number of objects recovered during the course of their excavations, have sought to publish their findings in an abbreviated format seeking an economy of space. Consequently, the formation of their individual typologies was not driven by a need to understand the manufacture or function of these objects. Rather, they served as a way of abbreviating a large number of artefacts. Each type, and sub-type, is communicated through the description and illustration of 'ideal' examples which express the presence of a larger number of artefacts of similar form. While an excavator may consider chronological or geographic distribution, these remain secondary to the need to summarise and communicate the existence of the objects. Excavators infrequently compare their own typology with that of any other scholar, and rarely offer a critical assessment of the differences and incompatibilities among typologies.<sup>4</sup> Scholars interested in understanding the manufacture, function, and social implications of this class of artefact inherit a series of classifications that are inconsistent.<sup>5</sup> Alastair Small has attempted to assess the function of points from 4<sup>th</sup> century South Italy, but lamented the lack of a workable typology for his purposes and is critical of the way in which much of this material has been published.<sup>6</sup>

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<sup>4</sup> Scholars may make some comparisons with finds from other sites, and/or other periods, thereby creating a discrete network between typologies. However, there is no critical assessment of the typology in which comparable material is identified. For example, while d'Agostino and Gastaldi 1988 attempted to draw a correlation between their own typology and that of Kilian 1970, they did not offer a critique of the typology Kilian constructed.

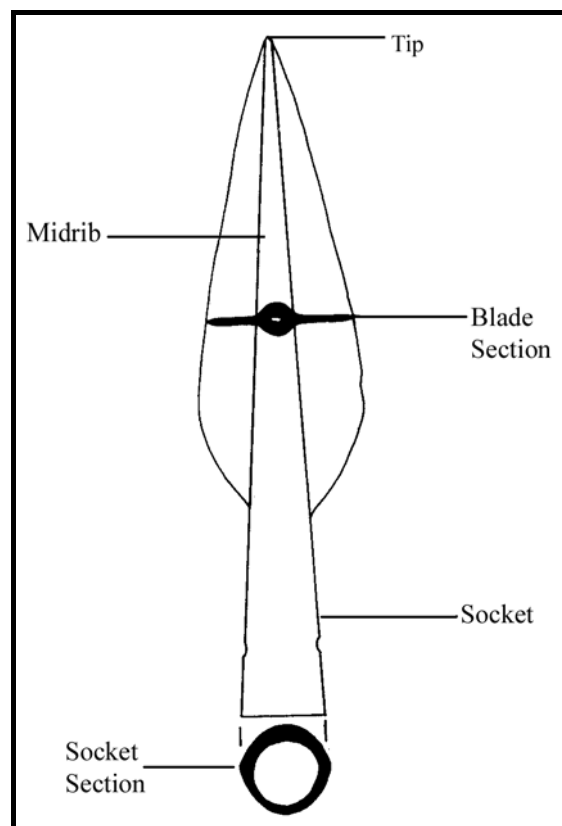
<sup>5</sup> See Adams and Adams 1991, 57-68 for a discussion of problems encountered employing typologies for purposes other than those for which they were created.

<sup>6</sup> Small 2000, 221 gives a brief assessment of typological scholarship to date in which he singles out the work of Angelo Bottini in Bottini *et al.* 1988 and Bottini *et al.* 1991 as perhaps the best attempt at creating a typology of South Italian spearheads, though he stops short of describing the effort as successful.

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It is important to understand the parts of a spearhead and how they may be considered or assessed for type construction. I list below (Figure 1) the different components of a spearhead and the manner in which they may vary:

- Material of manufacture (during the Iron Age either bronze or iron)
- Blade Profile (leaf-shaped, wide or narrow, long or short etc.)
- Blade Section (lenticular, ridged, rhomboid, polygonal etc.)
- Midrib (present or absent and, if present, shallow or pronounced)
- Socket (variation in proportionate length, for example the socket may be as long or longer than the blade, or be markedly shorter than the blade)
- Socket Section (round and conical, ovoid and conical, polygonal etc.)



**Figure 1: Parts of a spearhead**

The number of points in an excavator's sample has influenced the typology he or she has created. At Incoronata, Chiartano dealt with fewer than 50 points,<sup>7</sup> while at Lavello, Bottini was required to assess over 100.<sup>8</sup> Both revised their typologies when confronted with an increased number of points from subsequent successive excavations. Their initial efforts led to the creation of simple typologies with few types and few, if any, sub-types. Chiartano initially recognised two bronze spearhead forms with no sub-types and one iron type with a single sub-type.<sup>9</sup> Bottini constructed a simple, non-hierarchical typology consisting of five basic types, with no sub-types.<sup>10</sup> With further excavation the size of the spearhead samples increased and each scholar was confronted with new spearhead forms which did not 'fit' into the earlier system they had created. They were forced to expand their typologies to accommodate the newly observed forms. Both scholars abandoned their initial typologies in later publications in favour of more complex morphological taxonomies, i.e. type systems consisting of a number of broad types—identified through an observation of similarities in form—with a number of subordinate sub-types or type-variants.<sup>11</sup>

Increasing complexity and the employment of a hierarchical type system is common to both scholars' revised typologies, yet neither Chiartano nor Bottini seek to explain their altered approach to the material. Chiartano merely expanded his initial typology with the addition of sub-types to his bronze spear typology and the addition of a further iron type to accommodate the newly encountered examples. There is no obvious shift in his methodological approach to the material itself. Bottini made the effort to reclassify the material published in *Principi guerrieri della Daunia del VII sec.* with the appearance of

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<sup>7</sup> Chiartano 1977; Chiartano 1994.

<sup>8</sup> Bottini 1982; Bottini *et al.* 1988; Bottini *et al.* 1991.

<sup>9</sup> Chiartano 1977.

<sup>10</sup> Bottini 1982.

<sup>11</sup> Bottini *et al.* 1988; Bottini *et al.* 1991; Chiartano 1994.

the *Forentum I* volume,<sup>12</sup> though no explanation is given for the move from a basic typology to a hierarchical type system. In the later *Forentum II*<sup>13</sup> the approach to the material is again markedly different. For example, whereas in the *Forentum I* typology the presence or absence of a midrib was clearly a criterion for the determination of subtypes, in the *Forentum II* publication it is not. The terminology used in type description is also radically different in the second volume. The previously used terms ‘*cuspidi di lancia*’ and ‘*cuspidi di giavellotto*’ are dropped for the more generalised term ‘*punte e puntali di armi lunghe*’ without explanation. While, as mentioned above, this appears to be a deliberate attempt to move away from the use of terms that connote specific function, this is not explicitly discussed. Bottini’s ultimate typology fails to re-examine or reintegrate the previously published material and, regrettably, does not explain how the two type systems offered in the *Forentum* volumes might be considered side by side.<sup>14</sup>

The sequential publication of the expanding samples assessed by Chiartano and Bottini provides a glimpse into the process of type formation. The creation of hierarchical, taxonomies is common as seen in each of the typologies discussed below.

### ***Typology of material from Incoronata (Chiartano)***

Chiartano’s principal criterion for type definition was the material from which the points were made: he constructed two separate morphological taxonomies, one for points fashioned from bronze, and another for those forged in iron.<sup>15</sup> His secondary criteria for bronze and iron points vary. Secondary criteria for bronze points are the shape and section of the socket, and the section of the blade. Since the blades of most of the bronze points in his catalogue present similar leaf-shaped profiles, blade profile features in his

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<sup>12</sup> Bottini 1982; Bottini *et al.* 1988.

<sup>13</sup> Bottini *et al.* 1991.

<sup>14</sup> See the appendix to this chapter for a detailed critique of these two type systems.

<sup>15</sup> Chiartano 1977; Chiartano 1994.



type descriptions, but is not a criterion for type definition. Secondary criteria for iron points appear to be the morphology of the transition from socket to blade, whether the transition presents a convex or concave profile, and the presence or absence of what he terms a '*ghiera*', a thick polygonal lip or rim at the base of the socket.<sup>16</sup>

### ***Typology of material from Lavello (Bottini)***

As discussed above, Bottini generated several distinct typologies for the points he excavated at Lavello, and his approach shifted with the creation of each new typology.<sup>17</sup> In the *Forentum I*<sup>18</sup> volume Bottini's principal criterion for type definition was the profile of the blade (long and narrow, or short and wide etc). His secondary criterion was the presence or absence of a midrib. Later, in the *Forentum II* volume, his primary criterion remained blade profile,<sup>19</sup> but the main secondary criterion became the overall size of the point. Sub-types were identified as being, large, medium, or small examples of the general type. The presence or absence of a midrib is dropped as a criterion for type definition, without explanation. While Bottini draws no distinction between types on the basis of material; the clear morphological difference between his sole bronze point and the members of his other types created an incidental distinction between bronze and iron points.

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<sup>16</sup> Chiartano 1994, 43-45.

<sup>17</sup> Bottini 1982; Bottini *et al.* 1988; Bottini *et al.* 1991.

<sup>18</sup> Bottini *et al.* 1988.

<sup>19</sup> Bottini *et al.* 1991.

### ***Typology of material from Chiaromonte (Russo Tagliente)***

Russo Tagliente's approach to the material from Chiaromonte draws a primary type distinction based on the length of the blade.<sup>20</sup> Her material is first divided into types with long, medium and short blades, with subtypes defined on the basis of secondary considerations such as the profile of the blade, followed by the morphology of the transition from socket to blade and the presence or absence of a midrib. All the blades in Russo Tagliente's sample possess similar lenticular sections; consequently blade section, while mentioned in her type descriptions, does not feature in the construction of her type definitions.

### ***Typology of material from Sala Consilina (Kilian and Ruby)***

Kilian assessed the finds from the southeast necropolis of Sala Consilina.<sup>21</sup> Included in his analysis of a range of material classes is a chapter on weaponry, in which he identifies the following classes: '*Lanzenspitzen*' and '*Speerspitzen*'. *Lanzenspitzen* are classified as long, narrow points with leaf-shaped blades divided into two general types on the basis of their material of construction (Type L1 in bronze and L2 in iron). Further sub-types and variants are identified within each of these groupings on the basis of variation in blade profile, blade section and socket section. *Speerspitzen* (Type L3, exclusively constructed from bronze) are distinct from *Lanzenspitzen* in Kilian's typology on the basis that their overall length is less than that of points identified as *Lanzenspitzen*. Unfortunately, Kilian does not articulate the length limits which dictate whether a point should be allocated to the classification of *Speerspitzen*. Again, Kilian categorises *Speerspitzen* into sub-types according to variations in blade profile, blade section and socket section.

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<sup>20</sup> Russo Tagliente and Berlingò 1992.

<sup>21</sup> Kilian 1970, 129-136.

Ruby dealt with finds from the northwest necropolis of Sala Consilina which included seven points.<sup>22</sup> Amongst these points Ruby identified two principal types: ‘*javelots*’, which measure less than 22cm in overall length and ‘*lances*’, which have an overall length of at least 23cm. Under the classification *javelot*—Type L1—Ruby identified two sub-types, ‘*pointe acuminée*’ (Type L1.1), characterised by a broad, leaf-shaped blade, a conical socket which transitions to form a flattened midrib, giving the blade a lenticular section, and ‘*pointe en feuille de saule*’ (Type L1.2), characterised by the willow-leaf shaped blade suggested by its name, and a conical socket transitioning to a prominent midrib with a circular section. Type L1.2 is divided into a further two sub-types, those constructed of bronze (Type L1.2.1) and those constructed of iron (Type L1.2.2).<sup>23</sup> Under the classification *lance*—Type L2—Ruby again identifies two sub-types those with *pointe acuminée* (Type L2.1), characterised by broad, leaf-shaped blades and prominent midribs, and those with *pointe en feuille de saule* (Type L2.2), again characterised by its willow-leaf blade profile.

Ultimately, Ruby concluded that points measuring 22cm or less were designed to be thrown, and are therefore identified as javelins, while points measuring 23cm or more were designed to be thrust, and are therefore identified as spears. The decision to mark the determination of points as either javelin or spear at 22/23cm in length is based on a statistical analysis of points from several excavations at Sala Consilina; Ruby found that points tended to cluster to either side of the 22/23cm mark. However, when he conducted an analysis of the length—but not the form—of spearheads from Sala Consilina, Valle del

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<sup>22</sup> Ruby 1995, 98-101 and plate 110.

<sup>23</sup> Ibid. It should be noted that none of the seven points Ruby publishes are constructed of iron, and he illustrates no iron example amongst his type ideals (plate 110).

Sarno, Pontecagnano and Torre Galli Ruby found that between sites the clusters blurred so that there was no statistically significant break between these two groups.<sup>24</sup>

***Typology of material from Pontecagnano (d'Agostino)***

D'Agostino takes a different approach in his assessment of the material from Pontecagnano.<sup>25</sup> Initially he divides points into arbitrary classifications of javelin head or spearhead on the basis of overall length, points measuring less than 18cm in overall length identified as *punte di giavellotto*, longer points identified as *punte di lancia*. Within these two general classifications the principal criterion for type definition is blade profile. Types are also divided into those made of bronze and those made of iron with sub-types based on the shape of blade and socket sections. D'Agostino, significantly, attempts to make comparisons between his own typology and that of Kilian. While he is unable to make direct correlations, he finds comparisons for all of his examples within Kilian's L1 sub-types.<sup>26</sup>

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<sup>24</sup> Ibid., figs.2.76 and 2.77.

<sup>25</sup> d'Agostino and Gastaldi 1988, 77-8.

<sup>26</sup> Ibid., 78.

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From this brief discussion of just a few spearhead typologies it is clear that the approach in each case has been quite different, and that while there may be some overlap in the criteria that each excavator considered type-determinant, there is little possibility of finding direct type correlations among these disparate typologies.

**Table 1: Summary of criteria identifiable as influencing the formation of individual typologies**  
**P= Primary criterion    S= Secondary criterion**

<i>Parts of a Spearhead</i>	<i>Typology</i>						
	Chiartano	Bottini	Russo Tagliente	Kilian	Ruby	d'Agostino	Inall
Material of manufacture	P			P	S	S	P
Blade Profile		P		S	S	P	P
Blade Section				S		S	P
Midrib		S	S	S			P
Socket							S
Socket Section	S			S		S	S
Other	P	S	P	P	P	P	P
•Morphology of socket to blade transition							
•Blade length							
•Proportionate length of socket							
•Overall length							

### *A New Typology*

In the construction of a new typology of spears I have chosen a functional approach, not seen in any previous typology. My approach integrates spearheads published from a number of sites throughout Daunia, Basilicata and Campania dating between the 9<sup>th</sup> C and the 4<sup>th</sup> C resulting in the construction of the single typology that follows. As discussed above, current typologies are principally drawn from material excavated from individual sites, constructed mainly to facilitate ease of publication. The disconnected information produced by this approach has long impeded studies into the function of spearheads.

Small, for example, in his assessment of 4<sup>th</sup> C throwing spears<sup>27</sup> attempted to employ Bottini's typology from *Forentum II*; he found it ill-fitting and difficult to work with, and the context of the article (a Festschrift publication) was not an appropriate forum for the introduction of a new typology. The new typology presented below draws material from many more sites than any existing spear typology and, as my approach to the material is functional rather than merely communicative, this typology will be able to identify patterns in the distribution of functional spear forms across sites and regions. These patterns will be more meaningful than those identified in current, communicative typologies, and may allow for the identification of differences in fighting style within the geographic and chronological limits of this thesis.

I have constructed a system of broad types, the members of which share common traits, which are likely to have impacted upon their function. These broad types are divided into sub-types based on more subtle variations, which may have had little or no impact on the function of the spear form. The typology is designed to be an open system, with broad limits to the general types, into which new classifications may be added should further sub-types come to be identified. I have chosen to use a numeric labelling system as I feel this more readily allows for the addition of newly identified types or variants. While I have chosen to draw a typological distinction on the basis of material of manufacture, I have opted against constructing separate typologies for bronze and iron points. This is to avoid any potential confusion that may arise from two separate labelling systems, in what is essentially a single typology. Thus, Types 1-4 are all bronze points, while Types 5-10 are made of iron.<sup>28</sup>

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<sup>27</sup> Small 2000.

<sup>28</sup> If a completely new bronze type be identified, unclassifiable among any of the broad type groupings outlined in Types 1-4 it would require a new numeric identifier (Type 11, for example) which could perhaps cause some confusion. However, this remains within the general concept of an open type system.

In the construction of a new typology I have sought first to examine the various parts of a spearhead, as outlined above, seeking to identify the potential impact each has upon function. Those traits which I felt were likely to impact upon the function of the weapon I identified as 'primary' or type-determinant traits. During my examination of the material I also came to observe a number of additional traits, which I felt worthy of consideration, yet which were likely to have little impact on the function of the weapon. Such traits I have termed 'secondary' traits and these have influenced the creation of sub-types within my typology. A discussion follows of the criteria that have influenced my type definitions.

***Primary traits:***

**Material of Manufacture:** One of the most readily observable characteristics of the spearheads I have examined was the difference between the morphology of bronze points and that of iron points. This is probably connected to the properties of the metals themselves, and the different methods required when working them. The difficulties of working iron, a metal that could not be heated to melting point using the techniques of the Early Iron Age, are considerable, in contrast to bronze's facility for casting.<sup>29</sup> While a number of bronze points could potentially be cast from a single mould, each iron point had to be forged individually. Consequently, one might expect to find greater variability in iron points than in bronze points as no two iron spearheads can be perfectly alike. Bronze is denser and therefore heavier than iron. An iron point of equivalent size would be significantly lighter than its bronze counterpart.<sup>30</sup> This would have had an impact on function, particularly if the weapon was intended to be thrown. Thus I have chosen to

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<sup>29</sup> Hartmann 1985, 96.

<sup>30</sup> Giardino 1998, 17 and 201-6; Hanson 1993, 78 note 1 suggests that the average weight of the *hoplite* spear was approximately one kilogram, based on experimental archaeology. However, he does not elaborate on the spear specifications used to calculate this figure.

draw a primary distinction between points cast in bronze and those forged in iron in this typology. There may also have been socio-economic and cultural implications in the choice of metal, which while not impacting directly on function, will be taken into account in the discussion below.

**Socket Length:** A group of spearheads examined in this study distinguished themselves by their very long sockets, greater in length than the blade itself. This feature impacted significantly on their function; blade durability is directly affected by the length of the socket, a longer socket both facilitating the transference of impact stress along the socket to the haft and stabilising flight when thrown.<sup>31</sup> Consequently, I have chosen to identify long sockets—those points with sockets equal to or exceeding the length of the blade—as a primary trait for the purpose of Type determination.

**Midrib and Blade Section:** It is difficult to separate these aspects from a functional perspective as they are inter-related. An examination of the blade section often reveals the presence or absence of a midrib, a trait which impacts directly on the strength and durability of the point. As durability suggests a desire for ongoing usage, rather than use as a one-off missile, I feel the presence of a midrib has functional significance and should be noted in Type definitions. The presence, or absence, of a midrib also suggests an economic decision due to the additional workmanship required in its production, particularly for iron points.

**Blade Profile:** This feature would impact on the weight, strength and aerodynamics of a spearhead. Many of the spearheads examined in this thesis share common blade sections, yet differ markedly in blade breadth. Xenophon offers a comment that broad bladed

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<sup>31</sup> Snodgrass 1964, 137-8.



spears are desirable for hunting wild boar.<sup>32</sup> By extension, it must have been recognised that narrow bladed spears would not have been suited to the boar hunt, but presumably to other purposes. Consequently, I have chosen to identify blade profile as a type-determinant trait, differentiating between spearheads with broad blade profiles and those with a narrow blade profile, though they may share common blade sections and midribs. Minor variations in blade profile, within the classifications of broad or narrow, have been considered in the determination of sub-types.

***Secondary traits:***

**Length:** While length is likely to have impacted on both form and function, when examining material from multiple sites conclusions in regard to length have been demonstrated to be of limited value. Ruby, in particular, published statistical analyses on the length of spearheads from Sala Consilina, Valle del Sarno, Pontecagnano and Torre Galli.<sup>33</sup> While Ruby was able to identify clusters in spearhead length at each individual site he noted that length clusters were not consistent across multiple sites, even when they are geographically, chronologically and culturally close. Overall length can vary significantly between very similar spear forms (see Figures 15-17 below for examples of length variation between members of the same sub-type). For each of the geographic regions under examination I will discuss length and its implications where possible. Unfortunately data on length have not been published for a number of examples thus providing an incomplete dataset. Consequently, I have not identified overall length as a primary trait in constructing this typology.

**Socket Section:** Particularly in relation to bronze points, socket section seems a cultural rather than functional choice and is revealing of cultural connections. A polygonal socket

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<sup>32</sup> Xenophon *On Hunting*, 10.3.

<sup>33</sup> Ruby 1995, 98-100.

section, for example, has been identified as a Central Italian feature.<sup>34</sup> Consequently, I have chosen to use socket section for the determination of sub-types.

**Incised Decoration:** Cultural influences may also manifest themselves through the presence of decoration incised on the spearhead.<sup>35</sup> I have chosen to identify such decoration as a secondary criterion for determining sub-types, thereby marking out spearheads with incised decoration to either their socket or blade.

**Perforations:** The presence of holes perforated in the socket or at the base of the blade, designed to secure the point to the haft, may suggest that the point was expected to be reused, though this cannot be stated with certainty. If the spearhead was designed for a single use, such as being thrown as a missile, with no expectation of retrieval, there may have been less concern to ensure the point was well secured to the haft. I have therefore chosen to note the presence of holes in either the socket or the blade in my sub-type definitions.

Through the assessment of these criteria I have identified 10 distinct spearhead types that have principal traits in common such as blade section, presence or absence of a midrib, blade profile or possession of a proportionately long socket. Each of these types was divisible into a range of sub-types on the basis of subtle variations such as minor differences in blade profile, the addition of perforations to the socket or blade, the presence of incised decoration etc.

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<sup>34</sup> Stary 1981, 481, table 6

<sup>35</sup> Due to the poor preservation of iron compared to bronze spearheads decoration was detectable only on bronze examples.

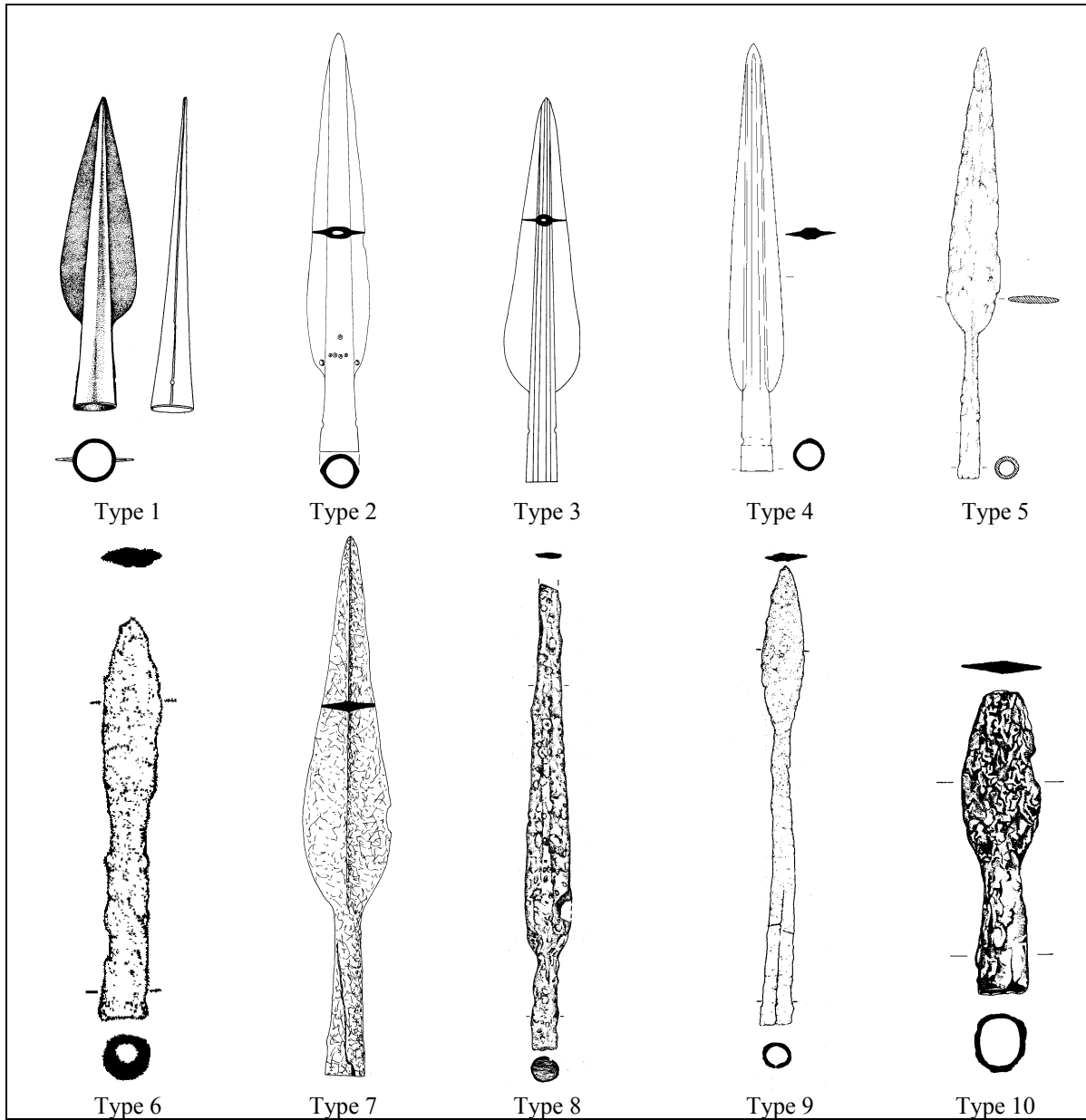
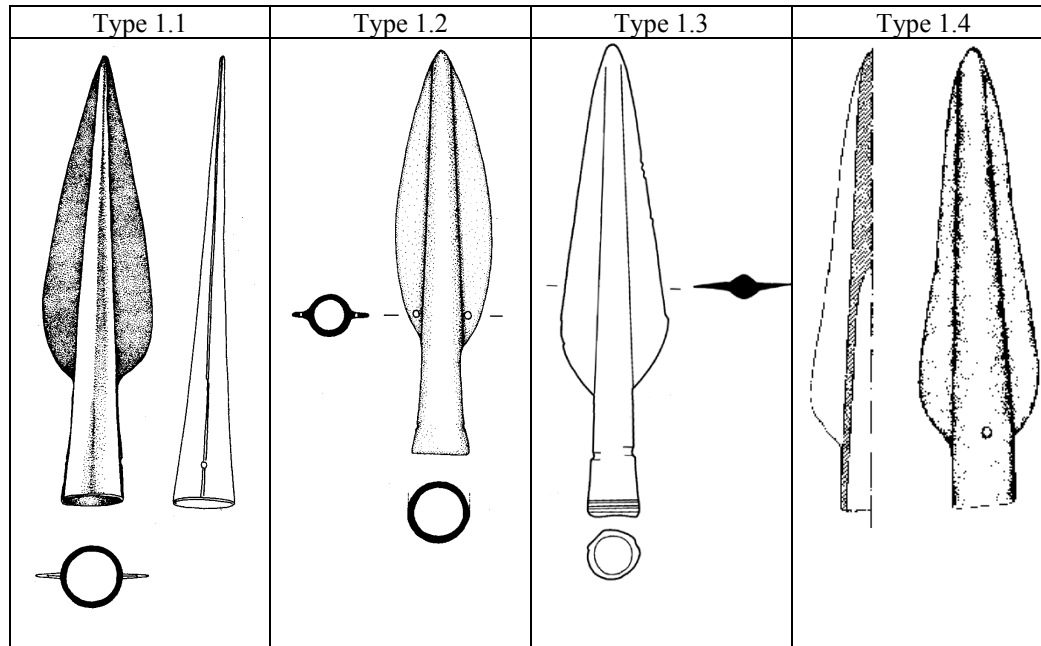


Figure 2: The Basic Spear Type Groups, types 1-4 bronze; types 5-10 iron (not to scale).<sup>36</sup>

<sup>36</sup> Due to a significant degree of variation in the size of examples within type groups as to make it unimportant when assessing their morphology I have chosen to show the examples in these tables not to scale. Variation is discussed p. 56 below.

*A New Typology of Spearheads*

**Type 1**



**Figure 3: Type 1 Sub-Types (not to scale)**

Type	Bronze with Leaf-shaped Blade with Circular/ Oval Socket Section and Prominent Midrib	Lateral Socket Perforations	Blade Perforations	Socket Perforation Perpendicular to Blade	Incised Decoration to Socket	Date
1.1	✓	✓				9 <sup>th</sup> C – 8 <sup>th</sup> C
1.2	✓	✓	✓			8 <sup>th</sup> C
1.3	✓	✓			✓	9 <sup>th</sup> C – 8 <sup>th</sup> C
1.4	✓			✓		8 <sup>th</sup> C

**Type 1:** a group of mould-cast bronze spearheads with a lenticular blade section and circular or ovoid socket section, which transitions smoothly into a prominent midrib. The type also features a broad, leaf shaped blade profile and is best suited to the delivery of thrusting blows. Sub-types are identified on the basis of presence of lateral perforations to the socket or blade, slight variation to the blade profile or the presence of incised decoration. The type has a distribution throughout South Italy in the Late Bronze and Early Iron Age, and is apparently consistent with a broader tradition of spearhead forms throughout Italy, Central Europe and the former Mycenaean world.<sup>37</sup> The presence of perforations to the base of the blade was noted by Snodgrass in his Types D (which he believes to be derived from Bronze Age Cypriote spear forms) and O, which appears at sanctuary sites from Syracuse, Delphi and Olympia and was thought by Snodgrass to be a Sicilian Type.<sup>38</sup> Some examples show evidence of wear and resharpening, leading to the point being slightly blunted, and/or the blade edges diminished. The examples identified here all date to the 9<sup>th</sup> - 8<sup>th</sup> C.

**Type 1.1:** cast bronze points; the socket is conical with a circular or ovoid section, tapering to the tip of the blade thus forming a strong midrib. The socket is punctured on both sides, beneath the blade edges, to secure the point to a handle. A number of examples show evidence of wear and resharpening, such that the point is blunted, and/ or the edges of the blade diminished. It is possible that length clusters could be interpreted as

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<sup>37</sup> Snodgrass 1964, 116; Kilian 1970, 129-136; Stary 1981, Table 4. A comparable spearhead and a partial terracotta mould were on display in the temporary exhibition of the Taranto Museum in 2001 whilst the museum was undergoing renovations. The items were grouped together with a number of other objects labelled as dating to the 13th-9th C. No information regarding provenience was included in the display.

<sup>38</sup> Snodgrass 1964, 120-9

sub-types; however, information on spearhead length is not published for all of the sites examined.<sup>39</sup>

Examples:

Lavello: Tomb E (8<sup>th</sup> C)<sup>40</sup>

Ordona: Tomb 12 (78.OR.143) (750-700)<sup>41</sup>

Incoronata: Tombs 43, 125, 129, 165, 195, 205, 221, 229, 230, 232, 284-B, 285, 288, 297, 303, 309, 319, 322, 328, 376, 382, 390, 394, 414, 421 (8<sup>th</sup> C)<sup>42</sup>

Pontecagnano: Tomb 2150, 4858 (770-730)<sup>43</sup>

Sala Consilina: Tombs A82, A100, A207, A392, B24, D65, D132, G8 and J50 (9<sup>th</sup> and 8<sup>th</sup> C); S. Nicola Tomb 23, and Northwest necropolis Tombs 015P, 165P, 256P (770-730)<sup>44</sup>

**Type 1.2:** this sub-type has additional holes punched in the sides of the blades, close to the socket, presumably to further secure the spearhead to its handle, possibly evidence that spear shafts had a tendency to become dislodged from the spearhead socket.

Examples:

Incoronata: Tomb 294 (8<sup>th</sup> C)<sup>45</sup>

**Type 1.3:** this sub-type is marked by the presence of incised, horizontal striations at the base of the socket and also features lateral holes punched into the socket for securing the spearhead to the haft.

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<sup>39</sup> Ruby 1995, 98-101 has attempted an analysis of spearhead lengths finding that while points did tend to group at 22cm or shorter and 23cm or longer, there was no firm break separating forms on the basis of length.

<sup>40</sup> Bottini *et al.* 1988, 47.

<sup>41</sup> Iker 1984; Iker 1986.

<sup>42</sup> Chiartano 1977; Chiartano 1994.

<sup>43</sup> d'Agostino and Gastaldi 1988.

<sup>44</sup> Kilian 1970; De La Genière 1968; Ruby 1995.

<sup>45</sup> Chiartano 1994, 119 and plate 61.

Examples:

Pontecagnano: Tombs 180 and 2145 (mid 9<sup>th</sup>- early 8<sup>th</sup> C)<sup>46</sup>

Sala Consilina: Tomb S. Nicola 66 (770-750)<sup>47</sup>

**Type 1.4:** this sub-type features a single hole punched in the socket, positioned perpendicular to the blade edge.

Example:

Incoronata: Tomb 244 (8<sup>th</sup> C)<sup>48</sup>

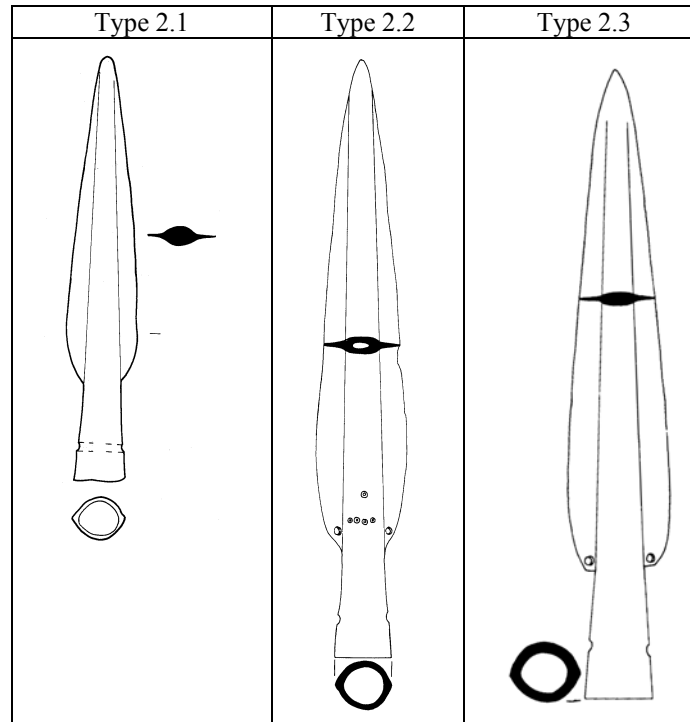
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<sup>46</sup> d'Agostino and Gastaldi 1988, 132, 197 and figs. 56 and 162.

<sup>47</sup> De La Genière 1968.

<sup>48</sup> Chiartano 1994, 197 and plate 40.

## Type 2



**Figure 4: Type 2 Sub-Types (not to scale)**

Type	Bronze with Narrow Leaf-shaped Blade with Circular/ Oval Socket Section and Prominent Midrib	Lateral Socket Perforations	Blade Perforations	Right-angular Blade Base	Date
2.1	✓	✓			9 <sup>th</sup> C – 8 <sup>th</sup> C
2.2	✓	✓	✓		First half 9 <sup>th</sup> C
2.3	✓	✓	✓	✓	Second half 8 <sup>th</sup> C



**Type 2:** Shares a common blade section and midrib with Type 1, however members of Type 2 are distinguished by their narrow blade profile. This narrower profile makes the blade more functionally versatile, suited to being thrown, in addition to its suitability for the delivery of thrusting blows.

**Type 2.1:** it is possible that some examples of Type 2.1 may in fact represent members of Type 1.1 which have been subjected to repeated resharpening thereby altering their blade profile over time. This sub-type also features lateral holes punched into the socket, presumably to aid in securing the spearhead to its haft, an indication that spear shafts may have tended to become dislodged from their sockets.

Examples:

Ordona: Tomb 12 (78.OR.143) (750-700)<sup>49</sup>

Incoronata: Tomb 206 (8<sup>th</sup> C)<sup>50</sup>

Pontecagnano: Tombs 180 (first half 9<sup>th</sup> C), 226, 889 (770-730 and c.850 respectively)<sup>51</sup>

Sala Consilina: Tombs A388, B22, B70, D138 and S. Antonio 73 (first half of the 9<sup>th</sup> C - 750) and 255P (750-730)<sup>52</sup>

**Type 2.2:** varies from Type 2.1 in that, like Type 1.2, it has additional holes punched through the base of the blade edges, close to the socket, presumably also for attachment to a handle.

Example:

Sala Consilina: Tomb G13 (900-850)<sup>53</sup>

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<sup>49</sup> Iker 1984; Iker 1986.

<sup>50</sup> Chiartano 1994, 173 and 19.

<sup>51</sup> d'Agostino and Gastaldi 1988, 132, 157 and figs. 56 and 70; Ruby 1995, 333 and plate 86.

<sup>52</sup> Kilian 1970, 355-7, 367 and plates 107, 116, 122 and 162; De La Genière 1968, 259 and plate 4 fig. 1.

<sup>53</sup> Kilian 1970, 376 and plate 196.

**Type 2.3:** this sub-type is very similar to Type 2.2; however the bases of the blade edges meet the socket at right angles, rather than the smooth transition seen in other Type 1 and Type 2 variants. A similar squared blade base is noted by Snodgrass in his description of his Type O, which he identified as a Sicilian trait.<sup>54</sup>

Example:

Sala Consilina: Tomb D113 (750-730)<sup>55</sup>

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<sup>54</sup> Snodgrass 1964, 128.

<sup>55</sup> Kilian 1970, 366 and plate 156.

### Type 3

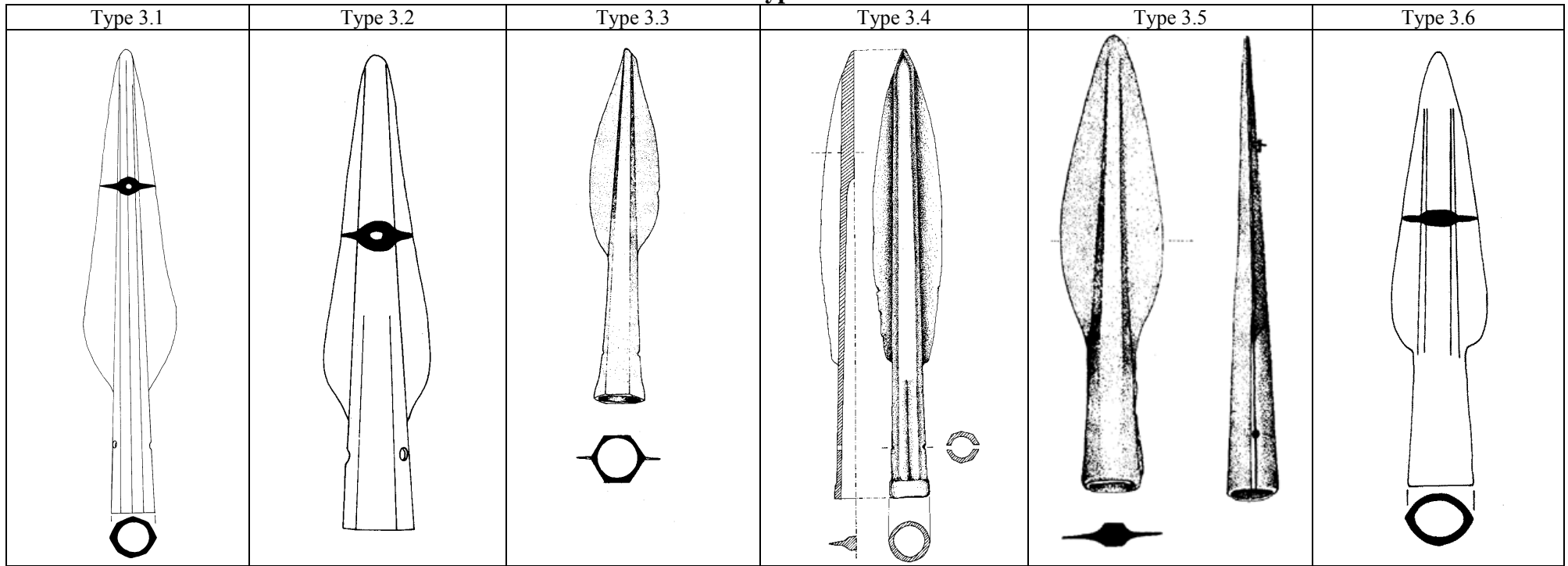


Figure 5: Type 3 Sub-Types (not to scale)

Type	Bronze with Leaf-shaped Blade with Polygonal Section and Prominent Midrib	Polygonal Socket Section	Lateral Socket Perforations	Partial Lenticular Blade Section	Flattened Polygonal Blade Section	Thickened, Round Socket Base	Round/Ovoid Socket Section	Angular Blade Base	Date
3.1	✓	✓	✓						9 <sup>th</sup> C – 8 <sup>th</sup> C
3.2	✓	✓	✓	✓					First half 9 <sup>th</sup> C
3.3	✓	✓	✓		✓				8 <sup>th</sup> C
3.4	✓	✓	✓		✓	✓		✓	9 <sup>th</sup> C – 8 <sup>th</sup> C
3.5	✓		✓				✓		9 <sup>th</sup> C – 8 <sup>th</sup> C
3.6	✓				✓		✓		9 <sup>th</sup> C – 8 <sup>th</sup> C

**Type 3:** broad-bladed cast bronze points with polygonal sections. The broad blade profiles makes this type best suited to the delivery of thrusting blows. The examples assessed in the construction of this typology are from Pontecagnano, Sala Consilina in Campania and Incoronata in Basilicata. The Type 3 group is not represented at any site from Daunia examined in this thesis. The type would appear to be a Villanovan Italian type; Stary identifies a number of similar spearheads from Satricum and Caracupa in Latium, Narce in the Ager Faliscus and Terni in Umbria dated between the 9<sup>th</sup> and 6<sup>th</sup> C.<sup>56</sup> The Type was also distributed in Sicily, where finds of stone moulds dated to the Late Bronze Age to Early Iron Age demonstrate that they were manufactured locally rather than imported.<sup>57</sup> The appearance of the type at Incoronata is quite interesting, the presence of an example from Type 3.1, suggests a cultural, or at least a metalworking, connection between Incoronata and the Villanovan sites of Campania. Examples of cast bronze spearheads with polygonal section also appear in Snodgrass' typology, his Types N and S, members of which appear at Greek sanctuary sites. Snodgrass identifies the polygonal section as a distinctly Italian trait and his members as trophies dedicated in the sanctuaries at which they are found.<sup>58</sup> The members I have allocated to this type all date to the 9<sup>th</sup> – 8<sup>th</sup> C. Sub-types are identified on variations in the socket section, slight variations in the blade section and minor variations in blade profile.

**Type 3.1:** cast bronze points marked with longitudinal striations running from the base of the socket towards the tip of the blade, the striations creating a polygonal section from the base of the socket, tapering to the tip of the blade forming a strong midrib, which retains the polygonal section of the socket. The socket is punctured on both sides, beneath the blade edges, to facilitate attachment of the point to a handle.

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<sup>56</sup> Stary 1981, Vol 2 481-2 and Beilagen 4-6.

<sup>57</sup> Albanese Procelli 2000, 77-8.

<sup>58</sup> Snodgrass 1964:128-30.

Examples:

Incoronata: Tomb 522 (9<sup>th</sup>/8<sup>th</sup> C)<sup>59</sup>

Pontecagnano: Tombs 664, 2052, 2157, 3191, 3262, 4852 (850-730)<sup>60</sup>

Sala Consilina: Tombs 035B, A223, C1, D124, M31 and M36 (900-730)<sup>61</sup>

**Type 3.2:** this variant features a polygonal socket section which is continued in the lower portion of the blade, however, towards the tip of the blade the section transitions from polygonal to lenticular.

Example:

Sala Consilina: Tomb D81 (first half of the 9<sup>th</sup> C)<sup>62</sup>

**Type 3.3:** this sub-type features a socket which presents a pentagonal section, tapering to an angular midrib which continues the same pentagonal section.

Example:

Incoronata: Tomb 126 (9<sup>th</sup>/8<sup>th</sup> C)<sup>63</sup>

**Type 3.4:** this sub-type has a socket with an octagonal section; however it also features a thick circular lip at the base of the socket, which Chiartano labels a '*ghiera*'. This socket base presents a round section. The octagonal socket section flattens to form a polygonal midrib to the blade. The bases of the blade also meet the socket in a sharp, approximately 45° angles. Only a single member of this Type is identified, and apparent wear of the blade edges may have altered the blade from its original profile, reaching its widest point approximately halfway along the blade. Similar spearheads have been recorded from

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<sup>59</sup> Chiartano 1996, 55 and plate 23. On display in the Metaponto Museum where the longitudinal striations are plainly visible to the naked eye, though they are not represented in Chiartano's illustration.

<sup>60</sup> Gastaldi 1998 75 and plate 94; d'Agostino and Gastaldi 1988 174, 202, 209 and figs.150 and 164; De Natale 1992 54, 94 and figs.102 and 119.

<sup>61</sup> Ruby 1995 276 and plate 24; Kilian 1970 344, 359, 367, 386-7 and plates 60, 127, 159, 236 and 238.

<sup>62</sup> Kilian 1970, 364 and plate 146.

<sup>63</sup> Chiartano 1977, 124 and fig. 52.

Palazzo S. Gervasio, also in Basilicata, and an example from a Late Bronze Age - Early Iron Age necropolis at Pazhok in Albania, suggesting a Central European origin for this spearhead form.<sup>64</sup>

Example:

Incoronata: Tomb 326 (9<sup>th</sup>/8<sup>th</sup> C)<sup>65</sup>

**Type 3.5:** cast bronze points; the midrib is flat, marked by distinct, angular edges, which give the midrib and blade a polygonal section. The socket is punctured on both sides, beneath the blade edges, to secure the point to a handle. Some examples may show evidence of wear and resharpening, so that the point appears slightly blunted, and/ or the edges of the blade diminished.

Examples:

Incoronata: Tombs 83, 217, 290, 296, 298 (9<sup>th</sup>/8<sup>th</sup> C)<sup>66</sup>

Pontecagnano: Tomb 3284 (two examples) (750-730)<sup>67</sup>

Sala Consilina: Tombs 182P, A25 (900-750)<sup>68</sup>

**Type 3.6:** this sub-type is marked by the slightly ovoid section of the socket, and a slightly broader, angular midrib with a polygonal section.

Example:

Pontecagnano: Tombs 3188 (two examples), 3241 (900-850)<sup>69</sup>

Sala Consilina: Tomb A114 (770-750)<sup>70</sup>

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<sup>64</sup> Chiartano 1994, 44 note 1; Prendi 1982, fig. 12.

<sup>65</sup> Chiartano 1994, 133 and plate 78.

<sup>66</sup> Chiartano 1977, 95 and fig. 42; Chiartano 1994, 117-21 and 179 and plates 23, 59, and 61-2.

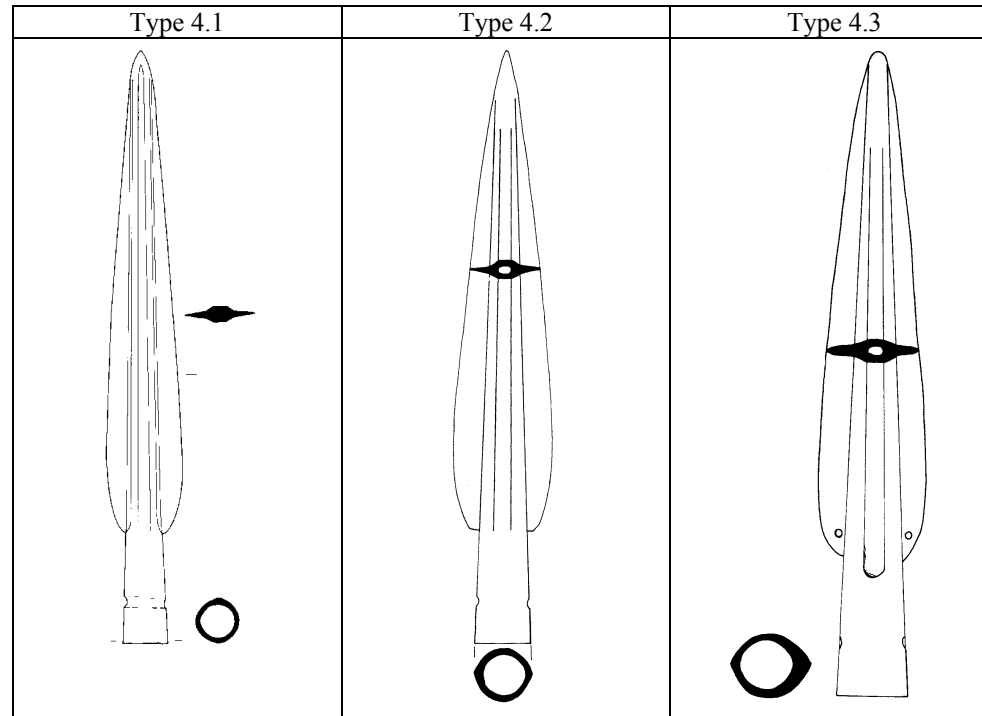
<sup>67</sup> De Natale 1992, 109 and fig. 123.

<sup>68</sup> Ruby 1995, 300 and plate 51; Kilian 1970, 332 and plate 9.

<sup>69</sup> De Natale 1992, 52, 82 and figs. 102 and 112.

<sup>70</sup> Kilian 1970, 338 and plate 35.

## Type 4



**Figure 6: Type 4 Sub-Types (not to scale)**

Type	Bronze with Narrow Leaf-shaped Blade with Rounded Socket Section and Flattened Polygonal Midrib	Lateral Socket Perforations	Blade Perforations	Angular Blade Base	Date
4.1	✓	✓			8 <sup>th</sup> C
4.2	✓	✓		✓	First half 8 <sup>th</sup> C
4.3	✓	✓	✓		8 <sup>th</sup> C

**Type 4:** Another Villanovan spearhead form, presenting a polygonal blade section and midrib, in common with Type 3; however members of Type 4 are distinguished by their narrow blade profiles. The narrower blade profile makes Type 4 more versatile than members of Type 3, suited to being thrown as well as the delivery of thrusting blows.

**Type 4.1:** in this variant of Type 4 the socket has a circular section and the midrib is marked with longitudinal striations and presents a flattened, polygonal section.

Example:

Pontecagnano: Tombs 2150 and 3184 (770-730)<sup>71</sup>

**Type 4.2:** this sub-type also features a circular socket section. The base of the blade meets the socket at right angles, rather than the smooth transition seen in the other Type 4 variants.

Example:

Sala Consilina: Tomb G33 (770-750)<sup>72</sup>

**Type 4.3:** this sub-type features a circular socket section, a midrib which is less angular and marked by one or two rounded termini at the base of the blade. The base of the blade edges also display punched holes, presumably to secure the blade to a handle. The blade profile is similar to that of Type 4.2.

Examples:

Sala Consilina: Tombs A221 and F28 (770-730)<sup>73</sup>

Pontecagnano: Tomb 3184 (770-730)<sup>74</sup>

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<sup>71</sup> Gastaldi 1998, 198 and fig. 163; De Natale 1992, 49 and fig. 101.

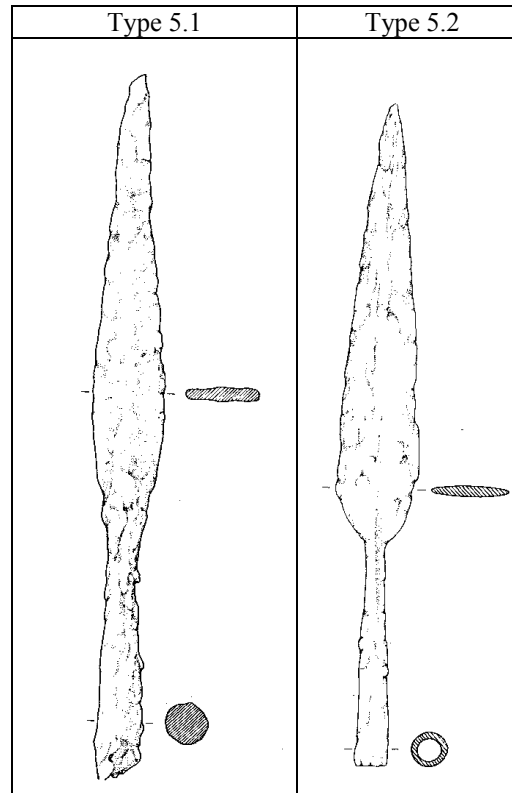
<sup>72</sup> Kilian 1970, 378 and plate 203.

<sup>73</sup> Ibid.344, 374 and plates 59 and 190.

<sup>74</sup> Gastaldi 1998, 198 and fig. 163; De Natale 1992, 49 and fig. 101.



## Type 5



**Figure 7: Type 5 Sub-Types (not to scale)**

Type	Iron with a Leaf-shaped Blade and Lenticular Blade Section. No Midrib	Slight Concave Transition from Socket to Blade	Pronounced Transition from Socket to Blade	Date
5.1	✓	✓		Mid 8 <sup>th</sup> C – Late 4 <sup>th</sup> C
5.2	✓		✓	7 <sup>th</sup> C – 4 <sup>th</sup> C

**Type 5:** broad-bladed forged iron spearheads with simple lenticular blade sections, the complete absence of a midrib and conical socket sections. The broad-blade makes Type 5 spearheads best suited to the delivery of thrusting blows. Sub-types have been distinguished on the basis of slight variations in blade profile and the morphology of the transition from socket to blade. Type 5 is common with members represented at many of the sites discussed in this thesis. The examples here date from the 8<sup>th</sup> C right through until the late 4<sup>th</sup> C, the lower chronological limit of this thesis, but it would seem that the type continues into the Roman period.<sup>75</sup>

**Type 5.1:** the blade presents a leaf-shaped profile, has no discernible midrib and the transition from socket to blade is smooth and slightly concave.

Examples:

Lavello: Tomb 279, 296-II, 796 (650-475)<sup>76</sup>

Oppido Lucano: Tombs 45, 72, Moles 3 (late 7<sup>th</sup> – early 6<sup>th</sup> C) and a chance find (date unknown)<sup>77</sup>

Chiaromonte: Tombs 11, 24, 27 and 39 (mid 7<sup>th</sup> – early 6<sup>th</sup> C)<sup>78</sup>

Pontecagnano: Tombs 928 (four examples –675-650), 3267 (750-730), 5762 and 5767 (350-325)<sup>79</sup>

Satrianum: Tomb 15 (Nec. NW, T-D) (early 5<sup>th</sup> C)<sup>80</sup>

Sala Consilina: Tombs A32, A46, A328 and L9 (750-700)<sup>81</sup>

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<sup>75</sup> Anglim *et al.* 2002, 110.

<sup>76</sup> Bottini *et al.* 1988, 127-9, 134 and plate 40 n. 2; Tagliente *et al.* 1992 The spearhead from Tomb 796 is not illustrated. However, the spearhead likened to the example from Tomb 279, published in Bottini 1982 allowing allocation to Type 5.1 through this direct comparison.

<sup>77</sup> Lissi Caronna 1980, 169-70; Panciera *et al.* 1990-91, 197-8, 323-6, 337 and figs. 14, 154-8 and 165.

<sup>78</sup> Russo Tagliente and Berlingò 1992.

<sup>79</sup> d'Agostino 1977, 12-14 and fig. 17 - Tomb 928 egs R38, R50, R52 and R55; De Natale 1992, 101 and fig. 119; Serritella 1995, 29 and plate 65.

<sup>80</sup> Holloway 1970, 66 and plate 123.

<sup>81</sup> Kilian 1970, 332, 334, 351, 385 and plates 8, 21, 93 and 230.

Paestum: Laghetto Tomb LXIV (370-360)<sup>82</sup>

**Type 5.2:** this sub-type presents a transition from socket to blade which is pronounced and markedly concave in profile in conjunction with a slightly broader leaf-shaped blade profile.

Example:

Arpi: Tombs 11 and 15 (400-350)<sup>83</sup>

Braida di Vaglio: Tomb 105 (late 6<sup>th</sup> to early 5<sup>th</sup> C)<sup>84</sup>

Chiaromonte: Tomb 3 (late 7<sup>th</sup> to early 6<sup>th</sup> C)<sup>85</sup>

Pontecagnano: Tombs 3253, 3285 and 3294 (770-750)<sup>86</sup>

Sala Consilina: Tomb E16 (575-500)<sup>87</sup>

Paestum: Gaudio Tomb 2 (mid 4<sup>th</sup> C)<sup>88</sup>

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<sup>82</sup> Pontrandolfo and Rouveret 1992, 353.

<sup>83</sup> Tinè Bertocchi 1985, 238-43, fig. 403 No. 4 and fig. 409 No. 5.

<sup>84</sup> Bottini and Setari 2003, 57-63 and Plate 35 - No. 279.

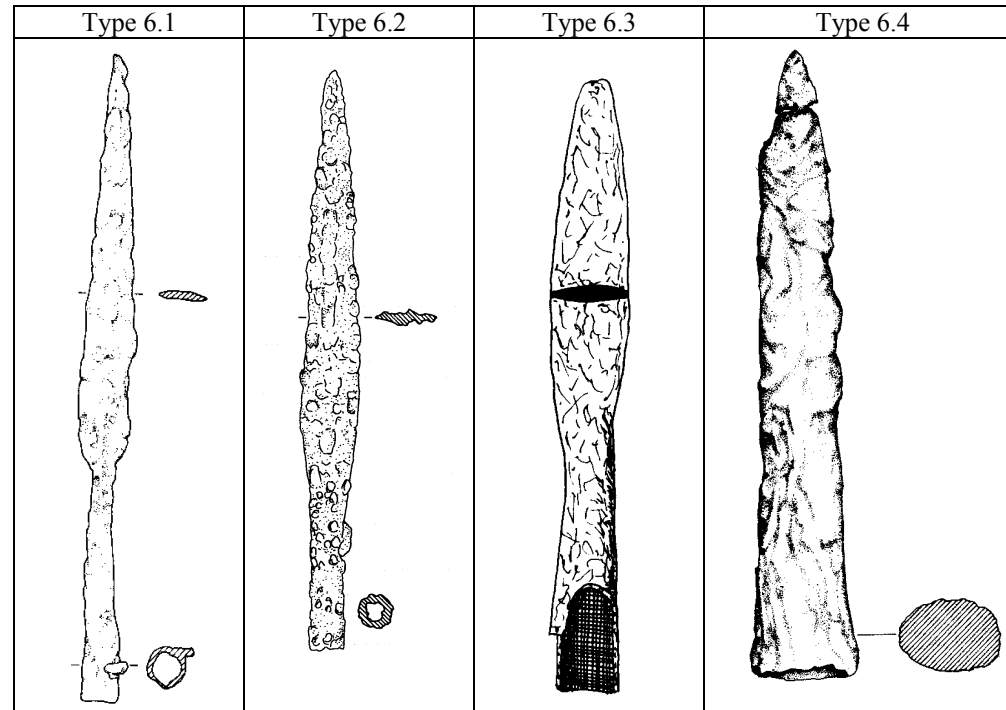
<sup>85</sup> Russo Tagliente and Berlingò 1992, 349-53 and fig. 80.

<sup>86</sup> De Natale 1992, 89, 111, 121 and figs. 119, 124 and 125.

<sup>87</sup> De La Genière 1968, 291 and plate 17.

<sup>88</sup> Pontrandolfo and Rouveret 1992, 380.

## Type 6



**Figure 8: Type 6 Sub-Types (not to scale).**

Type	Iron with a Leaf-shaped Blade and Lenticular Blade Section. No Midrib	Slight Concave Transition from Socket to Blade	Slightly Pronounced Transition from Socket to Blade	No Discernible Transition from Socket to Blade	Long, Very Narrow Blade Profile	Short, Very Narrow Blade Profile	Thickened Blade Section	Date
6.1	✓		✓		✓			6 <sup>th</sup> C – 4 <sup>th</sup> C
6.2	✓	✓			✓			8 <sup>th</sup> C – 4 <sup>th</sup> C
6.3	✓	✓				✓		8 <sup>th</sup> C – 4 <sup>th</sup> C
6.4	✓			✓		✓	✓	8 <sup>th</sup> C – 6 <sup>th</sup> C

**Type 6:** Is a well represented group of forged iron spearheads, which share common blade section and lack of midrib with members of the Type 5 group. Members of Type 6 are distinguished by their very narrow blade profile, making the Type more versatile, suited to being thrown in addition to its suitability to deliver thrusting blows. Sub-types are identified on the basis of subtle variations in blade profile, and differences in the profile of the transition from socket to blade.

**Type 6.1:** this sub-type presents a very narrow blade profile and the transition from socket to blade is concave and slightly pronounced.

Examples:

Lavello: Tomb 686 (350-300)<sup>89</sup>

Chiaromonte: Tombs 26 (three examples) and 29 (600-525)<sup>90</sup>

Satrianum: Tomb 16 (5<sup>th</sup> C)<sup>91</sup>

Pontecagnano: Tomb 4348 (350-325)<sup>92</sup>

**Type 6.2:** this sub-type features a very narrow blade profile and the transition from socket to blade is very subtle with a slightly concave profile.

Examples:

Lavello: Tombs 13, 38, 42, 44, 98, 305, 275-I, 298-II, 656, 669II and 686 (600-300)<sup>93</sup>

Minervino Murge: Tomb OC-4 (early 4<sup>th</sup> C)<sup>94</sup>

Oppido Lucano: Tombs 6, 16, 29, 34, 58 and 225 (575-430)<sup>95</sup>

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<sup>89</sup> Bottini *et al.* 1991, 63 and plate 129 n.33.

<sup>90</sup> Russo Tagliente and Berlingò 1992

<sup>91</sup> Holloway 1970

<sup>92</sup> Serritella 1995, 71 and plate 80.

<sup>93</sup> Bottini *et al.* 1988; Bottini *et al.* 1991.

<sup>94</sup> Lo Porto 1999

Serra di Vaglio: Tomb 30 (625-600)<sup>96</sup>

Braida di Vaglio: Tombs 108 and 109 (late 6<sup>th</sup> to early 5<sup>th</sup> C)<sup>97</sup>

Incoronata: Tomb 321 (8<sup>th</sup> C)<sup>98</sup>

Pontecagnano: Tombs 596 and 4409 (730-710 and 325-300 respectively)<sup>99</sup>

Striano: Via Palma, Propr. Lombardi Tombs 1 and 4 (late 8<sup>th</sup> C to the mid 7<sup>th</sup> C).<sup>100</sup>

**Type 6.3:** this sub-type also features a blade with a very narrow leaf-shaped profile with a thicker, lenticular blade section; the transition from the socket to the blade is smooth and slightly concave. The socket is also proportionately only slightly shorter than the length of the blade.

Examples:

Lavello: Tomb 27, 37, 54bis, 223, 227, 229, 232, 271-I, 275-II, 279 (two examples)

296-I, 297, 298-II (650-350)<sup>101</sup>

Ordona: Tomb 32 (de Juliis) (400-375)<sup>102</sup>

Oppido Lucano: Tomb 1 and 44 (450-375)<sup>103</sup>

Incoronata: Tomb 150 and 261 (8<sup>th</sup> C)<sup>104</sup>

Pontecagnano: Tombs 575, 601, 742 (730-620), Tomb 928 (nine examples, 675-650),

5761 and 5763 (350-325)<sup>105</sup>

Sala Consilina: Tombs A46, A161, A204 and D137 (730-700)<sup>106</sup>

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<sup>95</sup> Lissi Caronna 1972, 509-12, 529-34 and figs.27 and 53; Lissi Caronna 1980, 140-1, 148-50 and figs.28 and 44; Lissi Caronna 1983, 240 and fig. 27. The assemblage of Tomb 225 is on display in the Museo Archeologico Nazionale della Basilicata – Potenza “D. Adamesteanu” dated c.550.

<sup>96</sup> Greco 1991, 24 and fig 69.

<sup>97</sup> Bottini and Setari 2003, 75-83, not illustrated, both are allocated by Bottini to his Type 4, which corresponds directly to my Type 5.4.

<sup>98</sup> Chiartano 1994, 130 and plate 72.

<sup>99</sup> d'Agostino 1968, 129 and fig. 7 No. I.1; Serritella 1995, 37 and plate 68.

<sup>100</sup> D'Ambrosio 2003, 108, 115 and figs. 6 and 13.

<sup>101</sup> Bottini *et al.* 1988

<sup>102</sup> de Juliis 1973

<sup>103</sup> Lissi Caronna 1972, 494-8 and fig. 9 (inv.50148); Lissi Caronna 1980, 168 and fig. 71.

<sup>104</sup> Chiartano 1994, 150, 204 and plates 4 and 47.

<sup>105</sup> d'Agostino 1968, 131-2, 157-60, 181-3 and fig. 7 Nos. III.3, XX.7 and XXXIV.5; d'Agostino 1977, 12-14 and fig. 17, egs R40, R43, R44, R45, R46, R47, R49, R50, R53, R54; Serritella 1995, 29 and plate 66.

**Type 6.4:** this sub-type presents a proportionately short socket with a circular section. There is no clear transition from socket to blade. The blade has no distinct edges or midrib, merely flattening from socket to point.

Example:

Ordona: Tomb 50 (75.OR.159) (end of the second third of the 6<sup>th</sup> C)<sup>107</sup>

Incoronata: Tomb 219 (8<sup>th</sup> C)<sup>108</sup>

Pontecagnano: Tomb 928 (two examples—675-650)<sup>109</sup>

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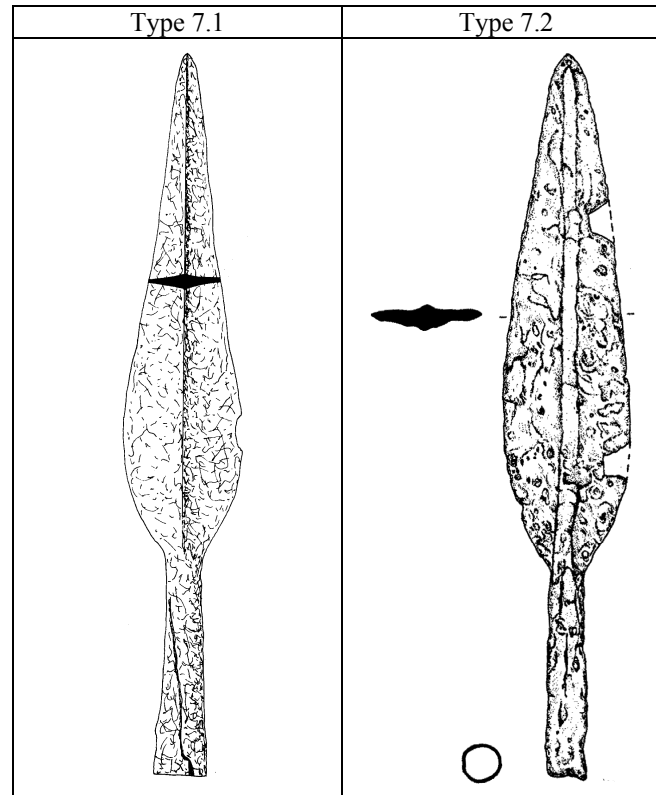
<sup>106</sup> Kilian 1970, 340, 343, 367 and plates 21, 42, 52 and 161.

<sup>107</sup> Iker 1984, 194-200

<sup>108</sup> Chiartano 1994, 179 and plate 23.

<sup>109</sup> d'Agostino 1977, 12-14 and fig.17 egs R39 and R41.

## Type 7



**Figure 9: Type 7 Sub Types (not to scale).**

Type	Iron with a Broad Leaf-shaped Blade, Rhomboidal Blade Section and Midrib	Prominent Ridged Midrib	Pronounced Tapering of Blade to Tip	Pronounced Concave Transition from Socket to Blade	Date
7.1	✓		✓	✓	8 <sup>th</sup> C – 4 <sup>th</sup> C
7.2	✓	✓		✓	8 <sup>th</sup> C – 4 <sup>th</sup> C



**Type 7:** forged iron points with a midrib, giving each example a ridged blade section. The blades share a broad, leaf-shaped profile, making them best suited to the delivery of thrusting blows. Their socket sections are consistently circular, conical and proportionately measure half the length of the blade or less. Sub-types are identified on the basis of subtle variation of the blade profile, the prominence of the midrib and the morphology of the transition from socket to blade. As with the Type 5 and Type 6 groups, the Type 7 and Type 8 groups are widely distributed, represented by examples of one or more sub-types at most of the sites examined in this thesis. The chronological distribution of the Type 7 group is also broad with examples ranging from the 8<sup>th</sup> C down to the 4<sup>th</sup> C limit of this thesis, and continued on into the Roman period.<sup>110</sup>

**Type 7.1:** this sub-type features a broad leaf-shaped blade profile which tapers rapidly from shoulders to tip; the transition from socket to blade is concave and slightly pronounced.

Examples:

Ascoli Satriano: Tomb 17 (late 5<sup>th</sup> to early 4<sup>th</sup> C)<sup>111</sup>

Lavello: Tomb 600 (two examples) (425-350)<sup>112</sup>

Pontecagnano: Tomb 4048 (325-300)<sup>113</sup>

Sala Consilina: Tombs A382 and A393 (730-700)<sup>114</sup>

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<sup>110</sup> Anglim *et al.* 2002, loc. cit.

<sup>111</sup> Tinè Bertocchi 1985, 89-90.

<sup>112</sup> One of these examples is also corroded, affecting the profile of the blade, however the socket and blade sections are consistent with my Type definition.

<sup>113</sup> Serritella 1995, 69 and plate 78.

<sup>114</sup> Kilian 1970, 354 and plates 105 and 109.

**Type 7.2:** this sub-type features a slightly rounded leaf-shaped blade profile; the midrib is quite prominent and the transition from socket to blade is pronounced and concave.

Examples:

Lavello: Tomb 669II (the late 4<sup>th</sup> C)<sup>115</sup>

Ordona: Tomb 28 (De Juliis) (first quarter 4<sup>th</sup> C)<sup>116</sup>

Braida di Vaglio: Tomb 101 (late 6<sup>th</sup> to early 5<sup>th</sup> C)<sup>117</sup>

Satrianum: Tomb 17 (early 5<sup>th</sup> C)<sup>118</sup>

Incoronata: Tombs 264 and 454 (8<sup>th</sup> C)<sup>119</sup>

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<sup>115</sup> Bottini *et al.* 1991, 52 and plate 123, No. 68.

<sup>116</sup> de Juliis 1973, 329-33.

<sup>117</sup> Bottini and Setari 2003, 13 and plate 35 No. 42.

<sup>118</sup> Holloway 1970.

<sup>119</sup> Chiartano 1994 205 and 221 and plates 48 and 113.

## Type 8

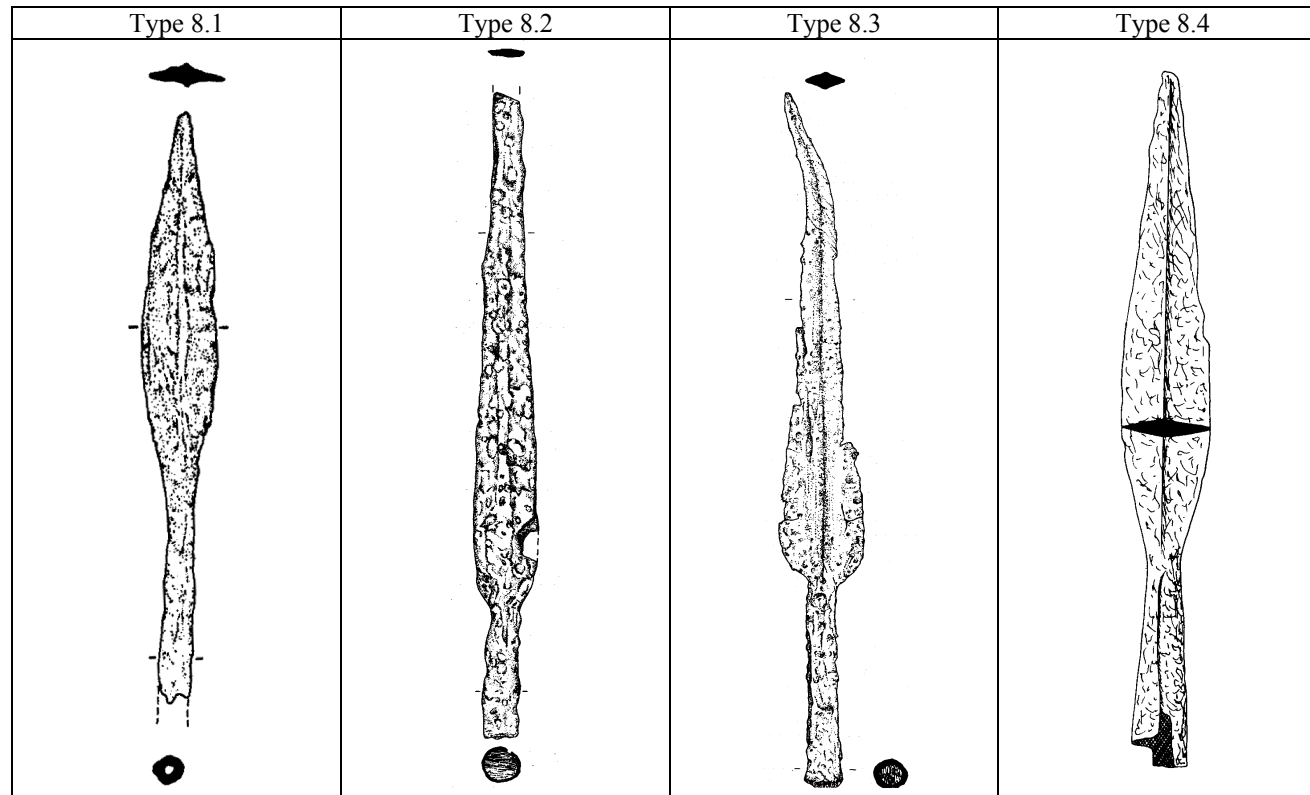


Figure 10: Type 8 Sub Types (not to scale).

Type	Iron with a Narrow Leaf-shaped Blade, Rhomboidal Blade Section and Midrib	Very Narrow Blade Profile	Prominent Ridged Midrib	Pronounced Concave Transition from Socket to Blade	Slight Concave Transition from Socket to Blade	Date
8.1	✓		✓		✓	7 <sup>th</sup> C – 4 <sup>th</sup> C
8.2	✓	✓			✓	6 <sup>th</sup> C – 4 <sup>th</sup> C
8.3	✓			✓		5 <sup>th</sup> C – 4 <sup>th</sup> C
8.4	✓				✓	8 <sup>th</sup> C – 4 <sup>th</sup> C

**Type 8:** This group shares the rhomboidal blade section and distinct midrib evident in the Type 7 group. Members of Type 8 are distinguished by their narrow blade profiles making the type more versatile, suited to being thrown as well as the delivery of thrusting blows. Sub-types are identified on more subtle variation in blade profile and the profile of the transition from socket to blade.

**Type 8.1:** this sub-type features a very narrow leaf-shaped blade profile with a prominent midrib; the transition from socket to blade is smooth and only slightly concave.

Examples:

Arpi: Tombs 6, 13 and 15 (350-300)<sup>120</sup>

Lavello: Tombs 12, 34, 56, 68, 71, 229 and 669II (500-300)<sup>121</sup>

Canosa: Ipogeo Scocchera A (three examples) (325-300)<sup>122</sup>

Ordona: Tomb 114 (66.OR.184) (400-300)<sup>123</sup>

Braida di Vaglio: Tombs 101, 105 and 107 (four examples) (late 6<sup>th</sup> to early 5<sup>th</sup> C)<sup>124</sup>

Chiaromonte: Tombs 24 and 43 (mid 7<sup>th</sup> to early 6<sup>th</sup> C)<sup>125</sup>

Satrianum: Tomb 18 (early 5<sup>th</sup> C)<sup>126</sup>

Pontecagnano: Tombs 928 (two examples—675-650), 4881 (730) and 5760 (350)<sup>127</sup>

Paestum: Gaudio Tomb 254 (420-400); Andriuolo Tombs 51 and 90 (mid-third quarter 4<sup>th</sup>

C); Vannullo Tomb 3 (third quarter of the 4<sup>th</sup> C)<sup>128</sup>

Cairano: Tomb XVII (500-400)<sup>129</sup>

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<sup>120</sup> Tinè Bertocchi 1985, 214, 247 and 262.

<sup>121</sup> Bottini *et al.* 1988, 52, 60, 70, 75, 77, and 111; Bottini *et al.* 1991, 49-61 and plate 124, No. 71.

<sup>122</sup> Naue 1898

<sup>123</sup> Mertens 1971

<sup>124</sup> Bottini and Setari 2003, 13, 57 and 66, plate 35 Nos. 43, 280, 335-8.

<sup>125</sup> Russo Tagliente and Berlingò 1992, 346, 362 and figs. 50 No. 195 and 70 No. 57.

<sup>126</sup> Holloway 1970.

<sup>127</sup> d'Agostino 1977, 12-14 and fig. 17 egs R42 and R48; Cinquantaquattro 2001, 15, 25 and plates 15 and 19; Serritella 1995, 28 and plate 65.

<sup>128</sup> Cipriani and Longo 1996, 149 No. 56.7; Pontrandolfo and Rouveret 1992, 319, 329, 394.

**Type 8.2:** presents a very long, narrow leaf-shaped blade profile with slightly squared shoulders at the base of the blade presenting a concave transition from socket to blade. The socket is also proportionately short measuring approximately on quarter of the length of the blade.

Examples:

Minervino Murge: Tombs OC-4 and SA-2 (early 4<sup>th</sup> C to 310)<sup>130</sup>

Lavello: Tombs 604 and 669II (350-300)<sup>131</sup>

Canosa: Ipogeo dei Vimini Cella B (right deposition) and *Canosa II* - Tomb 4 Cella B (375-325)<sup>132</sup>

Braida di Vaglio: Tombs 101 and 107 (late 6th C – early 5th C)<sup>133</sup>

Paestum: Arcioni Porta Aurea 2 (380-370)<sup>134</sup>

Cairano: Tomb XVII (500-400)<sup>135</sup>

**Type 8.3:** this sub-type presents a long narrow leaf-shaped blade profile with a wide base; the transition from socket to blade is quite pronounced and markedly concave.

Example:

Lavello: Tomb 600 (425-350)<sup>136</sup>

Paestum: Andriuolo Tomb 84 (350-340)<sup>137</sup>

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<sup>129</sup> Bailo Modesti 1980, 172-9 and plate 97.

<sup>130</sup> Lo Porto 1999.

<sup>131</sup> Bottini *et al.* 1991, 43 and 49 and plates 118, 124 Nos. 71-3, 125 Nos. 75-8.

<sup>132</sup> de Juliis 1990, 79-81 No. 48; Rossi and van der Wielen - van Ommeren 1983, 39-50 No. 40.

<sup>133</sup> Bottini and Setari 2003, 13 and 66 and plate 35 Nos. 41 and 334.

<sup>134</sup> Pontrandolfo and Rouveret 1992, 363.

<sup>135</sup> Bailo Modesti 1980, 172-9 and plate 97.

<sup>136</sup> Bottini *et al.* 1991, 38-43 and plate 116 No. 62.

<sup>137</sup> Cipriani and Longo 1996, 172 No.71.9

**Type 8.4:** this sub-type presents a narrow leaf-shaped blade profile; the transition from socket to blade is smooth and slightly concave.

Examples:

Minervino Murge: Tombs OC-6 and OC-11 (550-350)<sup>138</sup>

Ascoli Satriano: Tomb 46 (late 6<sup>th</sup> to early 5<sup>th</sup> C)<sup>139</sup>

Incoronata: Tomb 455 (8<sup>th</sup> C)<sup>140</sup>

Pontecagnano: Tombs 575 and 4856 (770-710) and 4040 (350-325)<sup>141</sup>

Sala Consilina: Tombs A42 A405, A412, D51, and J11 (770-730)<sup>142</sup>

Cairano: Tomb XVII (500-400)<sup>143</sup>

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<sup>138</sup> Lo Porto 1999.

<sup>139</sup> Tinè Bertocchi 1985, 49-51.

<sup>140</sup> Chiartano 1994, 223 and plate 115.

<sup>141</sup> d'Agostino 1968, 131 and fig. 7 No. III.1; d'Agostino and Gastaldi 1988, 214 and fig. 206; Serritella 1995, 67 and plate 77.

<sup>142</sup> Kilian 1970, 334, 355, 361 and 381 and plates 19, 20, 111, 112, 138 and 216.

<sup>143</sup> Bailo Modesti 1980, 172-9 and plate 97.

## Type 9

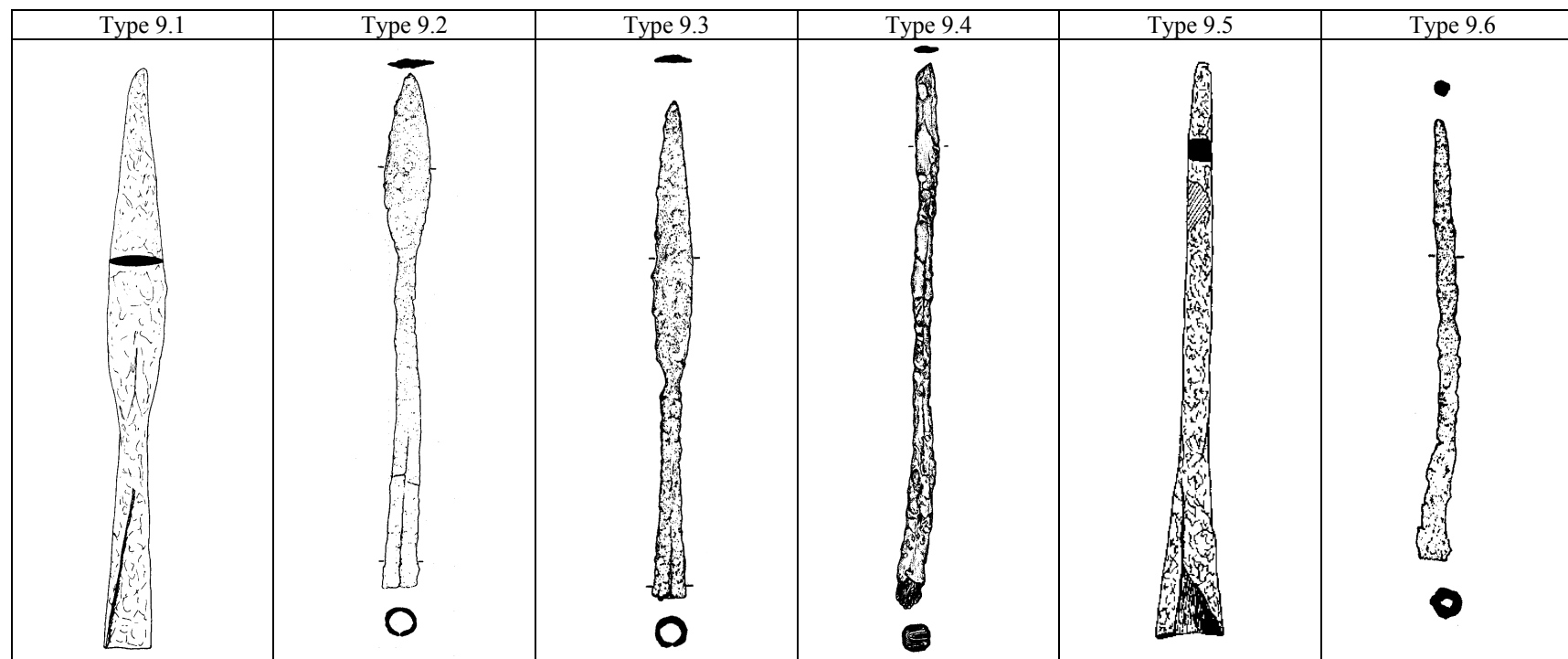


Figure 11: Type 9 Sub-Types (not to scale).

Type	Iron with Markedly Long Socket	Long Narrow Blade Profile	Short Narrow Blade Profile	Short Very Narrow Blade Profile	Distinctly Concave Socket to Blade Transition	No Discernible Blade	Round Socket with Square Point Section	Round Socket and Point Section	Date
9.1	✓	✓							Second half 8 <sup>th</sup> C
9.2	✓		✓						7 <sup>th</sup> C – 4 <sup>th</sup> C
9.3	✓	✓			✓				7 <sup>th</sup> C – 4 <sup>th</sup> C
9.4	✓			✓					4 <sup>th</sup> C
9.5	✓					✓	✓		8 <sup>th</sup> C – 4 <sup>th</sup> C
9.6	✓					✓		✓	7 <sup>th</sup> C – 4 <sup>th</sup> C

**Type 9:** forged iron points which stand out as a group distinct from the other spearhead Types due to their very long sockets and small or non-existent blades, an apparent design feature that would seem to have implications as to their function. Type 9 spearheads are best suited to being thrown and appear to have been designed for this purpose. Individual sub-types are identified on the basis of blade profile, or in the absence of a blade, the section of the socket. The sub-types 9.1, 9.2, 9.3 and 9.4 all feature small, narrow blades with sockets which exceed the length of the blade.

Sub-types 9.5 and 9.6 have no distinct blade; rather, they appear to consist solely of a socket which tapers to a point. The absence of a blade raises the possibility that these examples may have functioned as *sauroteres*. Indeed, numerous examples have been interpreted as *sauroteres* by Bottini in his publication of material from Lavello; his identification determined on the basis that these examples were the shortest point in an assemblage of multiple spearheads.<sup>144</sup> De Juliis and Rossi and van der Wielen - van Ommeren have also interpreted type 9 points as *sauroteres*, seemingly on a similar basis.<sup>145</sup> Iker offers possible interpretations of either a javelin or a *sauroter* for an example from Ordon, whilst Tinè Bertocchi routinely interprets her examples as javelins.<sup>146</sup> In burial assemblages which include multiple spearheads the distinction between point and counterpoint may be elusive, however in tombs where a member of type 9.5 or 9.6 is the only spearhead an interpretation of *sauroter* becomes questionable.

The markedly long socket appears to be the overriding design feature and the presence or absence of a small blade would seem to have little impact on their function. Type 9 is most heavily represented at Daunian sites but is also represented at a number of sites in

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<sup>144</sup> Bottini *et al.* 1988.

<sup>145</sup> Rossi and van der Wielen - van Ommeren 1983 26-39; de Juliis 1973, 337-40..

<sup>146</sup> Iker 1986, 615-21 and figs. 343 and 345; Tinè Bertocchi 1985 84-6 and fig. 128.



Basilicata and by a small number of examples from Campanian sites. Chronologically, Type 9 group members date principally from the 6<sup>th</sup> C to the late 4<sup>th</sup> although there are a few examples which date to the 8<sup>th</sup> and 7<sup>th</sup> C.

**Type 9.1:** this sub-type features a narrow leaf-shaped blade with a longer profile than the other Type 9 sub-types, presenting a long socket, proportionately the length of the blade or longer; the transition from socket to blade is very smooth and only slightly concave.

Examples:

Sala Consilina: Tombs A26, A35 (two examples), A77 and A152 (750-700)<sup>147</sup>

Serra di Vaglio: Tomb 31 (625-600)<sup>148</sup>

**Type 9.2:** this sub-type presents a small leaf-shaped blade, the transition from socket to blade is slightly pronounced, with a narrowing of the socket giving a concave profile. The socket measures approximately twice the length of the blade or longer.

Examples:

Lavello: Tombs 77, 270A, 279 (two examples) and 669II (700-300)<sup>149</sup>

Oppido Lucano: Tomb 46 (500-400)<sup>150</sup>

Serra di Vaglio: Tomb 31 (625-600)<sup>151</sup>

Paestum: Santa Venera Tombs 109 and 110 (4<sup>th</sup> C)<sup>152</sup>

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<sup>147</sup>Kilian 1970, 334, 336 and 340 and plates 18, 19, 25 and 40. It should be noted that these points all come from the same area of the south-east necropolis at Sala Consilina, giving them a very specific provenance within a relatively short chronological period, approximately one generation.

<sup>148</sup> Greco 1991, 20 and fig. 63.

<sup>149</sup> Bottini *et al.* 1988, 79, 123 No. 1, 127 Nos. 29 and 30 and plate 40 No. 1; Bottini *et al.* 1991:49 No. 83.

<sup>150</sup> Lissi Caronna 1980, 170 and fig. 74.

<sup>151</sup> Greco 1991, 20 and fig. 63.

<sup>152</sup> Pontrandolfo and Rouveret 1992, 368-370.

**Type 9.3:** this sub-type presents a long, narrow leaf-shaped blade profile with a narrowing of the socket giving a concave profile to the transition from socket to blade. The socket is proportionately equal to the length of the blade.

Examples:

Lavello: Tombs 38bis+39, 40, 51, 214, 247, 275-I, 279 (three examples), 306, 309-II, 796 (650-350)<sup>153</sup>

**Type 9.4:** this sub-type presents a very small, narrow leaf-shaped blade profile with an extremely long socket proportionate to blade size, measuring approximately four times the length of the blade. The blade presents a profile barely wider than the socket itself and has a flattened, lenticular section. A flattening of the socket forms the transition from socket to blade.

Examples:

Arpi: Tombs 6 and 10 (second half of the 4<sup>th</sup> to early 3<sup>rd</sup> C)<sup>154</sup>

Lavello: Tomb 699-II (two examples) (late 4<sup>th</sup> C)

Ordona: Tomb 32 (De Juliis) (first quarter 4<sup>th</sup> C)

Pontecagnano: Tomb 4890 (730), Tombs 4036, 4433, and 5755 (350-300)<sup>155</sup>

Paestum: Gaudio Tomb 269 (c.440-430)<sup>156</sup>

**Type 9.5:** has no discernible blade. The socket begins with a circular section, which transitions very smoothly to a point featuring a square section.

Examples:

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<sup>153</sup> Bottini *et al.* 1988, 62, 66, 104, 117, 126-7. The spearhead in Tomb 796 is published in Tagliente *et al.* 1992 but is not illustrated. However, these items are likened to one in Tomb 279, published in Bottini 1982, allowing allocation to Type 7.3 through direct comparisons.

<sup>154</sup> Tinè Bertocchi 1985

<sup>155</sup> Serritella 1995, 15, 27, 65 and plates 61, 64 and 77.

<sup>156</sup> Cipriani and Longo 1996, 140 No.45.5.

Arpi: Tomb 11 (400-350)

Ascoli Satriano: Tombs 19, 36, 37, and 78 (450-350)

Minervino Murge: Tomb OC-10 (600-550)

Lavello: Tombs L, 12, 21, 30, 43 (two examples), 45 (two examples), 53, 56, 97, 210, 223 (two examples), 226 (two examples), 228, 234-I, 241, 258-I, 258-II, 263, 268, 269, 274, 275-II, 296-I, 305, 308 and 669 II (two examples) (6<sup>th</sup> C to the late 4<sup>th</sup> C)

Canosa: Ipogeo dei Vimini Cella A, Ipogeo dei Vimini Cella B (right side deposition) and Ipogeo Scocchera A (375-300)

Ordona: Tomb 149 (64.OR.106) (350-325)

Oppido Lucano: Tomb 246 (550)

Chiaromonte: Tomb 29 (600-575)

Satrianum: Tomb 15 (early 5<sup>th</sup> C)

Sala Consilina: Tomb J21 (730-700)

Paestum: Andriuolo Tomb 84 (350-340);<sup>157</sup> Gaudio Tombs 174 265 (430-380)<sup>158</sup>

**Type 9.6:** is very similar to Type 9.5; distinguished from it by the section which remains consistently circular from socket to tip.

Examples:

Lavello: Tombs 23, 33, 50, 51 (two examples), 65, 97, 214, 219 (two examples), 234-I, 239-II (two examples), 257, 270A, 286-II and 302-II (two examples) (700-350)

Oppido Lucano: Tomb 53 (two examples) (late 5<sup>th</sup> to early 4<sup>th</sup> C)

Braida di Vaglio: Tomb 101 (late 6<sup>th</sup> to early 5<sup>th</sup> C)

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<sup>157</sup> Ibid., 172 No. 71.10.

<sup>158</sup> Ibid., 142 No. 49.7.

Paestum: Andriuolo Tomb 84 (350-340)<sup>159</sup>

Based on conflicting published descriptions a further spearhead recovered from Paestum, Vannullo Tomb 4 cannot be allocated conclusively to either Type 9.5 or 9.6 (mid 4<sup>th</sup> C) but should be noted as approximating other examples of these sub-types.<sup>160</sup>

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<sup>159</sup> Ibid., 171.

<sup>160</sup> Pontrandolfo and Rouveret 1992, 350; Cipriani and Longo 1996, 181.

## Type 10

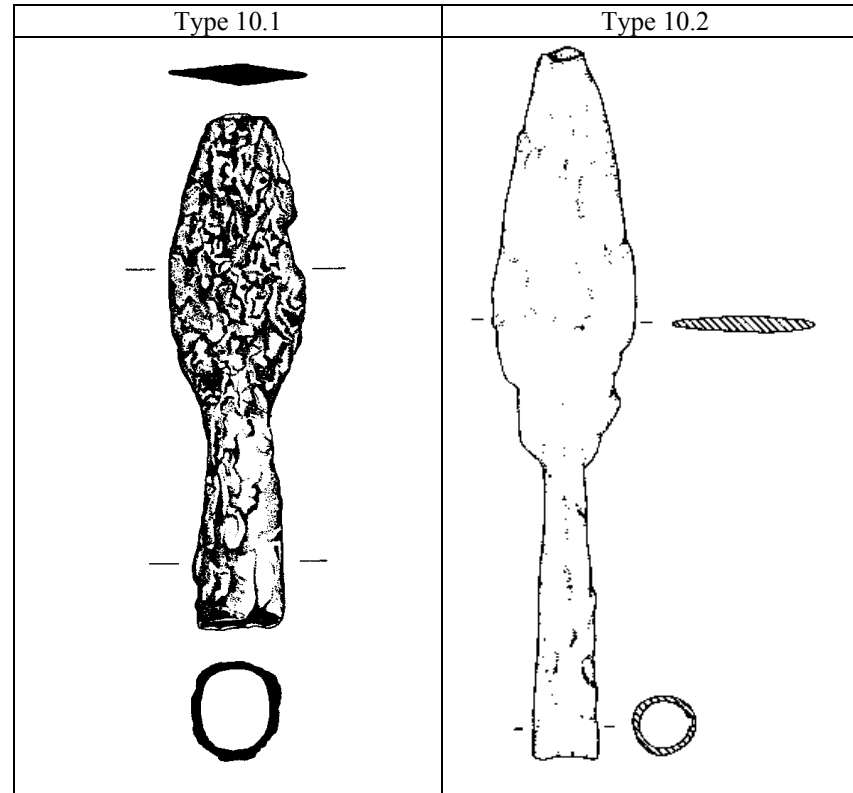


Figure 12: Type 10 Sub-types (not to scale).

Type	Iron with Short Broad Blade Profile and Socket Length less than Blade Length	Rhomboidal Blade Section	Lenticular Blade Section	Midrib	Date
10.1	✓	✓		✓	8 <sup>th</sup> C – 4 <sup>th</sup> C
10.2	✓		✓		Late 7 <sup>th</sup> C – 4 <sup>th</sup> C

**Type 10:** forged iron spearheads with a short-broad blade profile (best suited to thrusting), which are small in their overall dimensions. Each sub-type features a socket with a circular, conical section. Sub-types are identified on the basis of differences in blade section and the presence or absence of a midrib. The Type 10 group is represented at a few Daunian sites dated to the second half of the 6<sup>th</sup> C to the late 4<sup>th</sup> C. However, they also appear at a few sites in Basilicata, where they tend to date to the 8<sup>th</sup> to 6<sup>th</sup> C. Only one example is recorded from a Campanian site discussed in this thesis, from a 4<sup>th</sup> C tomb at Pontecagnano.

**Type 10.1:** presents a short, broad, leaf-shaped blade profile with a ridged section, forming a distinct midrib. The transition from socket to blade is smooth and slightly concave.

Examples:

Lavello: Tomb 42, 76, 214, 255 and 309-I (500-350)

Canosa: Tombs *Canosa II* - Tomb 4 Cella A and Cella B, Lo Porto 1992 – Tomb 10 (late 6<sup>th</sup> to late 4<sup>th</sup> C)

Ordona: Tomb 53 (66.OR.66) (550-500)

Incoronata: Tomb 54 (8<sup>th</sup> C) and Chance Find XLIV M-7

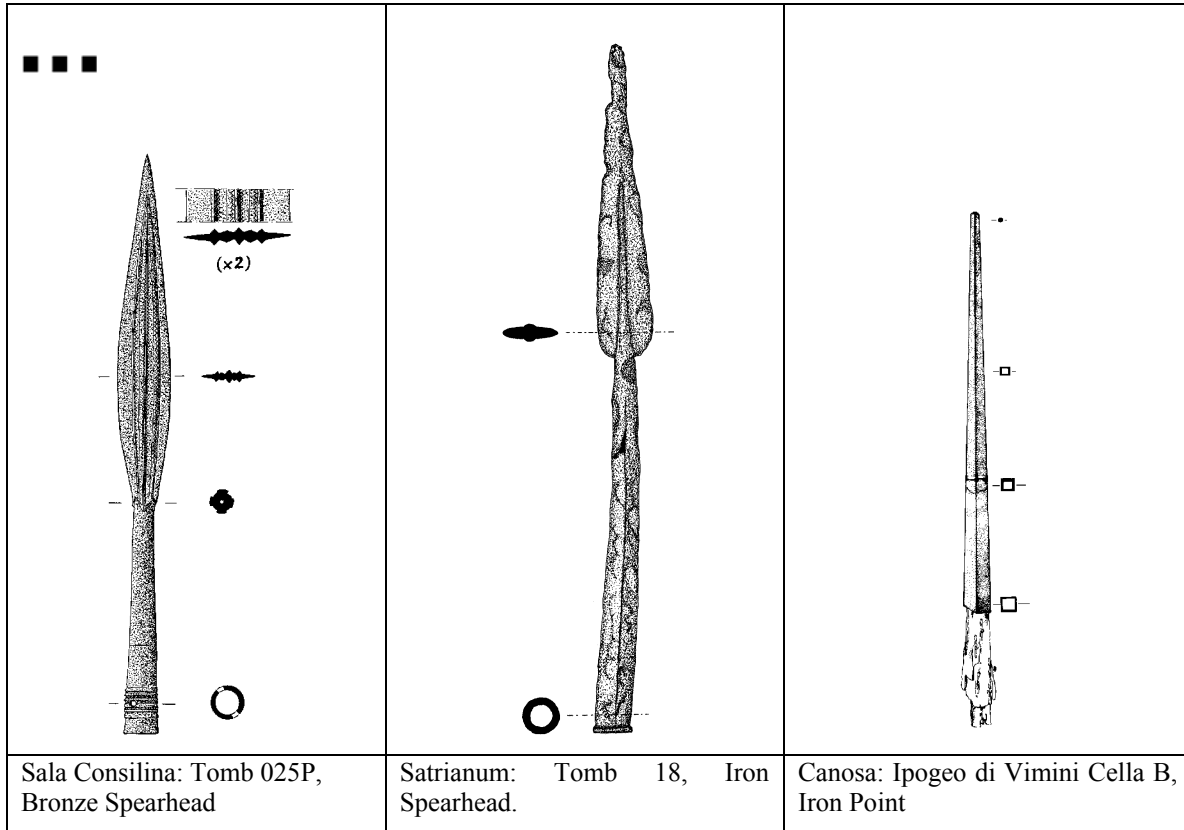
**Type 10.2:** this sub-type lacks any discernible midrib and presents a lenticular blade section.

Examples:

Lavello: Tomb 669II (late 4<sup>th</sup> C)

Chiaromonte: Tombs 7 and 31 (late 7<sup>th</sup> – early 5<sup>th</sup> C)

**Miscellanea:** there are a few examples which do not readily fit into any of the type groups I have been able to identify. Rather than creating stand alone type groups for these unusual examples I offer a brief description below:



**Figure 13: Miscellaneous Points.**

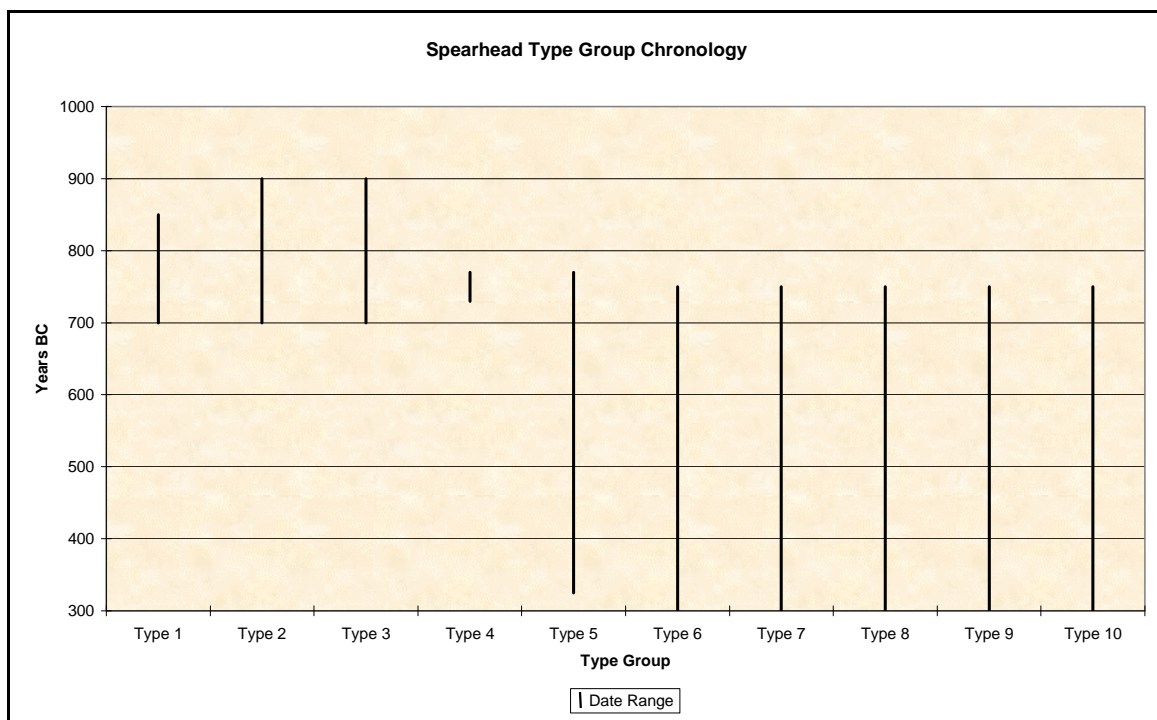
Sala Consilina: Tomb 025P (900-800)<sup>161</sup> is an unusual cast bronze spearhead which features a socket which is almost as long as the blade. The blade section is also unusual, with several ridges giving a corrugated appearance. The spearhead also features heavy, incised decoration both on the blade and the socket. It is quite possible that the spearhead is an import, Ruby notes comparable incised decoration from Veio.

Satrianum: Tomb 18 (early 5<sup>th</sup> C)<sup>162</sup> is an iron spearhead very similar in form to members of type 9.2; however, the blade features a prominent midrib, thereby distinguishing the spearhead from members of this type.

<sup>161</sup> Ruby 1995, 270 and plates 18-9.

<sup>162</sup> Holloway 1970.

Canosa: Ipogeo di Vimini Cella B (375-350) a unique point for which I am aware of no comparisons. The point has a markedly square section from the opening of the socket right to the point, this contrasts with type 9.5, which features a round socket which transitions to a square point. The socket retains a 9cm length of wood fitted into it. The iron point described by de Juliis a possible *sauroter*,<sup>163</sup> however, no other point has been recovered from the assemblage and no unidentifiable pieces of iron were reported, which could have formed an accompanying spearhead. De Juliis' interpretation of the iron point as a *sauroter* must therefore be questioned.



**Figure 14: Chronological distribution of spearhead type groups.**

While Type 5 to 10 spearheads have a chronological distribution from the 8<sup>th</sup> C to at least the end of the 4<sup>th</sup> C (the period under assessment) in South Italy we see some variation in the chronology between different geographic regions, which is discussed in the regional assessments.

<sup>163</sup> de Juliis 1990, 79-81.



**Table 2: Comparative Key Typologies discussed in this chapter.**

Inall	Bottini	Chiartano	Russo Tagliente	Kilian	D'Agostino
1.1	6	1a (bronze)		L1d, L1f, L3a L3b, L3c	A2
1.2		1a1		L1d, L1f, L3b, L3c	
1.3				L1d, L1f, L3b, L3c	Jav. A1, A1a
1.4		1a2 (bronze)			
2.1				L1d, L1f, L3b, L3c	A1a
2.2				L1a	
2.3				L1b	
3.1				L1e, L1f (var.2)	Javelin A1 & A2 Spearhead A1b
3.2				L 3d	
3.3		2 (bronze)			
3.4		2a (bronze)			
3.5		2a1 (bronze) 2 (bronze)		L1d	
3.6				L3b	
4.1					A1b
4.2				L1b	
4.3				L1e	
5.1	2.1		1.1, 2.1	L2a	
5.2			1.2		
6.1	2a		1.3		
6.2	2b, 3b, 4, 4a	1b (iron)			
6.3	5	1b (iron) 2a (iron)		L2a	
6.4		2a (iron)			
7.1	2b, 8b	1a (iron) 1a1 (iron)		L2b	
7.2	8b	1a (iron) 1a1 (iron)			
8.1	2a, 3.2				
8.2	3a, 3b, 3c				
8.3	8a				
8.4				L2a (variant 2)	
9.1				L2a (variant 2)	
9.2	1, 7				
9.3	3.1				
9.4	7				
9.5	Javelin 1.2/ Sauroter 1.2			L2c	
9.6	Javelin 1.1/ Sauroter 1.1				
9.7					
10.1	2.2				
10.1	8c		3.1; 3.2		

## General Discussion

The spearheads illustrated in the figures above are what could best be termed my ‘type ideals’. They are examples of spearheads which best fit the type description, held in mind during the formation of the typology.<sup>164</sup> To describe the degree of variation within each type and sub-type I have included illustrations of a broader number of examples in the individual chapters on the geographic regions examined in this thesis. The descriptive tables above show that many of the spearhead types continued in production throughout the period under examination. Whether this is a genuine continuation of specific functional types, or an artificial continuum created by the typology, must be considered. A comparison of individual type members, within a single sub-type, reveals variation in the overall dimensions and in form. However, examples are often quite similar from different points along the chronological spectrum. In figure 15 (below) for example, the Type 7.1 spearhead from Sala Consilina Tomb A382 (dated 730-700) is very similar in both form and dimension to the example from Lavello Tomb 600 (dated 425-350). The similarity between these two examples is not an artefact of my typology; indeed it is difficult to envisage a typology which could separate them. Another example of the Type, from Ascoli Satriano Tomb 17 (contemporary with the example from Lavello Tomb 600) has much smaller dimensions but retains the same basic form. It is clear from these examples that some spearhead forms did indeed continue for extended periods virtually unchanged.

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<sup>164</sup> See Adams and Adams 1991, Chapter 5 for a discussion of type ideals and “gestalts” in type formation.

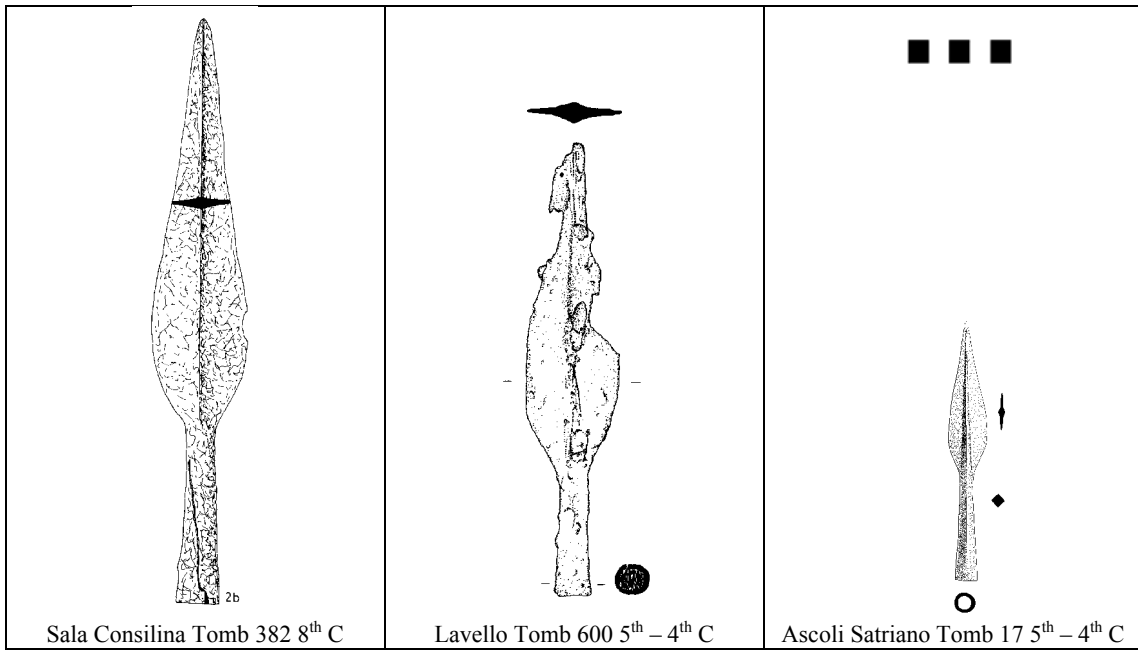


Figure 15: Example of variation within the Type 7.1 sub-type (to scale).

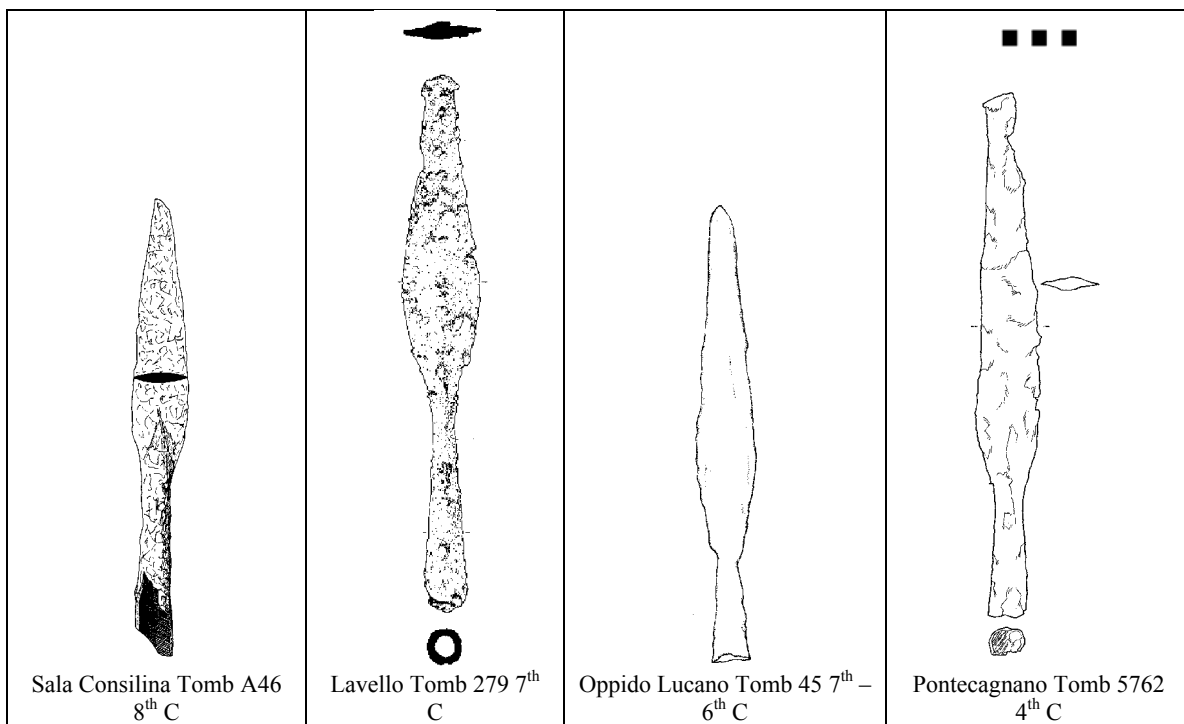
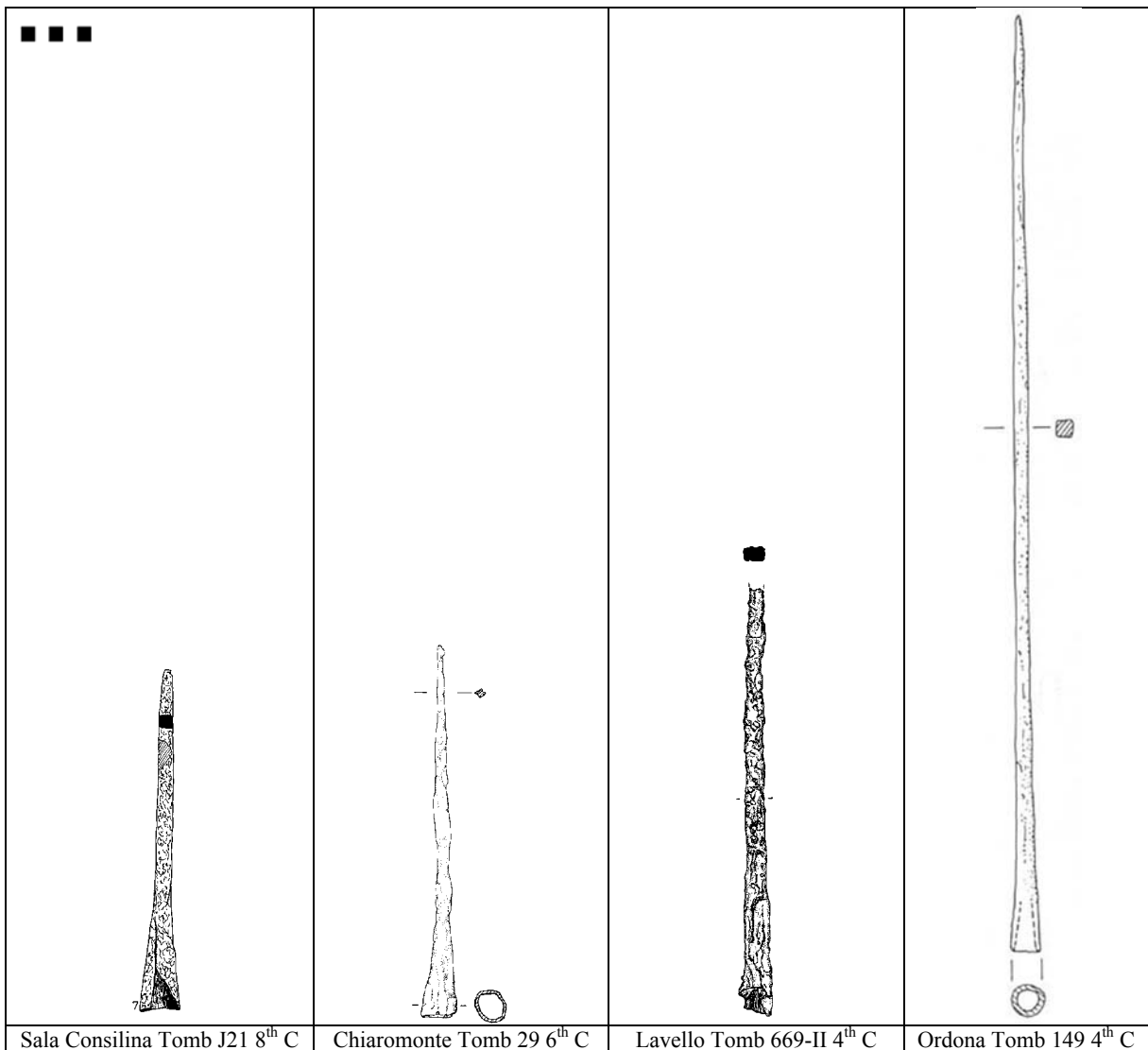


Figure 16: Example of variation within the Type 5.1 sub-type (to scale).

An examination of individual members of sub-type 5.1 (Figure 16) also presents similar examples from different chronological periods, despite a degree of variation in the overall dimensions, as illustrated in Figure 16, which shows examples from Sala Consilina Tomb

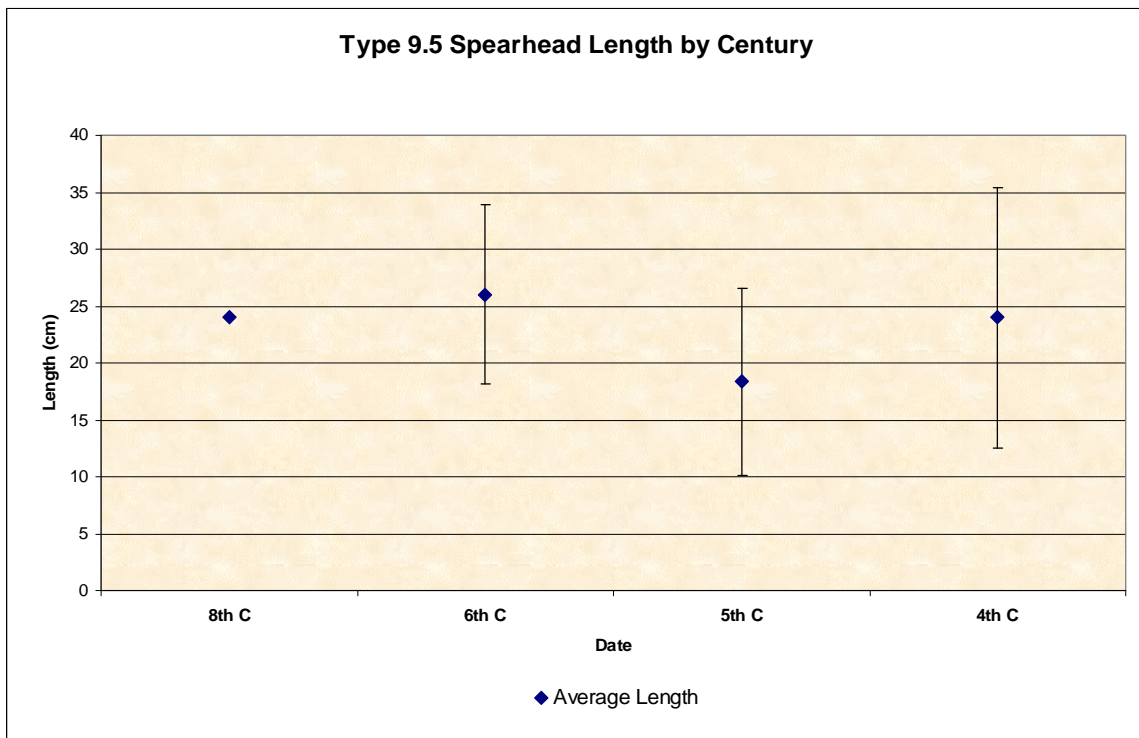
A46 (750-700), Lavello Tomb 279 (650-625), Oppido Lucano Tomb 45 (late 7<sup>th</sup> – early 6<sup>th</sup> C) and Pontecagnano Tomb 5762 (375-350).



**Figure 17: Example of variation within the Type 9.5 sub-type (to scale).**

Examples of Type 9.5 (Figure 17) vary greatly in their dimensions from examples measuring less than 20cm in total length to the unusually long example from Ordonia Tomb 149 (65.5cm – figure 17, far right).<sup>165</sup> On average, type 9.5 spearheads decline in length during the 5<sup>th</sup> C; becoming longer again during the 4<sup>th</sup> C (Figure 18). The reasons underlying these changes in length are not clear and may represent subtle changes in function.

<sup>165</sup> Iker 1986, 615-21 and fig. 345: (64.OR.106) dated to the third quarter of the 4<sup>th</sup> C.



**Figure 18: Type 9.5 spearheads, length by century.**

Overall, there is consistency in spearhead forms over an extended period in South Italy, types persisting throughout the period from the 8<sup>th</sup> C to 4<sup>th</sup> C. The greatest technological developments during the period under examination are the transition from bronze to iron as the principal material of manufacture in the early 8<sup>th</sup> C, and the development of a class of spearheads with markedly long sockets and very small or non-existent blades.

Iron spearheads begin to appear in South Italy during the 8<sup>th</sup> C. The earliest examples tend to feature narrower blades than their contemporary bronze counterparts.<sup>166</sup> There is also an increased range of forms manufactured in iron. By the end of the 8<sup>th</sup> C iron has completely replaced bronze as the material for the manufacture of (functional) spearheads throughout South Italy.<sup>167</sup>

<sup>166</sup> I discuss the economic issues associated with choice of metal and how this may have impacted on techniques of manufacture p. 81, below.

<sup>167</sup> It is clear that bronze weapons, often miniatures, continued to be used after this time as votive dedications, see Russo Tagliente 1995, 70-1.

In contrast, the transition from bronze to iron spearheads began much earlier in Greece, although iron does not appear to have superseded bronze as completely as it did in South Italy. Iron spearheads began to be produced in Greece during the 11<sup>th</sup> C, but did not completely replace bronze spearheads until the Geometric period.<sup>168</sup> For a brief period, between 1025 and 950, iron spearheads dominated in Greece.<sup>169</sup> During the Archaic period there was a resurgence in the popularity of bronze, perhaps related more to ideological than functional or economic factors.<sup>170</sup>

The spearhead forms seen in Greece overlap with those in South Italy. In both areas there is a preponderance of leaf-shaped blades, with both narrow and broad profiles, forms appearing in both bronze and iron. A few of Snodgrass' identified spearhead types (Figure 19, below, right panel examples c, d and h) compare well with some of the bronze sub-types which I have identified, although these particular types are thought by Snodgrass to be South Italian or Sicilian, appearing in Greece as trophies dedicated at Greek sanctuary sites.<sup>171</sup> Snodgrass provides some discussion in his typology of the potential origins of his spear forms. Many of his types are thought to have Central European origins. Snodgrass' Types A, C and E, (Figure 19, left panel examples a, c, and e) are thought to be of Central European origin, and present some general similarities with Type 1 outlined in this chapter, featuring broad, leaf-shaped blades and prominent midribs.<sup>172</sup> Examples of these forms are identified by Snodgrass in both bronze and iron with examples dating mostly to the Protogeometric and Geometric periods though some earlier examples date to the Mycenaean period. Several other forms identified by Snodgrass are markedly different from the Italian examples. Type B (Figure 19, left panel

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<sup>168</sup> Snodgrass 1964, 133-4.

<sup>169</sup> Morris 2000, 210.

<sup>170</sup> Snodgrass 1964, loc cit.; Morris 2000, 208-18.

<sup>171</sup> Snodgrass 1964, 128-9; Types N and O. This interpretation is supported by find of spearhead a mould identifiable as my type 3.1 from a Late Bronze Age context in Sicily: Albanese Procelli 2000, 77-8.

<sup>172</sup> Snodgrass 1964, 116, 120-1 and fig. 7 Nos. A, C and E.

example b), for instance features a sharply incurving blade profile which is not seen in any of the Italic examples. Snodgrass' Types G, K, L and V (Figure 19, left panel examples g and j, right panel examples a and k) all feature narrow blades with heavily angular shoulders, again, unlike the right-angled shoulders represented in Type 4.2 for example.<sup>173</sup> There are no examples in Snodgrass' typology featuring the markedly long sockets and diminutive to non-existent blades distinctive in the South Italian Type 9 identified in this thesis.<sup>174</sup> While armour, ceramics and other aspects of South Italian material culture experienced a degree of 'Hellenisation' during this period it is clear that spearheads remained local productions. There is no evidence to support either the importation of spearheads or local production imitating imported spear forms.

The contexts in which Greek spears are identified are also different from South Italian contexts in which spears are found. Objects in Snodgrass' catalogue for example derive predominantly from sanctuary dedications. Few of his examples come from burial contexts, the principal context for spear finds in South Italy. While both bronze and iron spearheads appear in sanctuary contexts, the Greek material may represent a bias in favour of bronze points as bronze was deemed more appropriate for dedications due to its heroic connotations.<sup>175</sup>

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<sup>173</sup> Ibid., 122, 126, 131, fig. 7 Nos. G, J and fig. 8 Nos. A, K.

<sup>174</sup> Ibid., Chapter 5.

<sup>175</sup> Ibid., Chapter 5.

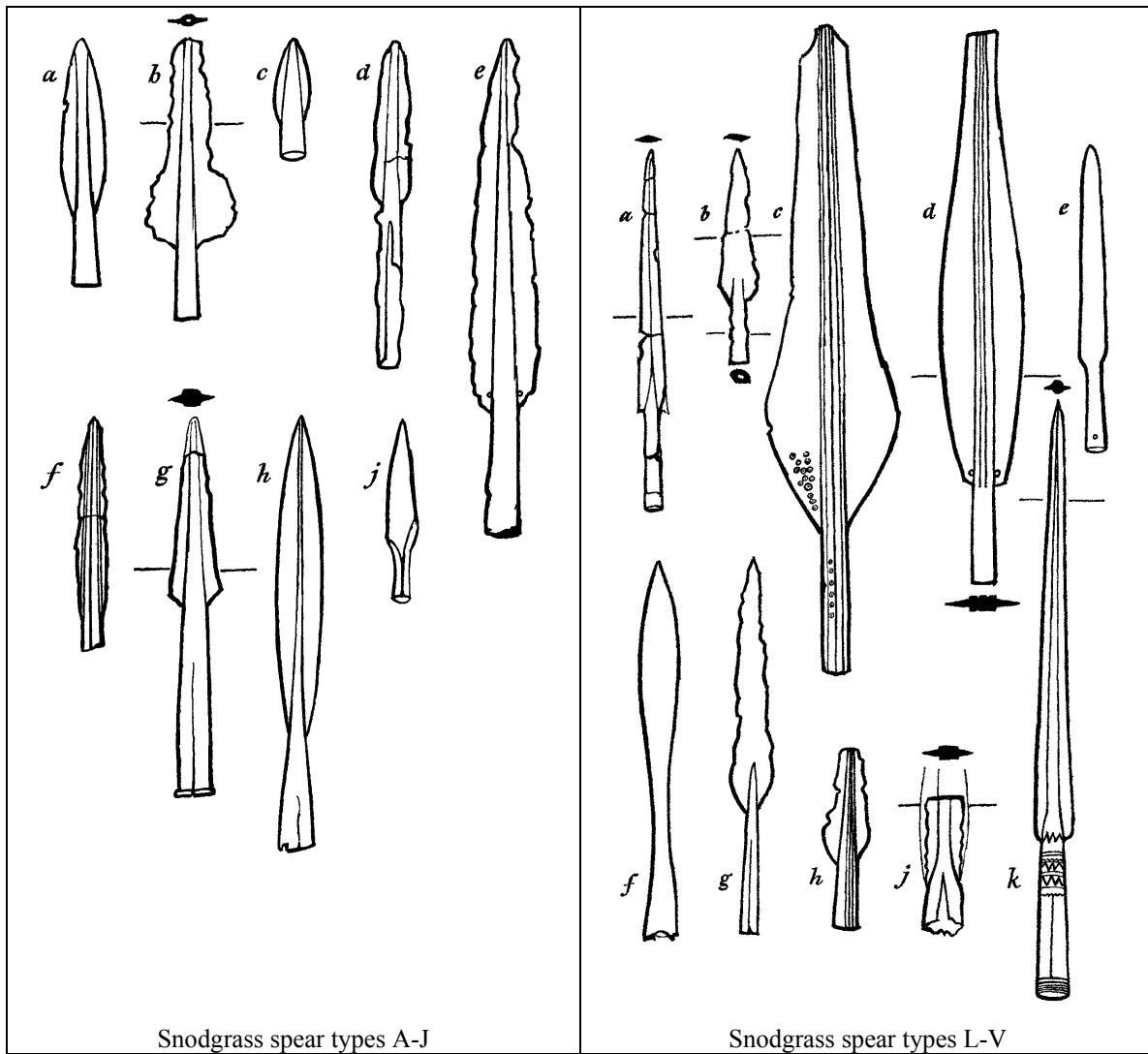


Figure 19: Snodgrass' 1964 Typology of Greek spearhead forms after Snodgrass 1964 figs. 7 and 8.



## ***Function***

**Infantry:** Amongst the indigenous inhabitants of Iron Age South Italy we can reasonably assume that —while there is some evidence to support the employment of cavalry—much of the fighting was done on foot and that the formation of battle was something other than the hoplite phalanx. While there is evidence to suggest very limited employment of hoplite tactics in Etruria,<sup>176</sup> there is no real indication that such tactics were routinely employed by the indigenous inhabitants of Iron Age South Italy. The frequency with which spearheads are recovered from the burial record marks the spear as the dominant weapon of the Italian Iron Age.<sup>177</sup> Van Wees, in his volume *Greek Warfare: myths and realities*, seeks an ethnographic parallel for the style of fighting described in the *Iliad* which he finds in the highland tribes of Papua New Guinea.<sup>178</sup> Van Wees describes the conduct of battle amongst these tribes as consisting of a loose formation in which those at the front engage directly with the enemy for a short time either by throwing or thrusting their spears before dropping to the rear allowing others to step forward.<sup>179</sup> Such a style of fighting can be sustained over many hours and—if Van Wees is right in applying the parallel to Homeric warfare—could also be applied to infantry conflicts of Iron Age South Italy.

Through the creation of my typology three general functional classes of spearhead emerged: broad-bladed spearheads, best suited to the delivery of thrusting blows, narrow-bladed versatile spearheads suited to both thrusting and throwing actions,<sup>180</sup> and long-

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<sup>176</sup> Stary 1981; Stary 2000.

<sup>177</sup> While swords do appear with some frequency, their numbers pale in comparison to the number of spearheads recovered from burial contexts. Further, in Southern Italy in particular there appears to be a different conceptual relationship to the sword compared with Northern and Central Europe, where swords had distinct cultic and spiritual connotations, see Kristiansen 2002.

<sup>178</sup> van Wees 2004, 153-8.

<sup>179</sup> *Ibid.*, 154.

<sup>180</sup> Small 2000, 221 identified that many South Italian spearhead forms were functionally versatile, and could be readily employed in both throwing and thrusting motions.

socketed spearheads with small blades, or no blade, which were best suited to being thrown. In the regional assessments of weapons I will refer to these functional classifications in my discussions. Amongst the class of broad-bladed thrusting spearheads I identify Types 1, 3, 5, 7 and Type 10 in my typology. Versatile spearheads suited to both throwing and thrusting can be identified in my Types 2, 4, 6 and Type 8. The members of Type 9, throwing spearheads, stand apart from the other spear forms identified in my typology their common design features of markedly long sockets and small or non-existent blades evincing their different function from the other spear types. The long socket would distribute the weight of the point more evenly, creating a more balanced spearhead, better suited to a throwing action than a heavy spearhead with its weight concentrated in the blade.<sup>181</sup> The small blades featured in sub-types 9.2 and 9.4 in particular were likely to have been significantly less durable than the blades of members of the other spearhead types. Such a weapon may have been intended for single use, to be thrown at the enemy and for the socket to bend or the blade snap off when it hit its mark.<sup>182</sup> Type 9 examples appear with greatest frequency in Daunia, though some of the earliest examples come from the Villanovan settlement of Sala Consilina. These spearheads may represent a local development, as there are no comparable examples included amongst the 9<sup>th</sup> – 6<sup>th</sup> C types listed by Stary in his catalogue of Central Italian weapons of the Late Bronze and Early Iron Ages,<sup>183</sup> nor do they fit with any of the Greek spearhead types identified by Snodgrass.<sup>184</sup> Small and Connolly describe some comparable Central Italian examples dating to the 5<sup>th</sup> C, which Connolly sees as the forerunner to the Roman *pilum*.<sup>185</sup> It would seem that, whether intended for single or

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<sup>181</sup> Snodgrass 1964, 137.

<sup>182</sup> Small 2000, 225-6.

<sup>183</sup> Stary 1981.

<sup>184</sup> Snodgrass 1964, Chapter 5.

<sup>185</sup> Small 2000, 225; Connolly 1981, 100; Polybius *Histories*, 6.22 describes the single-use nature of the *pilum*.

repeated use, Type 9 points were designed specifically to be thrown rather than thrust. Conversely, the broad-bladed spearheads of the Type 1, 3, 5, 7 and 10 groups would have been difficult to throw with accuracy, their shape and centre of balance less aerodynamic and, larger examples in particular, may have been too heavy to be thrown.

The lateral holes preserved in the sockets of many of the bronze spears discussed in this chapter suggest that they were designed to be used repeatedly, though this cannot be stated with certainty. A number of spearheads have also been recovered with traces of bronze wire binding, which may also have played a role in securing the spearhead to the shaft.<sup>186</sup> The members of all types (with the exception of Type 9) have durable leaf-shaped blades which appear to have been made to stand up to prolonged use, and a number of the bronze examples have markedly worn blades, which appear to be the result of repeated sharpening.<sup>187</sup> While it is likely that iron spearheads were also subjected to resharpening the generally poor state of preservation of iron spearheads makes this kind of wear difficult to identify.

Few of the ancient sources discuss long arms in any detail. Thucydides makes several references to Italic auxiliaries in his *History of the Peloponnesian War*, both as allies and mercenaries engaged in numerous campaigns. For example, the passage 7.33-4 relates the employment of a group of Messapian auxiliaries. Thucydides chose a form of ἀκόντιον, normally translated as ‘javelin’, though the specific phrasing of the passage does not explicitly state whether the weapon was *thrown* or *thrust*, merely that the ‘javelin’ was

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<sup>186</sup> Pontecagnano Tombs 2145, 3284 and 4852 included a bronze spearheads that can be allocated to Types 1.4, 3.6 (two examples) and 3.1 respectively. The tombs included bronze binding interpreted by the excavators as associated with the spearheads: d'Agostino and Gastaldi 1988, 197, 209 and figs. 162 and 205; De Natale 1992, 109 and fig. 119; Bianco 1991, 588, Aliano Tomb 658 (6<sup>th</sup> C) also included bronze binding associated with an iron spearhead. Such binding may not always have survived, or may not have been noted by the excavator.

<sup>187</sup> Xenophon *Cyropaedia*, 6.2.33 refers to the sharpening of spearheads. Pontecagnano Tomb 2145 has a rounded point possibly the result of repeated sharpening: d'Agostino and Gastaldi 1988, 197-8 and fig. 162; Sala Consilina Tomb D132 Kilian 1970, 367 and plate 160. I discuss spearheads with evidence of wear or resharpening on pages 237 and 374, below.

used with force.<sup>188</sup> While Thucydides is not explicit on the matter, the passage is variously interpreted as ‘javelin-men’, ‘javelin-slingers’, ‘darters’ or ‘slingers’.<sup>189</sup> The usage of the term ἀκόντιον in other ancient literary sources, and their commentaries, is generally described in contexts of throwing or hurling actions, thus allowing modern translators to infer throwing in the narrative of Thucydides 7.33-4.<sup>190</sup> It would seem likely that this passage refers to Messapians employed for their skill in *throwing* long arms. Several iconographic sources also support the use of throwing spears in Iron Age South Italy (Figure 20, below). A matt-painted urn from Tomb 9 at Gravina includes a representation of a deer hunt (Figure 20.3). A stag is wounded by a spear which seems to be equipped with a throwing loop, which would have allowed the thrower to achieve greater force and speed when casting his spear.<sup>191</sup> From Paestum, a duel scene from Arcioni Tomb 1 (Figure 20.1), depicts spears which include a loop of some kind, located close to the spearhead.<sup>192</sup> A red figured volute krater—Taranto 8264 from Ceglie del Campo, the name vase of the Birth of Dionysos Painter (Figure 20.2)—depicts an Amazon pierced by a spear which is equipped with a loop, again positioned close to the spearhead.<sup>193</sup> RVAp II, 6/186a<sup>194</sup> depicts a mounted warrior in contest with a warrior on foot. Between them a spear is depicted, apparently flying through the air (Figure 20.4). The spearhead is equipped with a throwing loop; the shaft is depicted with undulating curves, possibly an attempt to represent the spin on the spear provided by use of a

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<sup>188</sup> Alistair Blanshard, personal communication.

<sup>189</sup> ἀκοντιστάς τέ τινας τῶν Strassler 1996, ‘darters’; Thucydides *The Peloponnesian War* Hobbes Trans. ‘darters’; Liddell and Scott 1940, 53 ‘darter’ or javelin-man’

<sup>190</sup> Liddell and Scott 1940, 52-3, 445-6.

<sup>191</sup> Herring *et al.* 2000, fig. 9b: the tomb is dated by Herring to the 5<sup>th</sup> C. For the identification of loops as associated with throwing see Snodgrass 1964, 138 and note 47; van Wees 2004, 169-70; Anderson 1993, 19 and note 19.

<sup>192</sup> Pontrandolfo *et al.* 2004, 50 and fig. 47.

<sup>193</sup> Trendall and Cambitoglou 1978 33-5 RVAp 2/6; Drago 1942 IV Dr plate 25 No. 2.

<sup>194</sup> Listed as ‘once Athens market, Acheloos Gallery 453: RVAp II 1049, Taranto 8264 from Ceglie del campo, name vase of the Birth of Dionysos Painter after CVA Italy 18 2 IV Dr plate 25 No. 2..

throwing loop.<sup>195</sup> Such examples suggest a familiarity throughout South Italy, from the 5<sup>th</sup> C onwards, with spears which were intended to be thrown.

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<sup>195</sup> van Wees 2004, 169.



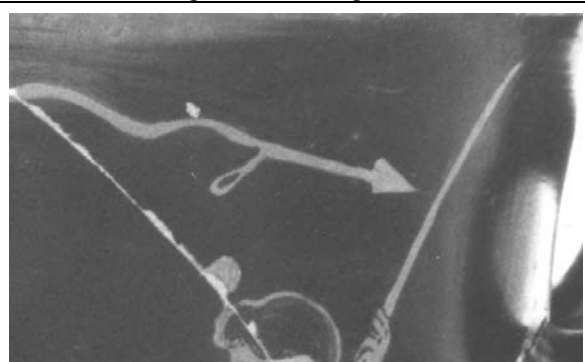
1) Paestum Tomb 1, Necropolis of Arcioni after Pontrandolfo *et al.* 2004, fig. 47



2) Taranto 8264 from Ceglie del campo, name vase of the Birth of Dionysos Painter after CVA Italy 18 2 IV Dr plate 25 No. 2.



3) Matt-painted urn from Tomb 9 at Gravina after Herring *et al.* 2000, fig. 9b.



4) RVAp, 1049, 6/186a, 'once Athens market' unpublished photograph from the Trendall Centre, Melbourne.

**Figure 20: Iconographic examples of throwing loops**

Some information is also available regarding the length of the spears used during the Iron Age. Representations on South Italian vase paintings and in the painted tombs of Paestum often show spears longer than a man is tall. Polybius makes reference to the length of some spears, giving measurements from approximately one metre to in excess of two metres.<sup>196</sup> Xenophon, in *On Horsemanship*, also discusses the appropriate length of the spear, suggesting that it is dictated by its intended use, with shorter spears proving more versatile and more easily managed on horseback.<sup>197</sup> Small has suggested that some spears may have been too long to inter whole within burial contexts, particularly in pit graves, where the overall dimensions of the tomb are small and the body is placed in a contracted position. He further suggested that spear shafts may have been broken to facilitate their inclusion amongst the burial assemblage, citing several examples where spearheads have been discovered lodged in the wall of the fossa grave.<sup>198</sup> I have also noted such an example, from Ortona Tomb 50 (75.OR.159) where an iron spearhead was embedded 10cm into the wall of the fossa.<sup>199</sup> It is clear that part of the funerary ritual, including a funerary feast, was often conducted alongside the grave.<sup>200</sup> Spears may have been left by the grave as offerings to the dead. A number of tombs from Pontecagnano and one tomb from Ascoli Satriano yielded iron points recovered from outside the tomb, atop or directly adjacent to the tomb cover, may represent examples of this ritual.<sup>201</sup> Tomb 29 from Oppido Lucano—a 6<sup>th</sup> C fossa burial—included a rare example of an unbroken spear

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<sup>196</sup> Polybius *Histories*, 6.22 describes Roman *pila* as featuring a haft measuring approximately 90cm Polybius *Histories*, 18.29 in reference to the Macedonian *sarissa* at approximately 2.4m.

<sup>197</sup> Xenophon, *On Horsemanship*, 12.12.

<sup>198</sup> Small 2000, 222.

<sup>199</sup> Iker 1984, 194-200 and figs. 108 and 110. Two iron spearheads from Tomb 10 at Gravina, dated to the late 5<sup>th</sup> C also appear to have been broken before deposition in the grave: personal observation. Though Gravina is not one of the sites assessed in this thesis the burial assemblage is on display in the Museo Nazionale di Gravina.

<sup>200</sup> E.g. Holloway 1970, 34-35 discusses the clear evidence from Satrianum

<sup>201</sup> Small 2000 refers to this example as located outside of the main burial. Tinè Bertocchi 1985, 69 writes '[s]ulle lastre è stata rinvenuta una punta di giavelotto infissa lateralmente'. Serritella 1995 notes the practice in the 4<sup>th</sup> C Pontecagnano tombs 4048, 4348, 5755, 5755, 5760, 5761, 5762 and 5763.

shaft in the tomb.<sup>202</sup> During excavation the preserved outline of the shaft was noted and photographed *in situ* together with an associated Type 6.2 iron spearhead. The spearhead measured 29.7cm long; together with the impression of the shaft it is possible to ascertain an overall length of approximately 90cm, in keeping with the shorter spears described by Polybius.

Numerous spearheads have been recovered with traces of wood preserved in the socket, but I am unaware of any analysis of the organic materials. It would be interesting to see whether specific wood species could be identified and whether there were any observable patterns of association between certain spearhead forms and the species of wood selected for use in the manufacture of spear shafts. The choice of wood could have significant impact on the performance of the weapon, with different species having varying degrees of strength and flexibility, both properties impacting on the durability of the weapon when placed under stress. There are several references in Greek sources to the particular wood used for hafting spears and axes. Xenophon, comments that long reed spears were weak, and expresses a preference for cornel-wood for its greater strength.<sup>203</sup> The Iliad makes reference to a long-spear with a shaft of ash and also the use of olive wood for the haft of a battle-axe.<sup>204</sup>

It is evident from the ancient sources that different spear types were recognised by ancient authors. Xenophon describes spears in some detail in *On Hunting*. He advises that a boar-hunting party should carry ‘javelins...of every variety’ with broad blades, measuring approximately 38cm long.<sup>205</sup> Xenophon’s comment acknowledges the existence of a

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<sup>202</sup> Lissi Caronna 1980, 140-1 and fig. 28.

<sup>203</sup> Xenophon *On Horsemanship*, 12.12; Xenophon *On Hunting*, 10.3

<sup>204</sup> Homer *Iliad*, 19.390, 20.273, 21.161 and 22.131 all describe the heavy ash spear of Achilles; 13.612 the battle-axe of Peisandros; Pliny *Natural History* Book 16 discusses the various properties of known wood species. He describes ash as pliable and likely to retain its flexibility if treated correctly.

<sup>205</sup> Xenophon *On Hunting*, 10.3 the length is specified as “one cubit”.



range of spear forms and identifies those best suited to the boar hunt, implying that spears with broad blades were better suited to the hunt than those with narrow blades, although he does not elaborate on why this should be the case. Polybius describes Roman cavalry as carrying two *pila*, one thick and one thin. He describes the thin spears as being ‘like moderate sized hunting spears’,<sup>206</sup> a comment that suggests the 2<sup>nd</sup> C BC reader would be familiar with hunting spears and could readily identify one of ‘moderate size’. While the variety of spear forms in use by Polybius’ time may have been different to that of Xenophon’s era, it is clear from their descriptions that it was common to possess a range of points of different types, and that they should necessarily be expected to have served different purposes. In light of these literary sources it is valid to examine the archaeological record to see whether it may be possible to identify any of the functional types or classes of spear that were in use. However, one must recognise that some elements which contributed to the functionality and identification of a particular spear form, such as preferred wood species and length of the shaft, are unlikely to survive in the archaeological record.

Xenophon and Polybius also refer to the carriage of two spears as part of the individual warrior’s panoply.<sup>207</sup> Both Greek and South Italian iconography include representations of two spears being carried by a single warrior. There is general agreement that these images represent the standard panoply: two spears, one for throwing, and the other for thrusting.<sup>208</sup> Much of the material examined in this thesis comes from burial contexts. During my examination of these finds I will note instances where two or more spearheads are included amongst an individual burial assemblage. I will determine whether the spearheads are of the same type, or whether they are points which should be allocated to

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<sup>206</sup> Polybius *Histories*, 6.23 Perseus translation.

<sup>207</sup> Xenophon *On Horsemanship*, 12.12; Polybius *Histories*, 6.23.

<sup>208</sup> Snodgrass 1967, 138.

different spear types. In such instances I will be looking for patterns in the association of different spearhead Types. Geographical differences or chronological changes in fighting style may be observable through changing patterns of association.

**Cavalry:** Xenophon in his *On the Cavalry Commander* 9.3, briefly discusses the employment of mercenary cavalry forces, and mentions that contingents of 200 mercenaries should serve as part of a complement of 1000. The mercenaries were not intended to be fully integrated with the Greek force so that healthy competition could be encouraged between the two groups.

Xenophon also comments on the spears that cavalymen should carry, recommending that the cavalry rider should carry two spears and advising that the rider should discharge his weapon at the greatest possible range.<sup>209</sup> Polybius remarks on the best kind of spear for cavalry service, explaining that a thin spear shaft is undesirable for cavalymen as the motion of the horse can be enough to cause the shaft to break.<sup>210</sup>

It is not uncommon for elite burials of Iron Age South Italy to include horse equipment. Among the sites discussed in this thesis, Lavello, Minervino Murge, Canosa, Braida di Vaglio and Pontecagnano have all yielded a number of items of horse equipment, principally dating between the 6<sup>th</sup> C and 4<sup>th</sup> C. Horse-bits are the most common item of horse equipment recovered.<sup>211</sup> Horse armour consisting of face plates and occasionally

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<sup>209</sup> Xenophon *On Horsemanship*, 12.12-13.

<sup>210</sup> Polybius *Histories*, 6.25.

<sup>211</sup> Lo Porto 1999, Tombs OC-10, MS-4 and MS-7 all included horse-bits amongst their burial assemblages. The assemblage of Tomb OC-10 (dated first half 6<sup>th</sup> C) also included an iron point, while the assemblages of Tombs MS-4 and MS-7 (dated 6<sup>th</sup> – 5<sup>th</sup> C) did not include any weapons; Bottini *et al.* 1991, 38-43, 52-61 Tombs 600 and 669-II (both 4<sup>th</sup> C) are the only tombs published in the *Forentum* volumes to include horse equipment. Tomb 600 included some metal fragments thought to pertain to a horse-bit and trappings. Tomb 669-II included a bronze horse-bit and bronze face plate for a horse; de Juliis 1990, the assemblage of Cella A (first quarter 4<sup>th</sup> C) included two bronze horse-bits; de Juliis 1992, Ipogeo Scocchera A (last quarter 4<sup>th</sup> C) included an iron horse-bit.

also chest plates, sometimes for pairs of horses, sometimes appears in graves.<sup>212</sup> Occasionally spurs are recovered from burial contexts,<sup>213</sup> a clear indication that horses were indeed being ridden and not used solely to pull chariots. Campanian tomb paintings and vase representations suggest horses were ridden bareback and that stirrups were unknown.<sup>214</sup>

Horse equipment in burial assemblages need not necessarily be interpreted as an indicator of cavalry activity, especially when there are no weapons found in association.<sup>215</sup> The ritual aspects of the funerary context may present us with a skewed representation of horsemanship. Items such as spurs and horse armour are suggestive of cavalry involvement.<sup>216</sup> However the role of horses, chariots and horse armour in parade and funerary game contexts was important. Pontecagnano Tomb 2465 included iron elements

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<sup>212</sup> Bottini and Setari 2003, Braida di Vaglio Tombs 101 and 103 (late 6<sup>th</sup> – early 5<sup>th</sup> C) both included horse armour in their burial assemblages, Tomb 101 including two face plates and two chest plates, tomb 103 yielding two face and a single chest plate; de Juliis 1990, the assemblage of Cella A (first quarter 4<sup>th</sup> C) included an iron point and two bronze horse-bits; de Juliis 1992, Canosa, Ipogeo Scocchera A (last quarter 4<sup>th</sup> C) included an iron horse-bit Mazzei 1992 Ipogeo Monterisi Rossignoli (4<sup>th</sup> C) included a bronze face plate for a horse; Bottini *et al.* 1991, 52-61 Tomb 669-II (late 4<sup>th</sup> C) included a bronze horse-bit and bronze face plate for a horse. Similar horse armour was also found at Ruvo di Puglia, dated to the late 6<sup>th</sup> C: De Caro and Borriello 1996, 124-6.

<sup>213</sup> For example: Canosa, Vico San Martino Tomb 2, Cella A, deposition 4 dated to the 4<sup>th</sup> C published in Cassano 1992, 457-67, No.145; Paestum: Pontrandolfo 1999; Metaponto, Western Necropolis, loc. Crucinia, propr Riccardi, Tomb 17/71 dated to the late 6<sup>th</sup> to early 5<sup>th</sup> C, published in Bottini 1993, 123-9.

<sup>214</sup> Pontrandolfo *et al.* 2004 Vannullo Tomb 4, Arcioni Tomb 1, lion hunt scene, Andriuolo Tomb 58, figs.28, 33 and 64. It is generally considered that stirrups came into common use only in the Middle Ages. Stirrups are extremely important for maintaining one's seat, and mounting and maintaining good control of a horse, although 5th century Scythian archers were renowned for their precision riding without the aid of stirrups, see Anglim *et al.* 2002, 92-6. Frederiksen 1968, 9-10 and, particularly, note 29 also questions the common underestimation of the level of precision achievable without the aid of stirrups.

<sup>215</sup> There appears to be differential interpretation of the function of this artefact class in some reports, suggesting a degree of gender bias. For example, horse equipment in identified male Tombs 76 and 110 at Alianello are interpreted as specifically connoting 'knightly status.' In contrast, the presence of similar horse equipment from identifiably female tomb 955 at Lavello is interpreted to connote the presence of a cart: d'Agostino 1998, 44 and 52. See Doucette 2001 for a fuller discussion of differential interpretations on the basis of gender association.

<sup>216</sup> Cassano 1992, 467, vico San Martino Tomb 2, deposition 4 (4<sup>th</sup> C) included an iron spur, an iron horse-bit, iron spearhead and *sauroter*; Semeraro 1991, 86-90 Vaste Tomb 569 includes a bronze spur amongst the burial assemblage, though no weapons were included; Bottini 1993, 123 Metaponto necropoli occidentale loc. Crucinia Tomb 17/71 yielded an assemblage that included a number of weapons and tools amongst which were three iron spearheads, an iron sword, an iron horse-bit and a bronze spur.

thought to pertain to a miniature chariot constructed principally of wood.<sup>217</sup> There are numerous representations of chariots in the Paestan tomb paintings with teams of two—sometimes four—horses, depicting funerary games.<sup>218</sup> Chariot wheels and trappings occasionally appear in male and female elite tombs, sometimes in association with weapons; however, it is unlikely that chariots were employed in battle, though a limited role as ‘battle-taxi’ cannot be dismissed.<sup>219</sup> A number of ‘return of the warrior’ scenes also appear in the Paestan tomb paintings, where mounted warriors bear spears bedecked with tunics and bronze belts, presumably spoils of victory.<sup>220</sup>

South Italian vase paintings also present us with a wealth of examples of cavalry activity; many of the scenes depicted are mythological, or returning (or departing) warrior scenes similar to those in Paestan tomb paintings, and may be particular to their funerary contexts. Other scenes depict warriors in Italic dress engaged in direct combat. The depiction of a mounted warrior engaged in conflict with a warrior on foot is a recurrent motif in scenes of both indigenous and mythological conflict (for example, Figure 20.4).<sup>221</sup> While such scenes could represent local myths which have been lost to us, they may depict historical conflicts between indigenous groups.

Beyond the representations and burial finds, it is clear from ancient sources that South Italy produced significant and effective cavalry forces during the Iron Age. Greek sources refer to Italic cavalry. During the 5<sup>th</sup> C conflicts occurred between Taranto and the

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<sup>217</sup> Cuzzo 2003, 58, 108-112, fig. 20.20-2 and plate 4. Cuzzo dates Tomb 2465, notably that of a female, to the late 8<sup>th</sup> C. No weapons were included in the tomb.

<sup>218</sup> Andriuolo Tomb 24/1971 (4<sup>th</sup> C) depicts funerary games including chariot races and duelling warriors armed with spears: Pontrandolfo *et al.* 2004, fig. 44; Laghetto Tomb X also represents a chariot race fig. 46; Andriuolo Tomb 48 depicts a chariot with a team of four horses fig. 61.

<sup>219</sup> Bottini and Setari 2003, 57-63 and plates 20, 28 and 35-6: Tomb 105 from loc. Braida at Serra di Vaglio (late 6<sup>th</sup> C to early 5<sup>th</sup> C), which also included weapons and armour (but not horse armour); Bottini 1981, 277-81 and fig. 94: Tomb 30 Ruvo del Monte (6<sup>th</sup> C) which did not include weapons or armour; for the presence of carts in female tombs: d'Agostino 1998, 44; battle-taxi: van Wees 2004, 158-60.

<sup>220</sup> Vannullo, Tomb 4, Andriuolo Tomb 61: Pontrandolfo *et al.* 2004, figs. 28 and 29.

<sup>221</sup> RVAp, 1049, 6/186a, ‘once Athens market’ unpublished photograph from the Trendall Centre, Melbourne. Other examples: RVAp Nos. 1/5, 1/7, 1/15-2, 1/15b.

indigenous inhabitants of the hinterland. Accounts of these conflicts number Italic cavalry in the thousands.<sup>222</sup> The Italic forces were formidable and monuments—including equestrian statuary—were erected at Taranto and Delphi by the Tarantines to commemorate their victories over their indigenous adversaries.<sup>223</sup> The region of Campania, in particular, was famed for the strength of its cavalry.<sup>224</sup> Diodorus Siculus' account of the conflict between the Lucanians and the Thurians (or Greeks of Thurii) in the early 4<sup>th</sup> C indicates that significant cavalry forces were utilised.<sup>225</sup>

Compared to the level of cavalry activity described in historical sources, horse equipment does not figure prominently in the archaeological record. This is yet another reminder that the world of the tomb cannot be assumed to accurately replicate the world of the living.

### *Economics of Spears*

A number of economic and technological factors are at play in the production of spears and their inclusion in burials. During the 9<sup>th</sup> C and 8<sup>th</sup> C the majority of spear forms are bronze. At this time in Italy iron was rarer than bronze, and from its early ornamental uses we can infer that it was initially considered a precious metal.<sup>226</sup> As larger quantities of iron became available the range of items fashioned from it increased, yet the metal—which could not be heated to melting point using the techniques available in antiquity—remained more labour intensive than bronze. During the Early Iron Age in particular, when the technology of iron working was still new, this would have limited the number of individuals who could afford iron products. Several tombs at Inoronata present examples

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<sup>222</sup> Diodorus Siculus, *Library*, 11.52.

<sup>223</sup> Herodotus, *Histories*, 7.170; Williams 1989, 546-7, citing Paus. X 10.6.

<sup>224</sup> Frederiksen 1968 gives an excellent overview of the historical sources; also, Frederiksen 1984, 74-5.

<sup>225</sup> Diodorus Siculus, *Library*, 15.101-2.

<sup>226</sup> Shepherd 1999; Hartmann 1985; Hartmann's work focuses on Etruria, but the proposed pattern for the introduction of iron-working is also valid for southern Italy. Snodgrass 1989 proposes a three-phase process for the adaptation of iron in Greece, which is also consistent with Hartmann's interpretation.

of bronze spearheads associated with iron sword blades.<sup>227</sup> Tomb 889 at Pontecagnano, dated to Phase IB (c.850-770) also included a bronze spearhead in association with an iron sword.<sup>228</sup> These examples are reminiscent of the transition from the use of bronze to that of iron both in Central Italy and in Greece, in which the adoption of iron knives and swords precede the adoption of iron spearheads.<sup>229</sup>

The move to iron for spearheads in the late 8<sup>th</sup> C is relatively sudden and complete. Bronze points are not found in association with iron points, even in tombs that include a broad range of points. I am aware of only one instance, Tomb 6 at Oppido Lucano, dated to the late 6<sup>th</sup> – early 5<sup>th</sup> C, that includes a Type 6.3 iron spearhead associated a bronze fragment interpreted by Lissi Coronna as part of a spearhead.<sup>230</sup> Unfortunately the example is neither illustrated nor described in detail and, given the date of the tomb her interpretation of this artefact as a spear must be regarded as extremely doubtful.

Following the transition from bronze to iron there is a clear diversification of forms. As iron lacked bronze's facility for casting, each spearhead had to be forged individually and this led to a certain amount of experimentation in form. There is an increasing number of spearheads with thin, narrow blades. From a technical perspective these forms would have been easier to produce than larger, broader spearheads. Less metal was required, and

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<sup>227</sup> Chiartano 1994, 133 173, 184, 186 and plates IX, XIX, 19, 27, 41 and 78. Tomb 206 presents an example of a bronze spearhead associated with an iron sword. Tomb 230 includes a sword with an iron blade and a cast-on bronze hilt in association with a bronze spearhead. Incoronata Tombs 232 and 326 yielded bronze spearheads in association with iron blades, though their poor preservation makes their interpretation as swords uncertain. Chiartano identifies the blade in Tomb 326 as a sword, though is prepared only to suggest the fragmentary blade in Tomb 232 may have been from an 'arma da taglio'. It is unfortunate that the chronology of Incoronata is so poorly communicated, making it difficult to assess how these tombs relate to other tombs which include both spears and swords constructed of iron.

<sup>228</sup> Gastaldi 1998, 127 and plate 114.

<sup>229</sup> Hartmann 1985; Snodgrass 1989. Note: I have not included discussion of knives in this thesis as I consider these usually have been utilitarian items, not weapons: see Appendix, 453. Hartmann and Snodgrass both discuss the adoption of iron for the production of knives and it is clear that knives were the first utilitarian item to be regularly manufactured in iron.

<sup>230</sup> Lissi Caronna 1972, 509: the appearance of a bronze spearhead during this period would be unusual, if the item described by Lissi Caronna is indeed a bronze spearhead then the possibility that it served some extraordinary purpose should be considered.

carbon would be more easily absorbed by a thin blade. As carburisation is what gives an iron blade strength and durability, a thin blade could have been quite effective, due to its incidental carburisation.<sup>231</sup>

### ***Conclusion***

The spearhead forms which are recognised in this new typology illustrate continuing cultural connections between Central Europe and the broader Mediterranean world during the 9<sup>th</sup> C and 8<sup>th</sup> C. However, from the 8<sup>th</sup> C there was an increasing diversity of spear forms, following the adoption of iron as the preferred material of manufacture. This range of new iron spear forms was adopted early with some members from each of type groups 5-10 appearing during the 8<sup>th</sup> C and all enjoyed longevity through to the 4<sup>th</sup> C. The absence of forms which are likely to have been borrowed from Greece is notable. It is clear from the ancient sources that a number of different spear types were recognised and that some were expected to perform different functions. While most spears were versatile and could have functioned as either throwing or thrusting spears there emerged a class of spear, members of the type 9 group, which was apparently designed to be thrown. Members of this type are widely distributed throughout Ancient Lucania and come to the fore in the 6<sup>th</sup> C foreshadowing the rise of cavalry warfare in the 5<sup>th</sup> C.

In the examination of a sample of sites from the regions of Daunia, Basilicata and Southern Campania it is hoped that it will be possible to gain a broader understanding of the interplay between the panoplies employed on a regional scale and the implications these had for style of fighting.

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<sup>231</sup> Hartmann 1985, 97 outlines the technical aspects of iron forging which allow for thin pieces of iron to be steeled more easily, and even accidentally during manufacture.

### Chapter 3 - Swords

Swords have been universally accepted as markers of warrior status in the assessment of burial assemblages throughout Southern Italy, and have, more broadly, been the focus of independent study.<sup>1</sup> The creation of a typology of swords has been pursued rigorously for the Italian Bronze Age. Vera Bianco Peroni assessed a large number of bronze swords, and published a typology in a 1970 volume of *Prähistorische Bronzefunde*,<sup>2</sup> with an addendum published in the 1974 volume of the same series.<sup>3</sup> Her typology was built upon the foundations of earlier contributions, heavily influenced by Herman Müller-Karpe, working within a Germano-Italic academic tradition dating back to the 19<sup>th</sup> century. This was a tradition that focussed heavily on aesthetics,<sup>4</sup> evolving a loose morphology of bronze sword types culminating in Bianco Peroni's work which, despite its flaws, has become a highly valued reference, used as a form of descriptive shorthand by many excavators when publishing bronze sword finds. In stark contrast, no consistent compendium of swords or universally accepted sword typology exists for the Iron Age. While there are several commonly accepted sword classifications, such as 'Italic', 'cross-bar', 'longsword' and 'machaira', it has largely been left to individual excavators to construct their own typologies for the purposes of studying and, particularly, publishing their iron sword finds. This is perhaps the result of the generally inferior state of preservation of iron swords compared with their earlier, bronze counterparts, and their consequent lack of aesthetic appeal. Indeed, for the transitional period between the Bronze Age and the Iron Age in South Italy, Bianco Peroni included a typology of ornate bronze

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<sup>1</sup> Bianco Peroni 1970; Bietti Sestieri 1986; Bridgford 1997; Henken 1956; Kristiansen 2002; Naue 1895; Oakeshott 1960.

<sup>2</sup> Bianco Peroni 1970.

<sup>3</sup> Bianco Peroni 1974.

<sup>4</sup> Whitley 1997 discusses the focus on aesthetics in early 20<sup>th</sup> C archaeological scholarship, particularly amongst Italian and German scholars.



scabbards, with little discussion (and no illustration) of the iron swords which usually accompanied them.<sup>5</sup>

There remains a serious gap in research into iron swords, and the construction of a uniform, functional typology would be a useful tool to aid the study of this important class of objects. In this chapter I discuss several sword typologies currently applied to South Italian material of the Iron Age. I shall go on to propose a new typology, drawing on material from a range of sites which will allow functional and cultural distinctions to be identified.

### *Current Typologies*

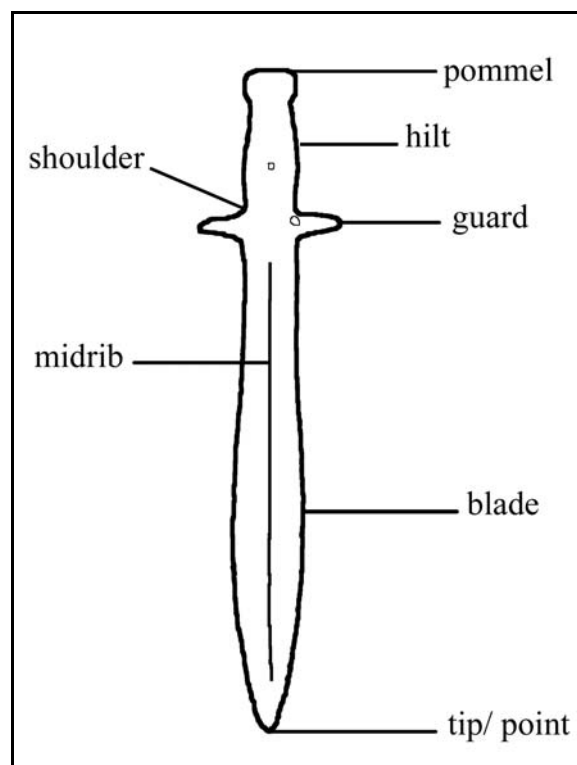
In this section I outline a number of sword typologies currently in use for Iron Age South Italy in an attempt to comprehend the formative processes behind their construction. The typologies of Bianco Peroni and Snodgrass were constructed for the purpose of studying swords. Four ‘communicative’ typologies from the publications of sites discussed in this thesis will also be assessed: Incoronata, Lavello and Chiaromonte (Basilicata), and Sala Consilina and Pontecagnano (Campania). Each typology has been relatively well-published and the excavators have offered some description of their individual type definitions.

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<sup>5</sup> Bianco Peroni 1970, 124ff.

This examination may be aided by some familiarity with the various components of a sword (fig. 1), each of which has a bearing on function, listed below:

- Material of manufacture (bronze or iron )
- Blade Profile (broad or narrow; long or short; straight or curving)
- Blade Section (lenticular, rhomboidal etc.)
- Mid-rib (present or absent and, if present, shallow or pronounced)
- Hilt (cast in bronze or forged in iron; may have included organic components)
- Pommel (cast, forged or organic, may vary in profile)
- Shoulder Profile
- Guard (present or absent; if present, may vary in profile and may also have included organic components)
- Length



**Figure 1: Parts of a Sword**

### ***Bianco Peroni***

Bianco Peroni's initial 1970 typology and its 1974 addendum have become useful tools for the study and publication of *bronze* swords. However, the typology is not without problems and has had its critics, one of the more strident being Kilian, who sought to make serious revisions in his 1974 contribution to *Prähistorische Bronzefunde*.<sup>6</sup> His work failed to supersede Bianco Peroni's as a reference work, and has tended to serve merely as an adjunct to it.

It is frustrating that Bianco Peroni did not give an introduction to her typology, outlining the purposes and the formative methodological processes employed. Even in the 1974 addendum the methodology used is far from transparent.<sup>7</sup> However, reading Bianco Peroni's work it is possible to ascertain the foci of the typology and how these impacted upon type definitions. Her fundamental motive in the construction of the typology appears to have been an assessment of geographic distribution. The material treated in her principal volume covers a vast area ranging from Central Europe to Calabria, within a relatively narrow chronological framework of the Late Bronze Age and the onset of the Early Iron Age. It is clear that her primary interest is to understand the cultural influences on the morphological evolution of the sword, the origin and diffusion of particular physical traits. The work is a product of its time, and of the Germano-Italic school of thought that formed her background.<sup>8</sup>

Bianco Peroni's typology is particularly problematic for those wishing to assess swords from a functional perspective. Many of the types are vague or inconsistent;<sup>9</sup>

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<sup>6</sup> Kilian 1974.

<sup>7</sup> Bianco Peroni 1974.

<sup>8</sup> Bianco Peroni 1970. Renato Peroni's Introduction (3-7) outlines the history of scholarship on swords in Italy and Central Europe; see also Leighton 2000, 42 for some interesting comments on the Germano-Italic tradition of scholarship.

<sup>9</sup> Cowen 1971. Cowen was particularly critical of Bianco Peroni's penchant for combining previously

the accompanying notes on function relate only to their archaeological function as ethnic/cultural markers and their position within the seriation of her overall type groupings. There is no real attention paid to their function in any military context.

Several of Bianco Peroni's Types appear at sites I examine in this thesis, and these require some discussion along with some general observations on the evolution of the sword in South Italy from the Bronze Age to the Iron Age. The primary criteria for Bianco Peroni's type definition appear to have been the profiles of the hilt and of the shoulder. While both hilt and shoulder profile are useful in generating a morphological taxonomy, their influence on function is perhaps not as great as the profile and dimensions of the blade, traits which are clearly secondary considerations in Bianco Peroni's type formation.

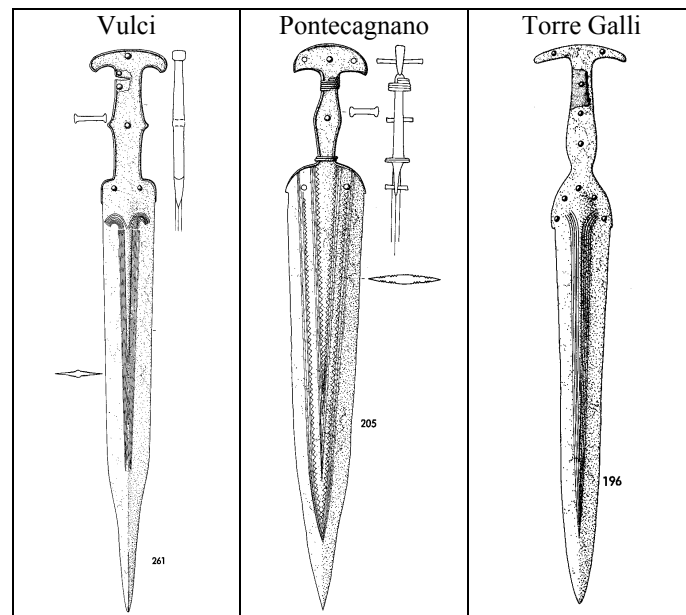
During the Bronze Age there appears to have been a great variety of sword forms in use; the form of the hilt, method of handle attachment, length and breadth of the blade and the presence or absence of a midrib all display significant variation. Observable trends are the prevalence of two-edged swords, with an absence of single-edged slashing swords, and a preference for shorter swords in South Italy and longer swords in Northern Italy.<sup>10</sup> During the 9<sup>th</sup> C and early 8<sup>th</sup> C, slightly preceding the appearance of iron swords, sword forms seem to have undergone a process of standardisation. There is a marked prevalence of short cut-and-thrust swords collectively termed 'Italic' by Germano-Italic scholars, including Bianco Peroni, who includes under this definition her Vulci, Pontecagnano and Torre Galli types (Figure 2, below).<sup>11</sup> Each of these types includes examples from sites discussed in this thesis.

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identified Central European sword types and renaming them with Italian site names. He was also concerned with her particular generation of sub-types creating '...a plethora of splinter-groups to no useful purpose.'

<sup>10</sup> Bianco Peroni 1970, 77.

<sup>11</sup> Ibid., 79ff. These types are illustrated in her Plates 28-31 and 39-40.



**Figure 2: Bianco Peroni's Type Ideals, 'Italic Swords' (Bianco Peroni 1970, not to scale).**

The morphology of Bianco Peroni's Torre Galli and Pontecagnano types is very broad. The variations in hilt and shoulder profile, blade profile, section and length would benefit from the creation of sub-types within these two broadly-defined type groups. Meanwhile, the morphology of Bianco Peroni's Vulci type is reasonably consistent, although a distinction into two sub-types could perhaps be made between those examples with square shoulders and those with distinctly rounded shoulders.

There remains room within Bianco Peroni's typology for a more defined taxonomy.<sup>12</sup> It is unfortunate that there has been no significant follow up to Bianco Peroni's work, expanding the corpus presented in the 1970s with material brought to light in the intervening decades. Such material, from well-excavated sites, could contribute greatly to an understanding of the role swords played both in Bronze Age war and society, as well as clarifying geographic and chronological distribution. These are valid arguments for a thorough re-examination of Bianco Peroni's typology and a

<sup>12</sup> A system in which basic classes of object are clustered in a meaningful way on the basis of specific shared similarities, see Adams and Adams 1991, 202-7 for a discussion of the use of taxonomies in the formation of artefact typologies.

comparative follow-up study of bronze swords could serve to elucidate Bronze Age fighting styles and may reveal geographical and chronological patterns. While such a work would be timely and valuable it falls outside the scope of this thesis.

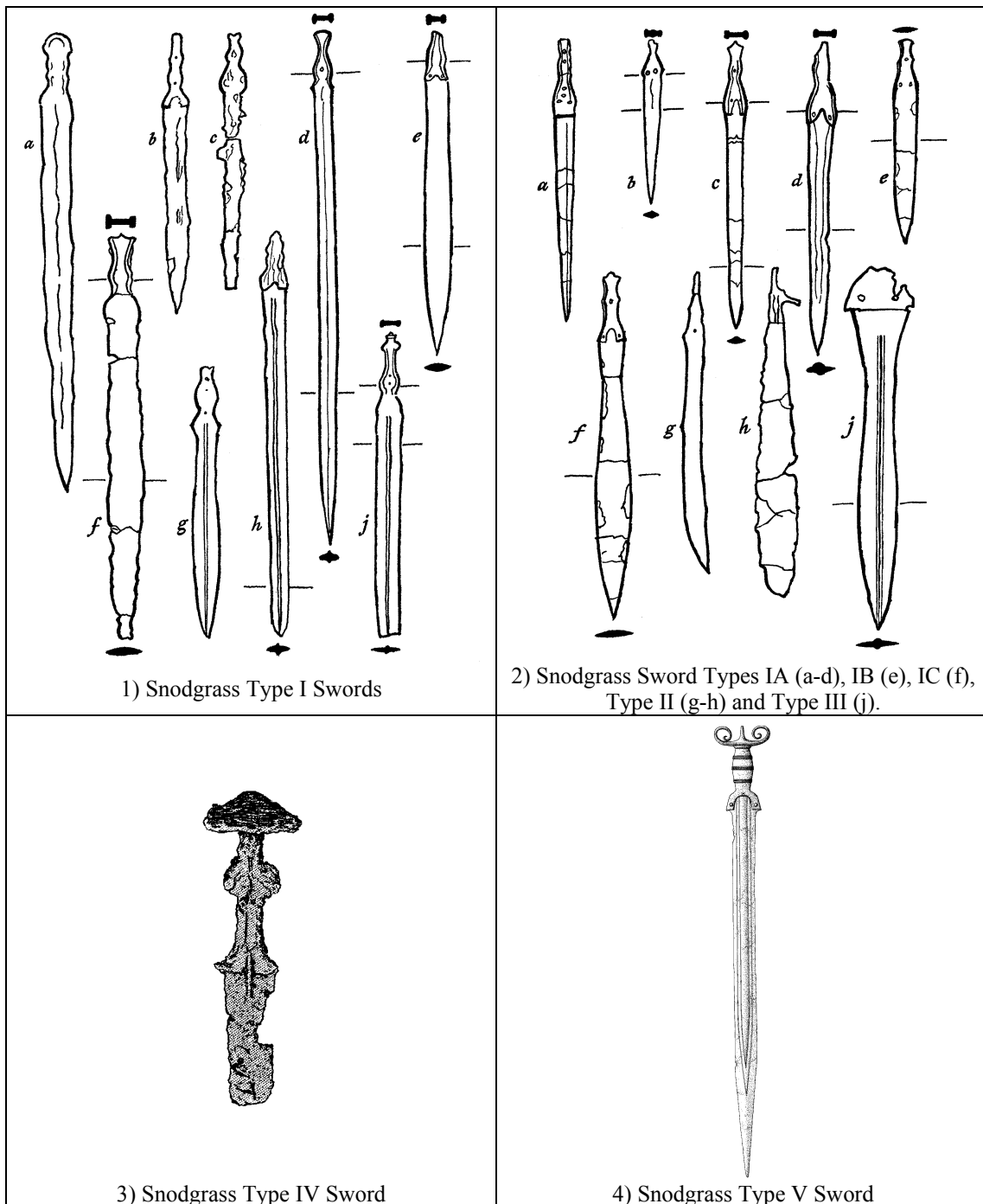
### ***Greek Swords (Snodgrass)***

Snodgrass' seminal work, published in 1964, outlined typologies for a range of armour and weapon classes from the Late Bronze Age to 600BC throughout Greece.<sup>13</sup> Snodgrass defined five general sword types (fig. 3) based on an assessment of their overall morphology. His Types I, II and III are well-represented in Greece while his Types IV and V are rare, and are considered by Snodgrass to be Eastern or Central European types imported to Greece. The typology that Snodgrass created drew heavily on an earlier typology of Mycenaean swords created by H. W. Catling.<sup>14</sup> The swords from which Catling constructed his typology were Bronze Age examples distributed throughout the Mycenaean world and Central Europe. Snodgrass sees his own Type I as an evolutionary progression from these sword types and considers Type I the principal type of the Early Iron Age in Greece. Some members of Snodgrass' Types I and II compare well with South Italian examples of the Iron Age which are discussed in this thesis.

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<sup>13</sup> Snodgrass 1964. It should be noted that Snodgrass did not assess material from the Greek colonies in Italy.

<sup>14</sup> Catling 1961.



**Figure 3: Snodgrass' Sword Types, after Snodgrass 1964 Ch.4 figs. 5 and 6; Type IV after *Fouilles de Delphes*, V, 214, No.749 fig.933; Type V after Bianco Peroni 1970, No. 325, plate 49 (not to scale).**

Snodgrass illustrates a number of examples of his Type I, for which he identifies a further three variant types, Types I-A, I-B and I-C.<sup>15</sup> The degree of variation within Snodgrass' core Type I is significant, the general Type descriptor is a 'flange-hilted

<sup>15</sup> Snodgrass 1964, 93-100 and figures 5 and 6.

cut-and-thrust sword' of the type originally defined by Naue in the 19<sup>th</sup> C and commonly referred to as the Naue II sword.<sup>16</sup> The examples given by Snodgrass are principally iron successors of these earlier bronze types, though there are several bronze examples listed in his catalogue. The blade length of the complete Type I examples—the catalogue includes a number of incomplete weapons—varies between 48cm for his shortest complete example to over 90cm. There is considerable variation in blade breadth and profile amongst these swords, which date principally to the Protogeometric and Geometric periods. Snodgrass identifies his Type I variants, A-C on the basis of variation in the blade profile.<sup>17</sup> Type IA is characterised by blade edges which are not parallel, but which taper sharply to a point, complete examples measuring between 45cm and 51cm in length and dating between the sub-Minoan and Archaic periods. Type IB is identified by Snodgrass as an 'unimportant' Cretan variety, characterised by a very broad blade with a convex profile. Snodgrass offers only two examples of the Type, measuring 33cm and 34cm in length, dated to the Protogeometric and Late Geometric periods. Type IC, measuring 56cm to 60cm in length, is characterised by the pronounced swelling of the blade profile approximately two thirds of the way to the tip of the blade. Snodgrass also sees Type IC as exhibiting a 'standardised' hilt, though with only two examples this position seems difficult to justify.<sup>18</sup>

Snodgrass' Type II is a very broad classification under which he includes all single-edged slashing swords. He identifies only one variant, distinguished from the main collection of Type II by its rounded point (Figure 3.2 - 'h').<sup>19</sup> The examples presented

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<sup>16</sup> Ibid., 93-8.

<sup>17</sup> Ibid., 98-100.

<sup>18</sup> Ibid., 99-100 and fig. 6f. Snodgrass compares his Type IC with Naue's Type IIa-d, and it would appear to be on this basis that he makes his claim of a 'standardised' hilt form.

<sup>19</sup> Ibid., 100-2 and fig.6 g and h.



by Snodgrass are dated by him to the Geometric and Orientalising periods, with a single example dated to the Early Iron Age. There are two complete examples described, measuring 49cm and 54cm in length. Again there is considerable variation in the blade profiles outlined in the description of Type members and the hilt is described for only one member.

The remaining Types in Snodgrass' typology of swords do not include any members which find comparison in the geographic regions discussed in this thesis. However, a brief overview may be of interest. Type III is described as a Cypriote type with a very broad shoulder and blade base. Again, Snodgrass offers only two exemplars, both of which are incomplete, and neither comes from a datable context.<sup>20</sup> Type IV is described as having a distinctive 'hat-shaped pommel', represented by a single, incomplete example, without context.<sup>21</sup> Type V is the well-known and well-documented antenna sword, common in Central Europe during the Hallstatt Period. The type is included in Bianco Peroni's 1970 typology, with numerous Bronze Age examples in Central Italy, though no examples are known from the geographic regions covered in this thesis.<sup>22</sup>

There remains room within Snodgrass' typology for further refinement, though such detailed analysis lies beyond the scope of this thesis.

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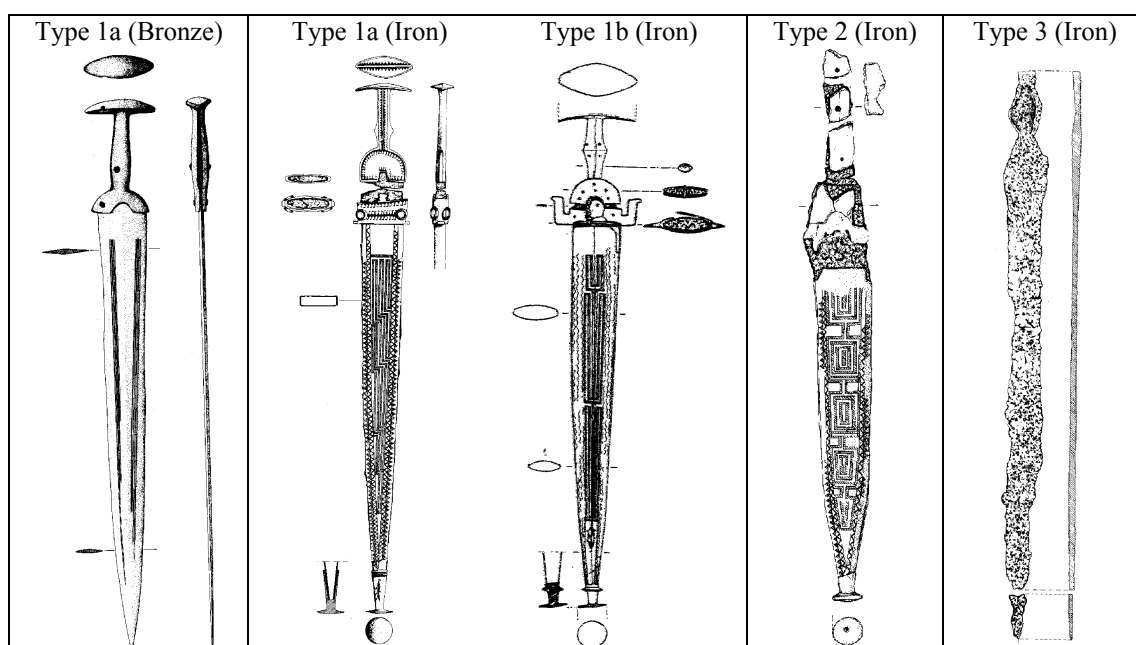
<sup>20</sup> Ibid., 102 and fig.6 f.

<sup>21</sup> Ibid., 102, unillustrated.

<sup>22</sup> Ibid., 102-3; Bianco Peroni 1970, 112-25 and plates 45-51. Bianco Peroni identifies a two antenna swords in South Italy: one is a fragmentary example which is missing the antenna, from Nocera Tirinese in Calabria, plate 47, No.317, the other, plate 49 No.327, was listed in a 1910 auction catalogue as having Calabrian provenance.

### *Incoronata (Chiartano)*

In 1994 Bruno Chiartano published a report of excavations conducted at Incoronata during the 1970s and 1980s.<sup>23</sup> While the chronology outlined in his publication is confused, the necropoleis of San Teodoro and Incoronata can be accepted as dating to the 9<sup>th</sup> C and 8<sup>th</sup> C.<sup>24</sup> Chiartano lucidly outlines a sword typology in his publication (fig. 4), separating swords principally on the basis of their material of manufacture. Within these bronze and iron groups he defines his types and sub-types based on the method used to attach the hilt and handle to the blade.



**Figure 4: Chiartano's Sword Typology after Chiartano 1994 (not to scale).**

Chiartano identifies a single type of bronze sword, Type 1a (with a single member),<sup>25</sup> which he defines on the basis of the fact that the full hilt is grafted, or cast, onto the tang of the blade, supported by the insertion of two iron rivets, one through the shoulder, the other through the hand-grip, in a method he describes as 'a sandwich',

<sup>23</sup> Chiartano 1994.

<sup>24</sup> Herring 1998 and Yntema 2000 both discuss the problems with Chiartano's chronology.

<sup>25</sup> His example is from Tomb 432, a disturbed tomb from which the sword and its associated scabbard were the only burial goods recovered: Chiartano 1994 160-1 and plate 116.

and which he compares to the Cuma and Terni types as outlined by Bianco Peroni.<sup>26</sup> Other type characteristics are a T-shaped pommel with a lenticular profile and a semicircular shoulder. The blade of the sword is described as long and straight with a lenticular section; the blade measures 40cm in length, the complete weapon 53cm. Chiartano draws a direct parallel between this weapon and a bronze hilt cast onto a fragment of an iron blade recovered out of context from S. Leo, Commune Palmi (Prov. Reggio Calabria), published by Bianco Peroni as ‘chiaramente la traduzione del tipo Torre Galli’.<sup>27</sup> It is interesting that, while Chiartano’s most direct comparison is an iron sword he draws a typological distinction between bronze and iron swords. The iron bladed swords from Incoronata Tombs 230 and 454 (figure 4, second and third from left respectively), both of which feature cast bronze hilts, are specifically excluded from Chiartano’s Bronze Type 1a (figure 4, far left).

Under a general classification of iron swords Chiartano classifies the examples from Tombs 230 and 454 as separate subtypes, 1a and 1b.<sup>28</sup> The distinction between these two subtypes is again drawn on the basis of hilt attachment. The sword from Tomb 230 features a hilt which is cast onto the tang, secured without the aid of rivets, as in the example from S. Leo which is again cited as a parallel.<sup>29</sup> In contrast, the sword recovered from Tomb 454 features a cast-on hilt secured by three rivets. Chiartano describes the method of attachment for his iron Type 1b example as ‘a sandwich’, a term which he also uses to describe the method of hilt attachment for the sword from Tomb 432. However, this term is not used in reference to the iron Type 1a sword from Tomb 230 due to the absence of rivets aiding the fastening of the hilt to blade. Both

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<sup>26</sup> Ibid., 45-6.

<sup>27</sup> Bianco Peroni 1970, 105 and plate 42, No. 285.

<sup>28</sup> Chiartano 1994, 45-6.

<sup>29</sup> Bianco Peroni 1970, loc. cit.; Chiartano 1994, loc. cit. The S. Leo example features a hilt cast onto the blade without any supporting rivets and perhaps provides a better comparison to the Incoronata Tomb 230 sword than to the example from Incoronata Tomb 432.

swords feature a T-shaped pommel and rounded shoulder; the iron blades are both corroded into their scabbards, leaving Chiartano to deduce that the blades were straight with an elliptical section. The lengths of these two swords are estimated to have been longer than the bronze example from T432, c.64 and 60cm respectively. Both swords were found in association with spearheads: Tomb 230 included a bronze spearhead whilst Tomb 454 included an iron spearhead.<sup>30</sup>

A second type of iron sword is identified by Chiartano, Type 2 (Figure 4, above), distinguished by a hilt with an iron core, with bone or other organic material attached.<sup>31</sup> Due to the poor state of preservation of his examples he was unable to reconstruct the hilts and this perhaps explains Chiartano's reluctance to identify any sub-types.

A third type of iron sword identified by Chiartano is distinguished by its construction from a single piece of iron, and its flat blade section (Figure 4, above).<sup>32</sup> Type 3 is represented in the catalogue of finds from Incoronata by a single example from Tomb 336.<sup>33</sup> The blade is straight, measuring 53cm, giving an overall length of 64cm. Two comparable weapons are identified by Chiartano, from Tomb 6 at Craco and Tomb 102 at Valle Sorigliano.<sup>34</sup>

Chiartano also created a typology of the scabbards from Incoronata, deriving it from

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<sup>30</sup> Chiartano 1994, 184 and 221 and plates 41 and 112-3.

<sup>31</sup> Six swords of this type appear in Chiartano's catalogue; from Tombs 206, 232, 321, 326, 350 and 455: *Ibid.*, 46, 130-1, 133, 141, 173-4, 186, 223-4 and plates 19, 27, 72-3, 78, 84 and 114-5. Three of Chiartano's Type 2 examples were found in association with bronze spearheads (Tombs 206, 232 and 326) with a further two swords found in association with iron spearheads (Tomb 321 and 455). The assemblage of Tomb 455 also included an iron axe amongst the burial assemblage.

Their state of preservation is poor; none of the examples is complete, making it difficult to estimate their original lengths. On the basis of the scabbards associated with the swords from Tombs 321, 350 and 455 (which measure between 28 and 40cm) it would appear that these swords were markedly shorter than Chiartano's Type 1 examples (in both bronze and iron). The remaining fragments suggest that the blades were straight with an elliptical section.

<sup>32</sup> *Ibid.* 46-7.

<sup>33</sup> *Ibid.* 136 and plate 80.

<sup>34</sup> *Ibid.* 47 and note 5.

the typology of scabbards laid out by Bianco Peroni.<sup>35</sup>

### *Lavello (Bottini and Russo)*

In 1982 Angelo Bottini published the finds from two ‘princely’ tombs excavated at Lavello.<sup>36</sup> In this work he provides a brief overview of the cut-and-thrust sword, particularly the so-called ‘cross-bar’ sword, which he accurately describes as ‘...unico tipo documentato nell’area settentrionale della Basilicata, lungo la valle dell’Ofanto e, probabilmente, in tutta la Daunia, fra VII e V sec.’<sup>37</sup> Drawing on material from several sites, Bottini identified four principal sword types within this general classification of cut-and-thrust sword, most with sub-types (few of which are represented amongst the ‘princely’ tombs described in his publication). The typological distinction is clearly drawn on the basis of the form of the hand guard. As the length of the swords he is assessing is relatively consistent, Bottini does not use blade length as a criterion for type definition. With regard to blade profile, Bottini observes that one sword from Tomb 279 at Lavello (inv.110847) features a blade which is broadest midway along its length, while the other sword from Lavello Tomb 279 (inv.110848) is broadest three quarters of the way along its length. While this has implications for the point of balance and weighting of the weapons Bottini draws no typological distinction on this basis. He did not include a synthetic table of illustrations defining his types, offering only brief descriptions in his text and citing examples of his type ideals. Along with Bottini’s brief descriptions I present here a collective table of images of Bottini’s types (Figure 5, below).

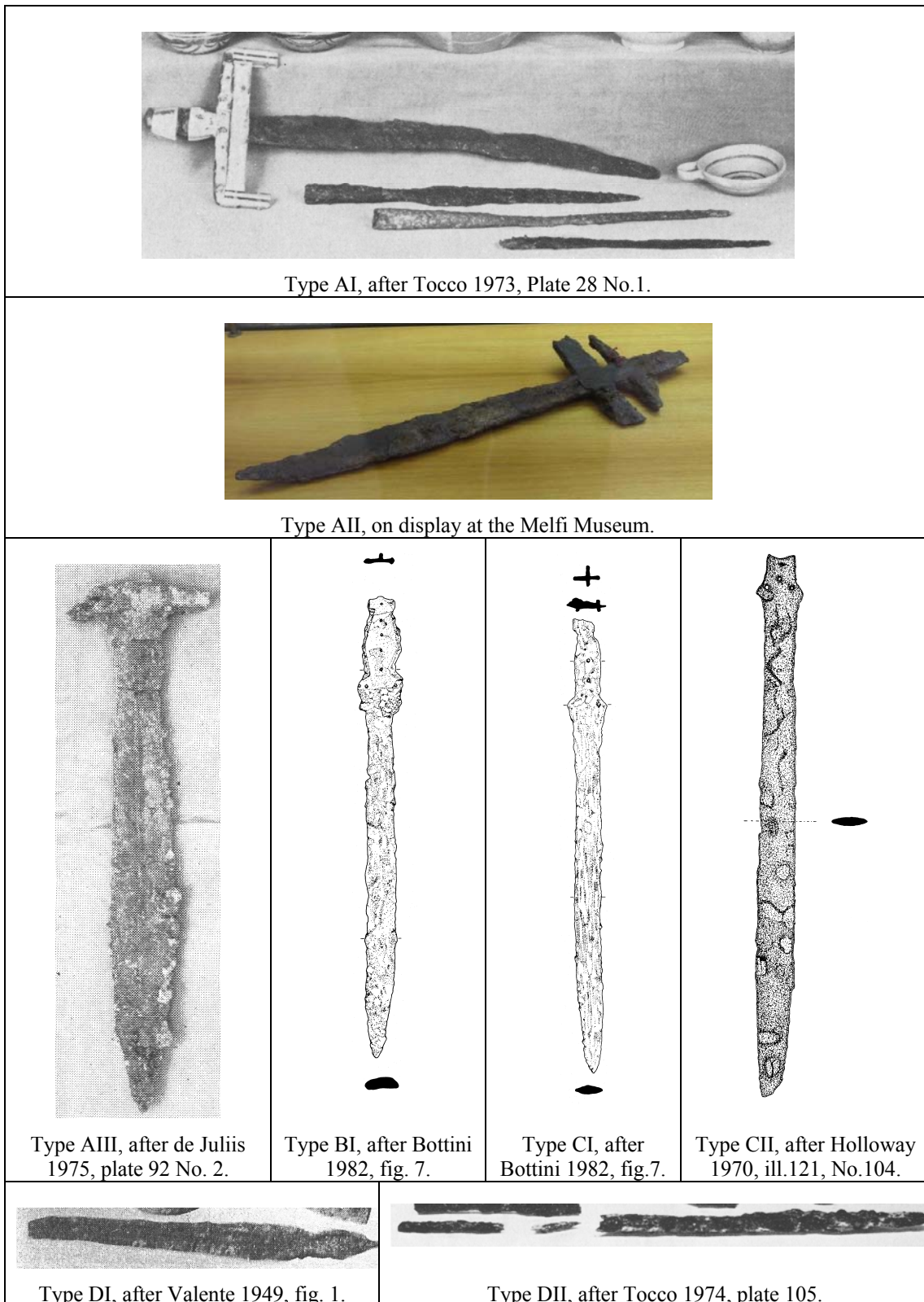
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<sup>35</sup> Ibid.; 47-8 Bianco Peroni 1970, 124-42.

<sup>36</sup> Bottini 1982.

<sup>37</sup> Ibid. 47.

- A – Swords with a cross-bar guard
  - A-I – *lingua di presa a profile arcuato o complesso*
  - A-II – *lingua di presa a nastro*
  - A-III – *lingua di presa non conservata*
  
- B – Swords with uncertain guard
  - B-I – *lingua di presa a profilo complesso*
  
- C – Swords with a reduced guard – ‘ad alette’
  - C-I – *lingua di presa a profile arcuato o complesso*
  - C-II – *lingua di presa a nastro*
  
- D – Swords without any trace of a guard
  - D-I – *lingua di presa a profile arcuato*
  - D-II – *lingua di presa non conservata*



**Figure 5: Bottini's 1982 Typology of cut-and-thrust swords (not to scale).**

Each of Bottini's sub-types was accompanied by a reference to one or more examples from 6<sup>th</sup> C and 5<sup>th</sup> C sites in northern Basilicata, a number of which were unpublished

at the time he was writing.<sup>38</sup> Bottini illustrated only two of his type ideals and offered references to other publications in which images of his other type ideals had been published. The table above (Figure 5) presents all of Bottini's 1982 types in a single illustration for the first time (even if not all of the illustrations are 'ideal'!).

Alfonsina Russo contributed a typology of swords in *Forentum I*,<sup>39</sup> which dealt with further excavations at Lavello. Her typology is influenced by that published by Bottini in 1982.<sup>40</sup> However, Russo deals exclusively with the material excavated from Lavello and consequently, and in contrast to the diverse types identified in Bottini's earlier work, produces a typology of just two types: Type 1 (with two sub-types, Type 1.1 and Type 1.2) and Type 2 (fig. 6, below). Within Russo's Type 1 examples there is a considerable degree of variation in blade profile, and in the overall length of her examples. It is clear that neither of these criteria is considered type determinant. Types 1.1 and 1.2 are separated on the basis of differences in hilt profile, with Type 1.2 presenting a curved profile. The distinction outlined between Type 1.2 and Type 2 in the publication presents some difficulty. According to the type descriptions Type 2 is distinguished from Type 1 by the presence of a cross-bar guard. However, the illustrated type ideal for Type 1.2, recovered from Tomb 302-II features a cross-bar guard and is ostensibly identical to the sword recovered from Tomb 38, Russo's type ideal for her Type 2. Russo does not explain the reasons for this assignation and the possibility that the illustration is merely a publication error should be considered. Russo's typology is preserved in the *Forentum II* volume, where only two swords, both from the 5<sup>th</sup> C Tomb 600, are discussed.<sup>41</sup> Both of these swords feature

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<sup>38</sup> Ibid., 48-50. A number of Bottini's examples have since been published, particularly those excavated from Lavello, later published in Bottini *et al.* 1988; Bottini *et al.* 1991.

<sup>39</sup> Bottini *et al.* 1988, 248.

<sup>40</sup> Ibid., 248, Russo references Bottini 1982 in her brief discussion of the sword typology.

<sup>41</sup> Bottini *et al.* 1991, 56 and 106.



prominent cross-bar guards and are identified as belonging to Type 2.

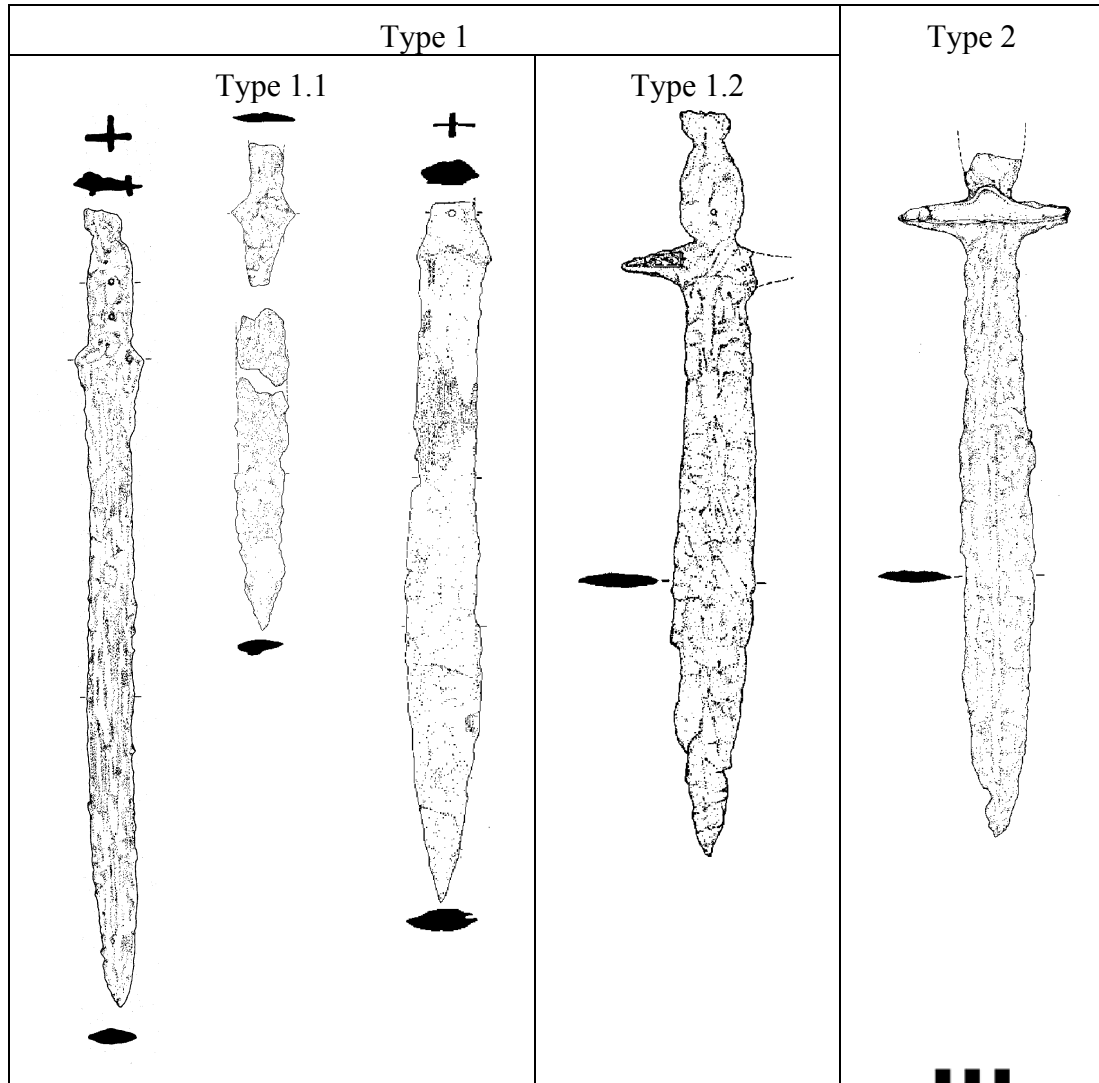


Figure 6: Russo's Sword Types after Bottini *et al.* 1988 (to scale).

### *Pontecagnano (d'Agostino)*

Bruno d'Agostino published the excavation reports for the Picentino necropolis at Pontecagnano in 1988, the excavations having been carried out over the preceding decades.<sup>42</sup> He recognises two sword types, the typology fitting within a broader classification of object classes published in the catalogue, swords forming object class 57. Types 57 A1 and A2 are briefly described. A bronze example of Type A1 is represented in Tomb 180 (Figure 7, below, left), whilst an iron sword was recorded amongst the assemblage from Tomb 2150 (Figure 7, below, right). Two further incomplete iron examples are mentioned from Tombs 547 and 889. The type is described by d'Agostino as having a 'lingua di presa' and corresponds to Bianco Peroni's Pontecagnano Type; indeed, the sword from Tomb 180 is the eponymous example.<sup>43</sup> Tomb 180 is dated to the first half of the 9<sup>th</sup> C; the sword measures 38.5cm long and was cast in a single piece. Tomb 2150 is dated to 770-730, and the sword within it was made from iron, with traces of bone handle attachments preserved *in situ*. It is slightly longer than the example from Tomb 180, measuring 45cm.<sup>44</sup>

D'Agostino's Type A2 is described as having an 'impugnatura di codolo', an iron sword featuring a tang with a square section which formed the core of a hilt made of perishable materials. A broad, pointed disc formed the pommel of this weapon. Type A2 is represented by a single example, excavated from Tomb 538, though not illustrated in the catalogue.<sup>45</sup> D'Agostino notes that a similar sword is represented on an Egyptian relief of the battle of Qadesh, suggesting that the Type may have Eastern

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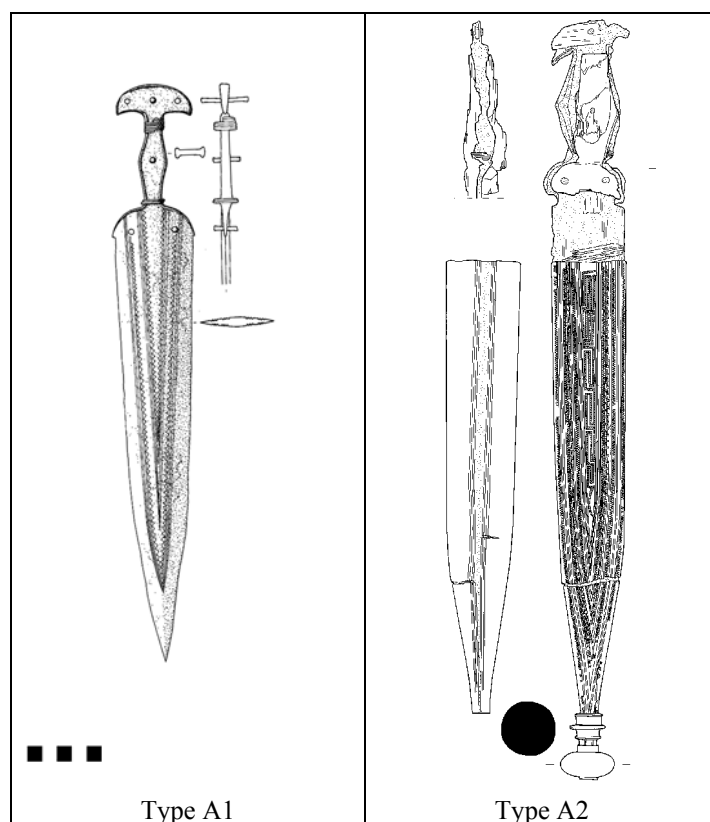
<sup>42</sup> d'Agostino and Gastaldi 1988, 76.

<sup>43</sup> Bianco Peroni 1970, 84 and plate 30 citing the sword as previously published in *Studi Etr.* 33 1965.

<sup>44</sup> d'Agostino and Gastaldi 1988, 132, 198 and figures 56, 57 and 163.

<sup>45</sup> *Ibid.*, 76.

origins.<sup>46</sup>



**Figure 7: d'Agostino Type A2,  
after d'Agostino and Gastaldi 1988, fig.163 (to scale)**

### *A New Typology*

Due to the impracticality of abandoning currently recognised South Italian sword classifications, particularly 'Italic', 'cross-bar', 'longsword' and '*machaira*' it is necessary to operate within the loose framework created by these existing classifications. Thus, I seek to critique these sword classifications and, hopefully, revise their definitions on the basis of their functional differences. The rarity of swords in the archaeological record necessitates a broadening of the sites sampled in the construction of this typology. While my geographic assessment will remain limited to a number of sites in each region, a number of swords observed from additional sites will be included in this chapter to facilitate a more complete understanding of sword forms and their underlying functional and cultural

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<sup>46</sup> Ibid., 96 note 320.

significance.

The morphological basis of recognised sword classes ties any revision of their classification to that same morphological foundation. Classifications based purely on material or methods of manufacture prove unworkable.<sup>47</sup> Scholars such as Bianco Peroni, Henken, and Oakeshott have demonstrated that chronological and cultural connections and influences can be revealed through morphology, yet they have not discussed how a morphological type system could be used to reveal functional aspects.<sup>48</sup> Within the sword classifications recognised above I have sought to identify traits which are likely to have had functional consequences, such as blade profile and section, to generate a number of sub-types within the existing framework. The typology laid out below has the advantage of considering a wider range of material than ever before and, in addition, takes into account blade length and profile as criteria for type definition.

As I seek to investigate swords from a functional perspective I outline below, in order of perceived significance, the relationship between the form and the function of the various parts of a sword, described above (Figure 1).

**Length.** One of the most important features of a sword in attempting to assess fighting styles. Total blade length suggests the style of fighting for which the weapon was best suited. Short bladed weapons equate to very close fighting, while longer weapons, which provide greater reach, also require the maintenance of greater distance from an opponent to successfully manoeuvre in combat, distance is therefore dictated explicitly by the length of the weapons involved. In the delivery of slashing

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<sup>47</sup> Obtaining metallurgical analyses of samples is fraught with difficulties and the condition of samples can impact negatively on results: see Thorlander 1971 for the challenges of obtaining viable samples and the attendant implications.

<sup>48</sup> Bianco Peroni 1970; Henken 1956; Oakeshott 1960.

blows it is optimal to strike one's opponent with the third of the blade closest to the point, a longer blade equating to a greater requisite travelling arc when initiating a slashing blow. In the delivery of thrusting blows it is desirable to be close enough to reach an opponent within a single movement, such as a lunge. Defensively, there is also a desire to maintain sufficient distance from one's opponent to avoid being struck by their weapon when the opponent's arm is extended, particularly in the absence of a shield. As a generalisation, the longer the weapon used by either of two opponents, the greater the distance that must be maintained between them and the further an opponent with a shorter blade must travel to initiate a direct attack against an opponent whose weapon is longer. However, the employment of a shield could permit a combatant with a shorter sword to move in close on an opponent with a longer sword restricting his opponent's ability to manoeuvre and nullifying the advantages of greater blade length.<sup>49</sup> Total length also impacts directly on weight and on the bearer's endurance with the weapon in combat. Ultimately, the longer the weapon, the greater the amount of energy and space required to effectively utilise the weapon in combat.

**Blade profile** impacts directly on the functionality and durability of the sword as a weapon. Blade profile will also indicate the style of fighting for which the weapon was best suited. For example a straight blade with two cutting edges will indicate a weapon designed to facilitate delivery of both cutting and thrusting blows, making the weapon more versatile than a single edged weapon. Alternatively, a blade with a single cutting edge and a profile which shows a distinct swelling towards the point would indicate that a very different style of combat was intended. Such a profile

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<sup>49</sup> Plut. *Mor* 191E, 217 E, 241 F. The Spartans were renowned for their preference for short swords and saw the preference as a matter of courage, and an indication that they preferred close fighting.

would affect the weight of the weapon, shifting its centre of balance away from the hilt, towards the point facilitating the delivery of slashing blows from a height, allowing the force of gravity to do the work. The single cutting edge would also indicate that the weapon was not designed to deliver thrusting blows. A weapon presenting this kind of profile would have been well suited to mounted combat, a point specifically mentioned by Xenophon.<sup>50</sup>

**Midrib and blade section** are intrinsically linked, the presence or absence of a midrib impacting directly on strength and functionality. A blade featuring a lenticular or rhomboidal section with a midrib would allow stresses such as impact shock to be distributed evenly and improves the durability and effectiveness of the cutting edge, while providing some degree of flexibility, without the blade snapping.<sup>51</sup> Though the need for a midrib to reinforce the blade increases with overall length—the Type 2.1 longswords below measure over 80cm and all feature prominent midribs—even in shorter weapons the presence of a midrib would have provided a benefit when the blade was placed under stress. The absence of a midrib could be an indicator of several factors: poor manufacture, a desire to reduce the overall weight of the weapon, or a conscious attempt to increase the cutting capabilities of the weapon. Molloy discovered through experimental archaeology that the presence of a midrib served to limit the depth of cuts inflicted on pig carcasses.<sup>52</sup>

**Guard.** The presence or absence of a guard indicates the degree of protection offered to the hand of the bearer in receiving slashing blows or envelopments.<sup>53</sup> The absence

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<sup>50</sup> Xenophon *On Horsemanship* 12.11

<sup>51</sup> Snodgrass 1964, 105.

<sup>52</sup> Molloy 2008, 126.

<sup>53</sup> Enveloping actions in sword play, also referred to as *prise de fer* ‘taking the blade’, are actions in which a swordsman takes control of his opponent’s weapon with a single, circular motion maintaining blade contact throughout. Envelopments usually involve a closing of distance and the attacking blade

of a guard would be a firm indicator that a weapon was intended largely for thrusting blows, and was not expected to take many slashing blows close to the hilt. The absence of a guard may also be an indicator of non-military function. Guards were often constructed, at least partially, from perishable materials. A number of swords retain evidence that suggests they once had guards constructed of perishable materials such as bone, ivory or wood.<sup>54</sup> While such guards would have been less effective than those with a metal core, some protection would have been afforded.

**Hilt profile and section** gives an indication of whether the weapon was designed to be held in one or both hands. The form of the hilt also impacts on durability in that a weak hilt could cause the weapon to fail when giving or receiving heavy slashing blows, by snapping off. A poorly designed hilt could serve as an indication that a weapon may have been intended for ceremonial use rather than use in battle.

**Material of manufacture** has a number of implications for both social and military function. It is clear that an iron blade with approximately 7% carbon content will be stronger, lighter and more durable than a blade of (10% tin) bronze.<sup>55</sup> However, the degree of carburisation of early iron blades, has long been debated and few have been subjected to chemical analysis.<sup>56</sup> That iron comes to completely replace bronze as the material of manufacture for swords would seem to confirm their technical superiority. A number of swords with iron blades and cast-on bronze hilts appear during the 8<sup>th</sup> C; smiths whose technical proficiency did not extend to forming a durable iron hilt apparently opted for bronze due to its facility for casting.<sup>57</sup> There are significant

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travels along the receiving blade to the hilt. A guard would protect the hand in such an instance.

<sup>54</sup> For example: Bottini 1982, 48.

<sup>55</sup> Craddock 1995.

<sup>56</sup> Hartmann 1985; see also Thorlander 1971 for an interesting example of metallurgical analysis and explanation of the nature of both carburisation and the effects of corrosion on samples.

<sup>57</sup> Snodgrass 1964, 103

social implications tied to use of iron as an indicator of high social status. This is well supported by its use in the manufacture of decorative items such as fibulae and finger rings during the Late Bronze Age and the onset of the Iron Age throughout the Mediterranean.<sup>58</sup> Snodgrass has suggested a three-phase transition from the use of bronze to the use of iron for the manufacture of utilitarian items, including weapons.<sup>59</sup> While other modes of transition have been suggested it is clear that, ultimately, iron replaces bronze as the metal of choice in South Italy. The earliest iron swords appear in Southern Italy during the 8<sup>th</sup> C, and by the early 7<sup>th</sup> C iron has completely replaced bronze as the metal of choice for sword manufacture. Unfortunately, the generally poor state of preservation of iron swords makes it extremely difficult to ascertain the degree of carburisation of the metal, which would allow us to determine the strength and durability of the blade. The transition from bronze to iron comes much later in South Italy than in Greece, where iron swords are already appearing during the 11<sup>th</sup> C.<sup>60</sup>

**Shoulder profile** is a trait which has often been taken into consideration in the construction of morphological sword typologies though it has little impact on the function of the weapon.

I have identified five broad type groups, reflecting the four existing sword classifications with the addition of a fifth classification of tanged swords (which do not fit the current recognised classifications) as follows:

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<sup>58</sup> Hartmann 1982; Morris 1989.

<sup>59</sup> Snodgrass 1989.

<sup>60</sup> Snodgrass 1964, 94.



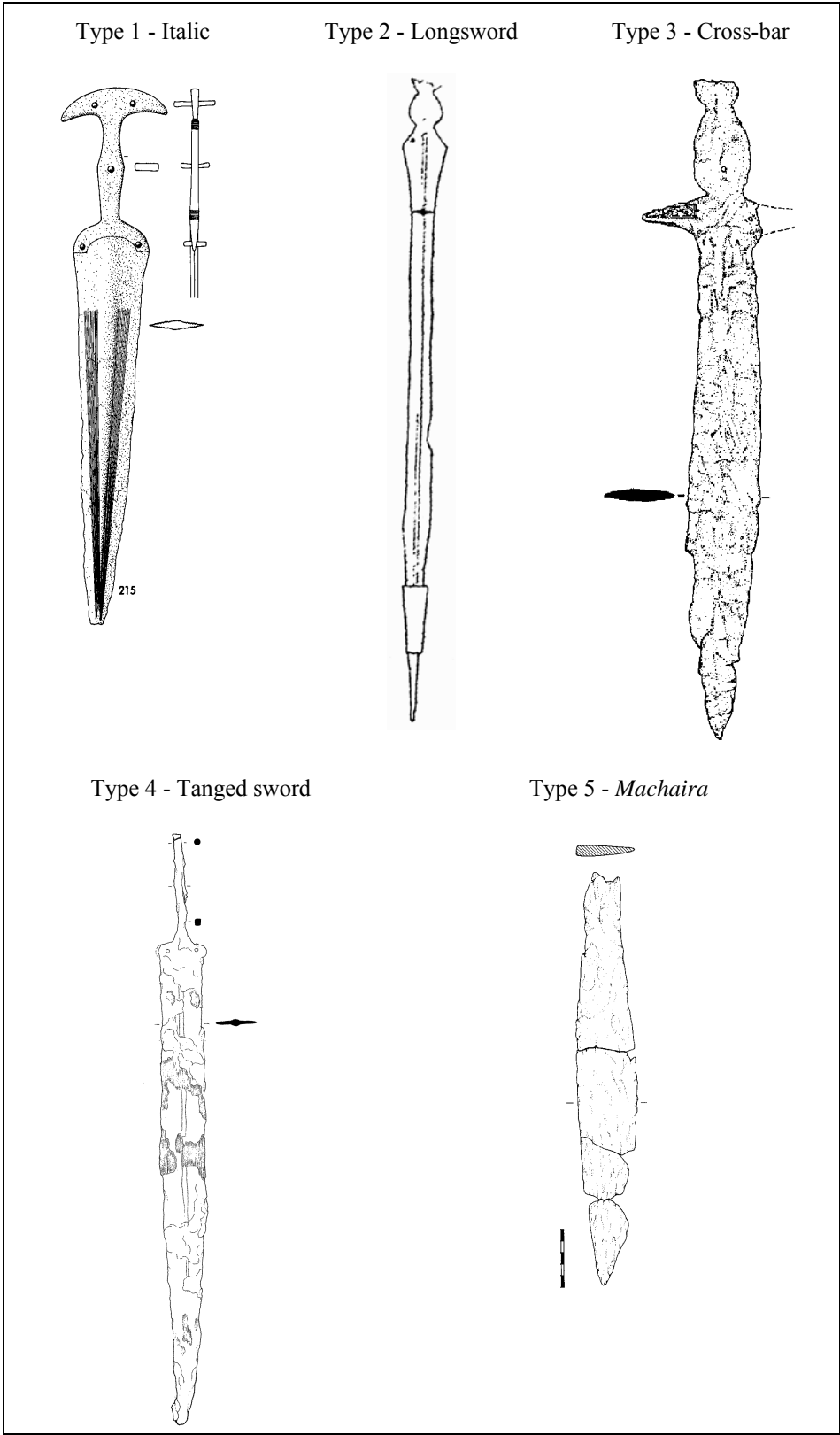


Figure 8: Basic Sword Types (not to scale)

The majority of examples discussed in this chapter come from funerary contexts in Basilicata, Puglia and Campania. A few examples are unprovenanced items from museums and private collections, which are believed to have originated in South Italy, and I have opted to include them as they expand the overall sample available for the construction of a useful typology.

Below I present a series of tables illustrating ‘type ideals’ for each of the sub-types within my broader type groups. The illustrations are accompanied by a brief table outlining the criteria measured in assessing members for sub-type allocation.

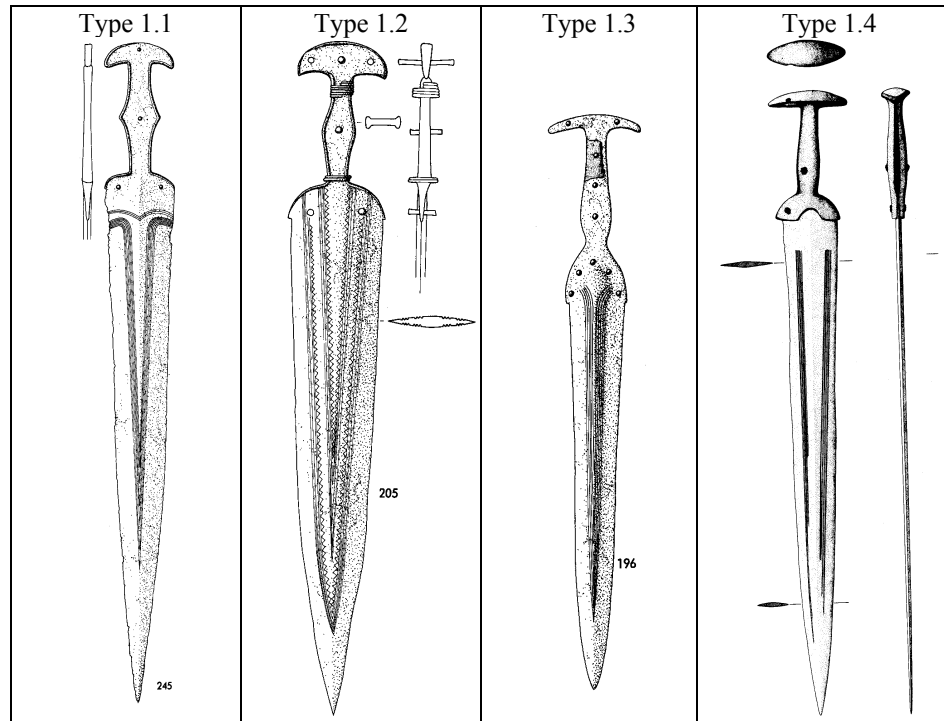


Figure 9: Type 1 Sub-Types

Type	T-shaped hilt; rounded shoulder; straight, tapered blade; two cutting edges; no guard; shallow midrib	Iron with cast on Bronze Hilt	Bronze Only	Bronze and Iron e.g.s	Flat/ Ridged Hilt Section	Rounded Hilt Section	Narrow Blade Profile	Broad Blade Profile	Lent. Blade Section	Rhomb. Blade Section	Slightly Squared Shoulder Profile	Length	Date
1.1	✓		✓		✓			✓		✓	✓	41.5- 45.5cm	800-750
1.2	✓			✓	✓			✓	✓			31-48cm	900-750
1.3	✓			✓	✓		✓		✓			23-45cm	900-800
1.4	✓	✓		✓		✓	✓		✓			39.5- 53cm	800-700

**Type 1:** a broad grouping of swords commonly referred to as ‘Italic’ swords, identified by their T-shaped hilts with a rounded pommel, often constructed of organic materials which are not preserved, leaving only the metal core. Examples appear in both bronze and iron, and share similar straight, tapered blades and a slight midrib. There is no indication that swords of Type 1 possessed hand guards. Sub-types are identified by variations of the form and profile of the hilt, and slight variations of blade profile or section. A few of the iron examples have bronze hilts cast on to the base of the blade. There are a number of examples from Bianco Peroni’s catalogue which date from approximately 900-750 BC. Several other examples from Basilicata, Campania, Puglia, and Calabria suggest an 8<sup>th</sup> C date, making this the earliest of the Early Iron Age sword types discussed in this thesis. The type appears frequently in Central Italy, Campania, Basilicata, Northern Puglia and Calabria. Bianco Peroni suggests that ‘Italic’ swords are a southern development, though she sees some much longer sword types evident in Northern Italy as sharing a common ancestry.<sup>61</sup>

**Type 1.1:** The hilt is a rounded T-shape featuring a flat section with ridged edges to facilitate the mounting of organic materials. The hilt profile recurves sharply towards the shoulder giving a diamond shaped profile. The shoulder itself is quite square with two rivet holes to hold the handle in place and two further rivet holes in the hilt. The blade edges are straight, tapering directly from shoulder to point. The blade section is rhomboidal; incised lines run along the blade accentuating the midrib. All the examples examined here are cast in bronze.

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<sup>61</sup> Bianco Peroni 1970, 77.

Examples:<sup>†</sup>

BP261 – from Cuma, 41.5cm, evidence of repair to hilt, though it is not clear whether  
the repair is ancient or modern (8<sup>th</sup> C).<sup>62</sup>

BP264 – from Striano, fragmentary hilt (8<sup>th</sup> C).<sup>63</sup>

BP257 – from Altamura, 42.6cm, the hilt is a modern reconstruction (8<sup>th</sup> C).<sup>64</sup>

**Type 1.2:** presents a broader blade profile than the other Type 1 sub-types. The hilt, which was constructed with organic components over a metal core—some examples retain traces of bone or ivory—presents a similar profile to Type 1.1, though less angular and smoothly recurving. Type 1.2 presents a broad rounded shoulder and lenticular blade section with a slight midrib. The blade edges are straight and taper sharply to the point. The type is analogous with Bianco Peroni's Pontecagnano Type and d'Agostino's Type A1. Examples of Type 1.2 swords appear manufactured in both bronze and iron and could perhaps be seen as a transitional type.

Examples:

PB215 – Naples Museum inv.5820, 34cm, first published in 1825 and thought to have  
come from Puglia<sup>65</sup>

PB217 – from Cuma alleged to have come from a tomb context, though the sword has  
been in a private collection since at least 1903. Bianco Peroni has  
proposed a 9<sup>th</sup> C date for this sword.<sup>66</sup>

Sala Consilina – S. Antonio Tomb 29, iron, 31.4cm (900-850)<sup>67</sup>

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<sup>†</sup> Examples marked 'BP' refers to examples in Bianco Peroni's 1970 catalogue.

<sup>62</sup> Ibid., 94 and plate 39 assigned to the Vulci type.

<sup>63</sup> Ibid., 95 and plate 40 assigned to the Vulci type.

<sup>64</sup> Ibid., 93 and plate 38, assigned to the Terni type.

<sup>65</sup> Ibid., 88 and plate 31, assigned to the Cuma type. Bianco Peroni cites an 1825 museum catalogue which suggested Puglia as the provenance of this weapon.

<sup>66</sup> Ibid., 88 and plate 31.

<sup>67</sup> Associated finds included a spearhead, clay helmet and two boar's teeth: Kilian 1970, 387 and plate

Pontecagnano – Tomb 180, bronze, 38cm (900-850); Tomb 2150, iron, 45cm (mid 8<sup>th</sup> C); Tomb 889, iron, 48cm (850-800); Tomb 6107, bronze, 45.6cm (800-770).<sup>68</sup> PB206 Tomb 495, bronze, 48cm - within its scabbard (850-800);<sup>69</sup>

**Type 1.3:** features a gently recurving T-shaped hilt and narrow, rounded shoulders. The blade is straight and narrow, tapers to the tip and has a lenticular section with a slight midrib. The T-shaped pommel is generally broader than the shoulders of the weapon. Members of this type were identified by Bianco Peroni as part of the Torre Galli group.

Examples:

PB180 – in the Naples Museum, believed to have originated in Campania, bronze, 37cm, incomplete<sup>70</sup>

PB194-6 and 198 – from Calabria, bronze, complete examples measuring 32- 45cm, (9<sup>th</sup> C)<sup>71</sup>

Incoronata – Tomb 522, 37cm (8<sup>th</sup> C).<sup>72</sup>

**Type 1.4:** Examples of this type have the hilt cast onto the blade. The hilts and pommels of Type 1.4 examples are distinct from those of the other Type 1 sub-types. The pommel here is fully cast rather than forming a pommel-base onto which a full pommel of perishable material was mounted.

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343; Bianco Peroni 1970, 126, catalogues the bronze scabbard as No.342 of her Torre Galli type.

<sup>68</sup> d'Agostino and Gastaldi 1988, 132, 198-200 and figs.56 and 163; Gastaldi 1998, 127, 142-4 and plates 114 and 123.

<sup>69</sup> Bianco Peroni 1970, 84 and plate 30, Tombs 180 and 495 are Nos. 205 and 206 in Bianco Peroni's catalogue, assigned to the Pontecagnano type.

<sup>70</sup> Ibid., 76 and plate 27, identified a member of the Contigliano type; Undset 1890 identifies the sword was acquired in Naples and believed to have come from the region.

<sup>71</sup> Bianco Peroni 1970, 80 and plate 28. No.198 is incomplete and measures 23cm.

<sup>72</sup> Chiartano 1996, 55, note 1, and plate 24. Chiartano does not assign the sword to any of his own types, though in his notes he cites comparanda swords recovered from tombs 65 and 99 at Torre Galli. The associated scabbard is identified by Chiartano as belonging to Bianco Peroni's Torre Galli type.

Examples:

BP197 – from Torre Galli, iron with cast-on bronze hilt, 36cm. (c.800)<sup>73</sup>

BP285 – from Calabria, chance find, bronze hilt with fragmentary remains of an iron blade. (c.875BC)<sup>74</sup>

Incoronata – Tomb 230, 64.5cm (8<sup>th</sup> C) Tomb 432, bronze, 53cm (c.775BC on the basis of the associated scabbard) Tomb 454, 60cm (8<sup>th</sup> C)<sup>75</sup>

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<sup>73</sup> Bianco Peroni 1970, 80 and plate 28.

<sup>74</sup> Bianco Peroni has dated the hilt on the basis of comparison with members of her Torre Galli group: *Ibid.*, 105.

<sup>75</sup> Chiartano 1994, 47, 160, 184-5, 221-3 and plates 41, 112 and 116. Chiartano identifies the scabbard associated with the sword from Tomb 454 with Bianco Peroni's Vomano type.

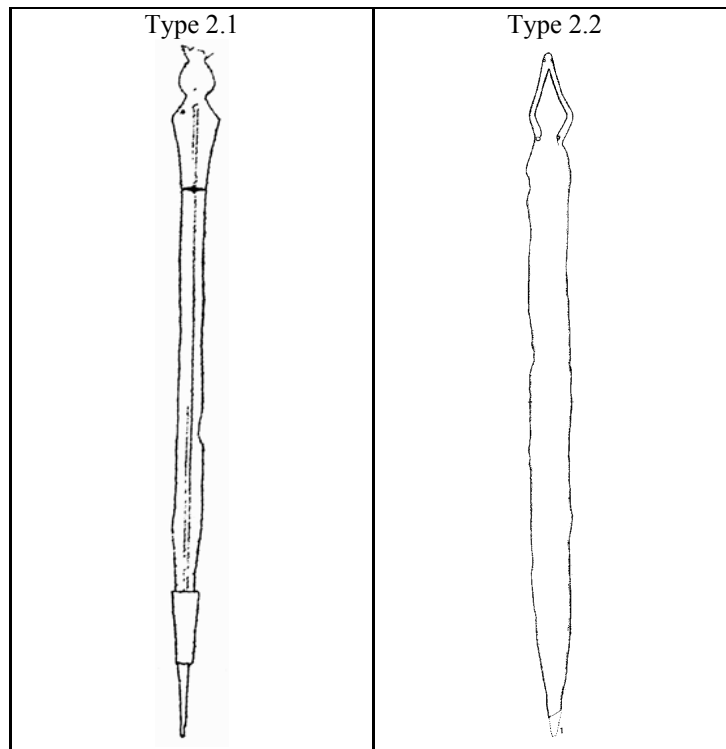


Figure 10: Type 2 Sub-Types

Type	Iron longsword with curved hilt profile, parallel blade edges, no discernable guard	Rhomboidal Blade Section	Flat/Lentic. Blade Section	Midrib	Angular Shoulder Profile	Length	Date
2.1	✓	✓		✓	✓	87-90cm	8 <sup>th</sup> C/ mid 7 <sup>th</sup> C.
2.2	✓		✓			61-63cm	8 <sup>th</sup> C/ early 6 <sup>th</sup> C

**Type 2:** a group of iron longswords distinguished by their length—at 90cm the longest example is markedly longer than other sword types of Iron Age South Italy—and their parallel blade edges. Sub-types are identified on the basis of the presence or absence of a midrib and subtle variation in the form of the hilt. The Type is uncommon, examples appearing at a few sites in Basilicata from the 8<sup>th</sup> C to 6<sup>th</sup> C. The Type seems to be of Central European or Greek origin. Examples of the Urnfeld period appear in Albania and several of Snodgrass’ Type I examples compare well with the examples noted here, particularly a 9<sup>th</sup> C example from the Athenian



Agora.<sup>76</sup>

**Type 2.1:** identified on the basis of their prominent midrib and angular shoulder.

Their length is also markedly greater than other swords of the period.

Examples:

Craco – Tomb 6, 87cm (8<sup>th</sup> C)<sup>77</sup>

Valle Sorigliano – Tomb 102, 90cm (750-725).<sup>78</sup>

Guardia Perticara – San Vito Tomb 9, 92.5cm (700-650)<sup>79</sup>

**Type 2.2:** lacks the prominent midrib and angular shoulder evident in Type 2.1, presenting a flat blade section. Examples are also notably shorter than the Type 2.1 swords and are closer in length to Type 1.4 and Type 3.1 and 3.2. The reduction in length suggests an adaptation of the type to meet the preference for shorter sword length current in South Italy during the Iron Age. It is possible that they are local imitations, while members of Type 2.1 are perhaps imports or the result of gift exchange.

Examples:

Oppido Lucano – Tomb 45, 61.3cm (early 6<sup>th</sup> C)<sup>80</sup>

Incoronata – Tomb 336, 62.5cm (8<sup>th</sup> C)<sup>81</sup>

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<sup>76</sup> Prendi 1982, 226 and fig.12 No.1; Snodgrass 1964, 93-8 and fig. 5, particularly example 'd' an example from the Athenian Agora, measuring 88.3cm and dated c.900.

<sup>77</sup> Bottini 1993, 39

<sup>78</sup> Frey 1991, 13-4, 22 and plate 12.

<sup>79</sup> Bottini 1993, 37

<sup>80</sup> Lissi Caronna 1980, 22-3 and fig.74.

<sup>81</sup> Chiartano 1994, 136 and plate 80.

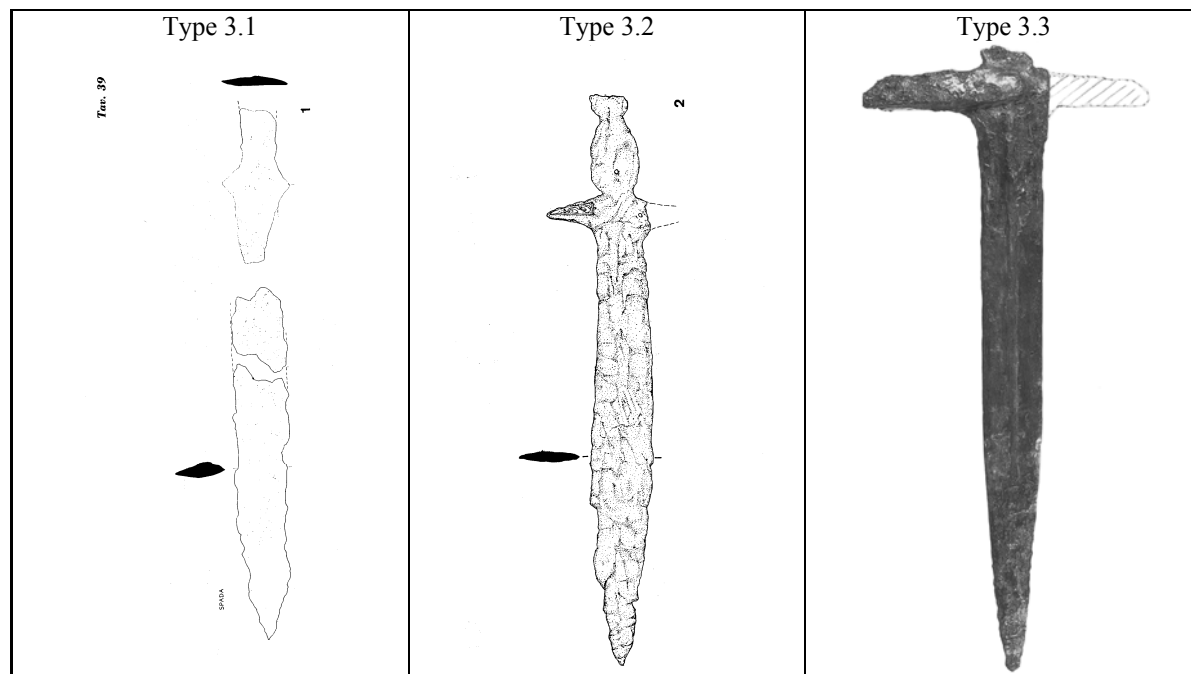


Figure 11: Type 3 Sub-Types

Type	Iron Sword with cross-bar guard lenticular blade section with midrib	Recurving blade broadest at two-thirds along total length of blade	Tapering blade	Slight Guard mounts	Wide cross-bar	Very wide cross-bar	Length	Date
3.1	✓	✓		✓			31.7-54cm	Early 7 <sup>th</sup> C -Early 5 <sup>th</sup> C
3.2	✓	✓			✓		38-60cm	Late 7 <sup>th</sup> C- First half 5 <sup>th</sup> C
3.3	✓		✓			✓	38.5cm	Mid 6 <sup>th</sup> C – 4 <sup>th</sup> C

**Type 3.** A group of iron swords commonly identified as ‘cross-bar’ swords, named for their prominent guards. Sub-types are identified on the basis of variation to the form of the guard and blade profile. The sword is what is commonly referred to as a ‘cut-and-thrust’ sword, suited to the delivery of both slashing and thrusting blows. The type appears in the 7<sup>th</sup> C and continues beyond the period examined in this thesis. During the 4<sup>th</sup> C changes in burial practices saw the inclusion of swords in burial assemblages decrease significantly. Representations in Italic red-figured vase painting show that the cross-bar sword continues, though preserved examples of this period are rare.

Type 3.1 is the earliest sub-type and in Type 3.2 and 3.3 we see the progressive evolution of increasingly pronounced cross-guards. The increased emphasis on protection of the hand indicates that swords were perhaps being employed with greater frequency and that hand injuries had become a particular concern.

South Italian examples of cross-bar swords are known from Basilicata and Daunia, Bottini describing the type as the principal sword of Northern Basilicata and Daunia during the period from the 7<sup>th</sup> C to the 5<sup>th</sup> C. Examples are also known from Greek contexts though it would appear the type is an Italian development. Emanuele suggests the type has an Italian origin, being a progression from the ‘Italic’ swords of the 9<sup>th</sup> C and 8<sup>th</sup> C, and he could identify no Greek examples prior to the 6<sup>th</sup> C. Snodgrass, however, in his *Arms and Armour of the Greeks* includes an illustration of a cross-bar sword in his general discussions of the hoplite panoply of the 7<sup>th</sup> C and 6<sup>th</sup> C, though he cites no specific 7<sup>th</sup> C examples and did not include any examples of cross-bar swords amongst his typology of swords in *Early Greek Armour and*

*Weapons.*<sup>82</sup> Representations of cross-bar swords in Greek iconography also seem to begin in the 6<sup>th</sup> C,<sup>83</sup> and the metopes dated to c.560 from Foce de Sele at Poseidonia form an early example in a colonial context.<sup>84</sup> It is clear that by the beginning of the 5<sup>th</sup> C the cross-bar sword was a regular feature in the Greek hoplite panoply.

**Type 3.1:** the guards of Type 3.1 appear to have been slight, constructed predominantly of perishable materials. Small metal mounts exist in some examples, foreshadowing the evolution of the more pronounced guards seen in Types 3.2 and 3.3.

Examples:

Lavello – Tomb 279, two examples measuring 31.7cm (incomplete) and 47cm (dated 650-625)<sup>85</sup>

Oppido Lucano – Tomb 3 Moles, 33.5cm incomplete (early 6<sup>th</sup> C)<sup>86</sup>

Ruvo del Monte – Tomb 29, 49.5cm (600-550)<sup>87</sup>

Sala Consilina – Tomb A46, 54cm (675-600)<sup>88</sup>

Satrianum – Tomb 13, 48.6cm incomplete (early 5<sup>th</sup> C)<sup>89</sup>

**Type 3.2:** Sub-type is identified on the basis of its metal cross-bar and convex hand grip. The guard mount is much more substantial than Type 3.1 and would have provided greater protection to the hand of the bearer. Perishable materials were fixed to the metal core of the hilt and guard, fragments occasionally surviving. The wide

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<sup>82</sup> Emanuele 1982, 42-4; Snodgrass 1967, 84-5 and fig.52; Snodgrass 1964, Chapter 4.

<sup>83</sup> Anderson 1993, 25-6; Snodgrass 1967, fig. 45.

<sup>84</sup> Specifically the suicide of Ajax, Herakles' slaughter of Alkyoneus and Achilles slaughter of Troilos: Pedley 1990, figs. 33, 37 and 40.

<sup>85</sup> Bottini 1982, 44 and fig.6; Bottini *et al.* 1988, 128 and plate 39.

<sup>86</sup> Panciera *et al.* 1990-91, 323-6 and figs. 154-8.

<sup>87</sup> Bottini 1981, 211, 270 and figs. 84-5.

<sup>88</sup> De La Genière 1968, plate 9

<sup>89</sup> Holloway 1970, 65-6 and ill.121 No.104. The tomb includes several other blade fragments pertaining to one or more additional swords.

base of the blade maintains strength, and a slight curvature in the transition from blade to guard would facilitate the glancing-off of an attacking blade. The heavily convex handle of this sub-type may have proven advantageous for the handgrip. As with the other swords seen in this typology it is clear that the sword was intended for single-handed use.

Examples:

Lavello – Tombs 38 and 302 II measuring 44cm and 50cm (mid 6<sup>th</sup> C – mid 5<sup>th</sup> C)<sup>90</sup>

Braida di Vaglio – Tombs 101, two examples, both measuring 60cm, and Tomb 108, 38cm, (late 6<sup>th</sup> – early 5<sup>th</sup> C).<sup>91</sup>

Canosa – Tomb 9 Toppicelli, 50cm (mid 6<sup>th</sup> C)<sup>92</sup>

**Type 3.3:** The cross-bar of the Type 3.3 is considerably wider than that seen in either the Type 3.1 or 3.2 sub-types. The guard is much wider than necessary to provide adequate protection to the hand and is perhaps wider than practical. The profile of the blade tapers directly to the point, a departure from the recurving blade profiles observed in Types 3.1 and 3.2.

Examples:

Oppido Lucano – Tomb 246, 50cm (mid 6<sup>th</sup> C)<sup>93</sup>

Braida di Vaglio – Tomb 107, 53cm (late 6<sup>th</sup> C to the early 5<sup>th</sup> C)<sup>94</sup>

Minervino Murge – Tomb OC-11, 38.5cm, heavily restored, (second half 6<sup>th</sup> C - first half 5<sup>th</sup> C)<sup>95</sup>

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<sup>90</sup> Bottini *et al.* 1988, 61-2, 136-7 and plate 39 Nos.2 and 3.

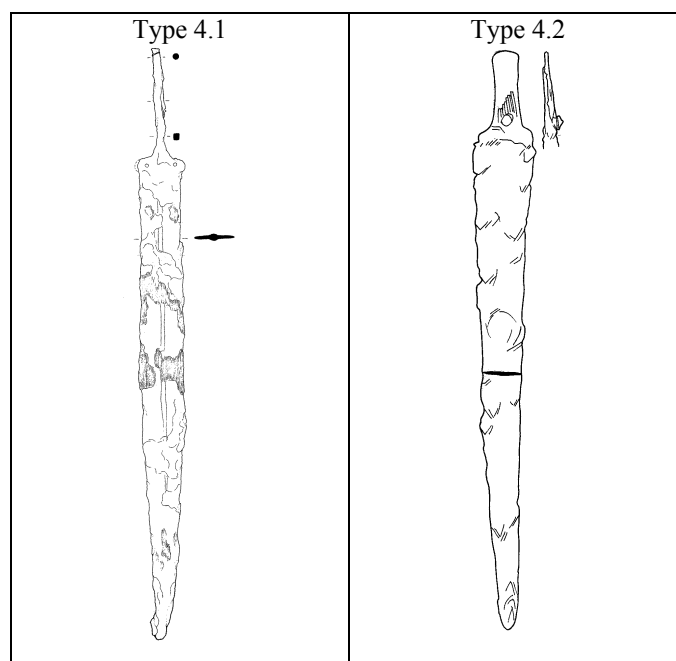
<sup>91</sup> *Ibid.*, 13-32, 66-80 and figs.18, 42 and 46. Bottini considers these examples to be comparable to his Type 2 from Lavello, citing the example from T38 at Lavello specifically.

<sup>92</sup> Lo Porto 1992, 93-7.

<sup>93</sup> On display in the Museo Archeologico Nazionale della Basilicata – “D. Adamesteanu” in Potenza. I estimate the length to be c.40-50cm.

<sup>94</sup> Bottini and Setari 2003.

<sup>95</sup> Lo Porto 1999, 82-5 fig.13 and plate 8



Type	Iron sword or dagger with tang, parallel blade edges and midrib	Length	Date
4.1	✓	60cm	625-600
4.2	✓	Less than 35cm	770-730

**Type 4.** Weapons usually classified as daggers appear at Southern Villanovan sites (Type 4.2). They appear to have evolved from similar daggers recorded in Central and Northern Italy from the Early Bronze Age onwards.<sup>97</sup> The form is characterised by a distinct tang and a tapering blade, which is very short with complete examples ranging between 14.9cm to 33.5cm in length, with an average of 24cm. A unique sword (Type 4.1), which appears to mimic the morphology of the Type 4.2 dagger, appears at Serra di Vaglio. The sword measures 60cm in length and cannot be interpreted as a dagger. Whether there is a direct link between Type 4.2 daggers and the Type 4.1 sword is uncertain.

<sup>96</sup> Bottini 1999

<sup>97</sup> Giardino 2000, 52-3.

**Type 4.1.** At 60cm in length this example fits easily within the parameters of other swords of this period. The shoulders of the sword are sharply angular and the blade itself is narrow and tapers directly to the point. A hilt of perishable materials must have been secured over the tang of the weapon.

Example:

Serra di Vaglio Tomb 30, c.57cm (last quarter 7<sup>th</sup> C)<sup>98</sup>

**Type 4.2:** is a series of daggers represented at Pontecagnano. The form of these weapons is very similar to the Type 4.1 sword described above but the length of these weapons is consistently less than 25cm.

Examples:

Pontecagnano – Tombs, 3190 (29cm – dated 850-770), 538, 3184 (33.5cm), 3205 (22.8cm), 3207 (18.9cm), 3253 (24.4cm) and 3284 (14.9cm) (dated 770-730)<sup>99</sup>

Sala Consilina – Tomb S. Rocco D50 (5cm –incomplete, dated 770-750)<sup>100</sup>

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<sup>98</sup> Greco 1991, 24 and fig. 68.

<sup>99</sup> De Natale 1992, 49, 53, 57, 89 109 and figs. 101, 104, 119 and 123. The sword from Tomb 538 is mentioned in d'Agostino's discussion of sword types but the assemblage is not published and the sword is neither illustrated nor described in detail: d'Agostino and Gastaldi 1988, 77.

<sup>100</sup> Kilian 1970, 361 and plate 138.

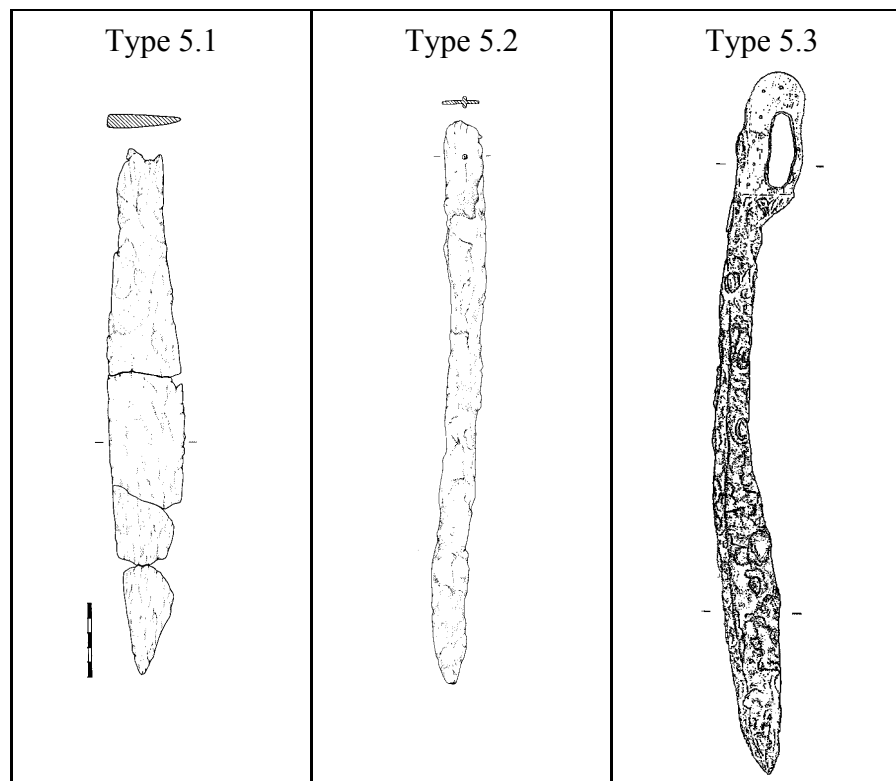


Figure 12: Type 5 Sub-Types

Type	Single edged slashing swords, no midrib	Curved spine	Distinct Swelling at tip	Narrow Blade Profile	Broad Blade Profile	Wedged Blade Section	Flat Blade Section	Gripped Hilt	Length	Date
5.1	✓	✓			✓	✓			35cm	575-525
5.2	✓	✓		✓			✓		35-44cm	800-575
5.3	✓	✓	✓	✓		✓		✓	77.5cm	4 <sup>th</sup> C



**Type 5.** A group of single-edged iron slashing swords variously termed ‘*machaira*’ ‘*falchion*’ ‘*kopis*’ etc. Sub-types are determined on the basis of variation to the blade profile and hilt profile. Most examples of this sword class date to a later period than most of the other types. The *machaira* is attested in Greek and South Italian vase paintings of the 5<sup>th</sup> and 4<sup>th</sup> C where it is often depicted delivering slashing blows in mythical scenes, such as that on the Apulian red-figured vase Taranto 8264 from Ceglie del Campo illustrated in the previous chapter (p. 74, Figure 20.2). The weighting of the blade towards the point is designed to facilitate slashing blows allowing the force of gravity to maximise the impact and efficiency of their delivery. This kind of sword is particularly well suited to cavalry where the added height could add further force to slashing blows.

**Type 5.1:** The thick, wedge-shaped blade section added weight to the slashing blows of this sword and provided strength to the non-cutting edge of the blade.

Example:

Chiaromonte – Tomb 26 (35.5cm – dated 575-525)

**Type 5.2:** A more delicate sword than Type 5.1. The flat section and very narrow profile would have made this a lighter, but also weaker, weapon. The type exhibits some similarities to Snodgrass’s Type II and Type IIA, datable to the 9<sup>th</sup> C and 8<sup>th</sup> C, however neither of the South Italian examples is directly comparable and they likely represent local manufacture.

Examples:

Chiaromonte – Tomb 29 (26cm – dated 600-575)

Sala Consilina – Tombs G33 and M20(800-770)<sup>101</sup>

**Type 5.3** appearing in Greece in the 5<sup>th</sup> C and South Italy from the 4<sup>th</sup> C the type gives the impression that it is a class of direct Greek imports or imitations thereof. The type is rare in South Italy, distinguished by a pronounced swelling at the tip of the blade, which is markedly longer than the early Type 5.1 and 5.2 examples. The type also features a hilt with a looped guard that envelops the knuckles. Type 5.3 is the form most frequently depicted on red-figured vases, often in the hands of Amazons.<sup>102</sup>

Examples:

Paestum: Gaudo Tomb 174, 77.5cm (390-380); Andriuolo Tomb 112 (late 5<sup>th</sup> C), and

Gaudo Tomb 1 (370-360)<sup>103</sup>

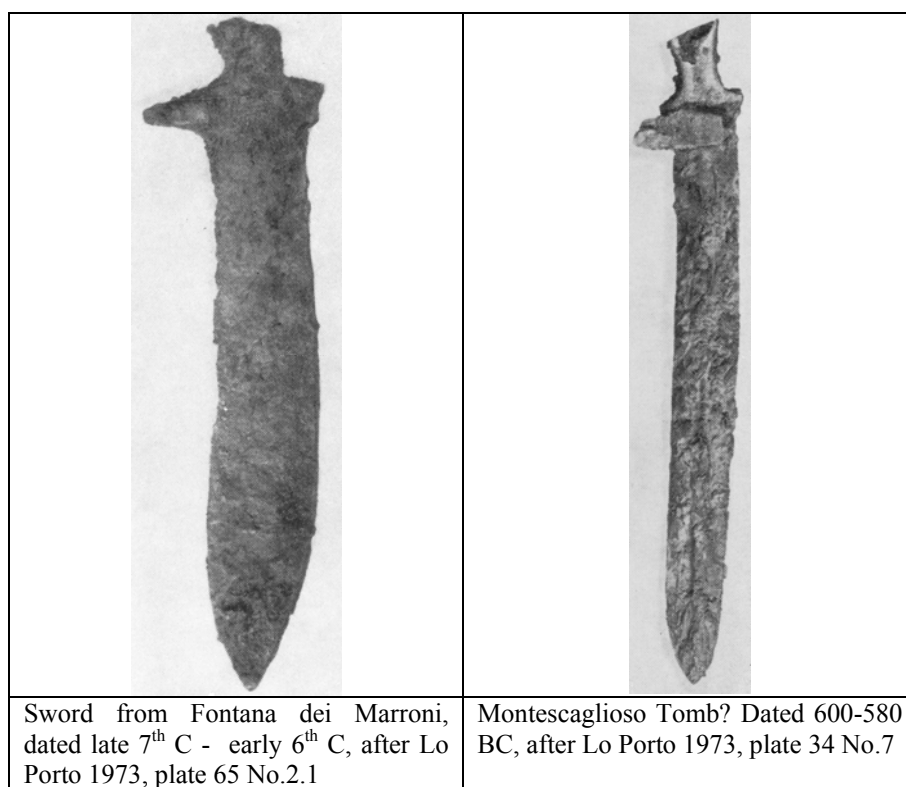
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<sup>101</sup> Ibid., 318, 378 and plate 203.

<sup>102</sup> Anderson 1993, 26-7.

<sup>103</sup> Cipriani and Longo 1996, 149-55 fig. 58.15.

## Miscellanea



**Figure 13: Miscellaneous swords from Basilicata**

Two very interesting swords were recovered from the sites of Fontana dei Marroni, near Matera and Montescaglioso in the Bradano River Valley, close to Metaponto. They appear to be modified cross-bar swords, which seem to represent a transition from a cross-bar sword to a machaira. Both feature angular hilts and have slightly asymmetrical blade profiles, perhaps modified to mimic the blade form of the *machaira*.

### ***Function***

Types 1-4 above can all be identified as cut-and-thrust swords, versatile swords with two cutting edges, designed for the delivery of both slashing and thrusting blows. All feature a single-handed grip, leaving one hand free to carry a shield or another weapon. The majority of these weapons were short, less than 60cm in overall length,

with some examples measuring little more than 30cm, suggestive of close fighting.<sup>104</sup> Only members of Type 2, the longswords, exceed 60cm in length. Type 3 cross-bar swords offer the hand protection from slashing blows and envelopments through the provision of a substantial hand guard, which seems only to have been regarded as a necessity from the beginning of the 7<sup>th</sup> C. However, functionally, all of these weapons are quite similar and all are well suited to fighting on foot.

The cross-bar sword (Type 3) is the most frequently represented in South Italian iconography, depicted in scenes of active conflict delivering both slashing and thrusting blows. More frequently, however, the sword is seen in its sheath, the distinctive cross-bar making the classification readily identifiable, whilst the warrior engages the use of his (or in an amazonomachy, her) spear, the sword clearly serving as a reserve weapon. The sword is worn suspended from a single strap worn over the right shoulder, the handle grip pointed forward, indicating that the sword was generally gripped in the right hand, leaving the left hand free to hold a shield, which is also often depicted (in a number of forms).

Only members of Type 5 distinguish themselves as functionally different. Members of this group are slashing swords that were not intended to deliver thrusting blows. The weight and design of these weapons provided greatest benefit when delivering blows from a height, marking them out as particularly well suited to mounted combat (see previous chapter p. 78 for a more in depth discussion of the role of cavalry). Xenophon explicitly recommends the use of the *machaira* or *kopis* for cavalrymen ‘because from the height of a horse’s back the cut of a sabre [κοπίς] will serve you

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<sup>104</sup> Catling 1961, 115-6 expresses the view, commonly held in scholarship of the Eastern Mediterranean, that weapons less than 45cm in total length should not be classified as swords, but rather as dirks. On this basis, many swords of Iron Age South Italy would be identified as dirks. Snodgrass 1964, 104-6 however, suggests that this arbitrary classification is perhaps too rigid.

better than the thrust of a sword'.<sup>105</sup> However, it would appear that even in a cavalry context the sword remained a secondary weapon, subordinate to the spear. Whilst examples of *machairai* have been recovered from tomb contexts in Paestum they are conspicuous by their absence in the famous tomb paintings of that same site. The Return of the Warrior is a recurrent theme in Paestan tomb painting. Warriors bear panoplies of opulent armour, with multiple spears and a shield, yet rarely a sword. Even Gaudo Tomb 2/1957, which yielded a sword as part of the burial assemblage, did not include a sword in the depiction of a mounted warrior on its western wall.<sup>106</sup> The painted warrior bears two spears in his left hand. The scene on the eastern wall of Tomb Andriuolo 4/1971 is one of the few instances in which a sword can be clearly identified as one of the warrior's accoutrements, though it should be noted that the warrior is unmounted and the sword can be clearly identified as a cross-bar sword.<sup>107</sup>

Throughout the period under examination swords remained subordinate to spears in the South Italian offensive panoply; however they preceded the more common spearhead in the transition from bronze to iron as a material of manufacture.<sup>108</sup> In accordance with Snodgrass' proposed second phase of his three-phase transition from bronze to iron, the selective use of iron was influenced by technological and social factors. It would have been less technically challenging to produce an iron spearhead

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<sup>105</sup> Xenophon *On Horsemanship* 12.11 Waterfield translation

<sup>106</sup> Pontrandolfo and Rouveret 1992, 259-60 and 380-5.

<sup>107</sup> *Ibid.*, 199, fig.4

<sup>108</sup> Gastaldi 1998, 127 and plate 114., Tomb 889 at Pontecagnano, dated to Phase IB (c.850-770) included a bronze spearhead in association with an iron sword; Chiartano 1994, 133 173, 184, 186 and plates IX, XIX, 19, 27, 41 and 78. Tomb 206 presents an example of a bronze spearhead associated with an iron sword. Tomb 230 includes a sword with an iron blade and a cast-on bronze hilt in association with a bronze spearhead. Incoronata Tombs 232 and 326 also yielded bronze spearheads in association with iron blades, though their poor preservation makes their interpretation as swords uncertain. Chiartano identifies the blade in Tomb 326 as a sword, though is prepared only to suggest the fragmentary blade in Tomb 232 may have been from an 'arma da taglio'. It is unfortunate that the chronology of Incoronata is so poorly communicated making it difficult to assess how these tombs relate to other tombs which include both spears and swords constructed of iron.

than an iron sword,<sup>109</sup> so social rather than technological factors probably explain the early shift to iron for swords. It is clear that possession of a sword was an indicator of elite social status and, especially during the late 9<sup>th</sup> and 8<sup>th</sup> centuries, the possession and display of an iron sword (a 'new' metal with particular, and seemingly mystical, metal working requirements)<sup>110</sup> was a potent statement of wealth and status.

Social stratification certainly played an important role on the field of battle and Van Wees has suggested that in early Greek warfare this went beyond the role of military command to embrace etiquette of hierarchal combat which allowed the elite to engage in their own contests, which may have had specific rules or heroic codes that needed to be adhered to, seeking out and duelling against their social equals.<sup>111</sup> Possession and prominent display of items such as swords and highly polished bronze armour could serve to mark the bearer out as a warrior of high social status. This would prevent him from being challenged on the field by his social inferiors.

The identification of direct, physical evidence for the use of swords in combat is problematic. Iron bladed swords are often too poorly preserved for evidence of wear and damage to be identifiable, making it impossible to determine whether swords recovered from burial contexts had actually been used in combat or had served merely as symbolic weapons. Earlier swords with bronze blades do permit this kind of analysis, however. For example, Bianco Peroni No.198, from Torre Galli,<sup>112</sup> shows damage to the blade edges, and point, possibly sustained in action. The extreme closeness of the edge to the midrib is also suggestive of resharpening, or repair, the original width of the blade probably having been more substantial. Evidence of

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<sup>109</sup> See Snodgrass 1964, 103 quoting Lorimer, n.22; Snodgrass 1982; Snodgrass 1989.

<sup>110</sup> Giardino 1998, 197.

<sup>111</sup> van Wees 2004, 153-8.

<sup>112</sup> Bianco Peroni 1970, 80-81 and plate 28. Molloy 2008 comments on damage to bronze swords in experimental archaeology caused by poor fighting technique.

trauma on skeletal remains can also be used to identify the use of the sword, and perhaps even to identify the kind of sword which may have been used to deliver the traumatic blows, though I am unaware of any such study being applied in osteological analyses of South Italian finds.<sup>113</sup>

A number of the Type 1 swords were found in scabbards decorated with incised motifs, and Bianco Peroni includes a number of scabbards in her catalogue.<sup>114</sup> Numerous examples have representations of what appear to be deer and wild boar, sometimes hunted. The Early Iron Age societies of Southern Italy were agrarian societies and did not rely heavily on hunting for their subsistence. A survey of faunal remains conducted in the Biferno Valley by Barker in the 1970s could be said to be representative of the societies living in Southern Italy during the Early Iron Age and shows a predominance of domesticated species amongst the faunal assemblage. Wild game, consisting primarily of roe and red deer, wild boar, hares and bird species, accounted for less than 10% of faunal remains.<sup>115</sup> The agrarian lifestyle of the Early Iron Age was labour intensive, leaving only the social elite with time to engage in activities like hunting.<sup>116</sup> Further, the age and butchery markings on bones recovered in Barker's survey suggest that animals were killed at specific ages, and with the breeding cycles of domestic animals such as sheep, this meant specific times of year.<sup>117</sup> This suggests that for most of the year the local diet probably contained very little meat. The distribution of meat from the hunt thus became an important ritual of the social elite and 8<sup>th</sup> C to 4<sup>th</sup> C graves from a number of sites throughout Basilicata, Campania and Puglia include spits and firedogs amongst the burial assemblage. The

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<sup>113</sup> Lewis 2008 includes an overview of osteological studies focused specifically on identifying trauma inflicted by sword blows.

<sup>114</sup> Bianco Peroni 1970 124 and plates 52-66.

<sup>115</sup> Barker 1994.

<sup>116</sup> Guilaine and Zammit 2005.

<sup>117</sup> Barker 1994.

graves of some women and children also included miniature spits and firedogs representative of their position of providers of meat from the hunt.<sup>118</sup> The correlation between hunting and elite status rendered the hunt a fitting motif for the decoration of items associated with elite status. The further link between the skills employed in hunting and those employed in the conduct of war strengthened the symbolism of hunting motifs making them particularly appropriate to the decoration of items of war.

D'Agostino and Cerchiali have suggested that the *machaira* served as a sacrificial tool and was not solely a weapon of war. They have argued convincingly that in the Tomb of the Bulls in Tarquinia, Achilles attacks Troilos with a *machaira*, stressing the 'sacrificial' element of the murder.<sup>119</sup> Others have also noted the use of single-bladed machetes as the killing blade in sacrificial rites.<sup>120</sup> While this role for the *machaira* certainly cannot be dismissed, this is not the only sword class to have served in such a manner. A number of Late Apulian vase paintings bear representations of swords used in sacrificial contexts (both animal and human) and, many of these scenes clearly depict swords with a prominent midrib and two cutting edges, some with identifiable cross-bars.<sup>121</sup> These examples come from Apulia where *machairai* do not appear in the funerary record and perhaps were not well known by the vase-painters. It is probable that swords were used as sacrificial tools without the drawing of any distinction or identification with the sword classes identified in modern scholarship.

Throughout the period under examination in this thesis the overwhelming majority of swords are short cut-and-thrust swords, which place an emphasis on versatility in fighting capabilities. The adoption of progressively sturdier hand-guards seen in the

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<sup>118</sup> Pontrandolfo Greco 1982, 74-5, 80-1, 145-7.

<sup>119</sup> d'Agostino and Cerchiali 1999, 91-106.

<sup>120</sup> Van Straten 1995, 43-4 and 103-15; Berthiaume 1982.

<sup>121</sup> RVAp 2/24, 3/41, 16/43.



evolution of the cross-bar sword indicates a change in fighting style around the middle of the 7<sup>th</sup> C that perhaps saw an increase in the use of the sword. Despite this change the sword continued to function as a reserve weapon, warriors relying heavily on the spear in military engagements. The sword thus served principally as a marker of high social status. They were exclusive property of the social elite (just as in medieval times they were an exclusive weapon of knights and nobles).<sup>122</sup> They were the first weapon to be made from precious iron in the Early Iron Age and were frequently decorated with incised decoration and accompanied by ornate scabbards.

South Italian swords were local productions with few exceptions. The longsword, which was likely introduced during early contacts with Greeks prior to colonisation, seems to have been adapted to the local South Italian preference for short swords, evidenced in Type 2.2. The slashing swords were likely also introduced via Greek contacts. Yet, it appears that the exchange of military technology was reciprocal, the Greeks rapidly adopting the cross-bar sword as an effective addition to the hoplite panoply in the 6<sup>th</sup> C.

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<sup>122</sup> Bachrach 1999.

## **Chapter 4** **Regional Comparison of Weapons – Daunia**

During the Iron Age, Daunia and Northern Basilicata formed part of the exchange route between the Adriatic and Tyrrhenian coasts via the Ofanto Valley and the upper reaches of the Sele Valley.<sup>1</sup> I have chosen to discuss finds of weaponry from six Daunian sites in this chapter: Lavello, Canosa, Ortona, Ascoli Satriano, Arpi and Minervino Murge. Material from the necropoleis of these sites dates between the 8<sup>th</sup> C and 4<sup>th</sup> C, and may be seen as representative of the region during the Iron Age. The military and social functions of weapons in Iron Age northern Puglia are more likely to emerge when the weapons finds from a number of sites in this region are compared. I have chosen to focus specifically on weaponry; however, I will also discuss a range of paraphernalia often associated with weaponry, divided into four general categories. First, armour, which is important in both military and parade contexts and may serve to illustrate cultural connections. Second, bronze belts, which may have served a broader social function than other armour, though it is likely that they did provide some measure of protection to the wearer. Third, horse equipment, which indicates not only elite status, but is also associated with warfare and hunting. Finally, iron spits, which along with firedogs, are perceived the accoutrements of feasting, representative of the distribution of meat by elite members of society—reinforcing their position as providers and/or hunters.

As all of the material discussed comes from funerary contexts it is important to consider the forms of the tombs. The majority of tombs discussed are fossa tombs but there are also several “grotticella” and chamber tombs, forms that emerged during the later 5<sup>th</sup> C and 4<sup>th</sup> C. These tombs required considerably greater investment of labour and materials for their construction, and were probably the resting places of the elite

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<sup>1</sup> Pontrandolfo Greco 1982, 17, 37, 46.

members of Daunian society during that period. While the practice of fossa burial continued during the 5<sup>th</sup> C and 4<sup>th</sup> C, this is not necessarily an indicator of ‘low’ social status, as it is likely that members of the lower strata within Daunian society received no formal burial. The majority of the deceased were placed in a contracted position within their tombs. However, during the later 5<sup>th</sup> C and 4<sup>th</sup> C some individuals were positioned in either supine or supine-flexed positions. These variations in funerary ritual may reflect important cultural, and possibly ethnic, differences within the region.<sup>2</sup>



**Figure 1. Iron Age Daunian Sites discussed in this chapter**

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<sup>2</sup> For example, Ipogeo dei Vimini at Canosa and Tomb 669-II which show evidence of partial cremation, a practice also noted in Poseidonia in Southern Campania: de Juliis 1990; Bottini *et al.* 1991, 49-61, 63.

### **Lavello:**

The site of Lavello was an important centre throughout period from the 8<sup>th</sup> C to the 4<sup>th</sup> C, at the crossroads between the north/south route formed by the Ofanto and Sele Valleys and the eastern route to the Ionian coast along the Bradano River valley.<sup>3</sup> The site has been extensively excavated and, due to the sheer number of finds, Bottini tended to illustrate only his type ideals in his publications, along with a representative sample of burial assemblages, particularly those from comparatively wealthy tombs.<sup>4</sup>

The necropoleis of Lavello are extensive and excavations have been carried out throughout much of the latter half of the last century and continue to be conducted at the time of writing. Much of the material published by Bottini has been excavated from the necropoleis of Casino, located to the south east of the settlement, and from San Felice, located to the west of the plateau, where a number of burials were uncovered during construction of a sporting complex and of State Road No. 93. The tombs date predominantly from the 6<sup>th</sup> C to 4<sup>th</sup> C, but a few significant burials can be dated to the 8<sup>th</sup> C and 7<sup>th</sup> C.<sup>5</sup>

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<sup>3</sup> d'Agostino 1998, 39.

<sup>4</sup> Bottini *et al.* 1988; Bottini *et al.* 1991.

<sup>5</sup> Bottini 1982, 13-17; Bottini *et al.* 1988, 27-35.

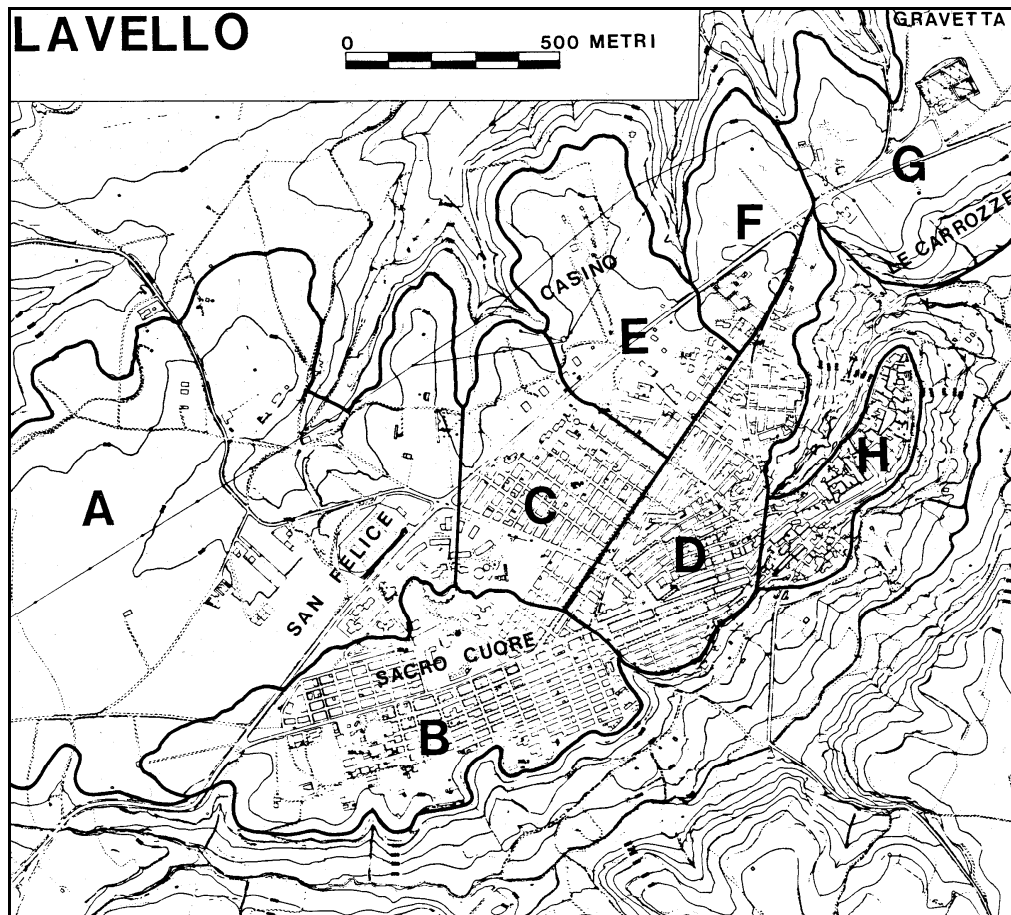


Figure 2. The Necropoleis of Lavello

The tombs at Lavello were principally simple fossa graves following rectangular, circular or ovoid plans, lined with unworked or roughly worked stone, sometimes laid out in familial clusters nucleated around an *oikos*.<sup>6</sup> They are mostly single burials and the articulated skeletal remains lie in a contracted position. A number of the later burials, particularly those dating to the 4<sup>th</sup> C, are *grotticella* or semi-chamber graves of a more ostentatious nature than those seen in the 8<sup>th</sup> C – 5<sup>th</sup> C, with the remains placed in a supine or flexed supine position.<sup>7</sup> These *grotticelle* are less ornate than the elaborate hypogeums constructed at Canosa during the same period. Only the latest tomb, Tomb 669, is a chamber tomb. Tomb 669 is rather unusual; the second

<sup>6</sup> Bottini *et al.* 1988, 270.

<sup>7</sup> Tomb 327, dated by the excavator to the 7<sup>th</sup> C is described as a tumulus tomb but the finds of this tomb are not published within the *Forentum* volumes. There were also several *enchytrismo*i at Lavello, all infants, none of which had any grave goods, although they were often spatially associated with the fossa burial of an adult: *Ibid.*, 40-5.

deposition in particular presents a unique assemblage for Lavello in the 4<sup>th</sup> C and will be discussed in more detail below.

The *Forentum* volumes<sup>8</sup> detail excavations conducted under the auspices of the *Soprintendenza Archeologica della Basilicata* in the 1960s, 1970s and 1980s. Eighty-three of the tombs detailed in these volumes contained weapons, six of which also contained armour. One tomb yielded armour, but no weapons, and an additional eight tombs contained paraphernalia often associated with weapons, but no weapons. The table below outlines the finds of weapons and associated paraphernalia below, laid out in chronological order. In instances where weapons have not been illustrated they have been allocated to types on the basis of the comparative typological key outlined in Chapter 2 (p. 61).

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<sup>8</sup> Ibid; Bottini *et al.* 1991.

**Table 1. Lavello, weapons and associated paraphernalia.**

Burial types F = Fossa; P = Pozzo; G = Grotticella; SC = Semi Chamber; ? = Tomb form unknown, excavation data loss.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
E	750-700	F	1	1.1			L 14.1cm W 4.3cm – incomplete (inv.50776)		The excavation data on Tomb E has been lost. <sup>9</sup>	Bottini <i>et al.</i> 1988, 47 and plate 41 No.3.
270A	700-650	F	3	9.2 9.6 ?			L 31cm (inv.111167) L 19.7cm (inv.111192/A) L 5.5cm – incomplete (socket only) (inv.111192/B). Typological allocation on the basis of comparative typology.		Multiple deposition fossa tomb of four adults and one infant. The excavators do not speculate as to which grave goods should be associated with each of the individuals interred in the tomb and it is unclear whether any grave goods were associated with the infant.	Bottini <i>et al.</i> 1988, 123-4.
257	700-600	F	1	9.6			L 15.5cm, in two pieces (inv.111065). Typological allocation on the basis of comparative typology.		Fossa burial of an infant. Bottini does not offer an explicit date for this tomb, however, two iron fibulae suggest a 7 <sup>th</sup> C date.	Bottini <i>et al.</i> 1988, 119.
279	650-625	F	8	9.3 x3 9.2 x2 6.3 x2 5.1	2	3.1	Spearheads: Type 9.3: L 36cm (inv.110854) L 29cm (inv.110851) L 25.2 (inv.110856) Type 9.2: L 43.2cm – incomplete (inv.110849) L 47cm (inv.110850) Type 6.3: L 28.6cm (inv.10855) L 26cm (inv.110853) Type 5.1: L 36cm Iron swords Type 3.1: L 31.7cm (inv.110847) L 47cm (inv.110848)	1 frag. bronze shield handle. 6 iron spits 1 bronze binding (diam. 3.6cm) associated with a spearhead.	A single deposition fossa tomb. There is no evidence that either sword was associated with a scabbard. The fragmentary iron handle was interpreted by the excavator as a shield handle.	Bottini 1982, 47-55 and fig. 6; Bottini <i>et al.</i> 1988, 127-9 and plates 39 No.1, 40 Nos. 1, 2 and 4.

<sup>9</sup> See Bottini *et al.* 1988:36 for an explanation of problems with the excavation journals for 1964 and 1965.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
277	650-600	F						1 iron spit	A fossa tomb, believed to have contained single deposition	Bottini <i>et al.</i> 1988, 127
L	600-500	?	1	9.5			L 29cm, socket diam. 2.4cm	1 iron spit	The excavation notes for Tomb L are limited and it could not be determined which form of tomb it was or how many individuals had been interred within it.	Bottini <i>et al.</i> 1988, 48.
271-I	600-500	F	1	6.3			L 10.6cm (inv.111227), described by Bottini as a miniature.		The tomb was a dual deposition tomb described by Bottini as a miniature in his typological discussion (p. 249), yet in his catalogue of the material (p. 124) it is not described as such.	Bottini <i>et al.</i> 1988, 124-5 and 249.
275-I	600-500	F	2	6.2 9.3			Type 6.2: L 31cm (inv.111268) Type 9.3: L 31cm (inv.111271)		A fossa tomb with two depositions on different alignments.	Bottini <i>et al.</i> 1988, 126.
296-I	600-500	F	2	6.3 9.5			Type 6.3: L 19cm – incomplete (inv.111418) Type 9.5: L 17.5 – incomplete (inv.111422)		A fossa tomb with two depositions, the second, 296-II listed below.	Bottini <i>et al.</i> 1988, 134.
308	600-500	F	1	9.5	1	?	Spearhead: L 23cm (inv.111517) Iron sword: L 9cm – incomplete, fragmentary state (inv.111523).	1 frag. scabbard L 10cm 1 iron spit.	This fossa tomb yielded the disarticulated remains of three individuals. It is unclear which of the deceased the artefacts should be associated with.	Bottini <i>et al.</i> 1988, 138.
305	600-500	F	2	6.2 9.5			Type 6.2: L 28cm (inv.111501) Type 9.5: L 12cm (inv.111501)		The type 9.5 point is identified as a <i>sauroter</i> by Bottini.	Bottini <i>et al.</i> 1988, 137.
298-I	600-500	F	1	?			L 8.5cm – socket only. It cannot be allocated to a type (inv.111437).		First deposition of a dual deposition fossa tomb.	Bottini <i>et al.</i> 1988, 135.



Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
278	c.550	F			1	3.1	L 53cm (no inv.)		Single deposition fossa tomb. A yellow mineralisation adhering to the hilt suggests the handle was bone or ivory.	Bottini <i>et al.</i> 1988, 127.
796	c.550	F	2	5.1 9.3	1	3.1	Spearheads: Type 5.1: L 23.5cm, W 2.5cm socket diam. 2.5cm (inv.335494) Type 9.3: L 27.5, W 2.5cm socket diam. 2.5cm (inv.335493) Iron sword: L 50cm W 4cm (inv.335486)	1 Corinthian helmet 4 iron spits	The sword and spearheads are not illustrated. However, these items are allocated to the types published in Bottini 1982, allowing allocation through direct comparisons. The Corinthian helmet is an example of Pflug's type II.	Tagliente <i>et al.</i> 1992, 113-7.
297	550-525	F	1	6.3			L 18.3cm (inv.111427b)		A fossa tomb with two distinct depositions. The date of the first deposition is uncertain. The second deposition dated 550-525. No artefacts could be identified as associated with the first deposition.	Bottini <i>et al.</i> 1988, 134-5.
302-II	550-525 <sup>10</sup>	F	2	9.6	1	3.2	Spearheads: L 30cm (inv.111485) L 19cm (inv.111486) Iron sword: L 50cm (inv.111487)		The tomb contained the disarticulated remains of an adult and an infant. It is unclear which of the deceased the weapons should be associated with.	Bottini <i>et al.</i> 1988, 136-7.
306	550-525	F	1	9.3			L 24.2cm (inv.111514)	1 iron spit	Single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 137-8.
296-II	500-475	F	1	5.1			L 26.5cm – incomplete (inv.111418).		The second of two depositions in this fossa tomb.	Bottini <i>et al.</i> 1988, 134.
298-II	500-450	F	2	6.2 6.3			Type 6.2: L 30.3cm (inv.111434) Type 6.3: L 18cm (inv.111435)		The second of two depositions in this fossa tomb.	Bottini <i>et al.</i> 1988, 135.

<sup>10</sup> Bottini offers a date of 500-400 for Tomb 302-II in the chronological list, in contrast to the mid 6<sup>th</sup> C date offered in the catalogue: *Ibid.*, 137 and 293.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
275-II	c.450	F	2	6.3 9.5			Type 6.3: L 15cm (inv.111272) Type 9.5: L 11cm (inv.111271)		The second of two depositions in this fossa tomb. The type 9.5 point is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 126.
23	450-400	?	1	9.6			L 16cm, socket diam. 1.8cm (inv.57393)	1 bronze belt	Excavation data on this tomb has been lost.	Bottini <i>et al.</i> 1988, 55.
228	450-400	F	1	9.5			L 19.6cm (inv.110304)		Single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 111.
38bis+39	500-400	F	1	9.3			L 25.5cm, W 3cm (inv.57529a)		The tomb had been partially destroyed; one skull was identified amongst the disarticulated skeletal remains.	Bottini <i>et al.</i> 1988, 62.
37	500-450	F	1	6.3	1	?	Spearhead: L 21cm, W 2.4cm (inv.112295) Iron sword: L 9cm – incomplete, W 4cm (inv.112296)		Multiple deposition fossa burial. It is unclear which of the deceased the weapons are associated with.	Bottini <i>et al.</i> 1988, 61.
38	500-450	F	1	6.2	1	3.2	Spearhead: L 26cm, socket diam. 2cm (inv.112255) Sword: L 44cm, W 11 (inv.112254)		Multiple deposition fossa burial, the weapons positioned to the side of the skeletal remains.	Bottini <i>et al.</i> 1988, 61-2.
218-I	500-400	F	1	?			L 14.5 – incomplete (inv.110768). The iron spearhead is not described in detail and cannot be allocated to a type.		The first of two depositions in a fossa tomb.	Bottini <i>et al.</i> 1988, 106.
40	500-400	F	1	9.3	1	?	Spearhead: L 20.5, W 2.5 (inv.57508) Iron sword: L 43cm, W 5cm (no inv.)		A multiple deposition fossa burial. The excavation record is incomplete but the journal mentions an iron sword which has since been lost.	Bottini <i>et al.</i> 1988, 62.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
229	500-400	F	2	6.3 8.1			Type 6.3: L19.2cm, W 2.6 (inv.110672) Type 8.1: L 29.2cm W 3.5cm (inv.110673)		Single deposition fossa burial with well preserved skeletal remains. Traces of perishable material remain in the socket of the type 6.3 spearhead.	Bottini <i>et al.</i> 1988, 111 and plate 41 No. 2.
288-II	500-400	F						1 iron spit	The second deposition of a dual deposition fossa tomb.	Bottini <i>et al.</i> 1988, 132.
255	500-350	F	1	10.1			L 29cm (inv.111059)		A single deposition fossa tomb with an adjacent <i>enchytrismos</i> .	Bottini <i>et al.</i> 1988, 119.
97	500-300	?	3	9.5 9.6 ?			Type 9.5: L 15cm, socket diam. 2cm (inv.108791) Type 9.6: L 23.5cm socket diam. 2cm (inv.108789) Type ?: L 28.7cm, W 4cm (inv.108790)		Excavation data has been lost. It is uncertain where the tomb was located but it is believed to have been via Roma. Bottini interprets the type 9.5 eg as a <i>sauroter</i> . The un-typed spearhead is neither illustrated nor described in detail.	Bottini <i>et al.</i> 1988, 88-9.
27	c.450	F	1	6.3			L 11cm – incomplete, W 2.5cm (inv.57474)		Single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 56-7.
258-I	c.450	F	2	9.5 9.6			Type 9.5: L 11cm (inv.111078) Type 9.6 eg: L 19cm (inv.111085)	1 iron spit	The first of two depositions. Bottini interprets the type 9.5 eg as a <i>sauroter</i>	Bottini <i>et al.</i> 1988, 120.
286-I	c.450	F	1	9.6			L 20cm (inv.111341)		Dual deposition fossa tomb. The spearhead was associated with the first deposition.	Bottini <i>et al.</i> 1988, 130-1.
223	c.450	F	3	6.3 9.5x2			Type 6.3: L 11.2, W 2.5cm (inv.110722) Type 9.5: L 18.4cm, socket diam. 2cm (inv.110721) L 11.2cm, socket diam. 2.7cm (inv.110723)	1 iron spit	Multiple deposition fossa burial. The spearheads were interpreted by the excavator as associated with the first adult deposition. The second type 9.5 eg (inv.110723) is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 108-9.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
56	c.450	F	2	8.1 9.5			Type 8.1: L 39.5cm, W 3.6cm (inv.52890) Type 9.5: L21.8 cm , W 2cm (inv.52891)	1 Apulo-Corinthian helmet 2 bronze belts iron spits	A dual deposition fossa the remains poorly preserved and the distribution of the assemblage between the two deceased is not clear. The type 9.5 example is described by Bottini as a <i>sauroter</i> The helmet is decorated with incised horses.	Bottini <i>et al.</i> 1988, 70-1 and plate 37.
286-II	450-425	F	1	9.6			L 19cm (inv.111340)		Second deposition of a dual deposition fossa tomb, including a spearhead.	Bottini <i>et al.</i> 1988, 130-1
89	450-425							1 iron spit	A single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 84-5.
239-II	450-400	F	2	9.6			Spearheads: L 20.5cm (inv.110962) L 17.3cm (inv.110965)		Bottini interprets the second eg (inv.110965) as a <i>sauroter</i>	Bottini <i>et al.</i> 1988, 115-6.
210-I	450-400	F	1	9.5			L 18.7cm (inv.110700)		A dual deposition fossa tomb, spearhead clearly associated with the first deposition.	Bottini <i>et al.</i> 1988, 103.
214	450-400	F	3	9.3 9.6 10.1			Type 9.3: L 24.5cm (inv.110318) Type 9.6: L 17.6cm (inv.1103317) Type 10.1: L 20.5cm (inv.110321)		Single deposition fossa tomb. Bottini interprets the type 9.6 eg as a <i>sauroter</i> . The plan shows the position of the type 10.1 point as next to the head of the deceased, the type 9.3 point was positioned by the knees and the type 9.6 point was positioned beneath an olla in the corner of the tomb, near the skull.	Bottini <i>et al.</i> 1988, 104-5 and plate 40 No. 3.
241	450-350	F	1	9.5			L 15cm (inv.110978)		A single deposition fossa tomb. The deceased was a juvenile.	Bottini <i>et al.</i> 1988, 116.
269	425-400	F	1	9.5			L 16.5cm (inv.111219)		A single deposition fossa tomb. The point retains traces of perishable material in the socket.	Bottini <i>et al.</i> 1988, 123.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
68	425-400	F	3	8.1 ?x2			Type 8.1: L 12cm, W 3.2cm (inv.57818) Type ?: (inv.57819a – both eggs) L 7.5 cm, socket diam. 2.7 L 7cm, socket diam. 2.2cm		A single deposition fossa tomb. Only the iron sockets of the untyped spearheads remain.	Bottini <i>et al.</i> 1988, 75.
31	425-375	F	1	?			L 6cm, socket diam. 2cm. Socket only (inv.57857).	2 iron spits	Possibly a dual deposition tomb. It is unclear which of the deceased the spearhead was associated with.	Bottini <i>et al.</i> 1988, 58-9.
227	425-375	P	1	6.3			L 11.6cm (inv.110653)		Pozzo tomb containing the remains of an adult and an infant. The spearhead is interpreted by Bottini as a miniature. The assemblage included four loom weights. It is unclear whether the point was associated with the adult or the infant.	Bottini <i>et al.</i> 1988, 110-1.
234-I	425-375	F	2	9.5 9.6			Type 9.5 eg: L 18.3cm (inv.110910) Type 9.6 eg: L 9.2cm (inv.110911)	1 bronze belt	Bottini interprets the type 9.6 eg as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 113-4.
18	425-350	?						1 iron spit	Described by Bottini as a rod ( <i>verga</i> ) rather than a spit ( <i>spiedo</i> ). The excavation data for Tomb 18 has been lost.	Bottini <i>et al.</i> 1988, 53-4
41	425-350							1+ iron spits	A multiple deposition fossa tomb. The assemblage included iron fragments possibly pertaining to one or more iron spits.	Bottini <i>et al.</i> 1988, 62-3.
260	425-350	F	1	?			L 7.5 incomplete (inv.111121) interpreted by Bottini as a <i>sauroter</i> .	1 bronze belt 1 iron spit	A disturbed fossa burial which retained no human remains.	Bottini <i>et al.</i> 1988, 121.
45	400-375	F	2	9.5			L 23.5, socket diam. 2.1cm (inv.57631); L 18cm, socket diam. 0.9cm (inv.57632)		No skeletal remains were recovered from the tomb.	Bottini <i>et al.</i> 1988, 64.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
268	400-375	F	1	9.5			L 30.5cm (inv.111214-6)		A single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 123.
232	400-375	F	1	6.3			L 16.4cm, W 2.3cm (inv.110637-8)		A single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 112.
76	400-375	F	1	10.1			L 14cm, W 4.5cm (inv.57802)			Bottini <i>et al.</i> 1988, 79.
33	400-375	F	2	9.6 ?			Type 9.6: L 27cm, socket diam. 1.8cm (inv.57503) Type ?: L 8cm – incomplete, socket diam. 2.2cm (inv.57505)		Multiple deposition fossa burial.	Bottini <i>et al.</i> 1988, 59 and plate 41 No. 4.
600	400-350	G	4	5.2 7.1 8.3 ?	2	3.3	Spearheads: Type 5.2: L 23.9cm, W 4cm, socket diam. 2.1cm (inv.332046C) Type 7.1: L 29cm, W 6, socket diam. 2.5cm (inv.332046B) Type 8.3: L 52.5cm, W 6.5cm, socket diam. 2.5cm (inv.332046A) Type ?: L c.31cm W 2.5cm (inv.3320-1). Swords: L 54cm W 4.3cm (inv.332041-2 A) L 50cm W 6.7cm (inv.332041 B)	4 bronze fragments of a crest mount 2 bronze guards 3+ bronze belts 2 elements pertaining to horse equipment	A grotticella tomb with two depositions. The weapons and associated paraphernalia formed part of the assemblage of the second deposition. Both of the swords retain traces of bone or ivory guard and hilt components. Also included was frag. Iron blade, poss. pertaining to another sword or a knife.	Bottini <i>et al.</i> 1991, 38-43 and plates 110-118.
43	400-350	F	2	9.5			L 24cm, socket diam. 2.2cm (inv.57535) L12cm, socket diam. 0.6cm (inv.57532)	1 bronze belt 3 iron spits	No skeletal remains were recovered from this fossa burial. The second type 9.5 eg (inv.57532) is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 63-4.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
258-II	400-350	F	1	9.5			L 24cm (inv.111079+81)		The second deposition of a dual deposition tomb.	Bottini <i>et al.</i> 1988, 120.
274	400-350	F	1	9.5			L 23.2cm (inv.111253)		A single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 125-6.
247	400-350	F	1	9.3			L 20cm (inv.111009)		A multiple deposition tomb containing the remains of three individuals.	Bottini <i>et al.</i> 1988, 117.
71	400-350	F	1	8.1			L 28cm, W 3.8cm (inv.57766)		A fossa burial containing the remains of two individuals. The spearhead was recovered from approx. 20cm above the depositions.	Bottini <i>et al.</i> 1988, 77 and plate 40 No. 5.
50	400-350	F	1	9.6			L 11.5cm, socket diam. 1.7cm (inv.57569b)	1 iron spit	A multiple deposition tomb containing the remains of two individuals. The spearhead was recovered close to the skull of one of the individuals.	Bottini <i>et al.</i> 1988, 66.
34	400-350	F	2	8.1 ?			Type 8.1: L 27.5cm, W 4cm (inv.57418a) Type ?: L 11.5cm – incomplete, socket diam. 1.7cm (inv.57418c)	2 iron spits	The burial assemblage also included two iron blades of uncertain function, and a loom weight.	Bottini <i>et al.</i> 1988, 60.
13	400-350	F	1	6.2			L 24.2cm, W 2.8cm (inv.50113)		Multiple deposition fossa burial.	Bottini <i>et al.</i> 1988, 52.
91	400-300	F	2	?			L 15cm, socket diam.2.1cm (inv.108724) L 6cm – incomplete, socket diam. 0.6cm (inv.108725)		A multiple deposition fossa tomb, containing the remains of several individuals. Both spearheads were of iron, in a badly corroded condition.	Bottini <i>et al.</i> 1988, 85.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
51	375-350	F	3	9.3 9.6x2			Type 9.3: L 23cm, W 3.4 (inv.57711) Type 9.6: L 24.5cm, socket diam. 1.7cm (inv.57712) L 10.5, socket diam. 1.8cm (inv.57859 and 57861)	1 bronze belt 3 iron spits	Single deposition fossa tomb. The second type 9.6 eg (inv.57859 and 57861) is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 66-7.
219	375-350	F	2	9.6			L 24.5cm (inv.110759) L 17.4cm (inv.110758)		Single deposition fossa burial. The second type 9.6 point (inv.110758) is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 106-7.
98	375-350	F	1	6.2			L 17.5cm, W 3.2cm (inv.108803)			Bottini <i>et al.</i> 1988, 89.
65	375-350	SC	1	9.6			L 41cm, socket diam. 1.8cm (inv.57701b)	1 bronze belt	Multiple deposition semi- chamber tomb.	Bottini <i>et al.</i> 1988, 73-4.
47	375-350	F	3	?			L 13.5cm, W 2cm (inv.57672 and 57863) L 10cm, socket diam. 2cm (inv.57864) L 11.5, socket diam. 2cm (inv.57685)		Multiple deposition fossa tomb. None of the three iron spearheads is complete.	Bottini <i>et al.</i> 1988, 65-6.
20	375-350	F						1 bronze belt	No note was made of the number or state of remains from this tomb.	Bottini <i>et al.</i> 1988, 54
81	375-350	F						1+ iron spit	A single deposition fossa tomb. Iron fragments included in the assemblage may be the remains of up to two iron spits.	Bottini <i>et al.</i> 1988, 81
236	375-350	F						1 iron spit	A single deposition fossa tomb.	Bottini <i>et al.</i> 1988, 114.
77	375-325	F	1	9.2			L 45cm, W 3.5 (inv.57735)		A fossa tomb containing the remains of two individuals.	Bottini <i>et al.</i> 1988, 79-80.



Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
12	375-325	?	3	8.1 9.5 ?			Type 8.1: L 27.2cm W 4.5cm (inv.50111) Type 9.5 eg: L 20cm, socket diam. 1.8cm (inv.112311) Type ?: L c.31cm, socket diam. 2cm (inv.112312)		Excavation data has been lost. The un-typed spearhead was in multiple fragments.	Bottini <i>et al.</i> 1988, 52.
686	350-300	G	4	6.1 6.2 9.6 ?			Type 6.1: L 41.5, W 5cm, socket diam. 2.2cm (inv.334887) Type 6.2: L 29cm – incomplete, W 3.5cm, socket diam. 1.8cm (inv.334888A) Type 9.6: L 28.5cm – incomplete, socket diam. 2.1cm (inv.334888C) Type ?: L 25.5cm – incomplete, W 3.4cm, socket diam. 1.8cm	1 Italic-Chalcidian helmet 1 bronze belt	A single deposition grotticella tomb containing the remains of an adult male. The bronze belt features seven clasps.	Bottini <i>et al.</i> 1991, 63-5 and plates 128-9.
656	350-300	G	1	6.2			L 37.9cm, W 4cm, socket diam. 2.1cm		A single deposition grotticella tomb containing the remains of an adolescent male.	Bottini <i>et al.</i> 1991, 48-9 and plate 119.
604	350-300	G	2	8.2			L 29cm, socket diam. 3.1cm (inv.3320078) L 21cm, W 3.1cm, socket diam. 2.4cm (inv.332076)		Single deposition grotticella with <i>dromos</i> . The assemblage also included several decorative bronze elements.	Bottini <i>et al.</i> 1991, 43-4 and plates 118-9.
54bis	c.350	?	1	6.3			L 12cm, W 2cm (inv.57648)		Excavation data has been lost.	Bottini <i>et al.</i> 1988, 69.
226	c.350	F	2	9.5			L 26.9cm (inv.110686) L 15.3cm (inv.110685)	1 iron spit	Single deposition fossa burial with well preserved skeletal remains, The deceased placed in a supine-flexed position marking a change from the practice of placing the deceased in a contracted position. The second type 9.5 spearhead (inv.110685) is interpreted by Bottini as a <i>sauroter</i> .	Bottini <i>et al.</i> 1988, 110.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
53	c.350	F	2	9.5 ?			Type 9.5: L 23.5cm, socket diam. 1.6cm (inv.57486) Type ?: L 9cm – incomplete, socket diam. 1.3cm (inv.57486c)	3 iron spits	Multiple deposition fossa burial containing the remains of at least two individuals. The assemblage also included an earring. It is unclear which of the individuals interred in the tomb each artefact should be associated with.	Bottini <i>et al.</i> 1988, 67-8.
42	c.350	F	2	6.2 10.1			Type 6.2: L 38.5cm, W 4cm (inv.112263) Type 10.1: L14cm, W 2cm (inv.112265)	1 iron spit	Multiple deposition semi-chamber tomb.	Bottini <i>et al.</i> 1988, 63 and plate 41 No. 1.
21	c.350	?	1	9.5			L 23cm, socket diam 1.9cm (inv.57380)		Excavation data has been lost.	Bottini <i>et al.</i> 1988, 54-5 and plate 41 No. 5.
669-I	c.350	C						1 Argive shield 2 bronze guards	The assemblage did not include any other associated paraphernalia. The assemblage of Tomb 669-I had been pushed aside to accommodate the later deposition, an estimated half century later.	Bottini <i>et al.</i> 1991, 49-61 and plates 122-7.
309-I	350-325	SC	1	10.1			L 19cm (inv.111549)	1 bronze belt 1 iron spit	First deposition of a dual deposition semi-chamber tomb. The spearhead was in a fragmentary state.	Bottini <i>et al.</i> 1988, 138-9.
309-II	350-325	SC	1	9.3			L 32cm (inv.111551)		Second deposition of a dual deposition semi-chamber tomb. The socket of the spearhead was in fragments.	Bottini <i>et al.</i> 1988, 138-9.
281	350-325	F	1	?			L 6.5cm, fragmentary iron socket		Fossa burial of a single individual. The assemblage also included a loom weight.	Bottini <i>et al.</i> 1988, 130.
263	350-325	SC	1	9.5			L 19cm (inv.111146)		Single deposition semi-chamber tomb with <i>dromos</i> . The assemblage also included an iron fragment which could not be identified.	Bottini <i>et al.</i> 1988, 122.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
30	350-325	F	1	9.5			L 15.5cm, socket diam. 1.1cm (inv.57595)		Single deposition fossa burial.	Bottini <i>et al.</i> 1988, 57-8.
44	350-300	SC	1	6.2			L 27.5cm, W 3cm (inv.112268)	1 bronze belt 1 iron spit	The number of depositions in the tomb is unclear.	Bottini <i>et al.</i> 1988, 64.
669-II	325-300	C	25	6.2 7.2 8.1 8.2x6 9.2 9.4x2 9.5x2 10.2 ?x10			<p><b>Type 6.2:</b> L 26.2cm, W 3.2cm socket diam. 2cm</p> <p><b>Type 7.2:</b> L 34, W 6cm, socket diam. 1.9cm (inv.334864)</p> <p><b>Type 8.1:</b> L 45cm, W 4.8cm, socket diam. 2.3cm (334868)</p> <p><b>Type 8.2:</b> L 35cm – incomplete, W 3.6cm, socket diam. 1.6cm (inv.334867); L 34.8cm, W 3.4cm, socket diam. 1.9cm (inv.334875); L 26.5 – incomplete, W 4cm, socket diam. 1.9cm (inv.334865); L 31.7cm, W 3.4cm, socket diam. 1.9cm (inv.334876); L 29.5cm, W 3.8cm, socket diam. 2cm (inv.334882); L 34.9cm, W 3.5cm, socket diam 1.9cm (inv.334899)</p> <p><b>Type 9.2:</b> L 33.5, W 3.4cm, socket diam. 2cm (inv.334866) <b>Type 9.4 :</b> L 34.3, W 1.9cm, socket diam. 2cm (inv.334866)</p> <p>L 33.5, W 2.1cm, socket diam. 1.9cm (inv.334869)</p> <p><b>Type 9.5:</b> L 30cm socket diam. 1.8cm (inv.334872); L 29.7cm, socket diam. 1.6cm (inv.334878)</p> <p><b>Type 10.2:</b> L 21cm, W 4.24cm, socket diam. 1.9cm (inv.334871)</p> <p><b>Type ?:</b> all fragmentary.</p>	1 bronze helmet 1 anatomical cuirass 2 bronze greaves 1 bronze belt 1 pce horse armour	Excluded from this very wealthy military assemblage is a sword, swords appearing only rarely in burial assemblages of the 4 <sup>th</sup> C. The bell helmet is very uncommon in Daunia and was clearly imported to the region. The unusual nature of the burial assemblage of Tomb 669-II is further highlighted by the presence of a silver coin featuring the head of Athena on the obverse and a bull on the reverse. The peculiar assemblage of Tomb 669-II suggests the individual interred within may have been a foreigner, possibly a Samnite.	Bottini <i>et al.</i> 1991, 49-61 and plate 121.

### *Chronological and Typological Summary*

Of the approximately 300 tombs published by Bottini, 84 (28%) contain weapons with a further nine tombs (3%) containing associated paraphernalia but no weapons. The number of finds permits the identification of some clear associations. A total of 154 spearheads are published, recovered from 82 tombs. All except one of these spearheads were iron and date from the 7<sup>th</sup> C to the late 4<sup>th</sup> C. The most common type group represented at Lavello is the type 9 group with 72 examples (47%), followed by the type 6 group with 26 examples (21%). From the 7<sup>th</sup> C onwards type 9 spearheads appear with greater frequency at Lavello than at any of the other sites assessed in this thesis. A small number of type 9 spearheads appear in Southern Campania at Sala Consilina and one example is noted at Pontecagnano dated to the 8<sup>th</sup>/7<sup>th</sup> C, but their numbers are overshadowed by members of the type 6 and type 8 groups. The small amount of 7<sup>th</sup> C material assessed from non-Daunian sites in Basilicata demonstrates that type 9 was present in the 7<sup>th</sup> C and quite common in the 6<sup>th</sup> C and 5<sup>th</sup> C but never with the frequency that they appear at Lavello.

It was most common for a single spearhead to be included within a tomb, even in tombs containing multiple depositions. The majority of tombs containing multiple spearheads were single deposition tombs. Amongst these tombs there is a clear preference for the association of type 9 spearheads with other members of the same type group or with members of the type 6 group followed by a weaker association with members of the type 8 group. There is a demonstrated preference for spear forms with a narrow blade profile, the majority without any strengthening midrib.

In comparison to the large number of spearheads recovered from Lavello, few swords were found. Eleven swords were recovered from eight tombs (3% of the total 300

tombs and approximately 10% of the 84 tombs to contain weapons). The tombs are dated by the excavators between the mid 7<sup>th</sup> C and the early 4<sup>th</sup> C. All swords were members of the type 3 Group, common throughout Daunia and Basilicata during the 7<sup>th</sup> C – 5<sup>th</sup> C and represented on a number of Daunian stelae.<sup>11</sup> The presence of cross-bar swords in Daunia from the first half of the 7<sup>th</sup> C and the absence of swords of any other type raises the possibility that the type is a local development. If the burial record reflects the practical military assemblage, very few individuals owned swords. The associated grave goods indicated greater wealth than the assemblages of tombs which did not include a sword (with the exception of the late 4<sup>th</sup> C Tomb 669-II). In only one instance was a sword included in the burial assemblage without a spearhead.<sup>12</sup>

**Table 2: Summary of weapons 8th C to 7th C from Lavello (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
E	Thrusting (1.1)		
270A	Throwing (9.2) Throwing (9.6) Indeterminate		
257	Throwing (9.6)		
279	Throwing (9.3) x 3 Throwing (9.2) x 2 Versatile (6.3) x 2 Thrusting (5.1)	3.1 x 2	Frag. <b>bronze</b> shield handle.

Four tombs datable to the 8<sup>th</sup> C and 7<sup>th</sup> C reported by Bottini included weapons. The 8<sup>th</sup> C bronze spearhead from Tomb E was similar to other, unpublished, bronze spearheads from Lavello, on display in the Museo Nazionale di Melfi.<sup>13</sup> Although no contextual information is provided for these spearheads they are described as dating to the 9<sup>th</sup> C and 8<sup>th</sup> C and can also be allocated to type 1.1 (three examples on display) and type 2.4 (one example).<sup>14</sup>

<sup>11</sup> Nava 1980, fig.28 - Stelae 94, 248, 592, 623, 736, 748, 831.

<sup>12</sup> Tomb 278: Bottini *et al.* 1988, 127.

<sup>13</sup> Personal observation.

<sup>14</sup> Personal observation.

The 7<sup>th</sup> C tombs all yielded members of the type 9 group, revealing a preference for throwing spearheads. The wealthy assemblage of Tomb 279 also included spearheads from the type 5 and 6 groups, the sole type 5 from Tomb 279 being the only spearhead to feature a broader blade profile. The type 6 weapons is versatile, suited to throwing but could also have been used effectively to deliver thrusting blows.

The swords (both type 3.1) are short cut-and-thrust cross-bar swords (measuring different lengths 31.7cm and 47cm) suited to close combat.<sup>15</sup> The fragmentary shield handle was the sole defensive item datable to the 8<sup>th</sup> C to 7<sup>th</sup> C.<sup>16</sup>

**Table 3: Lavello summary of 6th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
L	Throwing (9.5)		
271-I	Versatile (6.3)		
275-I	Versatile (6.2) Throwing (9.3)		
296-I	Versatile (6.3) Throwing (9.5)		
308	Throwing (9.5)	Indeterminate	
305	Versatile (6.2) Throwing (9.5)		
298-I	Indeterminate		
278		Cross-bar (3.1)	
796	Thrusting (5.1) Throwing (9.3)	Cross-bar (3.1)	<b>Bronze</b> Corinthian helmet (Pflug type II)
297	Versatile (6.3)		
302-II	Throwing (9.6) x 2	Cross-bar (3.2)	
306	Throwing (9.3)		

The preference for throwing spearheads continues amongst the tombs datable to the 6<sup>th</sup> C, accompanied by an increase in the frequency of versatile type 6 spearheads (types 9.5 and 6.3 the most frequent sub-types), suggestive of a need for spears capable of fulfilling different functions. Where multiple spearheads were included in the assemblage there was an association between type 6 and type 9 spearheads; only

<sup>15</sup> Tomb 279: Bottini *et al.* 1988, 127-9 and plates 39 No.1, 40 Nos. 1, 2 and 4.

<sup>16</sup> Bottini 1982, 53-4.

one of the five tombs to yield multiple points did not fit this pattern.<sup>17</sup> A similar pattern of association is indicated amongst the assemblages of sites in northern Basilicata where members of the type 9 group are often found in association with members of the narrow-bladed type 6 or type 8 groups.<sup>18</sup> Broad-bladed spearheads continue to be rare, suggesting that versatility was preferred over spearheads best suited to deliver only thrusting blows.

The iron swords were exclusively cut-and-thrust cross-bar swords (type 3), but at 50-53cm they are of greater length than those in the earlier assemblage of Tomb 279.<sup>19</sup> There was a clear association between swords and throwing spearheads of the type 9 group: only one sword was not associated with any other weapons.

#### *Tombs dated to the 5<sup>th</sup> C*

Twenty-nine tombs dated to the 5<sup>th</sup> C included weapons, 17 of which included a single spearhead with no other weapons. A further four tombs included paraphernalia often associated with weapons, but no weapons. The spearheads continue to be principally members of the type 9 and type 6 groups (making up 59% and 23% of the 5<sup>th</sup> C spearheads respectively), though one type 5.1 spearhead also appears, and for the first time members of the versatile type 8 group (three examples) and broad-bladed type 10 group (one example) appear.

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<sup>17</sup> Tombs 275-I, 296-I, 305 and 796; Tomb 302-II included two points which can be allocated to type 9.6

<sup>18</sup> Oppido Lucano, Serra di Vaglio, Satrianum. Note that members of type 8 are distinguished from type 6 by the presence of a strengthening midrib.

<sup>19</sup> Tombs 278, 302-II, 308 and 796. The sword from Tomb 796 was published in Tagliente *et al.* 1992 but was not illustrated. However, these items are likened to those in Tomb 279, published in Bottini 1982, allowing these items to be allocated to types through direct comparisons. A fourth sword may be noted from Tomb 52, a fossa tomb dated by the excavator to the last quarter of the 6<sup>th</sup> C, is said to have included amongst its assemblage a fragmentary iron sword, a fibula or spindle, and the point of either a spear or javelin. However, these artefacts have been lost and the only record of their existence is the excavation journal: Bottini *et al.* 1988, 67.

**Table 4: Lavello, summary of 5th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
296-II	Thrusting (5.1)		
298-II	Versatile (6.2) Versatile (6.3)		
275-II	Versatile (6.3) Throwing (9.5)		
23	Throwing (9.6)		<b>Bronze belt</b>
228	Throwing (9.5)		
38bis+ 39	Throwing (9.3)		
37	Versatile (6.3)	Indeterminate	
38	Versatile (6.2)	Cross-bar (3.2)	
218-I	Indeterminate		
40	Throwing (9.3)	Indeterminate	
229	Versatile (6.3) Versatile (8.1)		
255	Thrusting (10.1)		
97	Throwing (9.5) Throwing (9.6) Indeterminate		
27	Versatile (6.3)		
258-I	Throwing (9.5) Throwing (9.6)		
286-I	Throwing (9.6)		
223	Versatile (6.3) Throwing (9.5) x 2		
56	Versatile (8.1) Throwing (9.5)		<b>Bronze Apulo-Corinthian helmet 2 bronze belts</b>
286-II	Throwing (9.6)		
239-II	Throwing (9.6) x 2		
210-I	Throwing (9.5)		
214	Throwing (9.3) Throwing (9.6) Thrusting (10.1)		
241	Throwing (9.5)		
269	Throwing (9.5)		
68	Versatile (8.1) Indeterminate x 2		
31	Indeterminate		
227	Versatile (6.3)		
234-I	Throwing (9.5) Throwing (9.6)		<b>Bronze belt</b>

The association between spearheads of the type 9 and type 6 groups continued during the 5<sup>th</sup> C. Bottini interpreted the shortest point as a *sauroter* in his report for nine out of these 10 tombs, each example allocated to either type 9.5 or type 9.6 in my typology.<sup>20</sup>

<sup>20</sup> Tombs 56, 68, 97, 214, 223, 234-I, 239-II, 258-I and 275-II.



Sword were all associated with an iron spearhead, as in the earlier tombs, and where it is possible to allocate swords to type they are cut-and-thrust cross-bar swords of the type 3 group, revealing a consistency in sword form into the 5<sup>th</sup> C.

#### *Tombs dated to the 4<sup>th</sup> C*

Thirty-seven tombs dated to the 4<sup>th</sup> C included weapons, yielding 87 iron spearheads and two iron swords. The majority of these tombs were fossa burials with a small number of *grotticella*, or ‘semi-chamber’ tombs, while tomb 669, containing two depositions, was a chamber tomb.<sup>21</sup> The more spacious tombs required a greater investment of resources and labour in their construction than the fossa burials seen prior to this time, and can be interpreted as marking a shift in the burial culture and possibly also in the more general cultural practices of the people of Iron Age Lavello.

The majority of tombs (21) included a single iron spearhead, and a further 16 tombs included multiple spearheads. During the 4<sup>th</sup> C the preference continues to be for narrow points, members of the type 9 throwing spearheads remaining the most common type, followed by members of the versatile type 8 group, which now slightly outnumber members of the type 6 group. The increasing number of type 8 points in the sample—and the presence for the first time of type 7 points—shows a move to points with a strengthening midrib. There is a distinct trend among those tombs which included two points to include examples from the same type group, even the same sub-type, several tombs including a pair of type 9.5 or type 9.6 spearheads.

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<sup>21</sup> The form of burial was not recorded for some tombs; 25 tombs were identified as fossa burials, Tombs 65, 263, 309, 604, 656, and 686 were *grotticelle* and Tomb 669 was a chamber tomb: Bottini *et al.* 1988; Bottini *et al.* 1991. It appears from the published photographs, that both depositions in Tomb 669 underwent at least partial cremation, a rite also recorded at Canosa: Bottini *et al.* 1991, plates 41-3; de Juliis 1990.

**Table 5: Lavello, summary of 4th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
260	Indeterminate		<b>Bronze</b> belt
45	Throwing (9.5) x 2		
268	Throwing (9.5)		
232	Versatile (6.3)		
76	Thrusting (10.1)		
33	Throwing (9.6) Indeterminate		
600	Thrusting (5.2) Thrusting (7.1) Versatile (8.3) Indeterminate	Cross-bar (3.3) x 2	4 <b>bronze</b> crest mount frags 2 <b>bronze</b> guards 3+ <b>bronze</b> belts 2 elements of horse equipment
43	Throwing (9.5) x 2		<b>Bronze</b> belt
258-II	Throwing (9.5)		
274	Throwing (9.5)		
247	Throwing (9.3)		
71	Versatile (8.1)		
50	Throwing (9.6)		
34	Versatile (8.1) Indeterminate		
13	Versatile (6.2)		
91	Indeterminate x 2		
51	Throwing (9.3) Throwing (9.6) x 2		<b>Bronze</b> belt
219	Throwing (9.6)		
98	Versatile (6.2)		
65	Throwing (9.6)		<b>Bronze</b> belt
47	Indeterminate x 3		
20			<b>Bronze</b> belt
77	Throwing (9.2)		
12	Versatile (8.1) Throwing (9.5) Indeterminate		

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
686	Versatile (6.1) Versatile (6.2) Throwing (9.6) Indeterminate		<b>Bronze</b> Italic-Chalcidian helmet <b>Bronze</b> belt
656	Versatile (6.2)		
604	Versatile (8.2) x 2		
54bis	Versatile (6.3)		
226	Throwing (9.5) x 2		
53	Throwing (9.5) Indeterminate		
42	Versatile (6.2) Thrusting (10.1)		
21	Throwing (9.5)		
669-I			<b>Bronze</b> laminate Argive shield 2 <b>bronze</b> guards
309-I	Thrusting (10.1)		<b>Bronze</b> belt
309-II	Throwing (9.3)		
281	Indeterminate		
263	Throwing (9.5)		
30	Throwing (9.5)		
44	Versatile (6.2)		<b>Bronze</b> belt
669-II	25 spearheads: Versatile (6.2) Thrusting (7.2) Versatile (8.1) Versatile (8.2) x 6 Throwing (9.2) Throwing (9.4) x 2 Throwing (9.5) x 2 Thrusting (10.2) Indeterminate x 10		<b>Bronze</b> helmet <b>Bronze</b> anatomical cuirass 2 <b>bronze</b> greaves <b>Bronze</b> belt Piece <b>bronze</b> horse armour

Tomb 600, a wealthy tomb located on the acropolis and dated to the very beginning of the 4<sup>th</sup> C (possibly even the end of the 5<sup>th</sup> C),<sup>22</sup> is the only 4<sup>th</sup> C tomb from Lavello reported to have included iron swords. The two iron swords—both allocated to type 3.3—measure 50cm and 54cm in length, virtually identical in length to the 5<sup>th</sup> C examples from the site. The decline of the sword in elite 4<sup>th</sup> C tombs marks a distinct change in burial culture.

### *Sauroteres*

The identification of *sauroteres* amongst the material at Lavello is problematic. Bottini, in his excavation reports, often interpreted short, tapered conical points as *sauroteres*, including the poorly preserved point measuring 7.5cm in length recovered from Tomb 260. He offers no reasoning for this interpretation and the lack of another point in this tomb must cast doubt on the interpretation.<sup>23</sup> In tombs which yielded multiple spearheads a number of points which can be allocated to types 9.4, 9.5 and 9.6 were interpreted by Bottini as *sauroteres*. Where multiple points could be allocated to these types from within a single burial assemblage Bottini routinely interpreted the shortest point as a *sauroter*.<sup>24</sup>

### *Miniature weapons*

Four spearheads are described by Bottini as miniatures.<sup>25</sup> None are illustrated though all are iron and can be allocated to type 6.3 on the basis of comparison with Bottini's typology. These examples are approximately half the size of the largest example of

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<sup>22</sup> The second deposition in Tomb 600, that of a female (the assemblage of which did not contain weapons) was dated by Bottini to the first half of the 4<sup>th</sup> C. It is unclear how much earlier the first deposition is, though the semi-cremation practice evident here is similar to that of ipogeo di vimini at Canosa, which is dated 375-350: Bottini *et al.* 1991, 38-43; de Juliis 1990, 79-81.

<sup>23</sup> The lack of contextual information for the published material from Lavello creates some difficulty and Bottini does not satisfactorily address the issue of how the distinction between a *sauroter* and morphologically similar 'punte di giavellotto' should be made: Bottini *et al.* 1988, 121.

<sup>24</sup> Tombs 56, 68, 97, 214, 223, 234-I, 239-II, 258-I and 275-II Ibid.

<sup>25</sup> Tombs 54bis, 223, 227 and 271: Ibid.

this type (25.2cm long from Tomb 279) identified by Bottini, yet longer than the shortest (10.6cm from Tomb 271-I) and the diameter of the socket is only a few millimetres less than observed in the larger examples. The reasons for Bottini's interpretation of these specific examples as miniatures are unclear, as each example could have been functional. They are not consistent with the miniature spearheads recovered from the votive contexts of Rossano di Vaglio, and Tomb 4, Zone Inocenti, at Sala Consilina which are clearly differentiated in form from functional spearheads, cast in bronze with miniature cast spear shafts.<sup>26</sup>

#### *Tombs of children and adolescents*

Tomb 257, dated to the 7<sup>th</sup> C, was identified the tomb of a child.<sup>27</sup> The assemblage was not wealthy, consisting of a type 9.6 point, two fragmentary iron fibulae and a bronze artefact of unidentifiable function. Tomb 241, a fossa tomb dated between the mid 5<sup>th</sup> C and the first half of the 4<sup>th</sup> C, was that of a juvenile which included a type 9.5 spearhead.<sup>28</sup> Again, the assemblage is not exceptionally wealthy and the iron point was the only metal item included. The inclusion of spearheads in these tombs is significant and should be interpreted as markers of either aspirational or hereditary social status rather than as a reflection of achieved status (if the age at death of these individuals has been correctly identified).<sup>29</sup> In contrast, Tomb 656, a 4<sup>th</sup> C grotticella tomb, described as that of a male adolescent, yielded a moderately wealthy assemblage consistent with those of other adult males of the period.<sup>30</sup> There is no

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<sup>26</sup> Rossano di Vaglio: Bottini 1993, 231, figs. 4 and 5; Sala Consilina: Kilian 1970, 384 and plate 228, No. II 2d.

<sup>27</sup> Bottini *et al.* 1988, 119-20. No osteological information is provided to indicate how this identification was made.

<sup>28</sup> *Ibid.*, 115-6. The tomb is described as that of a 'giovanile' again with no explanation of the basis for this identification.

<sup>29</sup> Parker-Pearson 1999, 102-4.

<sup>30</sup> Bottini *et al.* 1991, 48-9, figs. 141-51 and plate 119.

indication from the burial assemblage that this individual was considered to be a child by those who buried him.

#### *Armour and other associated paraphernalia*

*Armour:* Armour and other associated paraphernalia were significantly less common than weapons at Lavello: 14 tombs included bronze belts amongst their burial assemblages; five tombs included helmets; two tombs included greaves or other guards; only one tomb included a cuirass.<sup>31</sup> The possibility of armour constructed of perishable materials is supported by the bronze crest-mount in Tomb 600, which retained traces of leather, thought to be the remnants of a leather helmet. Tombs 279 and 669-I included bronze fragments which belonged to shields presumably constructed principally of either wood or leather.<sup>32</sup>

Tomb 669-I is unusual as the assemblage includes the remnants of a so-called Argive shield and a pair of anatomical bronze arm guards, but does not include any weapons.<sup>33</sup> The assemblage of Tomb 669-I had been pushed aside to accommodate the later deposition, an estimated half century later. The possibility that weapons which had been associated with the first deposition were re-used in the assemblage of the second deposition should perhaps be considered.

The burial assemblage of Tomb 669-II was very rich, including a bronze anatomical cuirass, a bronze bell helmet, a pair of bronze anatomical greaves,<sup>34</sup> a bronze belt, a

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<sup>31</sup> Tomb 796 included a Corinthian helmet: Tagliente *et al.* 1992, 113, citing a Pflug Type II example from Olympia: Bottini and Pflug 1988, 73 and plates 11-2.; Tomb 56 included an Apulo-Corinthian helmet: Bottini *et al.* 1991, figs. 305-11; Tomb 686 an Italic-Chalcidian helmet: Bottini *et al.* 1991, 63; Tomb 669-II included a bell helmet; and, Tomb 600 yielded bronze crest mounts thought to be associated with a helmet of perishable material. Tomb 600 included a pair of guards and Tomb 669-II included the bell helmet, an anatomical cuirass and a pair of anatomical greaves.

<sup>32</sup> Bottini 1982, 47-55 and fig. 6; Bottini *et al.* 1988, 127-9 and plates 39 No.1, 40 Nos. 1, 2 and 4; Bottini *et al.* 1991, 49-61 and plates 122-7.

<sup>33</sup> Bottini *et al.* 1991.

<sup>34</sup> The bell helmet and anatomical greaves are unusual finds for Daunia at this time: *Ibid.*, 52-61.

face-plate made for a horse, an iron horse-bit, and fragmentary iron spits. Several items in the assemblage are atypical for the Daunian region. The bell helmet is associated with Celtic and Etruscan peoples; it is very rare in Daunia and must have been imported. The placement of a silver coin in the tomb is contrary to the burial Daunian practices.<sup>35</sup> The association of these two items in particular, peculiar to the assemblage of Tomb 669-II suggests the individual interred within may have been a foreigner, possibly a Samnite.<sup>36</sup>

*Bronze belts* appear in 10 tombs which also included weapons at Lavello, six of which contained multiple weapons. Only two tombs which contained bronze belts did not include weapons, revealing a strong correlation between bronze belts and weapons at Lavello.

*Horse Equipment:* Very few items of horse equipment were recovered from the tombs at Lavello, though this may not be representative of the role cavalry played in military and parade contexts. Horse equipment appeared in two of the wealthier 4<sup>th</sup> C burials only, Tombs 600 and 669-II. Tomb 600 yielded a bit and possibly a harness whilst Tomb 669-II included a bronze face-plate and an iron bit. The equipment from both tombs suggests it was intended for a single horse, but whether they were used for riding, or pulling a chariot cannot be determined.

*Tombs which included weapons or associated paraphernalia and items associated with female gender*

There were three tombs published from Lavello which included weapons and loom weights, the latter commonly associated with the female gender. Two of these tombs

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<sup>35</sup> The coin features the head of Athena on the obverse and a bull on the reverse: Ibid., 58.

<sup>36</sup> Ibid., 140-2.

were clearly single depositions dated to the 4<sup>th</sup> C;<sup>37</sup> in these instances there is a clear association between weapons and weaving implements. As with the burials of children the presence of weapons in these tombs is likely to have been a reflection of the social status of the deceased, and those who buried them, not necessarily markers of martial achievement.<sup>38</sup> The third tomb was a multiple deposition tomb yielding the remains of an adult and a child and it is uncertain with which individual specific items should be associated.<sup>39</sup> It is possible that the tomb is that of a mother and male child and that the spearhead should be associated with the child as a marker of aspirational or hereditary status.

### *Conclusions*

The prevalence of type 9 throwing spearheads at Lavello from the beginning of the 7<sup>th</sup> C, increasing in numbers in the 6<sup>th</sup> and 5<sup>th</sup> C, suggests a different martial practice at Lavello compared to Basilicata and Southern Campania. Sites surveyed from those regions show that type 9 spearheads are uncommon before the 6<sup>th</sup> C and never appear as frequently as at Lavello (and in Daunia generally). The preference for versatile narrow-bladed spearhead forms of the type 6 and type 8 groups and the small number of broad-bladed forms noted at Lavello is consistent with contemporary material from northern Basilicata and Southern Campania.

The few swords recovered from tombs at Lavello are cut-and-thrust cross-bar swords of the type 3 group. This is consistent with sword finds from the other Daunian sites under examination, where type 3 swords are the only identifiable form. The deposition of multiple swords in wealthy tombs is a practice also noted at Braida di

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<sup>37</sup> Tomb 34 two spearheads and a loom weight; Tomb 281 included a fragmentary iron spear socket in association with a loom weight.

<sup>38</sup> Interpreting the function of items in burial assemblages differently on the basis of gender is problematic. For an excellent discussion of the issue see: Doucette 2001.

<sup>39</sup> Tomb 227.

Vaglio in Basilicata, perhaps a reflection of cultural connections between Daunia and north-western Basilicata.



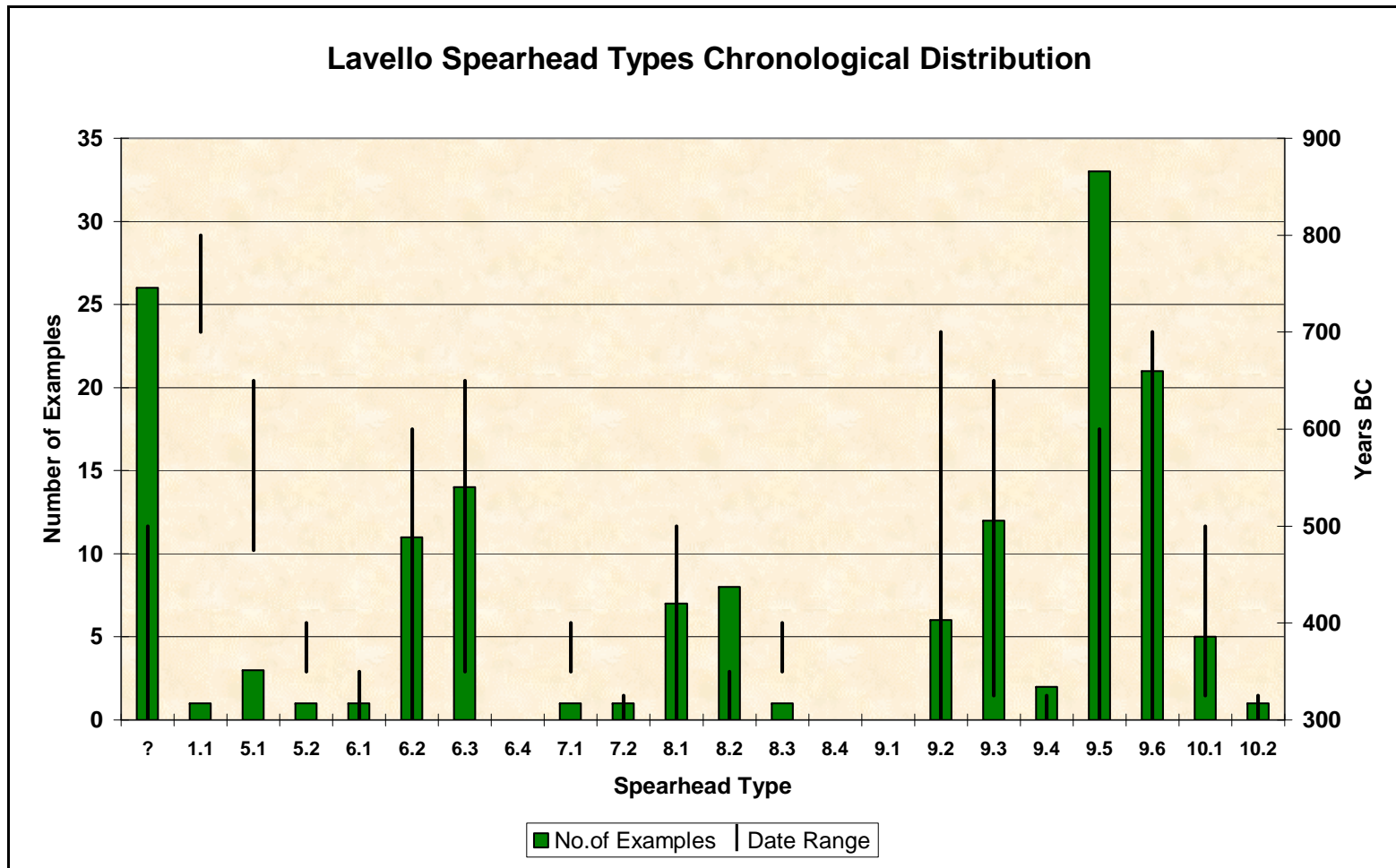


Figure 3: Chronological distribution of spearheads by type at Lavello.

### **Canosa:**

Canosa, also located on the Ofanto River system, is thought to have been the pre-eminent Daunian site from the 7<sup>th</sup> C until the Roman period. During the 4<sup>th</sup> C Canosa came to dominate nearby Lavello, which benefited from its position on the trade route between Canosa and the Tyrrhenian coast. This is reflected in the adoption of funerary rites such as partial cremation, which appeared first at Canosa. It is a great pity that the material from this important site has not been published in a systematic way. The majority of tombs which have been published from Canosa are rich hypogea generally dating to the 4<sup>th</sup> C, some of which had been first identified during the 19<sup>th</sup> C AD. Approximately 50 tombs from Canosa were examined for this chapter, half of these dating to the 4<sup>th</sup> C, 13 of which included weapons or associated paraphernalia.

Despite Canosa's prominence, few tombs containing weapons have been published in detail, though there have been several recent publications of material from Canosa. Rossi's *Canosa II* volume reports on excavations conducted under the direction of the *Soprintendenza Archeologica della Puglia* and L'Università degli Studi di Bari during the late 1970s and early 1980s.<sup>40</sup> The Ipogeo dei Vimini, an intact multi-roomed chamber tomb located on the northeast periphery of Canosa on the plain of S. Giovanni, was excavated in 1980 and published by de Juliis.<sup>41</sup> A comprehensive volume on Canosa was edited by Raffaella Cassano in 1992 as an accompaniment to a major exhibition of finds from Canosa and the surrounding areas.<sup>42</sup> The catalogue includes finds from a number of tombs and hypogea, along with some notes from their excavators. Cassano's volume includes a number of weapons and associated paraphernalia, but not all items are illustrated or described in detail. Further, a few

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<sup>40</sup> Rossi and van der Wielen - van Ommeren 1983.

<sup>41</sup> de Juliis 1990.

<sup>42</sup> Cassano 1992.

items, excavated during the late 19<sup>th</sup> C, have been lost, and while their existence is noted in Cassano's catalogue, few had been published prior to their disappearance.

During a 1975 excavation conducted north of the provincial Canosa-Ofanto road in contrada Toppicelli, 13 tombs datable to the archaic period were uncovered, three of which contained weapons or associated paraphernalia.<sup>43</sup> In the autumn of 1979, a further five tombs were revealed in contrada Toppicelli during excavations for the construction of a factory.<sup>44</sup>

I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>43</sup> Lo Porto 1992.

<sup>44</sup> Rossi and van der Wielen - van Ommeren 1983, 8-22.

**Table 6. Canosa, weapons and associated paraphernalia.**

Burial types F = Fossa; Ip= hypogeum

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
Toppicelli 1	650-600	F						1 bronze belt 7 iron spits	Single deposition fossa tomb. The bronze belt is a rare form described by Lo Porto as 'Adriatic' featuring repoussé birds.	Lo Porto 1992, 77-83.
Toppicelli 9	c.550	F			1	3.2	L 50cm, W 5cm (inv.144172) The sword retained two rivets in the hilt and traces of organic material on the guard.		Fossa tomb of an adult male. Traces of wood may have been associated with the scabbard, which has not survived. The excavators cite comparable swords from Tomb 25 at Pisciole, Ortona, and Tomb 302 at Lavello.	Lo Porto 1992, 93-7.
Toppicelli 10	c.500	F	5	?			The spearheads were badly corroded and are poorly described and illustrated in the catalogue.		A single deposition fossa tomb. The authors cite Bottini 1982, 51 as comparanda, but do not specify which examples are comparable.	Lo Porto 1992, 97-100.
"Tomba a fossa di via Lavello"	late 6 <sup>th</sup> – early 5 <sup>th</sup> C	F						1 iron dagger L 15.5cm with a thin luna shaped blade and bone handle.	Single deposition fossa tomb which had been damaged by agricultural activity. The dagger is neither illustrated, nor described in detail and cannot be allocated to a type.	Rossi 1992, 161.
4 di largo Costantinopoli	500-400	F						1 iron dagger L 29.5cm with 3 rivets to fix the handle.	A dual deposition fossa tomb. The dagger has a single cutting edge, and a riveted on handle. The item is not illustrated and cannot be typed.	Labellarte 1992, 155.
Ipogeo dei vimini - Cella A	400-375	Ip	1	9.5			L 40cm	2 bronze horse bits 5 iron spits 1 pr fire dogs	The single deposition in Cella A was aged between 19-28 years, in a supine position with the legs flexed. The body had been partially cremated <i>in situ</i>	de Juliis 1990.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
Ipogeo dei vimini - Cella B Right deposition	375-350	Ip	2	8.2 9.5			Type 8.2: L 50.2cm Type 9.5: L 39cm	1 bronze belt 4 iron spits	Cella B held two depositions, placed to the right and left of the entrance. The right deposition was aged 25-34 years with evidence of a healed fracture to the left tibia, probably occurred in youth.	de Juliis 1990, 79-81.
Ipogeo dei vimini - Cella B Left deposition	375-350	Ip	1	Misc.			L 31.3cm, W 1.2cm The iron point described by de Juliis as possibly a <i>sauroter</i> , with traces of wood remaining in the socket.	1 bronze belt 4 iron spits	The body had been partially cremated <i>in situ</i> . The funerary rite had two distinct phases; the burial assemblage placed in the chamber after the pyre had burnt out. As no other point was included. De Juliis' interpretation as a <i>sauroter</i> must be questioned.	de Juliis 1990.
Ipogeo Monterisi Rossignoli	400-300	Ip			1	?	Recorded as part of the assemblage, include item No.18 - " <i>Pugnale-spada ornate di pietre.</i> " It is unclear what happened to this item.	2 anatomical bronze cuirasses 2 bronze helmets 1 bronze greave <sup>45</sup> 1 bronze belt 1 bronze face plate for a horse	Single inhumation hypogeum. The tomb featured an ornate <i>dromos</i> , painted walls and moulded plaster. The two bronze helmets, were Italo-Chalcidian types, one with evidence of a volute mounting for a headdress at the temple angles.	Mazzei 1992, 174.
Ipogeo Varrese	400-273	Ip	5	?			Avg. L 20cm, Avg. W 5cm. The spearheads have not been illustrated or described in any detail and cannot be typed.	1 anatomical bronze cuirass	A large complex with 5 burial chambers All the finds of the different chambers were published together and it is unclear from which chamber/s various spearheads originated. <sup>46</sup>	Andreassi 1992.

<sup>45</sup> The bronze greave was published in 1816, but which can no longer be identified in the Naples record of armour. Mazzei, comments that this greave is a rare find, not usually seen in Puglia: Mazzei 1992.

<sup>46</sup> The iron spearheads, listed as metal item No.4 (Bari inv.6077 a-e), were originally published in Jatta 1914; Andreassi 1992.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
Ipogeo Scocchera A	325-300	Ip	4	8.1x3 9.5			The type 8.1 examples measure between 38.8 and 44.5cm long, the type 9.5 example measuring 39cm long.	1 iron horse bit 1 bronze belt 1 bronze Gallic helmet 1 Bronze anatomical cuirass	Single deposition hypogeum. De Juliis suggests The horse bit is a Celtic type that is also known in Greece. <sup>47</sup>	de Juliis 1992, 228-30; Naue 1898
<i>Canosa II</i> Tomb 4 Cella A	330-300	Ip	2	10.1 Type 9.4/5/ 6?			Type 10.1cm: L 21.5cm (inv.23523) Type 9.4/5/6?: L 16cm		Single deposition. The second point is interpreted by Rossi as a <i>sauroter</i> .	Rossi and van der Wielen - van Ommeren 1983 26-39.
<i>Canosa II</i> Tomb 4 Cella B	c.325	Ip	2	8.2 10.1			Type 8.2: L 42cm, (inv.23570) Type 10.1: L 11cm (inv.23571)		Single deposition tomb. The second spearhead was interpreted by Rossi as a 'javelin'.	Rossi and van der Wielen - van Ommeren 1983 39-50.

<sup>47</sup> The iron spearheads are listed as catalogue items No.35-8, these were also published by Naue 1898; de Juliis 1992.

## *Chronological and Typological Summary*

**Table 7: Canosa, summary of weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Assoc. Items</b>
Toppicelli 1			<b>Bronze</b> belt
Toppicelli 9		Cross-bar (3.2)	
Toppicelli 10	Indeterminate x 5		
“Tomba a fossa di via Lavello”		Dagger (Type ?)	
4 di largo Costantinopoli		Dagger (Type ?)	
Ipogeo dei vimini - Cella A	Throwing (9.5)		2 <b>bronze</b> horse bits
Ipogeo dei vimini - Cella B Right deposition	Versatile (8.2) Throwing (9.5)		<b>Bronze</b> belt
Ipogeo dei vimini - Cella B Left deposition	Throwing? (Misc.)		<b>Bronze</b> belt
Ipogeo Monterisi Rossignoli		Indeterminate	2 anatomical <b>bronze</b> cuirasses 2 <b>bronze</b> helmets <b>Bronze</b> greave <b>Bronze</b> belt <b>Bronze</b> face plate for a horse
Ipogeo Varrese	Indeterminate x 5		Anatomical <b>bronze</b> cuirass
Ipogeo Scocchera A	Versatile (8.1) x 3 Throwing (9.5)		Horse bit <b>Bronze</b> belt <b>Bronze</b> Gallic helmet <b>Bronze</b> anatomical cuirass
<i>Canosa II</i> Tomb 4 Cella A	Thrusting (10.1) Throwing (9.4/5/6?)		
<i>Canosa II</i> Tomb 4 Cella B	Versatile (8.2) Throwing (10.1)		

Of the 50 tombs examined from Canosa, 13 (22%) contained weapons. The deceased were all adult males; five were fossa tombs dated to the 7<sup>th</sup> C to 5<sup>th</sup> C. A further eight were 4<sup>th</sup> C hypogeums with very wealthy assemblages indicating that they were members of the highest strata of Canosa’s 4<sup>th</sup> C society. Regrettably, many of these have been poorly published, and of 26 spearheads recovered from these tombs only 11 could be securely allocated to a type.<sup>48</sup> Though the sample is very small, the weapons assemblage at Canosa has elements in common with contemporary finds at Lavello, despite the more elaborate tomb structures. The assemblages generally included multiple spearheads, members of the narrow-bladed type 8 and type 9 groups with a

<sup>48</sup> One further point could be tentatively allocated to the type 9 group.

small number of broad-bladed type 10 spearheads. With so few examples it is not possible to discern any changes in the weapons assemblage between the 7<sup>th</sup> C and the 4<sup>th</sup> C.

Only one sword was reported, from Toppicelli Tomb 9, a 6<sup>th</sup> C fossa burial.<sup>49</sup> Like the swords from the other Daunian sites it is a member of the type 3 group. Ipogeo Monterisi Rossignoli was reported to have included a “*Pugnale-spada ornate di pietre*” the fate of which is apparently unknown. The “Tomba a fossa di via Lavello” and Tomb 4 di largo Costantinopoli, dated to the 6<sup>th</sup> and 5<sup>th</sup> C, were also reported to have included ‘daggers’. None of these artefacts have been well-enough published to allow assignation to a type and the definition of ‘dagger’ is inconsistent in South Italian scholarship, with some artefacts identified as daggers by one scholar interpreted as knives by others.<sup>50</sup>

There are more examples of armour from 4<sup>th</sup> C Canosa than from Lavello, including anatomical bronze cuirasses, bronze helmets (Gallic and Italo-Chalcidian) and bronze belts. Similar suites of elaborate armour are also known at Lavello, Ruvo di Puglia and Paestum.<sup>51</sup> Horse equipment was also represented, including bronze and iron horse bits and a face plate for a horse, similar to the horse armour reported at Lavello and Braida di Vaglio in Basilicata. Bronze belts seem to have a similar correlation with weapons as at Lavello; of five tombs which included bronze belts, four also contained weapons.

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<sup>49</sup> The Toppicelli necropolis consisted entirely of fossa burials: Lo Porto 1992.

<sup>50</sup> The ‘dagger’ from Tomb 4 di largo Costantinopoli is described as featuring a single cutting edge, a description usually associated with ‘knives’. Another example, an artefact identified as an iron ‘dagger’ by Cipriani from Paestum is directly compared to Bottini’s type 1 knife: Cipriani and Longo 1996, 141; Bottini *et al.* 1988, 250 and plate 42.

<sup>51</sup> Mazzei 1992, 173. Material from Paestum is discussed in Chapter 6, 391ff.



The 4<sup>th</sup> C hypogeums at Canosa are more akin to the contemporary Tomb 669 at Lavello than they are to any of the tombs from any of the other four Daunian sites discussed in this chapter. There are more imported items included within the assemblages, and the position of the body, often in a flexed-supine position, is suggestive that the burial culture has changed from the earlier fossa burials. There is a shift, not only in the burial culture, but also in the military assemblages accompanying it. There is an increase in the appearance of armour, while the number of weapons remains small. The sword does not seem to have formed part of the 4<sup>th</sup> C burial assemblage at Canosa.

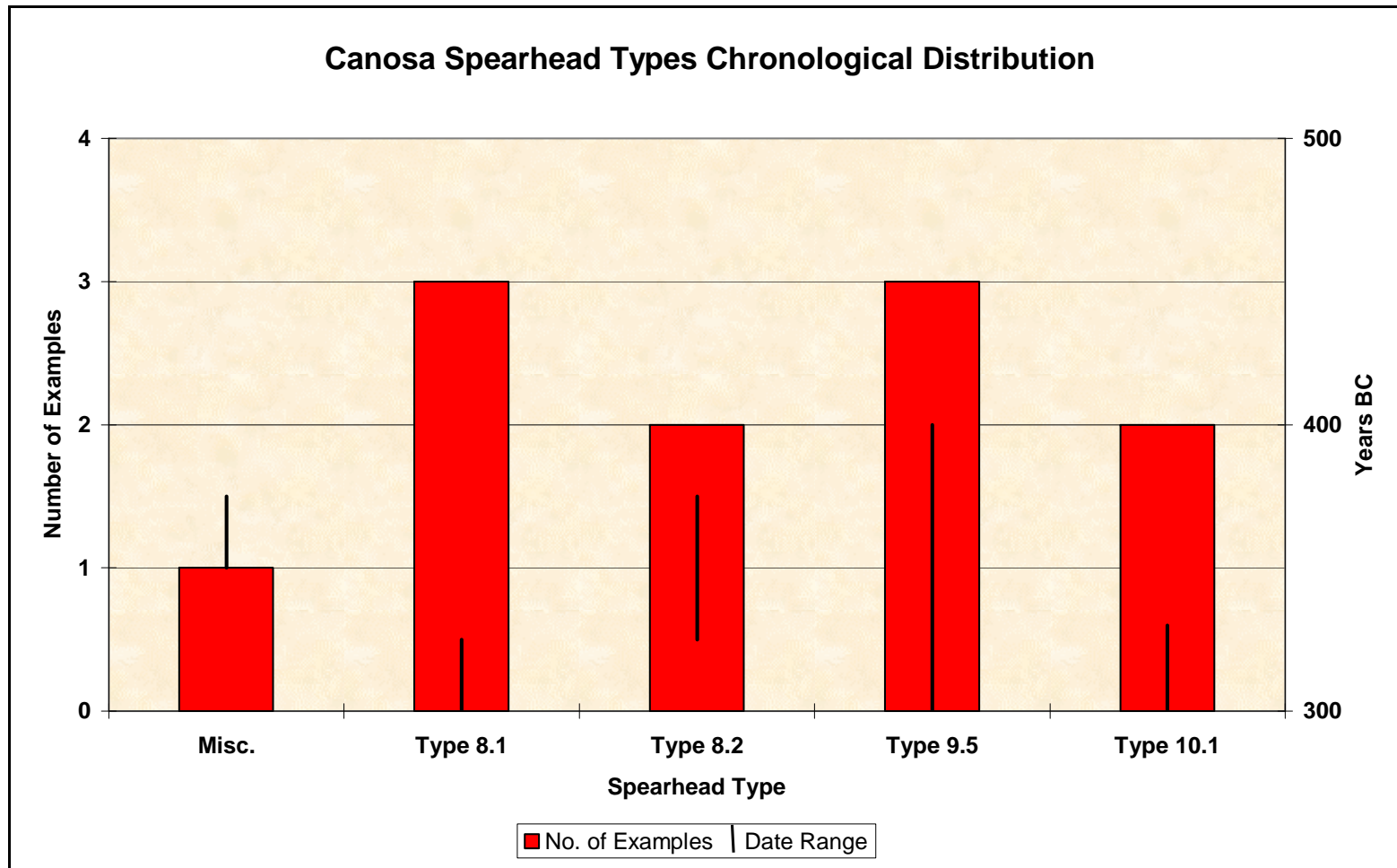


Figure 4: Chronological distribution of spearheads by type at Canosa.

## Ordon

Ordon has produced extensive settlement and burial finds dating to the 8<sup>th</sup> – 3<sup>rd</sup> C, with an apparent increase in population during the 5<sup>th</sup> and 4<sup>th</sup> C.<sup>52</sup>

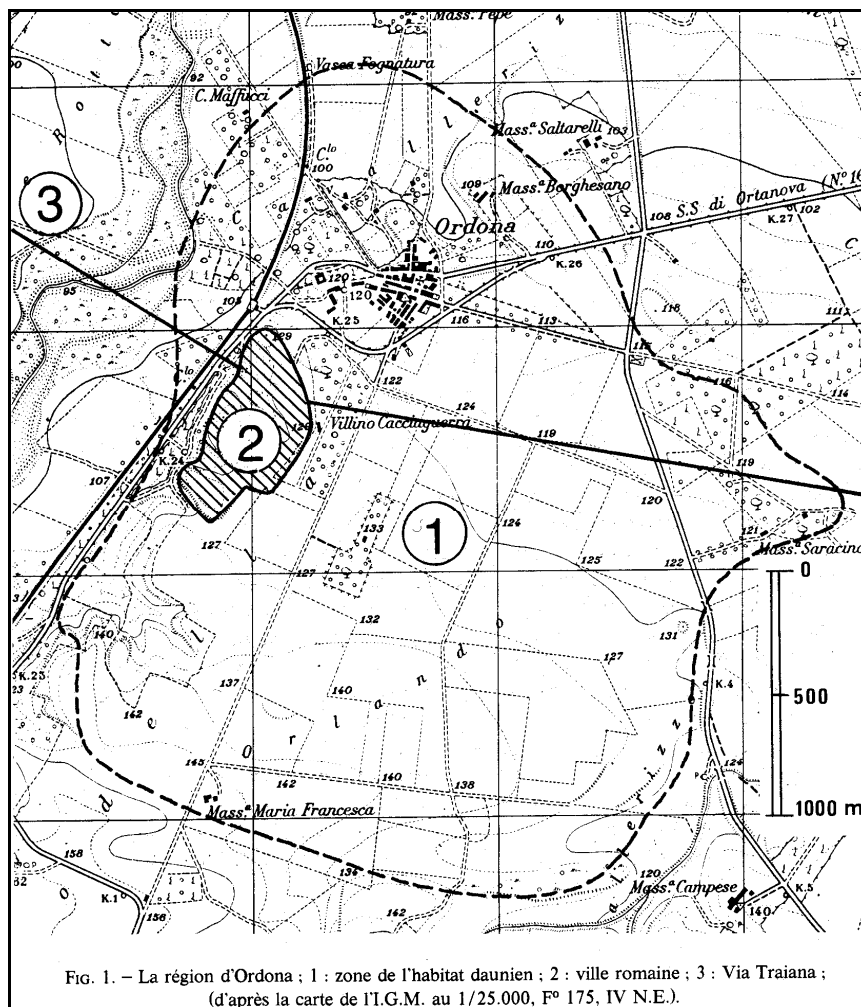


Figure 5: Ordon, habitation area, after Iker 1984, fig. 1.

There have been two principal excavations at Ordon. An extensive excavation was conducted by a Belgian team, published by Mertens and Iker in a series of ten volumes reporting on excavations conducted in the 1960s and 1970s.<sup>53</sup> Well over a hundred tombs have been excavated in the vicinity of Ordon, more than 70 of them dating earlier than the 3<sup>rd</sup> C. Only nine 8<sup>th</sup> C to 4<sup>th</sup> C tombs contained weapons. An Italian project conducted excavations in the early 1970s, and De Juliis published

<sup>52</sup> Mertens 1976.

<sup>53</sup> Iker 1984; Iker 1986; Mertens 1965; Mertens 1971.

material from a total of 55 tombs dating between the second half of the 6<sup>th</sup> C and the second half of the 4<sup>th</sup> C.<sup>54</sup> Of these tombs six included weapons or associated items such as bronze belts within their assemblages.

I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>54</sup> de Juliis 1973.

**Table 8. Ordonea, weapons and associated paraphernalia.**

Burial Type: F = Fossa Ch = Chamber Tomb C = Cassa Tomb

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
12 (78.OR. 143)	750-700	F	2	1.1 2.1			Type 1.1: L 16.3cm, W 4.1cm, Type 2.1: L 23.1cm, socket diam. 2.3cm	1 poss. iron spit	Single deposition tomb of an adult in a contracted position. Associated finds included some iron fragments that may have been the remains of iron spits.	Iker 1984, 52-6 and fig. 22.
27 (71.OR. 199)	600-570	F						2-3 iron spits L 9.5cm L 14cm Diam. 3-4mm	Single deposition tomb of an adult in a contracted position.	Iker 1984, 99-104 and figs. 46 and 49.
32 (75.OR. 160)	c.560	F						2 iron spits L 89cm L 109cm Diam. 7-9mm	The burial was an adult female in a contracted position. The iron spits have noticeable points on one end and rings on the other.	Iker 1984, 119-34.
50 (75.OR. 159)	c.560	F	1	6.4			L 26cm, W 3cm, socket diam. 2cm		A young adult buried in a contracted position, the spearhead embedded 10cm into the wall of the fossa. Described by Iker as a lance, or hunting spear.	Iker 1984, 194-200 and figs. 108 and 110.
53 (66.OR. 66)	550-500	F	2	8.1 10.1			Type 8.1: L 14cm Type 10.1: L 15.5		Recovered from the stratum above the tomb.	Iker 1984, 205-16 and figs. 115-6 and 121.
71 (71.OR. 07 and 71.OR. 06)	500-400	F	1	?	1	3.2	Spearhead: L 15cm; W 3cm Sword: L 55cm W 12cm at guard; max blade W 5cm.		Two inhumations, A and B were followed by a clearly later inhumation; C. Inhumation C is dated to late 5 <sup>th</sup> C. The sword and point are associated with inhumations A and B. The spearhead is not illustrated or described in detail.	Iker 1984, 283-7 and fig. 159.
10 (64.OR. 105)	500-400	F						1 bronze belt	Single deposition tomb of an adult in a contracted position.	Mertens 1965 44-54.
28	400-375	F	3	7.2 ? ?			Type 7.2: L 32.5cm Type ?: v. narrow and rusted together; max. preserved L 27cm.		Single deposition tomb of an adult in a contracted position.	de Juliis 1973, 329-33 and fig.65.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
32	400-375	F	2	6.3 9.4/5/ 6			Type 6.3: L 14.2cm Type 9.4/5/6: L 38.5cm		Single deposition tomb of an adult in a contracted position. The type 9 point was identified by De Juliis as a <i>sauroter</i> it is not illustrated, nor is its position within the tomb stated.	de Juliis 1973, 337-40.
34	400-350	F	2	? ?				1 bronze belt	These points are described simply as an iron spearhead and a <i>sauroter</i> , neither in detail.	de Juliis 1973, 342-8.
114 (66.OR. 184)	400-300	Ch	1	9.2			L 93cm; blade L 19cm; socket L 74cm Possibly the longest example of this type.	1 poss. <i>sauroter</i> 1 bronze belt	Multi-chamber tomb with at least two depositions, dated to the 4 <sup>th</sup> C. Finds were recovered from a side-chamber. Small iron fragments Van Wonterghem-Maes suggests may have been a <i>sauroter</i> .	Van Wonterghem-Maes 1971, 82-141.
100 (68.OR. 67)	375-350	F						1 bronze belt	Single deposition tomb of an adult in a contracted position.	Iker 1986, 419-21.
127 (69.OR. 25)	375-350	F						1 bronze belt	A tomb containing two adult inhumations. The belt was associated with Inhumation A.	Iker 1986 520-6.
93 (64.OR. 118)	c.375	F	1	9.6?			L 12cm, socket diam. 2cm The description allows a tentative allocation to type 9.6.	3 iron spits	The iron spearhead not illustrated but is described as a simple form with a socket 'sans aileron' with a round section. The iron spits measure up to 87cm long	Iker 1986, 374-6.
95 (66.OR. 130)	c.375	F	2	9.6? ?			Type 9.6?: L 17cm, socket diam. 1.7cm. Type ?: L 31cm with a rounded blade base. The spearheads are not illustrated.	5 iron spits	Large fossa tomb, with rich grave goods, containing the contracted remains of an adult male. The first point is described as conical with a round section. Iker suggests the point may be a <i>sauroter</i> . Both points were placed near the head of the deceased.	Iker 1986 380-93 and fig. 207.
97 (71.OR. 66)	c.375	F						1 bronze belt	Tomb had three inhumations, the belt associated with the final deposition.	Iker 1986 396-405.
91 (75.OR. 129)	c.360	F						1 bronze belt 2 iron spit frags.	Dual deposition tomb of two adults. The belt was associated with the second deposition.	Iker 1986 350-6.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
164 (64.OR. 105)	c.360	F						2 bronze belts	Contained the remains of 3 individuals, inhumations A and B included bronze belts.	Iker 1986 658-67.
45	c.350	F						1 pommel	De Juliis describes a cylindrical bone pommel measuring approximately 3cm high with a ring into which a piece of green glass was mounted.	de Juliis 1973 365-70.
106 (71.OR. 95)	c.350	F						1 bronze belt 3 iron spits	The three iron spits were preserved to lengths of 10,12, and 16cm.	Iker 1986 435-41.
123 (64.OR. 107)	c.350	F						1 bronze belt 1 iron spit	The iron 'spit' may in fact be a fibula fragment.	(Iker 1986 504-10).
130 (75.OR. 57)	c.350	F						1 bronze belt 1 iron spit	The iron 'spit' may in fact be a fibula fragment.	Iker 1986 539-44.
144 (71.OR. 110)	c.350	F						1 bronze belt 1 iron spit	The burial was that of a tall adult, based on 60cm length of the femur.	Iker 1986 587-93.
149 (64.OR. 106)	350-325	F	1	9.5			L 65.5cm Socket diam. 2cm	1 bronze belt	Burial of an adult in a contracted position. The point described by Iker as either a javelin head or a <i>sauroter</i> , with an extreme point, square section and round socket.	Iker 1986, 615-21 and figs. 343 and 345.
50	350-300	F						1 bronze belt	Not illustrated or described in detail.	de Juliis 1973 378-81.
136 (74.OR. 59)	c.330	Ch	2	?			L 6cm L 8.5cm iron - very poorly preserved.		Chamber tomb which shared a <i>dromos</i> with Tombs 137 and 138.	Iker 1986 562-77.
137 (74.OR. 58)	c.330	Ch						1 bronze belt	Chamber tomb which shared a <i>dromos</i> with Tomb 136 and 138.	Iker 1986 562-77.
53	330-300	Ch						1 bronze belt	The belt was recovered from Cella A of the tomb. It was not illustrated or described in detail.	de Juliis 1973 383-7.
173 (71.OR. 74)	330-300	Ch						1 bronze belt	A chamber tomb with <i>dromos</i> , containing a single inhumation in a flexed supine position. The belt was worn by the deceased.	Iker 1986 700-7 and fig. 398.

### *Chronological and Typological Summary*

The tombs at Ordoná cover a period dating between the second half of the 8<sup>th</sup> C and the late 4<sup>th</sup> C. The tombs are generally fossa inhumation tombs of rectangular plan, though there are several examples of 4<sup>th</sup> C multi-chambered *grotticella* tombs. The tombs usually consist of a single deposition of an individual in a contracted position.<sup>55</sup> Overall, there is a trend towards more elaborate burial assemblages in the 4<sup>th</sup> C. The wealthiest tombs include items such as jewellery, spindles and loom weights, suggesting these were the graves of women.<sup>56</sup> The weapons assemblage at Ordoná—apparently exclusive to male burials—is modest. Twelve (approximately 9.5%) of the tombs examined contained weapons, with a number containing multiple weapons. There were 20 spearheads and one sword included among the tombs assessed for this chapter, 11 of which could be allocated to types. The cross-bar sword (type 3.2) dates to the 5<sup>th</sup> C and is consistent with the sword finds at other sites discussed in this chapter. No armour or horse equipment was included in any of the tombs.

### *Tombs dated to the 8<sup>th</sup> C and 7<sup>th</sup> C*

Two bronze spearheads are reported by Iker dated to the second half of the 8<sup>th</sup> C, both from the same tomb,<sup>57</sup> representing a pairing of a shorter, broader point (type 1.1) in association with a longer, narrower point (type 2.1). A similar pairing is noted from two 9<sup>th</sup> C and 8<sup>th</sup> C tombs at Pontecagnano.<sup>58</sup> The spearheads are also consistent with sole bronze spearhead from Lavello, allocated to type 1.1, being members of types

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<sup>55</sup> The multi-chambered *grotticella* tombs at Ordoná generally contained a single deposition in each of the burial chambers. None of the tombs assessed for this paper contained an individual in a supine or flexed-supine position: Iker 1984; Iker 1986.

<sup>56</sup> It is possible that the wealth seen in female tombs at Ordoná represents the practice of burying women with their dowry: Mertens 1971.

<sup>57</sup> Iker 1984, 52-6 and fig. 22.

<sup>58</sup> Pontecagnano Tomb 180 and Tomb 2150



widely produced throughout South Italy during the Late Bronze Age and Early Iron Age.

**Table 9: Ortona, summary of 6th C to 5th C weapons (iron, unless indicated otherwise).**

Tomb No.	Spearheads	Swords	Armour
50 (75.OR.159)	Versatile (6.4)		
53 (66.OR.66)	Versatile (8.1) Thrusting (10.1)		
71 (71.OR.07 and 71.OR. 06)	Indeterminate	Cross-bar (3.2)	
10 (64.OR.105)			<b>Bronze belt</b>

Three 6<sup>th</sup> C to 5<sup>th</sup> C fossa tombs contained weapons, and all yielded iron spearheads. The presence of members of the type 6, 8 and 10 groups is consistent with other Daunian sites in this period. The two iron spearheads from Tomb 53 were recovered from the strata above the tomb and may have been left as offerings to the deceased as either part of, or following the funerary ritual.<sup>59</sup> The iron cross-bar sword is also consistent with contemporary examples from Lavello, Canosa and Minervino Murge in Daunia, Serra di Vaglio and Oppido Lucano in Basilicata and Cairano in Southern Campania.

#### *Tombs dated to the 4<sup>th</sup> C*

Thirteen spearheads from eight tombs have been published from 4<sup>th</sup> C tombs at Ortona. Four tombs included a single iron spearhead, the remaining four tombs including multiple spearheads. Two type 9 (sub-types 9.2 and 9.5) spearheads from Ortona stand out from other spearheads examined in this thesis due to their extraordinary length—measuring 93cm and 65.5cm respectively. The possibility that these spearheads were non-functional parade items should be considered, despite the general lack of ostentation in the rest of the assemblage.

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<sup>59</sup> Iker 1984, fig. 121.

A prevalence of type 9 throwing points is visible in the 4<sup>th</sup> C at Ortona, with single identifiable members of each the versatile type 6.3 and the broad-bladed type 7.2 being the only exceptions. Despite the small sample size the material appears to mirror the typological distribution evident at other Daunian sites. The presence of an artefact interpreted by De Juliis as a bone pommel (De Juliis Tomb 45) suggests that swords may have continued to form part of the burial assemblage;<sup>60</sup> yet, as elsewhere in Daunia the sword was rare at best during the 4<sup>th</sup> C.

**Table 10: Ortona summary of 4th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
28	Thrusting (7.2) Indeterminate Indeterminate		
32	Versatile (6.3) Throwing (9.4/5/6)		
34	Indeterminate x 2		<b>Bronze belt</b>
114 (66.OR.184)	Throwing (9.2) Indeterminate (poss. <i>sauroter</i> )		<b>Bronze belt</b>
100 (68.OR.67)			<b>Bronze belt</b>
127 (69.OR.25)			<b>Bronze belt</b>
93 (64.OR.118)	Throwing (9.6?)		
95 (66.OR.130)	Throwing (9.6?) Indeterminate		
97 (71.OR.66)			<b>Bronze belt</b>
91 (75.OR.129)			<b>Bronze belt.</b>
164 (64.OR.105)			<b>2 bronze belts</b>
45			<b>Bone pommel</b>
106 (71.OR.95)			<b>Bronze belt</b>
123 (64.OR.107)			<b>Bronze belt</b>
130 (75.OR.57)			<b>Bronze belt</b>
144 (71.OR.110)			<b>Bronze belt</b>
149 (64.OR.106)	Throwing (9.5)		<b>Bronze belt</b>
50			<b>Bronze belt</b>
136 (74.OR.59)	Indeterminate x 2		
137 (74.OR.58)			<b>Bronze belt</b>
53			<b>Bronze belt</b>
173 (71.OR.74)			<b>Bronze belt</b>

There is a notable contrast to Lavello and Canosa in the deposition of bronze belts at Ortona. Of sixteen tombs to include bronze belts just three also included weapons. It

<sup>60</sup> de Juliis 1973, 365-70.

seems therefore, that bronze belts were associated with cultural traits which were not martial and that their inclusion in tombs that also included weapons was coincidental.

### **Ascoli Satriano**

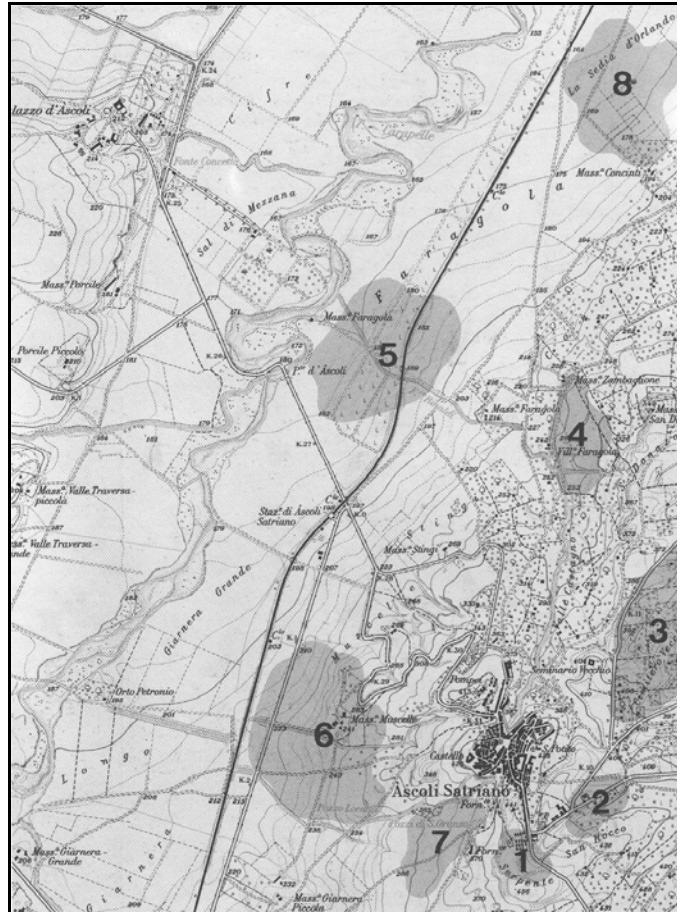
The high plain of Ascoli Satriano dominates the valley of Carapelle; the Daunian settlement is located approximately 10km upstream from Ortona. The site became prominent in Roman times, identified as Ausculum, and was close to the ancient road running between Herdonia (Ortona) and Aeclanum. The Roman settlement extended over much of the earlier Daunian settlement area.<sup>61</sup> The findings of excavations conducted in the mid-1960s were published by Tinè Bertocchi in a volume detailing three necropoleis: Serpente, San Rocco and Cimitero Vecchio.<sup>62</sup> In the Serpente necropolis 14 tombs were excavated, the earliest dating to the 7<sup>th</sup> C, but most (11 of the 14) dating to the 4<sup>th</sup> C. A further four tombs were excavated at the necropolis of San Rocco, dating between the 6<sup>th</sup> and 4<sup>th</sup> C. Excavations at Cimitero Vecchio revealed 59 tombs dated between the 6<sup>th</sup> and the 3<sup>rd</sup> C, mostly dating to the 5<sup>th</sup> and 4<sup>th</sup> C. Four tombs were also uncovered during excavation of the habitation area in the 1990s, one of which included weaponry and associated paraphernalia, published by Fabbri and Ossana in 2002.<sup>63</sup> A total of 13 tombs (16%), scattered throughout these necropoleis, dated between the 6<sup>th</sup> and 4<sup>th</sup> C, contained weapons.

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<sup>61</sup> Tinè Bertocchi 1985, 17.

<sup>62</sup> Ibid., 19-23.

<sup>63</sup> Fabbri and Osanna 2002



**Figure 6. Necropoleis of Ascoli Satriano after Tinè Bertocchi 1985.**

I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

**Table 11. Ascoli Satriano, weapons and associated paraphernalia.**

Burial Type: F= Fossa G= Grotticella.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
46	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	1	8.4			L 39cm		Single deposition fossa tomb, The spearhead fixed in the fossa wall, near to the feet of the deceased.	Tinè Bertocchi 1985 49-51 and figs. 58 and 61.
37	500-450	F	1	9.5			L 22.7cm – incomplete, (inv.125.724) traces of wood in the socket. <sup>64</sup>		A rectangular fossa tomb. The iron point is described as a javelin.	Tinè Bertocchi 1985 105-7 and fig. 166.
78	450-400	F	1	9.5			L 10.5cm – incomplete (inv.126.209).	1 bronze belt	The tomb contained a single inhumation of an adult male.	Tinè Bertocchi 1985 84-6 and fig. 128
36	c.400	F	1	9.5			L 32cm, (inv.125.720) Listed as a javelin conical socket and square section at the point		A single deposition fossa burial. The iron point was lodged in the strata of the tomb.	Tinè Bertocchi 1985 69-70 and fig. 103.
17	Late 5 <sup>th</sup> C/ Early 4 <sup>th</sup> C	F	1	7.1			L17cm (inv.125.496)		Rectangular fossa burial, in a contracted position.	Tinè Bertocchi 1985 89-90 and fig. 136.
19	400-350	F	1	9.5			L 11cm (inv.125.512)		Single deposition fossa tomb.	Tinè Bertocchi 1985 130-1 and fig. 217.
23	400-350							1 bronze belt (inv.125.591)	Dual deposition of a, a boy and an adult. The belt assoc with the boy.	Tinè Bertocchi 1985 132-5
18	350-300	F	1	9.5?			L 16.5cm –allocation on comparative basis.		A badly disturbed fossa tomb, containing a single skeleton.	Tinè Bertocchi 1985 165-6.
50	350-300	G						2 bronze belts (inv.125.927) 1 iron spit	Dual deposition tomb, one bronze belt seemingly associated with each of the deceased.	Tinè Bertocchi 1985 188-93 and figs. 319-20.
45	400-300	F						1 bronze belt (inv.125.841)	The belt clasps date to the 5 <sup>th</sup> C, but other grave goods date to the 4 <sup>th</sup> C.	Tinè Bertocchi 1985 73-6 and fig. 112.
42	400-300	F						1 bronze belt (inv.125.3799)	Single deposition fossa tomb.	Tinè Bertocchi 1985 178-83 and figs. 304-5.
48	400-300	F						3+ iron spits	Single deposition tomb, assoc. grave goods included three loom weights.	Tinè Bertocchi 1985 183-7 and fig. 312.
3 area abitato	330-300	F	1	9.5			L30.8cm	1 bronze belt (inv.24434)		Fabbri and Osanna 2002, 331-41 and plate 90.

<sup>64</sup> The trapezoidal section of this weapon deviates slightly from the usual square section.

### *Chronological and Typological Summary*

The tombs at Ascoli Satriano dating between the late 6<sup>th</sup> C and 4<sup>th</sup> C were principally fossa burials with modest assemblages. Several of the later 4<sup>th</sup> C tombs were *grotticella* tombs, and these clearly contained wealthier assemblages than seen in the earlier and contemporary fossa graves. Most tombs contained a single deposition only, and in all cases, where the body position could be determined, the deceased had been placed in a contracted position.

Of the 81 tombs from Ascoli Satriano assessed for this chapter, eight contained a single iron spearhead. The spearheads were found exclusively in fossa burials. A further five tombs included paraphernalia often associated with weapons but no weapons.

**Table 12: Ascoli Satriano summary of weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
46	Versatile (8.4)		
37	Throwing (9.5)		
78	Throwing (9.5)		<b>Bronze belt</b>
36	Throwing (9.5)		
17	Thrusting (7.1)		
19	Throwing (9.5)		
23			<b>Bronze belt</b>
18	Throwing (9.5?)		
50			2 <b>bronze belts</b>
45			<b>Bronze belt</b>
42			<b>Bronze belt</b>
3 area abitato	Throwing (9.5)		<b>Bronze belt</b>

There is no discernable difference in the weapons assemblages of between the late 6<sup>th</sup> and 4<sup>th</sup> C. Only two tombs yielded spearheads that could not be identified as type 9.5

throwing spears.<sup>65</sup> This small sample of points demonstrates that type 9.5 was the most common, similar to the finds from other contemporary Daunian sites.

Two tombs included a bronze belt in association with a weapon, a type 9.5 point. No other paraphernalia such as iron spits or armour were reported in association with any of these spearheads and no swords or other weapons were reported, though several tombs at Ascoli Satriano had fallen victim to tomb robbers, and armour and swords would likely have attracted their interest.<sup>66</sup>

Five tombs from Ascoli Satriano contained paraphernalia often associated with weapons, but no weapons. Six tombs contained bronze belts, only two of which also included a weapon, suggesting a non-martial function for the bronze belt, similar to the pattern noted at nearby Ordona. One dual deposition tomb contained two bronze belts, another, of an adult and a child, included a bronze belt apparently associated with the remains of the child. An additional tomb included iron spits amongst the grave goods.<sup>67</sup>

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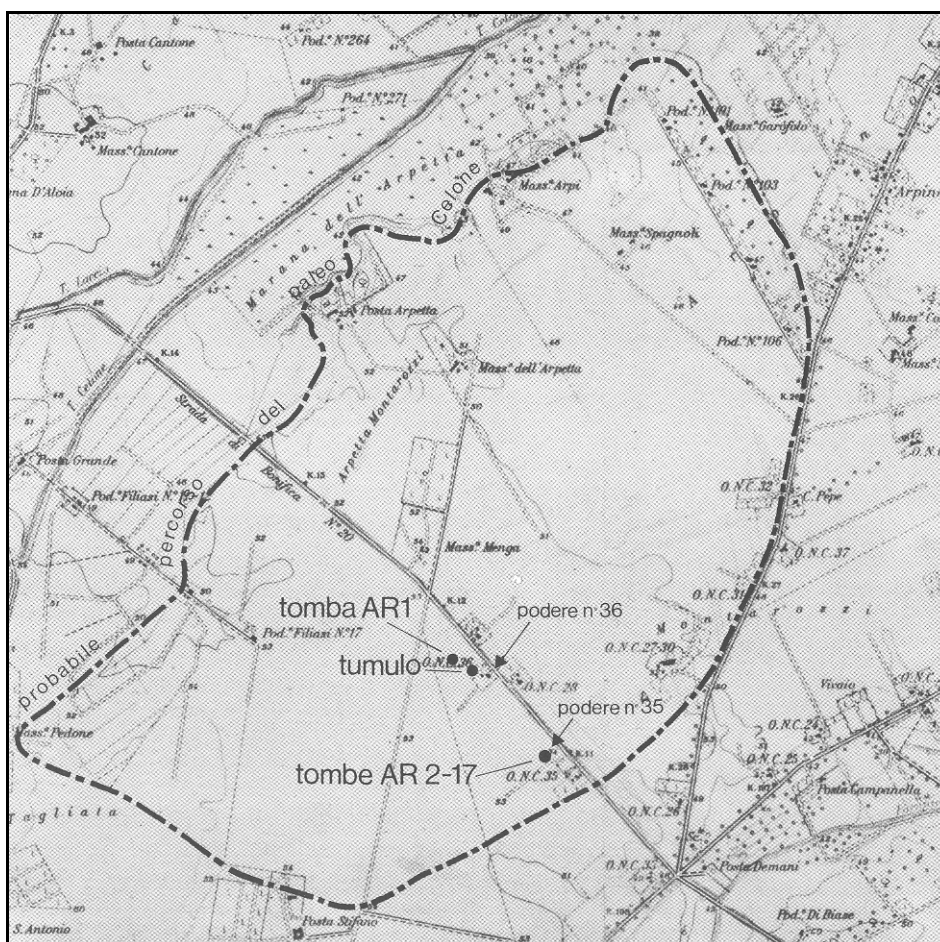
<sup>65</sup> The spearhead from Tomb 18 is a tentative allocation based on Tinè Bertocchi's interpretation of the point as a 'javelin'. The point is not illustrated, however, other, illustrated examples which she describes as javelins can be readily identified as members of type 9.5: Tinè Bertocchi 1985, 165-6.

<sup>66</sup> Fabbri and Osanna 2002, 15.

<sup>67</sup> Bronze belts - Tomb 45 (a bronze spindle was also included within the assemblage, Tomb 23 held two skeletons, apparently a child and an adult, the bronze belt (inv.125.591) was seemingly associated with the child, Tomb 42, Tomb 50, a dual deposition grotticella included in the assemblage two bronze belts one seemingly associated with each of the deceased. The assemblage also included a small iron spit making this the only tomb included in Tinè Bertocchi's catalogue to include both a bronze belt and an iron spit. Tomb 48 contained iron spits and three pyramidal loom weights, which suggest this was the tomb of a woman: Tinè Bertocchi 1985 73-6, 132-5, 178-83, 183-7, 188-93.

## Arpi

Arpi is located 6km northeast of Foggia, near the Celone River. There are traces of material dating to the 8<sup>th</sup> C and 7<sup>th</sup> C, but most finds date to the 4<sup>th</sup> and 3<sup>rd</sup> C. The necropolis of Montarozzi was excavated in 1966, with further excavations conducted in and around Arpi during the 1970s and 1980s. Tinè Bertocchi published a catalogue of 19 tombs revealed by these excavations, five of which contained weapons.<sup>68</sup>



**Figure 7. The tombs of Arpi after Tinè Bertocchi 1985.**

I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

<sup>68</sup> Ibid., 24-8.



**Table 13. Arpi, weapons and associated paraphernalia.**

Burial Type: G= Grotticella.

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
11	400-350	G	3	5.2 9.5 9.5			Type 5.2: L 36.5cm (inv.125.192) Type 9.5: L 40.8cm (inv.125.191) L 35cm (inv.125.193)	2 bronze belts (inv.125.197 and inv.125.198)	Grotticella with a <i>dromos</i> which appears to have had multiple inhumations The two type 9.5 points described as javelins.	Tinè Bertocchi 1985 238-41 and fig. 403.
15	c.350	G	2	8.1 5.2			Type 8.1: L 48cm (inv.125.243) Type 5.2: L 30cm (inv.125.244)	1 bronze belt (inv.125.242)	Grotticella tomb with a <i>dromos</i> of an adult male. The bronze belt was decorated with lion clasps and marine animals.	Tinè Bertocchi 1985 241-3 and fig. 409.
6	350-300	G	2	8.1 9.4			Type 8.1: L 37cm (inv.125.046); Type 9.4: L 34cm (inv.125.114)	1 bronze belt (inv.125.048)	Grotticella tomb with a <i>dromos</i> ; a large number of grave goods pertained to 3 inhumations. One skeleton positioned on the left side of the chamber; two skeletons on the right. The bronze belt and the type 8.1 spearhead were associated with one of the skeletons on the right. The location of the second spearhead is not mentioned.	Tinè Bertocchi 1985 247-57 and figs. 418, 426 and 428.
13	350-300	G	1	8.1			L 33cm (inv.125.221)		Single deposition grotticella tomb with a <i>dromos</i> .	Tinè Bertocchi 1985 262-4 and fig. 441.
10	Late 4 <sup>th</sup> C – Early 3 <sup>rd</sup> C	G	1	9.4/ 9.5			L 34cm – incomplete (inv.125.184) described as a javelin with traces of wood in the socket.	1 bronze belt (inv.125.171)	Dual deposition grotticella tomb with a <i>dromos</i> (female and male). The bronze belt was associated with the male. The fragmentary point appears to have been associated with the female.	Tinè Bertocchi 1985 272-6 and fig. 464.

### *Chronological and Typological Summary*

The tombs at Arpi were a mixture of fossa and *grotticella* tombs dated principally to the 4<sup>th</sup> C, often with multiple depositions. No weapons or associated paraphernalia were found in any of the 8<sup>th</sup> C – 5<sup>th</sup> C tombs, a marked contrast to the other Daunian tombs of this period. Of the 19 tombs published by Tinè Bertocchi assessed for this chapter, five contained weapons. All were 4<sup>th</sup> C *grotticella* tombs, two were single depositions and three tombs held multiple depositions. Most tombs yielded multiple spearheads and also included one or more bronze belts. No swords or other weapons or other associated paraphernalia were recovered from these tombs.<sup>69</sup>

**Table 14: Arpi, summary of weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
11	Thrusting (5.2) Throwing (9.5) Throwing (9.5)		2 <b>bronze</b> belts
15	Versatile (8.1) Thrusting (5.2)		<b>Bronze</b> belt
6	Versatile (8.1) Throwing (9.4)		<b>Bronze</b> belt
13	Versatile (8.1)		
10	Throwing (9.4/5)		<b>Bronze</b> belt

Nine iron spearheads were recovered from the five tombs to include weapons. As at other contemporary Daunian sites, members of the type 9 group of throwing spearheads dominate the assemblage (four examples), followed by the versatile narrow-bladed type 8.1 (three examples), and broad-bladed type 5.2 thrusting spearheads (two examples).

No swords, or other weapons were reported from the tombs at Arpi. Nor were any examples of armour or iron spits were recovered. With the exception of tomb 13, all tombs that contained spearheads also contained bronze belts, and bronze belts were not found in tombs that did not include weapons, revealing a strong correlation

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<sup>69</sup> Ibid.

between weapons and belts, suggesting a cultural association with Lavello and Canosa.

### **Minervino Murge**

Located in the province of Bari, to the northeast of Lavello and south of Canosa, Minervino Murge is situated on a natural terrace overlooking Fosso di Lam Cipolla. There is evidence of settlement in the Bronze Age and Early Iron Age as well as material dating to the 6<sup>th</sup> to 3<sup>rd</sup> centuries.<sup>70</sup>

A relatively small number of tombs from Minervino Murge have been published. Lo Porto reported on excavations conducted during the 1960s when three necropoleis were uncovered.<sup>71</sup> Excavations ahead of the construction of a new civic hospital (area OC) revealed 18 tombs dating from the late 7<sup>th</sup> century down to the late 4<sup>th</sup> century. A further eight tombs were discovered in the vicinity of the Sanctuary of Madonna del Sabato (area MS) and seven tombs were excavated near Santiglia (area SA), an area to the northwest of Minervino Murge, between the civic hospital and Madonna del Sabato. Of these 33 tombs six contained weapons;<sup>72</sup> a further four contained other items of related interest.<sup>73</sup>

Many of the tombs at Minervino Murge were multi-depositional and this was the case with all of the tombs that contained weapons or associated paraphernalia. Depositions were generally not synchronous, often separated by several decades, approximately a generation. The minimum number of depositions was two, generally adults, a male and a female, and the maximum number of depositions was six, two of which clearly preceded the later four (SA2). With the exception of a child in tomb OC-4, who was

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<sup>70</sup> Lo Porto 1999.

<sup>71</sup> Ibid.

<sup>72</sup> Tombs OC-4; OC-6; OC-10; OC-11; MS-3; and, SA-2.

<sup>73</sup> Tombs OC-18; MS-4; MS-7; and, MS-8.

buried in a supine position, all of the deceased were interred in a contracted position. The multi-depositional nature of the tombs often makes it difficult to identify the deposition with which specific artefacts should be associated.<sup>74</sup>

I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>74</sup> Lo Porto 1999.

**Table 15. Minervino Murge, weapons and associated paraphernalia.**

Tomb types: F= Fossa G= Grotticella

Tomb No.	Date	Burial type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	type	No.	type				
OC-10	600-550	F	1	9.5			L 35cm	2 bronze poss. horse bit	Dual deposition fossa tomb.	Lo Porto 1999, 63-9 and fig.3.
OC-18	600-500	F						2 bronze belts	Fossa tomb with two depositions dated to different periods, one belt assoc. with each individual.	Lo Porto 1999, 98-9 fig.20 and plate 14.
MS-3	c.550	F			1	3.2	L 46cm with traces of a wooden hilt.		Multiple deposition, sword associated with earliest deposition	Lo Porto 1999, 85-7 and plate 9.
MS-4	520-480	F						1 horse bit	Dual deposition fossa containing the remains of a male and a female.	Lo Porto 1999, 74-5 and fig.8 and plate 5.
OC-11	550-450	F	1	8.4	1	3.3	Spearhead: L 30cm; W3.5cm Sword: L 38cm		Dual deposition fossa tomb badly damaged by heavy machinery of an adult and a child thought to be a girl.	Lo Porto 1999 82-5 fig.13 and plate 8.
MS-7	550-400	F						1 horse bit	Four inhumations, one of which was an adolescent	Lo Porto 1999, 76-81 fig 10 and plate 6.
MS-8	450-300	F						2 bronze belts	Dual deposition tomb, dated to different periods, one belt associated with each.	Lo Porto 1999, 100-1 and plate 15.
OC-4	Early 4 <sup>th</sup> C	F	2	6.2 8.2			Type 6.2: L 29cm Type 8.2: L 48.5cm, W4.5cm		Dual deposition tomb of an adult in a contracted position and a child placed in a supine position. It is unclear whether either spearhead was associated with the child.	Lo Porto 1999, 99-100 and plate 15.
OC-6	400-350	F	1	8.4			L 28cm	3 bronze belts	Fossa tomb with at least 3 depositions it is unclear which deposition the spearhead and/ or belts should be associated with.	Lo Porto 1999, 90-3 figs. 16-7 and plate 11.
SA-2	330-310	G	3	8.2 ? ?			Type 8.2: L 31cm Type ?: L 24cm L 26cm	1 bronze belt	Grotticella tomb with multiple depositions. It is unclear which of the four depositions any of the spearheads should be associated with.	Lo Porto 1999, 104-6 and plate 17.

### *Chronological and Typological Summary*

Six tombs (approximately 18%) reported by Lo Porto from Minervino Murge included weapons, dating between the early 6<sup>th</sup> C and the late 4<sup>th</sup> C.<sup>75</sup> Of the eight spearheads reported from these tombs, four examples fall within the type 8 group, that is, iron points with a leaf-shaped blade and mid rib; one example could be allocated to type 6.2 (similar to members of the type 8 group, although lacking the requisite midrib); a single example could be allocated to type 9.5; and, two examples could not be allocated to a type. This is the only Daunian site at which members of the type 9 group do not dominate the spearhead assemblage. The two swords recovered from tombs at Minervino Murge were clearly identifiable as cross-bar swords of the type 3 group, congruent with contemporary finds from other Daunian sites and from Serra di Vaglio and Oppido Lucano in north western Basilicata.

**Table 16: Minervino Murge, summary of 6th C and 5th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
OC-10	Throwing (9.5)		2 <b>bronze</b> horse bits
OC-18			2 <b>bronze</b> belts
MS-3		Cross-bar (3.2)	
MS-4			<b>Bronze</b> horse bit
OC-11	Versatile (8.4)	Cross-bar (3.3)	
MS-7			<b>Bronze</b> horse bit
MS-8			2 <b>bronze</b> belts

Four tombs dated to the 6<sup>th</sup> C – 5<sup>th</sup> C included weapons. It is unclear whether the spearhead and sword in Tomb OC-11 originally formed part of the same burial assemblage. The blade profile of this sword is also unusual, tapering sharply to a point rather than swelling slightly towards the middle of the blade. This profile would have altered the balance of the weapon slightly towards the hilt and rendered the weapon

<sup>75</sup> Most tombs at Minervino Murge were multi-depositional including both male and female remains. Consequently, it is difficult in many cases to ascertain gender associations for specific items within the assemblage: Ibid.

most effective for the delivery of thrusting blows. Both of the cross-bar swords are shorter than other Daunian examples, measuring 46cm and 38.5cm in length, and both are well suited to close fighting. Though the evidence is slight, it appears that martial practices at Minervino Murge differed from those of other contemporary Daunian sites.

**Table 17: Minervino Murge, summary of 4th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
OC-4	Versatile (6.2) Versatile (8.2)		
OC-6	Versatile (8.4)		3 <b>bronze</b> belts
SA-2	Versatile (8.2) Indeterminate x 2		<b>Bronze</b> belt

Three tombs dated to the 4<sup>th</sup> C included spearheads; two included multiple points, whilst the third included a single iron point. No swords or other weapons were reported from the 4<sup>th</sup> C burial assemblages, consistent with other 4<sup>th</sup> C Daunian tombs, where the practice of inclusion of swords in the tomb declines. As with the tombs dated to the 6<sup>th</sup> C and 5<sup>th</sup> C, each of these tombs held multiple depositions. However, none of the earlier tombs at Minervino Murge included multiple spearheads. Where it was possible to allocate the 4<sup>th</sup> C spearheads to type all are members of the narrow-bladed type 6 and type 8 groups. The preference for narrow-bladed versatile spearhead forms was observed throughout north western Basilicata and Southern Campania is also observed at Minervino Murge. The complete absence of members of the type 9 group of throwing spearheads amongst the 4<sup>th</sup> C spearhead assemblage is unique for Daunia. It is possible that this absence is merely an accident of discovery, given the small sample size.

Four bronze belts were recovered from two 4<sup>th</sup> C tombs at Minervino Murge, and while both tombs also yielded spearheads, they do not appear to belong to the same depositions. In the 6<sup>th</sup> and 5<sup>th</sup> C belts and weapons appear to have been mutually

exclusive in burial assemblages, indicating that their function at Minervino Murge was not associated with martial practices. This phenomenon is particularly interesting at Minervino Murge, located close to the sites of Canosa and Lavello which both reveal a strong correlation between bronze belts and weapons. No horse equipment, armour or other associated paraphernalia were recovered from the 4<sup>th</sup> C tombs at Minervino Murge.

### *Conclusions – Daunia*

There are some distinct patterns in the changes to the military assemblages throughout Daunia during the period from the 8<sup>th</sup> to the 4<sup>th</sup> C. There is, for example, a greater tendency towards the inclusion of multiple spearheads during the 4<sup>th</sup> C. Tombs dated from the 8<sup>th</sup> to 6<sup>th</sup> C rarely contain multiple spearheads, and those which do are distinctly the wealthiest tombs, such as Tomb 279 at Lavello which contained 8 spearheads and two swords.<sup>76</sup> The assemblages of the 8<sup>th</sup> to 6<sup>th</sup> C generally appear to contain serviceable weapons, consisting of one spearhead (occasionally two spearheads, usually of different types), sometimes with a sword and only very rarely armour. These assemblages were not necessarily representative of the actual military panoply carried by individual warriors but can be seen as representative of the kind of weapons which would have been accessible to warriors of that period.

An overall trend towards more lavish burial assemblages is observed as the 4<sup>th</sup> C approaches. This was fully realised during the mid-to-late 4<sup>th</sup> C, manifesting in the much more frequent inclusion of multiple weapons, this latter phenomenon also observed in the duplication of ceramic forms in the wealthiest tombs.<sup>77</sup> There is also a

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<sup>76</sup> A practice also observed at loc. Braida di Vaglio Tombs 101 and 105 which also included multiple spearheads, multiple swords shields and armour: Bottini and Setari 2003, 13-32, 57-63, figs. 14-18 and plates 20, 28 and 35-6.

<sup>77</sup> Noted especially at Lavello and Canosa, e.g. the Tomba dei vimini.



marked increase in the incidence of armour in tombs. Thucydides refers to Italic mercenaries employed for their skill with the javelin in the 5<sup>th</sup> C and it is likely that warrior status was associated with the spear rather than the sword, the number of swords found in Daunian tombs from the time of Thucydides onwards is negligible.<sup>78</sup>

The sword types evident in Daunia are cross-bar swords, the standardised form specific to the 7<sup>th</sup> C to 5<sup>th</sup> C with relatively few examples from burial contexts of the 4<sup>th</sup> C. Over the three centuries 7<sup>th</sup> to the early 4<sup>th</sup> C there is remarkable consistency in the length of these weapons with an average length of 49cm over the three centuries, most examples falling between 45-55cm. The earliest examples have cross-guards made principally of perishable materials, which over time evolve into wider, metal guards, suggesting an increasing emphasis on protection of the hand.

### *Spearheads*

The two tombs which can be dated to the 8<sup>th</sup> C—Lavello Tomb E and Ortona Tomb 12 (78.OR.143)—both included bronze spearheads. They are identifiable respectively as members of the broad-bladed type 1 group and of the narrow-bladed type 2 group. Other contemporary bronze spearheads from the region on display in the Melfi museum can also be allocated to types 1 and 2.<sup>79</sup> These spearhead forms are widely distributed throughout Italy, the Mediterranean and Central Europe during the Late Bronze Age and the Early Iron Age. There does not appear to be any adoption of Greek, Phoenician or Villanovan spearhead forms in Daunia during the Late Bronze Age and Early Iron Age.

Type 9 spearheads appear with far greater frequency in Daunia than in Basilicata or Southern Campania throughout the period under examination. They appear in tombs

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<sup>78</sup> Thucydides *Peloponnesian War* 7.33-4.

<sup>79</sup> Personal observation.

by the beginning of the 7<sup>th</sup> C, the limited evidence for the 8<sup>th</sup> C leaving open the possibility that type 9 spearheads appeared in Daunia before that time. Type 9 is the most frequently represented and most broadly distributed group of spearheads in Daunia (dominating the assemblage at all sites except Minervino Murge), particularly during the 4<sup>th</sup> C when the data is most abundant. Type 9.5 is the most common sub-type represented in Daunia, followed by members of sub-type 9.6 (identical to type 9.5 except for the round section). As I have discussed in Chapter 2, type 9 points appear to be best suited to being thrown and may have been specifically designed for this purpose. The greater frequency of type 9 spearheads in Daunia suggests that the throwing spears was widely practiced, perhaps a specialty of the region.

Amongst iron spearheads generally there is a distinct preference for narrow-bladed spearhead forms, a phenomenon observed at all sites assessed in this thesis with the exception of the Oenotrian site of Chiaromonte in Basilicata. A smaller number of broad-bladed iron spearheads appear, generally in tombs which included multiple spearheads placing them in association with one or more narrow-bladed spearhead forms. They could be hunting, perhaps boar-hunting, spears; the common appearance of the boar in the incised decoration of Apulo-Corinthian helmets may be relevant to the question.

Members of the narrow-bladed type 6 group appear with frequency in Daunia, sub-type 6.3 the earliest to appear, around the mid 7<sup>th</sup> C.<sup>80</sup> Members of the type 8 group—similar to type 6 but with the addition of a strengthening midrib—appear approximately a century later at Daunian sites. The appearance of type 8 spearheads precedes the appearance of type 6 in Southern Campania and appears to be

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<sup>80</sup> Sub-type 6.3 is also the first type 6 spearhead form to appear at Sala Consilina and Pontecagnano in Southern Campania in the first quarter of the 7th C, Chapter 6, 350ff.

contemporary with the development in Basilicata. During the 5<sup>th</sup> C and 4<sup>th</sup> C members of the type 8 group appear with increasing frequency at Daunian sites, matched by a corresponding decline in the frequency of type 6 spearheads.

A similar chronological pattern can be observed between members of the broad-bladed type 5 and type 7 groups. These two forms are also similar, type 7 distinguished by the presence of a strengthening midrib. Members of sub-type 5.1 appear by the mid 7<sup>th</sup> C, to be supplanted by sub-type 5.2 in the mid 5<sup>th</sup> C, and ahead of the arrival of sub-type 7.1 around the last quarter of the 5<sup>th</sup> C.

The lack of a strengthening midrib in members of the type 5 and type 6 spearheads suggests they were less durable than members of the type 7 and type 8 groups, and would have been more prone to breakage. Members of type 7 and type 8 groups appear at all of the Daunian sites discussed in this chapter. The presence of a strengthening midrib represents a technical improvement over the 5 and 6 spearheads, resulting in a blade less prone to breakage. Type 5 and type 6 spearheads continue in use throughout the 5<sup>th</sup> C and 4<sup>th</sup> C and are not completely superseded by the arrival of types 7 and 8.

Type 6 and type 8 spearheads were often found in association with type 9 points, seen at Arpi, Ortona, and Lavello. There is also a less common association between type 6 and type 8 points; seen at Arpi, Minervino Murge and Lavello.

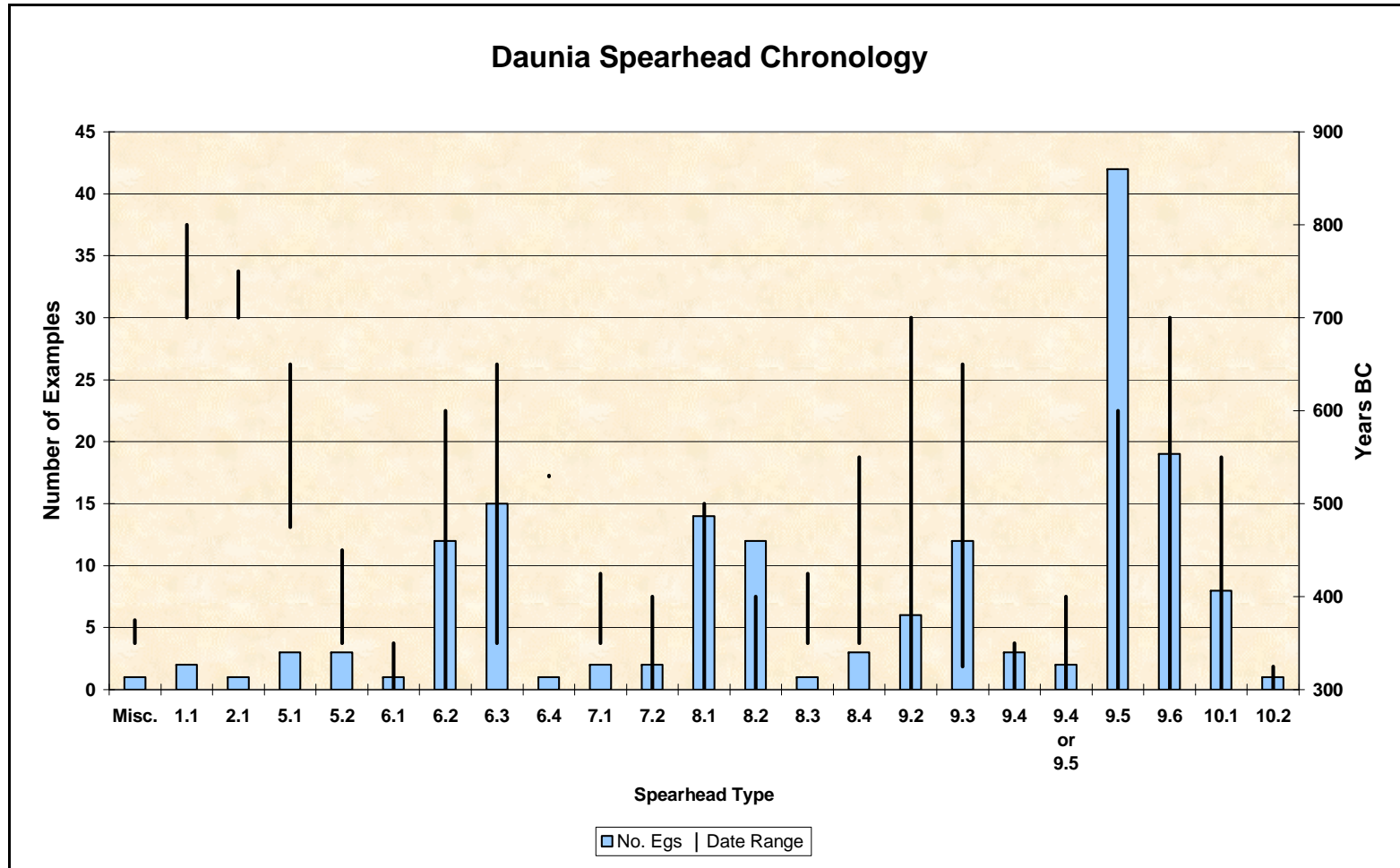
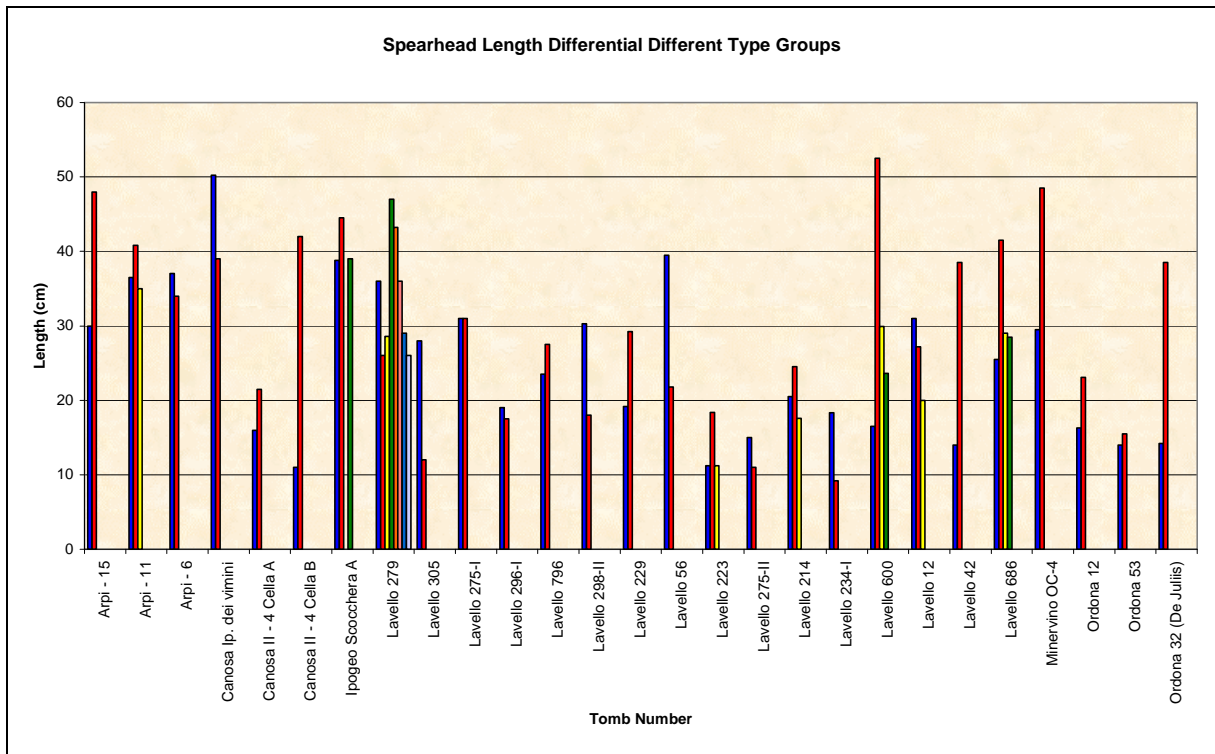
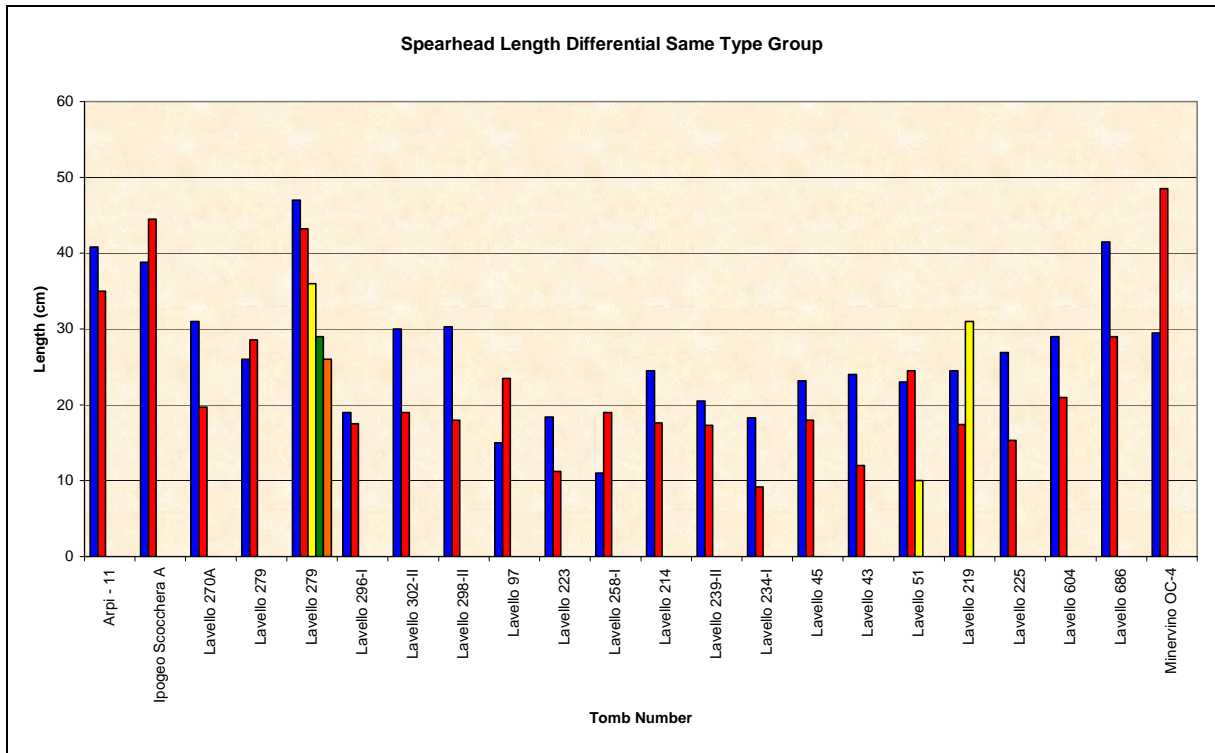


Figure 8: Chronological distribution of spearheads by type, Daunia.

The length of spearheads from Daunian sites is quite stable throughout the period under examination, with an average length of 25cm. The few bronze spearheads present a shorter average length of 18cm, a trend also recognised in the much larger samples from Southern Campania and Basilicata. Of those tombs which included multiple spearheads, some contained multiple members of the same type group, while others featured members from different type groups. The difference in length between spearheads which were members of the same type group was slightly less than when there were members of different type groups included in the same assemblage. The trend is not stark and is less marked than in Southern Campania and Basilicata.



**Figure 9: Length Differential between multiple spearheads from burial assemblages in Daunia**

### *Swords*

All swords reported from Daunian examined in this chapter belong to the type 3 group of cross-bar cut-and-thrust swords, dating between the 7<sup>th</sup> C and the early 4<sup>th</sup> C. Whilst the shortest example (from Lavello Tomb 279 – 32cm) is also the earliest, the length of swords remains quite consistent with an average length of 49cm. The earliest examples, of Type 3.1, appear to have had cross-guards of perishable materials, which begin to give way to examples with sturdier metal guards from the mid 6<sup>th</sup> C in the appearance of types 3.2 and type 3.3. The absence of swords of any other type group raises the possibility that the cross-bar sword is a local development.

The type 3.3 example from Minervino Murge presents a different blade profile to the other swords from Daunia, tapering direct to a point (other examples present a swelling of the blade profile around the middle of the blade). This would have rendered the weapon best suited to the delivery of thrusting blows and less efficient for the delivery of slashing blows due to the different weighting of the blade.

### *Associated Paraphernalia*

Armour and bronze belts were included in a number of the wealthiest Daunian tombs. It is in the armour that Greek influence presents itself, manifested in anatomical bronze cuirasses and Italian derivatives of Greek helmet forms at Lavello and Canosa. Other influences are also noted in the presence of a Gallic helmet and a bell helmet at Lavello and Canosa.

*Iron spits:* A small number of elite Daunian tombs included iron spits. As can be observed at other sites examined in this thesis from Basilicata and Southern Campania, iron spits are often in association with weapons, however the association within the burial assemblage appears to be indirect. Iron spits appear in the elite

tombs of both men and women, suggestive that they function of indicators of high status, and are not necessarily markers of martial prowess.

*Bronze belts:* An interesting phenomenon is revealed by tracking the association between bronze belts and weapons. At some sites (Lavello, Canosa and Arpi) there is a strong correlation between weapons and bronze belts in tombs, while at other sites (Ortona, Ascoli Satriano and Minervino Murge) there is little correlation. This suggests different cultural practices, amongst Daunian settlements, even those which are geographically close. The practice evident in Paestum in Southern Campania of burying additional bronze belts as trophies does not appear to have been a habit in Daunia.

*Horse Equipment:* The bronze *prometopidia* from Ipogeo Monterisi Rossignoli at Canosa and Tomb 669 at Lavello demonstrate that horses were used in a martial, or at least a parade, context. A small number of horse bits were also recovered from Daunian tombs. If the interpretation of the two zoomorphic bronze fragments recovered from Tomb OC-10 at Minervino Murge as horse bits is correct, their association with a type 9.5 spearhead may suggest that the deceased was a cavalryman. However horse bits were not always associated with weapons and, like iron spits and bronze belts, the association appears to be indirect, and not *a priori* evidence of cavalry involvement.

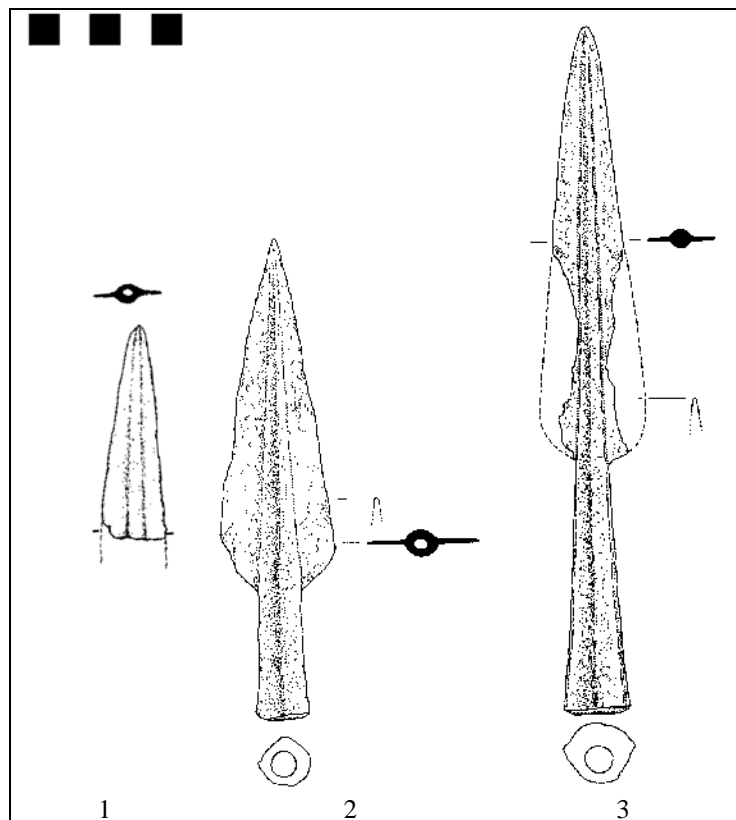


**Table 18: Typological distribution of spearheads in Daunia during 8th C - 4th C (X=presence)**

Spearhead Type		Sites					
		Lavello	Canosa	Ortona	Ascoli Satriano	Arpi	Minervino Murge
1	1.1	X		X			
	1.2						
	1.3						
	1.4						
2	2.1			X			
	2.2						
	2.3						
	2.4						
3	3.1						
	3.2						
	3.3						
	3.4						
	3.5						
	3.6						
4	4.1						
	4.2						
	4.3						
5	5.1	X					
	5.2	X				X	
6	6.1	X					
	6.2	X					X
	6.3	X		X			
	6.4			X			
7	7.1	X			X		
	7.2	X		X			
8	8.1	X	X			X	
	8.2	X	X				X
	8.3	X			X		
	8.4						X
9	9.1						
	9.2	X		X			
	9.3	X					
	9.4	X				X	
	9.5	X	X	X	X	X	
	9.6	X					
10	10.1	X	X	X			
	10.2	X					
Misc.			X				

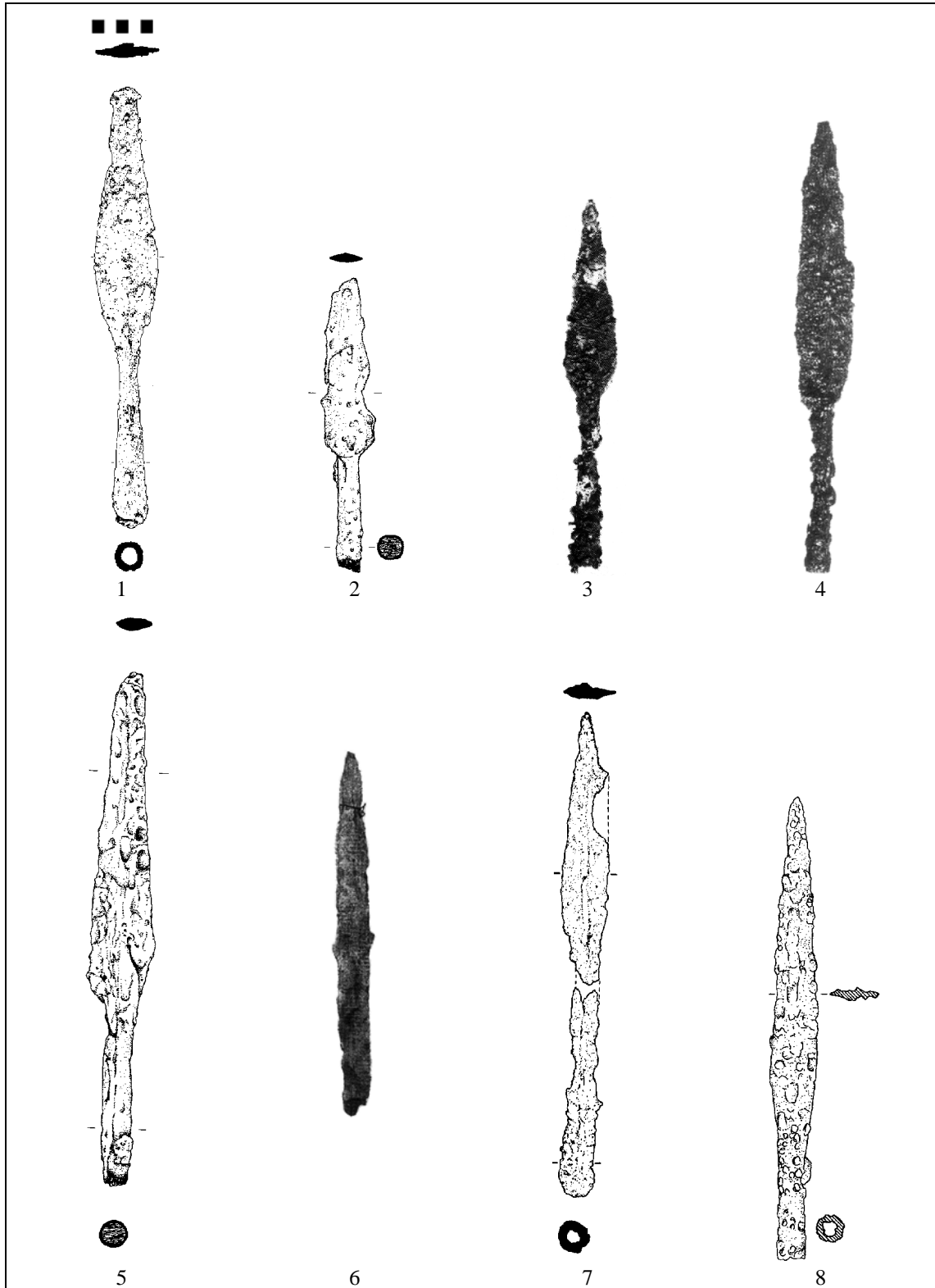
**Table 19: Typological distribution of swords in Daunia during 8th C - 4th C (X=presence)**

Sword Type		Sites					
		Lavello	Canosa	Ortona	Ascoli Satriano	Arpi	Minervino Murge
1	1.1						
	1.2						
	1.3						
	1.4						
2	2.1						
	2.2						
3	3.1	X					
	3.2	X	X	X			X
	3.3	X					X
4	4.1						
	4.2						
5	5.1						
	5.2						
	5.3						



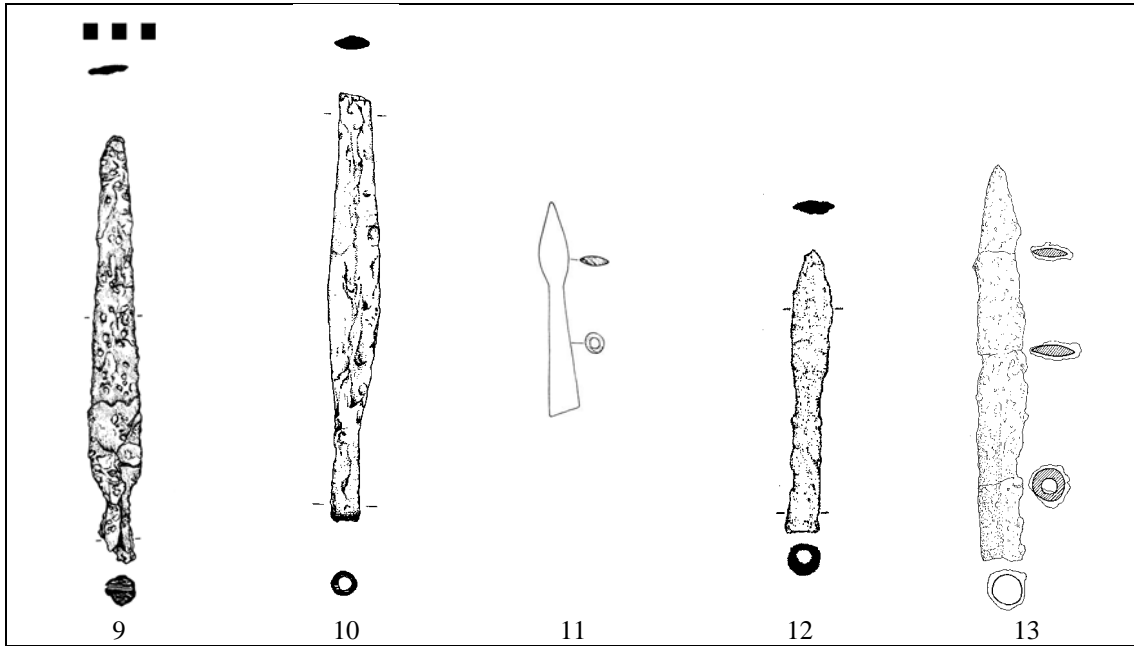
**Figure 10. Type 1-4 Spearheads (to scale).**

- 1 – Lavello Tomb E - type 1.1
- 2 – Ortona Tomb 12 (78.OR.143) - type 1.1
- 3 – Ortona Tomb 12 (78.OR.143) - type 2.1



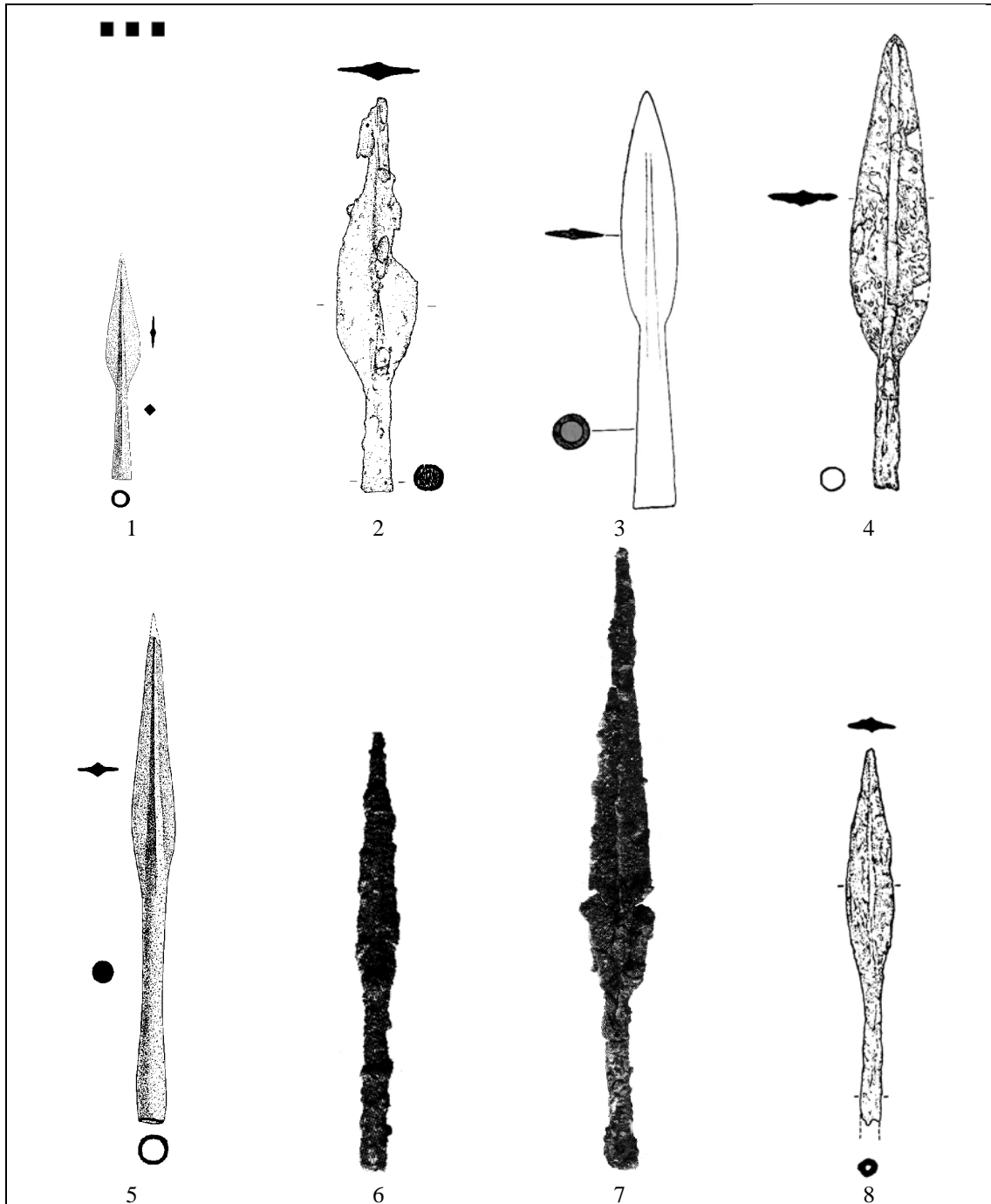
**Figure 11. Type 5 and 6 spearheads (to scale).**

- |                                       |   |
|---------------------------------------|---|
| 1. Lavello Tomb 279 - type 5.1        | 6. Minervino Murge Tomb OC-4 - type 6.2 |
| 2. Lavello Tomb 600 No. 64 - type 5.2 | 7. Lavello Tomb 42 - type 6.2           |
| 3. Arpi Tomb 15 - type 5.2            | 8. Lavello Tomb 656 - type 6.2          |
| 4. Arpi Tomb 11 - type 5.2            |   |
| 5. Lavello Tomb 686 No. 33 - type 6.1 |   |



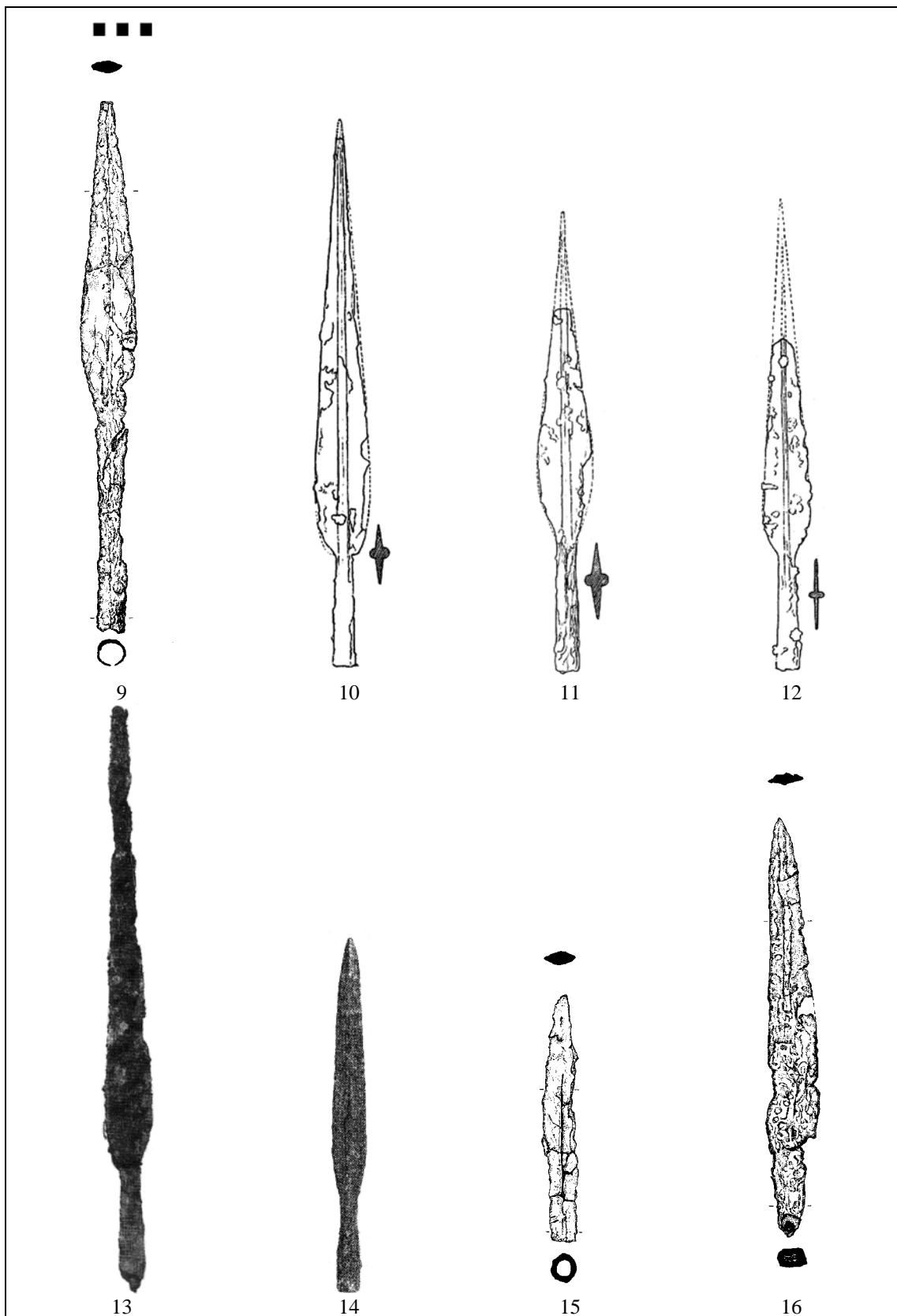
**Figure 12. Type 6 Spearheads cont. (to scale).**

- 9. Lavello Tomb 669-II - type 6.2
- 10. Lavello Tomb 686 – type 6.2
- 11. Ortona Tomb 32 (De Juliis enumeration) type 6.3
- 12. Lavello Tomb 229 - type 6.3
- 13. Ortona Tomb 50 (75.OR.159) - type 6.4



**Figure 13. Type 7 and type 8 Spearheads (to scale).**

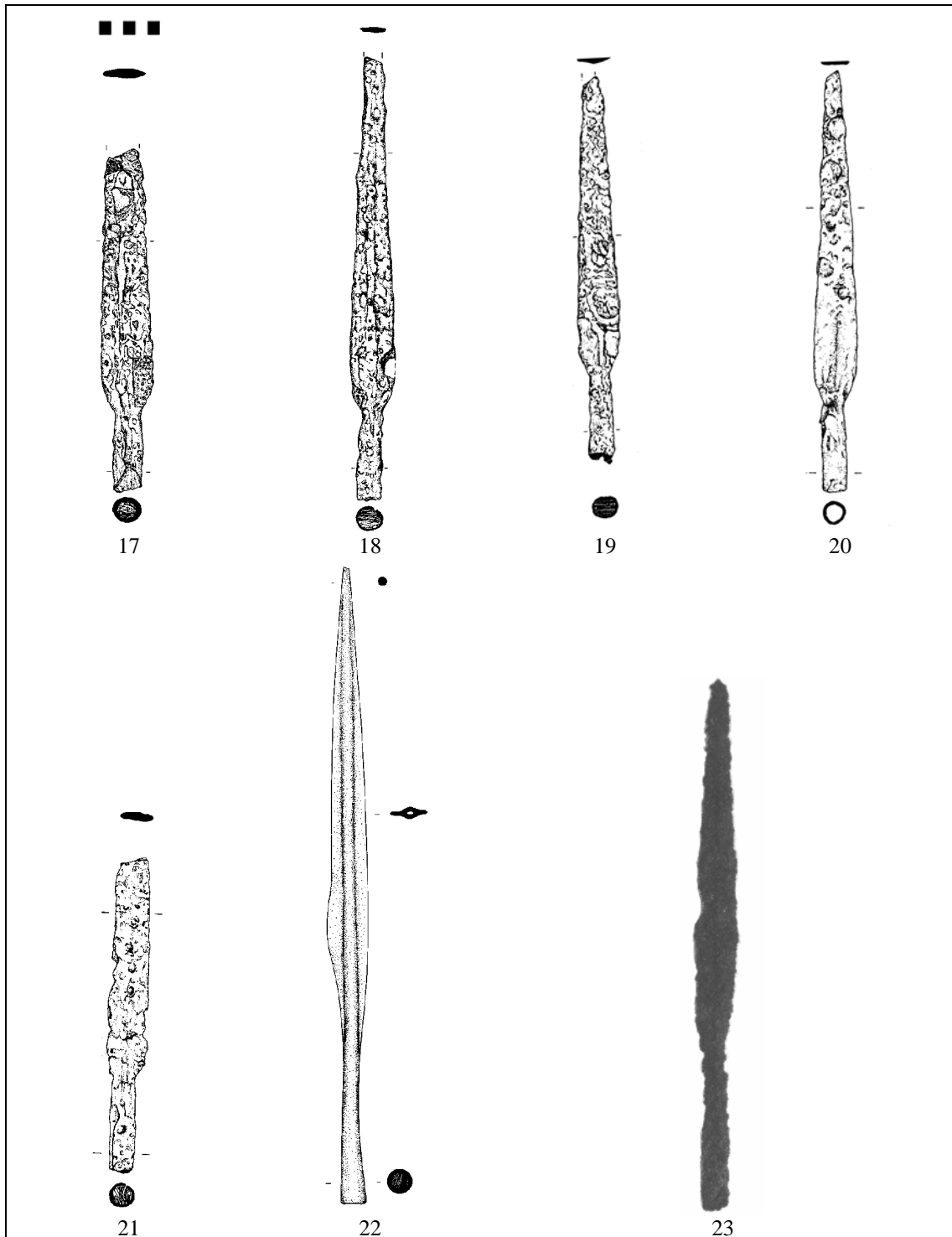
- |  |                                   |
|--|-----------------------------------|
| 1. Arpi Tomb 17 - type 7.1                           | 4. Lavello Tomb 669-II - type 7.2 |
| 2. Lavello Tomb 600 - type 7.1                       | 5. Arpi Tomb 6 - type 8.1         |
| 3. Ortona Tomb 28 (De Juliis enumeration) - type 7.2 | 6. Arpi Tomb 13 - type 8.1        |
|  | 7. Arpi Tomb 15 - type 8.1        |
|  | 8. Lavello Tomb 71 - type 8.1     |



**Figure 14. Type 8 spearheads (to scale).**

- 9. Lavello T669-II - type 8.1
- 10. Canosa Ipogeo Scocchera A - type 8.1
- 11. Canosa Ipogeo Scocchera A - type 8.1
- 12. Canosa Ipogeo Scocchera A - type 8.1

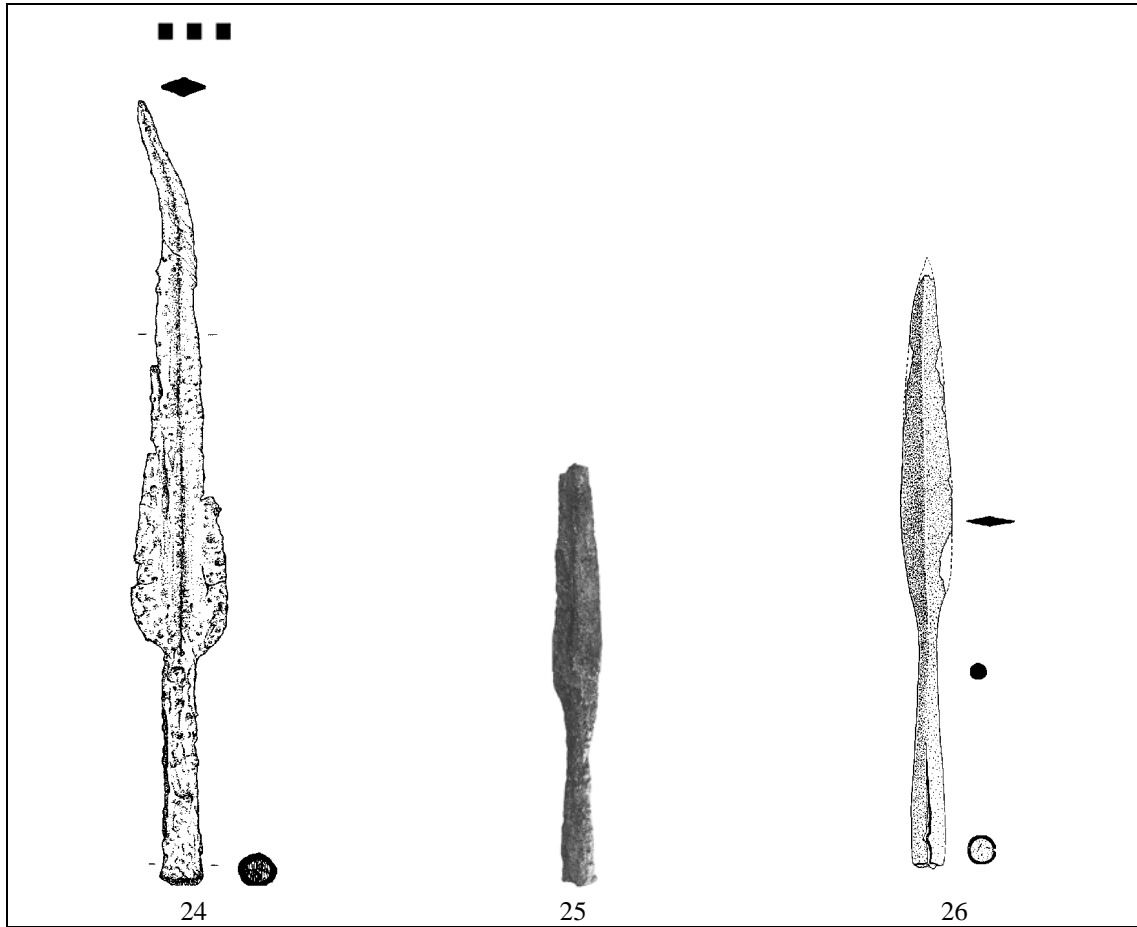
- 13. Minervino Murge TOC-4 - type 8.2
- 14. Minervino Murge TSA-2 - type 8.2
- 15. Lavello T604 - type 8.2
- 16. Lavello T669-II - type 8.2



**Figure 15. Type 8 spearheads (to scale).**

- 17. Lavello T669-II - type 8.2
- 18. Lavello T669-II - type 8.2
- 19. Lavello T669-II - type 8.2
- 20. Lavello T669-II - type 8.2

- 21. Lavello T669-II - type 8.2
- 22. Canosa Ipogeo dei Vimini Cella B – Right  
Deposition - type 8.2
- 23. Canosa II - T4 Cella B - type 8.2



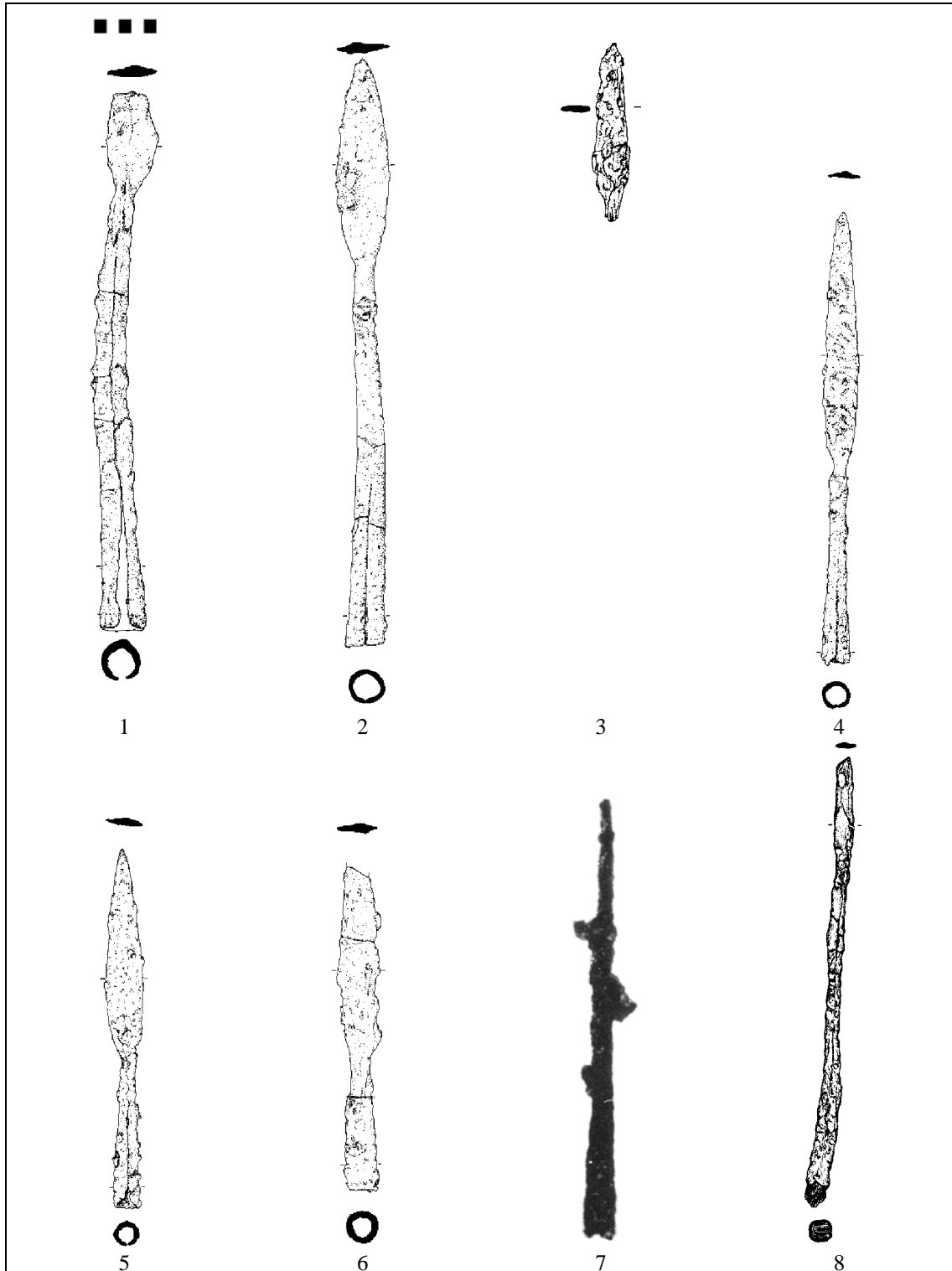
**Figure 16. Type 8 Spearheads cont. (to scale).**

24. Lavello Tomb 600 - type 8.3

25. Minervino Murge Tomb OC-11 - type 8.4.

26. Ascoli Satriano Tomb 46 - type 8.4

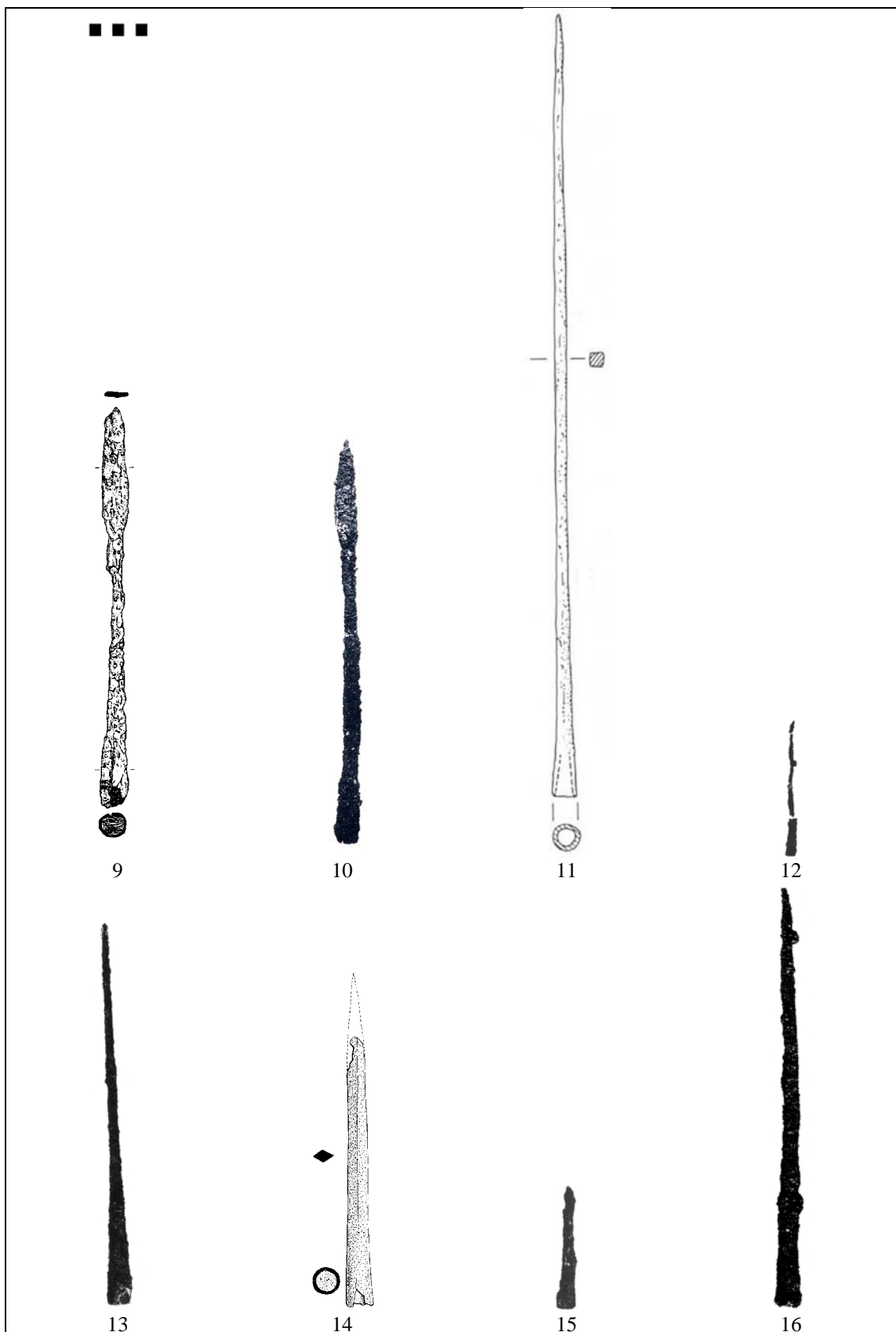




**Figure 17. Type 9 spearheads (to scale)**

1. Lavello Tomb 279 - type 9.2
2. Lavello Tomb 279 - type 9.2
3. Lavello Tomb 669-II - type 9.2
4. Lavello Tomb 279 - type 9.3

5. Lavello Tomb 279 - type 9.3
6. Lavello Tomb 279 - type 9.3
7. Arpi Tomb 10 - type 9.4/7.5
8. Lavello Tomb 669-II - type 9.4



**Figure 18. Type 9 spearheads cont. (to scale).**

9. Lavello Tomb 669-II - type 9.4

10. Arpi Tomb 6 - type 9.4

11. Ortona Tomb 149 (64.OR.106) - type 9.5

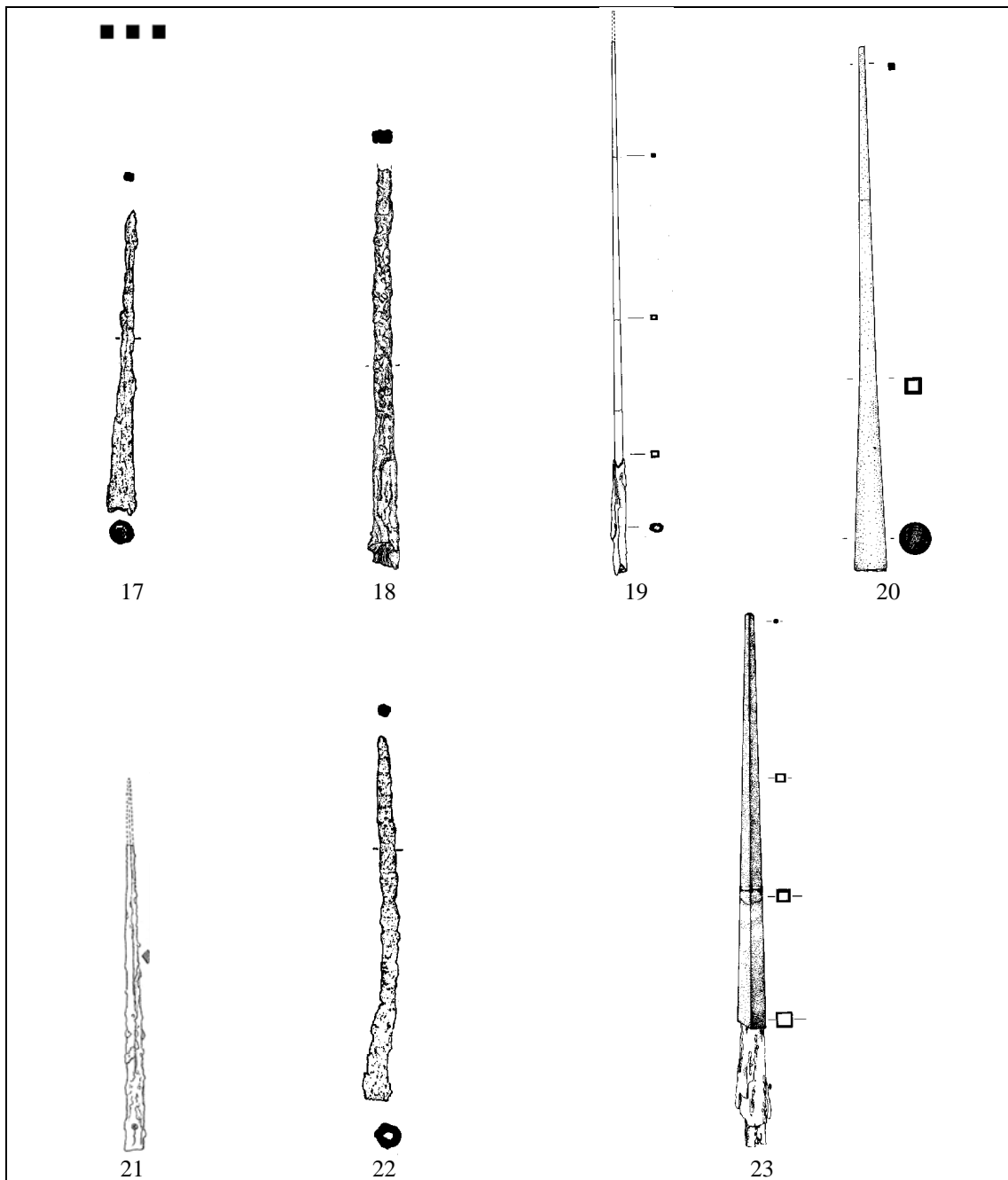
12. Ascoli Satriano Tomb 19 - type 9.5

13. Ascoli Satriano Tomb 36 - type 9.5

14. Ascoli Satriano Tomb 37 - type 9.5

15. Ascoli Satriano Tomb 78 - type 9.5

16. Arpi Tomb 11 - type 9.5



**Figure 19. Type 9 cont. and Misc. Spearheads (to scale).**

17. Lavello Tomb 21 - type 9.5

18. Lavello Tomb 669-II - type 9.5

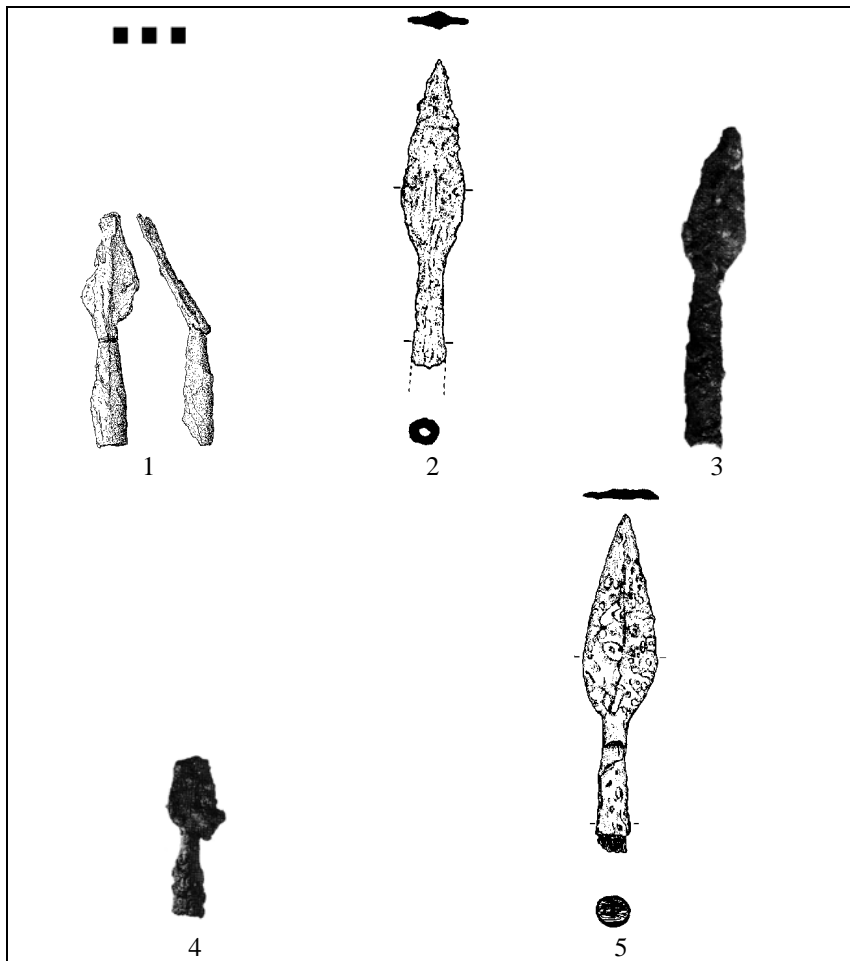
19. Canosa Ipogeo dei vimini Cella A - type 9.5

20. Canosa Ipogeo dei vimini Cella B (right deposition) - type 9.5

21. Canosa Ipogeo Scocchera A - type 9.5

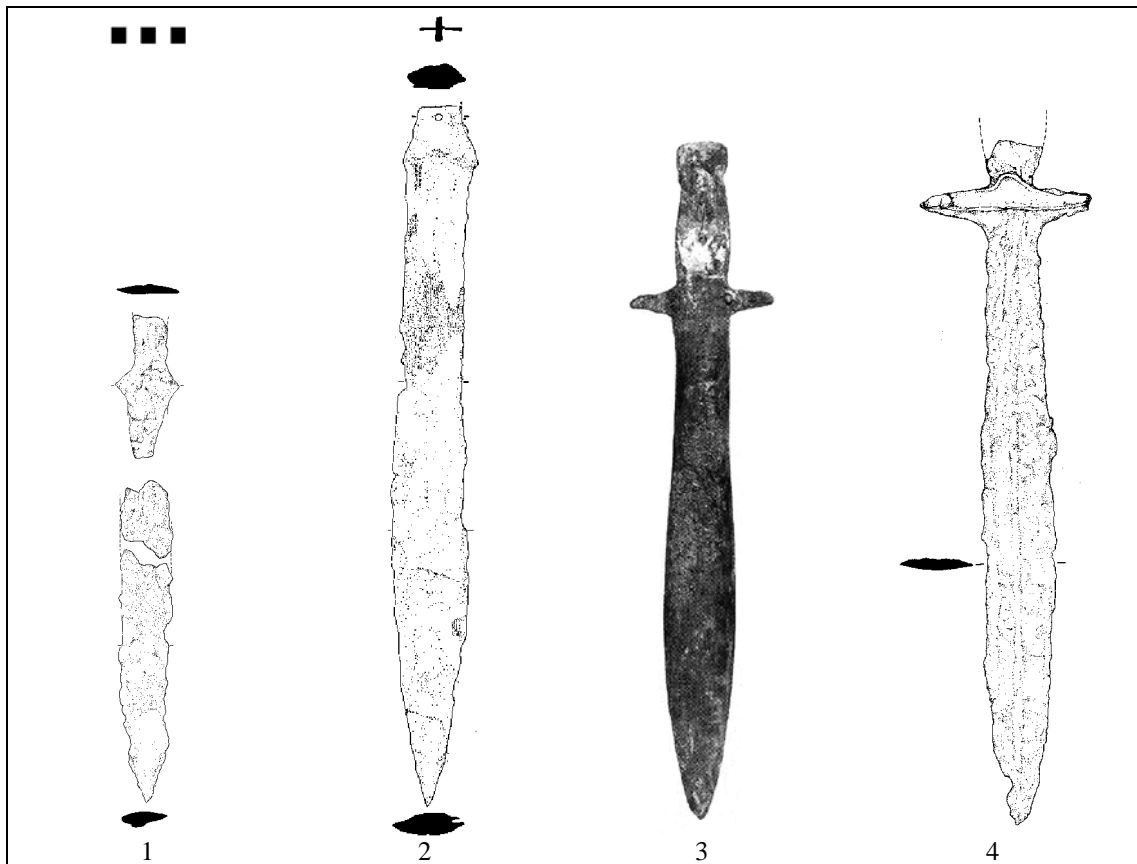
22. Lavello Tomb 33 - type 9.6

23. Canosa Ipogeo dei vimini Cella B (left side deposition) – type - Misc.



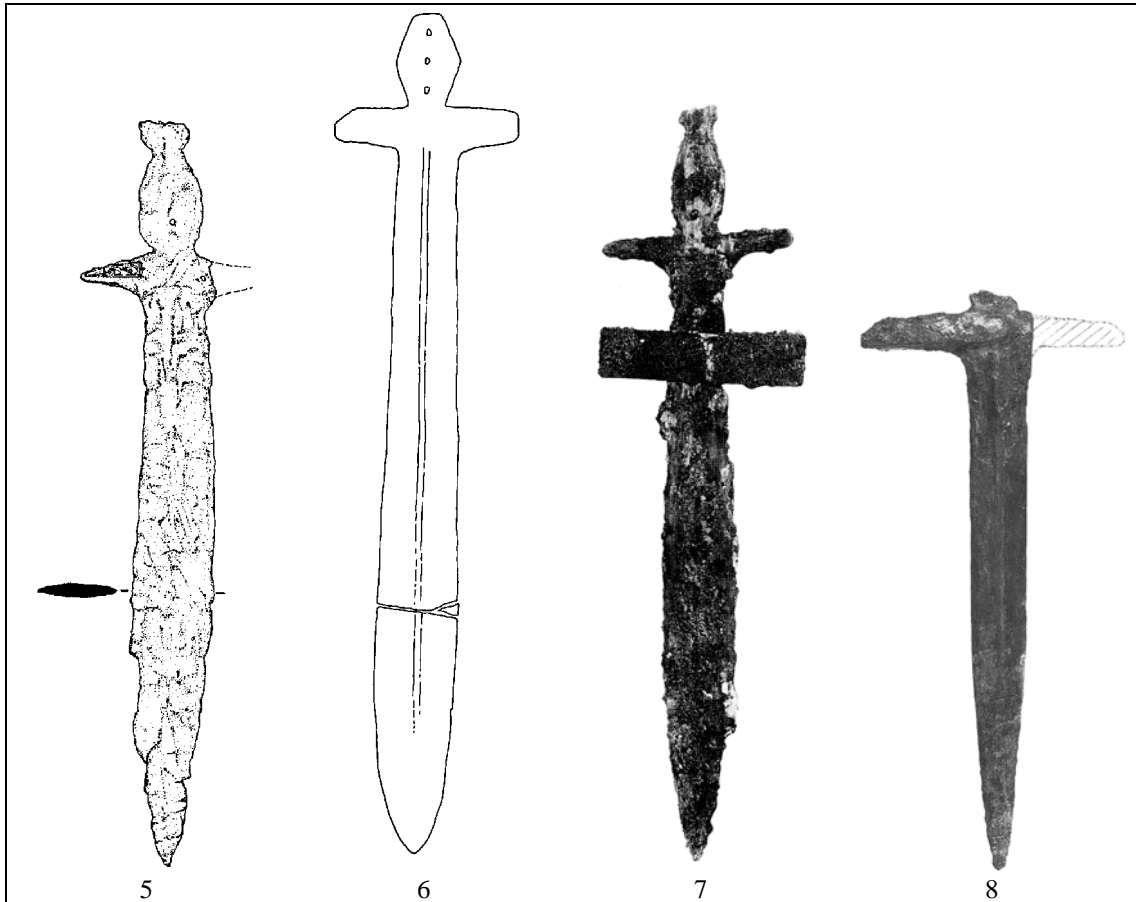
**Figure 20. Type 10 Spearheads (to scale).**

1. Ordonia Tomb 53 (66.OR66) - type 10.1
2. Lavello Tomb 214 - type 10.1
3. Canosa Canosa II - Tomb 4 Cella A - type 10.1
4. Canosa Canosa II - Tomb 4 Cella B - type 10.1
5. Lavello Tomb 669-II - type 10.2



**Figure 21: Type 3 Swords (to scale).**

1. Lavello Tomb 279 - type 3.1
2. Lavello Tomb 279 - type 3.1
3. Minervino Murge Tomb MS-3 - type 3.2
4. Lavello Tomb 38 - type 3.2



**Figure 22. Type 3 swords cont. (to scale).**

5. Lavello Tomb 302-II - type 3.2
6. Ortona Tomb 71 (71.OR.07) - type 3.2
7. Canosa Toppicelli Tomb 9 - type 3.2
8. Minervino Murge Tomb OC-11 - type 3.3

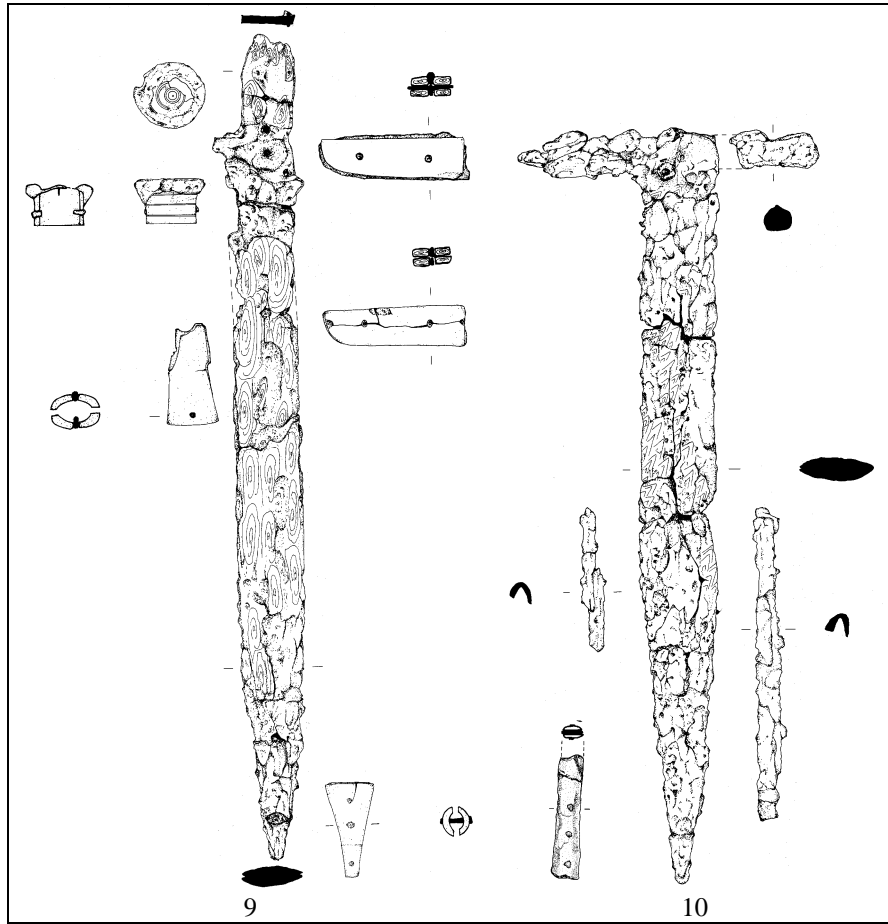


Figure 23. Type 3 Swords (to scale).

- 9. Lavello Tomb 600 - type 3.3
- 10. Lavello Tomb 600 - type 3.3

## **Chapter 5**

### **Regional Comparison of Weapons –Basilicata**

In this typological assessment of weaponry between the 8<sup>th</sup> C and 4<sup>th</sup> C in Basilicata I chose to review material from six sites (Figure 1): Incoronata, on the Ionian coast, Chiaromonte, in the Sinni Valley, and, Ruvo del Monte, Oppido Lucano, Serra di Vaglio, and Satrianum, all indigenous sites in northern Basilicata which are perceived as having a cultural affinity.<sup>1</sup> These sites present a range of data from burial contexts dating between the beginning of the 8<sup>th</sup> C and the 4<sup>th</sup> C, and represent a broad sample from the region in chronological and geographic terms, including those sites which have produced the most weapons and which are well published. However, these sites by no means present a complete survey of the material available from the region during the period under discussion. While the site of Lavello is physically located within Basilicata I have chose to include it in my discussions of Daunia as the site better fits with the cultural milieu of that region.

Between the 8<sup>th</sup> C and 4<sup>th</sup> C interactions between indigenous settlements demonstrate connections between the Daunian population of Northern Basilicata and Apulia, via the Ofanto-Sele communication route to the Tyrrhenian coastal population of Southern Campania. Communication and exchange routes also functioned between the Ionian littoral and Northern Basilicata via the Bradano and Basento Valleys and with the Tyrrhenian via the Sinni and Agri Valleys and their respective hinterlands. Comparison of the weapons finds from sites in Basilicata may not only give an indication of the military and social functions of weapons, but may also highlight cultural connections. While I focus specifically on weaponry, a range of

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<sup>1</sup> See Di Lieto 2008 for an outline of cultural zones in northern Basilicata.



paraphernalia, such as armour and iron spits, often associated with weaponry by modern scholars, will also be discussed.

As all of the material included here comes from funerary contexts it will also be important to consider tomb types, which will be discussed briefly for each site. Variations in funerary ritual mark important cultural, and possibly ethnic, changes within the region.

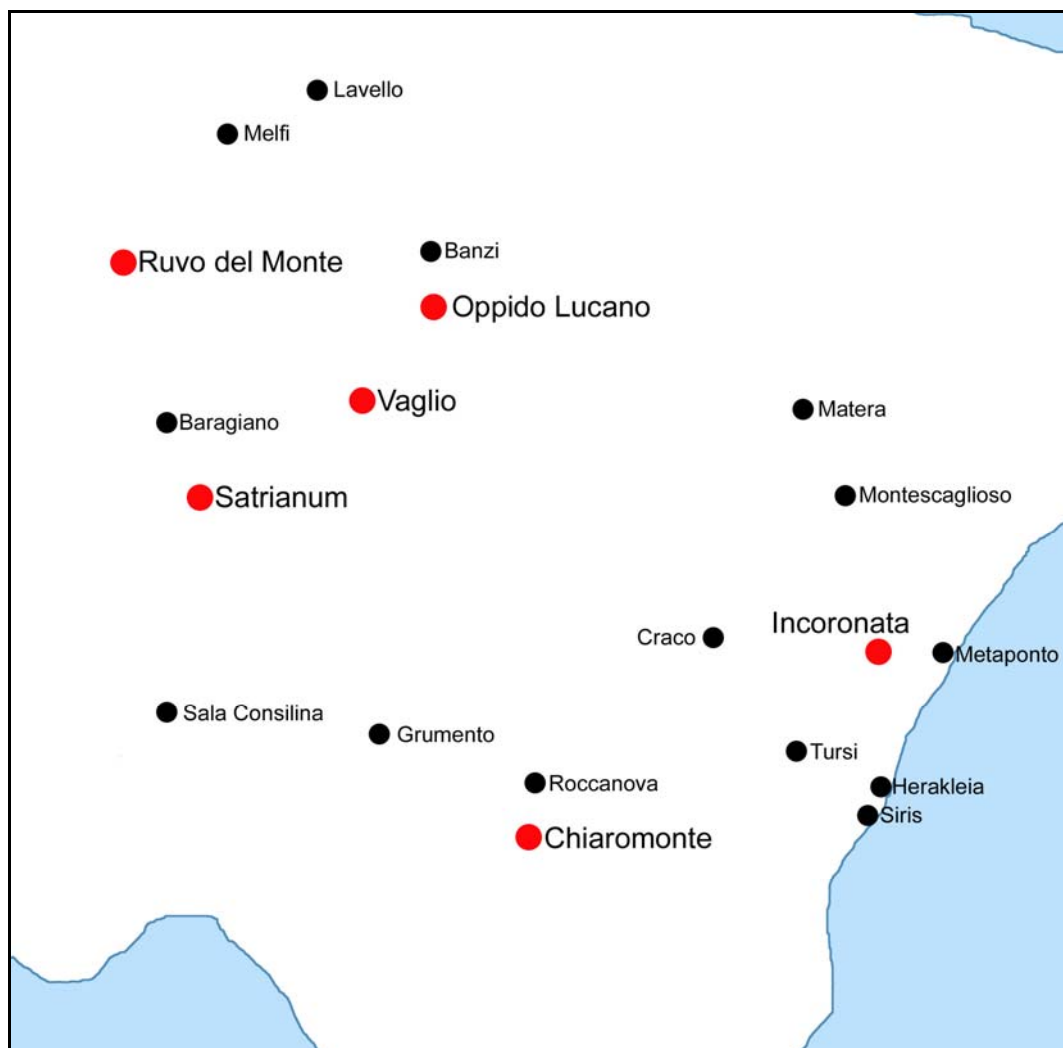


Figure 1: Basilicata. Sites discussed in this chapter are highlighted red.

## **Incoronata**

Incoronata, near to the Basento River and close to the Ionian littoral, was an indigenous settlement with contact with inland Basilicata via the river system. In the early 7<sup>th</sup> C the habitation area of Incoronata shows the first evidence of Greek residents and over the course of the 7<sup>th</sup> C there is shift in settlement concentration towards the area known as *Incoronata greca*—thought to have been inhabited by a mixed population of indigenous and Greek peoples—away from the area known as *Incoronata indigena*.<sup>2</sup> The ‘indigenous’ necropoleis of Incoronata were excavated in the 1970s and 1980s. Preliminary reports of these excavations were published by Chiartano in 1977 and the more complete findings were published in three volumes in 1994 and 1996.<sup>3</sup> The material published by Chiartano pre-dates the foundation of Metaponto and there are no Greek ceramic forms recorded from the burials. His publications outline the excavation of 532 tombs, more than 200 of which had been plundered. The mode of burial was generally in a fossa with either a rectangular or elliptical plan, lined with sandstone with a pebble base also noted in many instances. While the skeletal material was often poorly preserved, it was possible to determine from the surviving remains that the tombs were frequently—but not exclusively—single depositions and that the deceased were routinely placed in a contracted position.<sup>4</sup> Based on the interpretation of a number of objects within the burial assemblages Chiartano identified 83 graves as male burials, 39 of which were undisturbed.<sup>5</sup> Weapons were present in 36 of the 39 undisturbed adult ‘male’ tombs. Of the 44 disturbed tombs, 12 can be said with certainty to have included arms.

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<sup>2</sup> Yntema 2000, 11-16.

<sup>3</sup> Chiartano 1977; Chiartano 1994; Chiartano 1996.

<sup>4</sup> Chiartano 1994, 17-29.

<sup>5</sup> Henneberg performed an analysis on the remains of 40 individuals from the site and generally described the condition of the osteological material as poor: Henneberg 1994.

Weapons were also present in two tombs identified as female, albeit tentatively, on the basis of osteological analysis.

The material from Incoronata is clearly earlier than that from any of the other sites discussed in this chapter though the chronology of the necropoleis is problematic. Chiartano has published a confused account of the absolute chronology of the site, suggesting that the initial phase of the necropoleis should date from around the close of the 10<sup>th</sup> C to the first quarter of the 9<sup>th</sup> C, and the chronology suggested for the final phase of the necropolis is from the last decade of the 9<sup>th</sup> C down to the first quarter of the 8<sup>th</sup> C.<sup>6</sup> The chronology laid out for Incoronata has been questioned by both Yntema and Herring and it should be noted that material from Incoronata on display in the Museo di Metaponto is consistently labelled '8<sup>th</sup> C', without suggestions of more specific dates.<sup>7</sup> It is clear that the necropoleis were in use for a considerable length of time and that those tombs which contain only bronze weapons are likely to be earlier than those containing weapons exclusively of iron. De Siena has excavated 7<sup>th</sup> C tombs from the 'mixed' *Incoronata greca* which would extend the chronological sequence for Incoronata, but these remain unpublished.<sup>8</sup>

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<sup>6</sup> Chiartano 1994, 31-6.

<sup>7</sup> Herring 1998; Yntema 2000; personal observations.

<sup>8</sup> De Siena 2001, 17-22 briefly discusses the mixed Incoronata 'greca'.

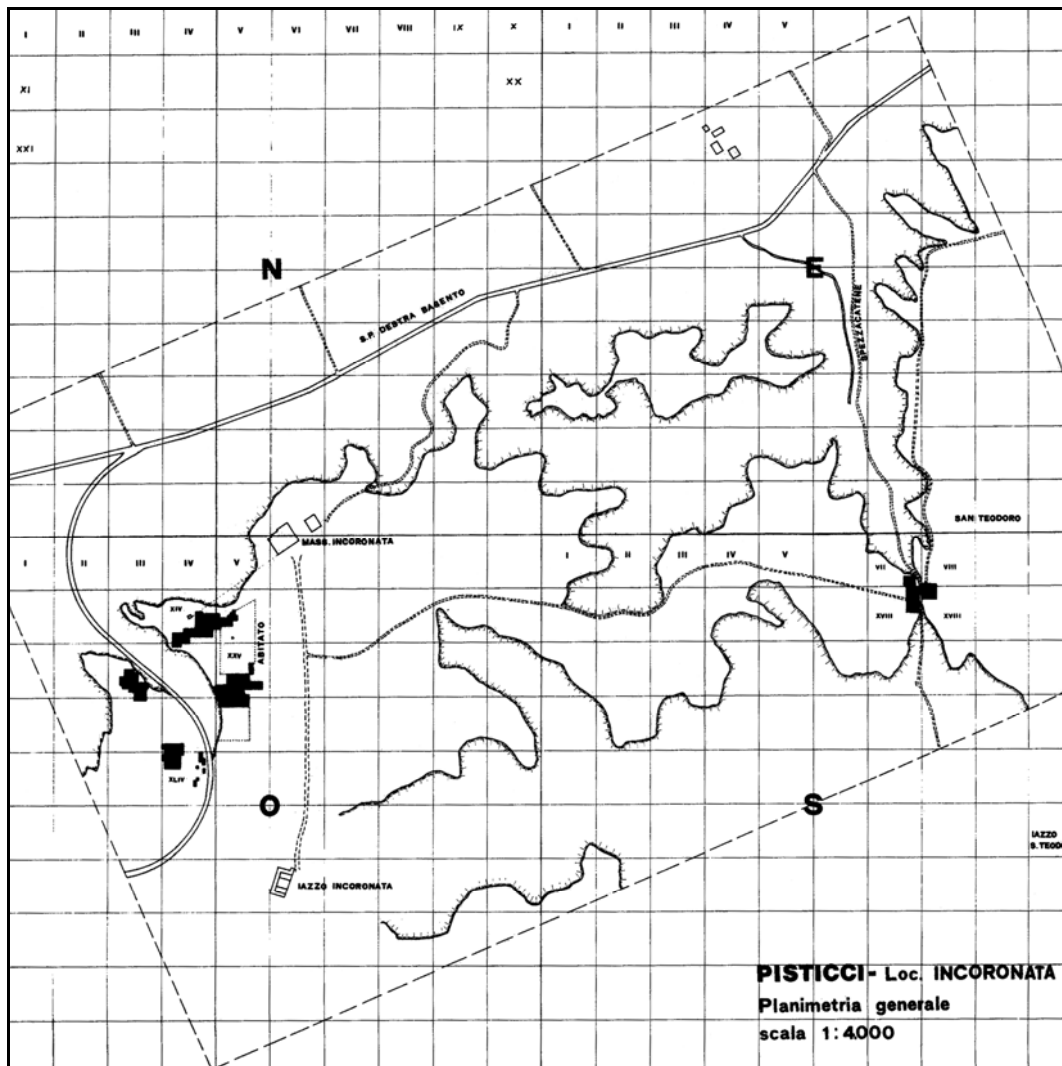


Figure 2: Necropoleis of Incoronata, after Chiartano 1994, plate F.

The indigenous necropoleis are divided into four distinct areas: the northwest sector in the vicinity of Masseria Incoronata, the western sector identified as Località La Cappella, the Southern Sector, and eastern sector in the vicinity of Masseria San Teodoro.

The table below contains the finds of weapons and associated paraphernalia; weapons have been allocated to type on the basis of their illustration, their accompanying descriptions and personal observations of the material made during a visit to the Museo Nazionale di Metaponto in 2005.

**Table 1: Incoronata, Sector Northwest 'Masseria Incoronata', weapons and associated paraphernalia.**

F= Fossa S= 'sarcofago' C= Cassa ? = Indeterminate

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
43	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 16.8cm		A stone-lined tomb with a heavy coverstone. The assemblage moved by the subsidence of one of the tomb walls.	Chiartano 1977, 153-4 and fig. 87.
54	9thC/ 8 <sup>th</sup> C	S	1	10.1			L 12.2cm, W 3.4cm Socket diam. 2cm		Tomb had been badly damaged by the plough. The position of the spearhead within the tomb is not noted.	Chiartano 1977, 161 and fig. 89.
150	9thC/ 8 <sup>th</sup> C	F?	1	6.3			L 19.4cm – incomplete		The tomb had been damaged by the plough. The iron spearhead was found next to the remains of the skull.	Chiartano 1994, 88 and plate 4.
165	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 11.7cm Socket diam. 2.5cm		Tomb of a male aged 50-60 years in a contracted position. The spearhead was placed beside the upper torso of the deceased.	Chiartano 1994, 95 and plate 8.
284-B	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 12.3cm		Burial of a single individual in a contracted position. The coverstone of Tomb 284-B, formed the base of the overlying Tomb 284-A. The bronze spearhead was positioned close to the skull.	Chiartano 1994, 112 and plates XII and 54.
285	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 18cm		Fossa tomb of a single individual in a contracted position. The bronze spearhead was positioned close to the shoulders of the deceased.	Chiartano 1994, 113 and plate 55.
288	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 19cm		Fossa tomb of two individuals placed in overlapping contracted positions. Osteological analysis suggests one was female. The burial assemblage also suggests one of the deceased was male, the other female. The spearhead was positioned close to the skull thought to belong to the female.	Chiartano 1994, 114 and plates XIV and 57.
290	9thC/ 8 <sup>th</sup> C	F	1	3.5			L 15.1cm		The spearhead, described by Chiartano as a javelin, was positioned near the head of the deceased.	Chiartano 1994, 117 and plate 59.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
294	9thC/ 8 <sup>th</sup> C	F	1	1.2			L 15cm		An individual in a contracted position. The spearhead was positioned near to the shoulders of the deceased. A small bronze ring, small bronze spiral and two hemispherical buttons were placed at the base of the spearhead. The relative position suggesting these items were directly associated with the spearhead.	Chiartano 1994, 119 and plates XV and 61.
296	9thC/ 8 <sup>th</sup> C	C	1	3.5			L 17.9cm		The spearhead was positioned near to the shoulders of the deceased. Positioned at the base of the spearhead socket within the burial context was a small bronze ring, possibly associated with the spearhead.	Chiartano 1994, 120 and plates XVI and 61.
297	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 17.7cm		A single deposition in a contracted position. The spearhead was positioned close to the skull of the deceased.	Chiartano 1994, 121 and plates XVII and 63.
298	9thC/ 8 <sup>th</sup> C	F	1	3.5			L 17.2cm	1 poss. iron spit	The tomb appears to have been robbed in antiquity. The spearhead was recovered near the skull of the deceased. Also remaining in the assemblage, close to the bronze spearhead was a fragment of iron with a circular section, measuring 3.9cm long.	Chiartano 1994, 121 and plate 62.
303	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 14.5cm		Tomb of an adult male in a contracted position. The spearhead was positioned close to the feet of the deceased. The blade shows significant wear possibly from repeated sharpening.	Chiartano 1994, 123 and plate 66.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
309	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 17cm		Tomb of an adult male, the spearhead positioned close to the head of the deceased.	Chiartano 1994, 127 and plates XVII and 69.
319	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 21cm	1 bronze <i>sauroter</i> <sup>9</sup>	Osteological analysis suggests the tomb of a male aged approx. 50-60 years of age, placed in a contracted position. The spearhead was positioned close to the skull of the deceased, the <i>sauroter</i> positioned on the same alignment as the spearhead close to the forearm of the deceased.	Chiartano 1994, 129 and plates XVIII and 71.
321	9thC/ 8 <sup>th</sup> C	F	1	6.2	1	1?	Spearhead: L 36cm; Sword: iron, L 28cm, W 4.4cm Description allows tentative allocation to Type 1 group.	1 bronze scabbard L 34cm with incised geometric decoration.	The iron spearhead was positioned close to the skull. A group of hemispherical buttons was also recovered from the tomb, positioned close to and in some cases in direct contact with the base of the spearhead, suggesting they were associated. The sword and scabbard were positioned to the side of the deceased. Chiartano identifies the scabbard as a member of the Torre Galli type. <sup>10</sup>	Chiartano 1994, 130 and plates XVIII and plates 72-4.
322	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 17.4cm		The tomb of a male, aged 35-45 years in a contracted position. The spearhead was positioned to the side of the deceased, close to the wall of the fossa.	Chiartano 1994, 131 and plates XVIII and 75.

<sup>9</sup> Similar bronze counterpoints are noted among later finds from Olympia, dated to the late 6<sup>th</sup> and early 5<sup>th</sup> C: Baitinger 2001 Catalogue numbers 1073, 1077 and 1173 all show a degree of stylistic similarity to the Incoronata example. All are members of Baitinger's Bronze Sauroter Type III, sub-types IIIA, IIIB and IIIE.

<sup>10</sup> Also associated with the sword were two small bronze chains, a group of hemispherical buttons, a series of bronze rings interpreted by Chiartano as mail or mesh (*maglie*), and group of bronze spirals. Chiartano stressed that these items were contextually associated with the sword and the scabbard, although he was unable to reconstruct them with certainty or ascertain their function: Chiartano 1994, 130 and plates XVIII and plates 72-4. Similarly decorated scabbards are published in Bianco Peroni 1970 no. 196 from Roccella Ionica Tomb 24 in Reggio Calabria, dated to the 9<sup>th</sup> C associated with a bronze sword assignable to type 4.5 and an iron spearhead; no. 205a from Pontecagnano Tomb 180 associated with a bronze sword assignable to type 4.2 and a bronze spearhead assignable to type 1.4 dated to the first half of the 9<sup>th</sup> C; no. 342, from Sala Consilina S. Antonio Tomb 29, dated to the first half of the 9<sup>th</sup> C, accompanied by an iron sword which can be allocated to type 4.2 and a spearhead; no. 345 Sala Consilina S. Antonio Tomb 119; no. 351 Sala Consilina S. Nicola Tomb 44, dated to the 9<sup>th</sup> C and also accompanied by an iron sword.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
326	9thC/ 8 <sup>th</sup> C	F	1	3.4	1	?	Spearhead: L 19.5cm. Sword: iron, L 17.7cm, – incomplete W 4cm.		Osteological analysis suggests the tomb of a male between 30 and 40 years of age in a contracted position. The spearhead was placed close to the skull. Chiartano cites a comparable spearhead from Palazzo S. Gervasio <sup>11</sup> and an example from a Late Bronze Age - Early Iron Age necropolis at Pazhok in Albania.	Chiartano 1994, 133 and plates XIX and 78.
328	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 17.3cm		Skeletal analysis suggests the deceased was a male aged 25-30 years of age. The spearhead was positioned close to the skull of the deceased.	Chiartano 1994, 133 and plates XX and 75.
336	9thC/ 8 <sup>th</sup> C	C			1	2.2	L 62.5cm. <sup>12</sup>		Tomb, which had been robbed in antiquity, held the disarticulated remains of two adults. The position of the sword within the tomb is unknown.	Chiartano 1994, 136 and plate 80.
350	9thC/ 8 <sup>th</sup> C	F			1	1?	Iron, L 37cm - incomplete	1 bronze scabbard with incised geometric decoration.	Single deposition in a contracted position. The sword was positioned to the side of the deceased. Positioned close to the hilt of the sword were a bronze ring along with a group of smaller bronze rings and seven small bronze spirals, seemingly associated.	Chiartano 1994, 141 and plates XIX, 84 and 85.
376	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 18cm		Poorly preserved remains of a single individual in a contracted position. The spearhead was positioned close to the skull.	Chiartano 1994, 144 and plates XX and 92.
382	9thC/ 8 <sup>th</sup> C	C	1	1.1			L 17.5cm		Dual deposition tomb, the assemblage including items associated with both male and female gender. The spearhead was positioned in the west-northwest corner of the tomb.	Chiartano 1994, 146 and plates XXI and 94.
390	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 13.5cm		Single deposition fossa tomb. An impasto bowl was positioned close to the skull, the spearhead placed between the bowl and the tomb wall, the point directed towards the foot of the tomb. The point of the spearhead was noticeably worn.	Chiartano 1994, 148 and plate 95.

<sup>11</sup> Kilian 1970, plate 270 No. 1.6.

<sup>12</sup> A comparable example can be identified from Oppido Lucano, dated to the early 6<sup>th</sup> C: Lissi Caronna 1980, 169-70.



Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
394	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 22.8cm		Fossa burial of a single individual in a contracted position. The spearhead was positioned close to the skull of the deceased.	Chiartano 1994, 149 and plates XXII and 97.
414	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 10.4cm		Single deposition fossa tomb. The spearhead was positioned close to the skull of the deceased.	Chiartano 1994, 156 and plate 104.
421	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 11.4cm		Fossa tomb which was damaged by modern agricultural activity. The spearhead had a badly damaged blade, whether the damage was incurred as a result of use or is an accident of preservation is unclear.	Chiartano 1994, 158 and plate 105
432	9thC/ 8 <sup>th</sup> C	F			1	1.4	Bronze, L 53cm.	1 bronze scabbard L 36.8cm <sup>13</sup>	Badly disturbed fossa which had been a victim of clandestine excavations. The sword blade features longitudinal striations on either side of the shallow midrib. It is clear that the blade and the hilt were cast separately. Small frags. of iron were preserved on the hilt, it is unclear whether these relate to the method of handle attachment, or whether they are remnants of decorative elements.	Chiartano 1994, 160 and plate 116.

**Table 2: Incoronata, Sector West 'Località la Cappella', weapons and associated paraphernalia.**

F= Fossa S= Stone-lined 'sarcophago' P= Pebble-lined ? = Indeterminate

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
185	9thC/ 8 <sup>th</sup> C	F	1	?			Iron, L 18.4cm – incomplete Socket diam. 2.7cm		Fossa burial of a single adult in a contracted position, the iron spearhead positioned close to the skull.	Chiartano 1994, 167 and plate 15.
195	9thC/ 8 <sup>th</sup> C	?	1	1.1			L 14cm		The tomb had been badly damaged by agricultural activity. The spearhead was positioned near to the skull.	Chiartano 1994, 170 and plate 15.

<sup>13</sup> Compares with Bianco Peroni's Pontecagnano and Guardia Vomano types, see: Bianco Peroni 1970, particularly scabbards no. 205a and no. 208 from Pontecagnano; no. 320a from Teramo, Abruzzi; and no. 310 from Acciaierie, Umbria.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
205	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 17.4cm		A disturbed single inhumation tomb. The spearhead was positioned behind the skull.	Chiartano 1994, 173 and plate 18.
206	9thC/ 8 <sup>th</sup> C	F	1	2.1	1	?	Spearhead: L 24.5cm; Sword: iron, L 28.3cm – incomplete W 3.3cm.		Single inhumation tomb. The spearhead was positioned close to the skull. A small, fragmentary bronze chain was also recovered in association with this spearhead. The iron sword blade was positioned near to the torso.	Chiartano 1994, 173 and plate 19.
217	9thC/ 8 <sup>th</sup> C	F	1	3.5			L 18.4cm		Fossa tomb of an adult, which had been robbed in antiquity. The spearhead was recovered from the northwest corner of the tomb.	Chiartano 1994, 179 and plate 23.
219	9thC/ 8 <sup>th</sup> C	C	1	6.4			L 16.3cm, W 2cm, Socket diam. 2.8cm		Single deposition fossa tomb placed in a contracted position. Osteological analysis, tentatively sexed the deceased as a female aged 25-30 years, <sup>14</sup> however assemblage did not include any items generally associated with the female gender at Incoronata. The spearhead was positioned close to the skull.	Chiartano 1994, 179-80 and plates VII and 23.
221	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 13cm		Fossa tomb badly damaged by agricultural activities. Little skeletal material was preserved and the position of the spearhead within the tomb is not reported.	Chiartano 1994, 180 and plate 24.
229	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 19.5cm		Single deposition tomb in a contracted position. The spearhead was positioned against the tomb wall, close to the skull.	Chiartano 1994, 183 and plates VIII and 26.
230	9thC/ 8 <sup>th</sup> C	F	1	1.1	1	1.5	Spearhead: L18.6cm; Sword: L 64.5cm, iron blade with bronze hilt.	1 bronze scabbard with incised geometric decoration.	Single deposition tomb with very few skeletal remains preserved. The bronze spearhead was positioned close to the skull; the sword to the side of the deceased.	Chiartano 1994, 184 and plates IX and 41.
232	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 13.4cm	1 frag. iron blade	Single deposition tomb in a contracted position. The fragmentary iron blade was positioned close to the torso, the small dimensions suggest it was possibly a dagger, although this cannot be concluded with any certainty.	Chiartano 1994, 186 and plate 27.

<sup>14</sup> Henneberg 1994, 39.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
244	9thC/ 8 <sup>th</sup> C	F	1	1.4			L 13.5cm		Fossa tomb of an adult male the spearhead was positioned close to the skull.	Chiartano 1994, 197 and plates XI and 40.
261	9thC/ 8 <sup>th</sup> C	F	1	6.3			L 11.2cm		Fossa tomb which had been robbed the bronze spearhead having escaped the tomb robbers.	Chiartano 1994, 204 and plate 47.
264	9thC/ 8 <sup>th</sup> C	F	1	7.2			L 26cm		Single deposition, fossa tomb with very little skeletal material preserved. The iron spearhead was positioned near to the skull.	Chiartano 1994, 205 and plate 48.

**Table 3: Incoronata, Sector East 'Masseria San Teodoro', weapons and associated paraphernalia.**

F= Fossa S= Stone-lined 'sarcophago' P= Pebble-lined ? = Indeterminate

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
8	9thC/ 8 <sup>th</sup> C	F	1	?				Iron, L 8cm – incomplete		Single deposition fossa tomb. The spearhead was positioned close to the skull, against the tomb wall.	Chiartano 1977, 90 and fig. 37.
83	9thC/ 8 <sup>th</sup> C	?	1	3.5				L 15.8cm		The spearhead was recovered from the vicinity of Tomb 83, which had been victim of clandestine excavation.	Chiartano 1977, 95 and fig. 42.
125	9thC/ 8 <sup>th</sup> C	F	1	1.1				L 13.2cm	3 iron fragments	Fossa tomb of a single individual, sexed by the excavators as male, in a contracted position. A bowl was positioned close to the skull, the spearhead placed between the bowl and the tomb wall. The function of the three iron fragments could not be conclusively identified.	Chiartano 1977, 122 and fig. 58.
126	9thC/ 8 <sup>th</sup> C	F	1	3.3				L 14.8cm		Single deposition fossa in a contracted position. The spearhead was described by Chiartano as a javelin, was positioned near the feet of the deceased.	Chiartano 1977, 124 and fig.52.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
129	9thC/ 8 <sup>th</sup> C	F	1					L 17.5cm		Single deposition fossa tomb partially damaged by ploughing. Positioned behind the skull was a bronze spearhead.	Chiartano 1977127 and fig. 67.
454	9thC/ 8 <sup>th</sup> C	F	1	7.2	1	1.4		Spearhead: L 41.5cm Socket diam. 2.9cm; <sup>15</sup> Sword: L 60cm	2 bronze poles L 72cm and 29.8cm, diam. 6-9mm and 6mm respectively.	Stone-lined fossa, of an adult in a contracted position. Osteological analysis tentatively identifies the remains as female, aged 30-40 years. The function of the bronze poles is uncertain. The bronze hilt was cast onto the iron blade. The cast bronze hilt featured incised decoration.	Chiartano 1994, 221 and plates XXVI, 112 and 113.
455	9thC/ 8 <sup>th</sup> C	F	1	8.4	1	1?	1 iron axe	Spearhead: L 31.2cm; Sword: L 47cm, iron blade remnants of a bone handle; Axe: L 14cm, W 5cm <sup>16</sup>	1 bronze scabbard featuring incised geometric decoration.	Fossa tomb which had been damaged by agricultural activity. The spearhead was positioned behind the skull and shoulders of the deceased. The iron sword and axe placed beside the body. The axe is the only example from the necropolis.	Chiartano 1994, 223 and plates XXV, 114 and 115.

**Table 4: Incoronata, Sector South, weapons and associated paraphernalia.**

F= Fossa S= Stone-lined 'sarcophago' C= Cassa ? = Indeterminate

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
519	9thC/ 8 <sup>th</sup> C	F	1	1.2	1	?	Spearhead: L 26cm socket diam. 3.1cm; Sword: iron, L25cm (iron blade L11cm, perishable hilt L 14cm)		Single deposition fossa in a contracted position. The spearhead was positioned near the skull; the fragmentary sword near to the torso.	Chiartano 1996, 53-4 and plate 20.
520	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 16.5cm		Single deposition fossa in a contracted position. The spearhead was positioned by the skull of the deceased.	Chiartano 1996, 54 and plate 22.

<sup>15</sup> In the site report the spearhead is described as item L, a further fragmentary iron blade (item E) is not identified as part of the spearhead and was not adjacent to L within the tomb, however, the two items have been displayed together in the Metaponto Museum as fragments of the same point and it is clear that the two form part of a single point: Chiartano 1994, 222.

<sup>16</sup> A comparable example can be found at Pontecagnano T221, published in d'Agostino and Gastaldi 1988, 153 and fig. 67.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
522	9thC/ 8 <sup>th</sup> C	F	1	3.1	1	1.3	Spearhead: L 21cm; Sword: iron, L 36.8cm	1 bronze scabbard with incised geometric decoration.	Single deposition fossa tomb, the skeletal remains poorly preserved. The spearhead was positioned near the skull of the deceased; the sword across the torso. The sword hilt appears to have been made of ivory or horn, traces adhering to the iron base of the hilt.	Chiartano 1996, 55-6 and plate 23.
524	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 13cm		Single deposition fossa in a contracted position. The spearhead was positioned in front of the skull.	Chiartano 1996, 56 and plate 21
530	9thC/ 8 <sup>th</sup> C	F	1	1.1			L 23.2cm		Single deposition fossa which had been disturbed. Skeletal remains were poorly preserved but the spearhead was thought to be positioned near the skull.	Chiartano 1996, 58 and plate 27.
Chance find	?		1	10.1			L 7.8cm			Chiartano 1977, 187 and fig. 110.

## Typological and Chronological Conclusions

Table 5: Summary of Weapons Incoronata (bronze unless indicated otherwise).<sup>†</sup>

Tomb No.	Spearheads	Swords	Other Weapons	Tomb No.	Spearheads	Swords	Other Weapons
43	Thrusting (1.1)			185	Indeterminate <b>iron</b>		
54	Thrusting (10.1) <b>iron</b>			195	Thrusting (1.1)		
150	Versatile (6.3) <b>iron</b>			205	Thrusting (1.1)		
165	Thrusting (1.1)			206	Versatile (2.1)	Indeterminate <b>iron</b>	
284-B	Thrusting (1.1)			217	Thrusting (3.5)		
285	Thrusting (1.1)			219	Versatile (6.4) <b>iron</b>		
288	Thrusting (1.1)			221	Thrusting (1.1)		
290	Thrusting (3.5)			229	Thrusting (1.1)		
294	Thrusting (1.2)			230	Thrusting (1.1)	Italic (1.5) <b>iron</b> blade, bronze hilt	
296	Thrusting (3.5)			232	Thrusting (1.1)		Poss. <b>iron</b> dagger
297	Thrusting (1.1)			244	Thrusting (1.4)		
298	Thrusting (3.5)			261	Versatile (6.3) <b>iron</b>		
303	Thrusting (1.1)			264	Thrusting (7.2) <b>iron</b>		
309	Thrusting (1.1)			8	Indeterminate <b>iron</b>		
319	Thrusting (1.1)		<i>Sauroter</i>	83	Thrusting (3.5)		
321	Versatile (6.2) <b>iron</b>	Italic (1.?) <b>iron</b>		125	Thrusting (1.1)		
322	Thrusting (1.1)			126	Thrusting (3.3)		
326	Thrusting (3.4)	Indeterminate <b>iron</b>		129			
328	Thrusting (1.1)			454	Thrusting (7.2) <b>iron</b>	Italic (1.4) <b>iron</b> blade, bronze hilt.	
336		Longsword (2.2) <b>iron</b>		455	Versatile (8.4) <b>iron</b>	Italic (1.?) <b>iron</b>	<b>Iron</b> axe
350		Italic (1.?) <b>iron</b>		519	Thrusting (1.2)	Indeterminate <b>iron</b>	
376	Thrusting (1.1)			520	Thrusting (1.1)		
382	Thrusting (1.1)			522	Thrusting (3.1)	Italic (1.3) <b>iron</b>	
390	Thrusting (1.1)			524	Thrusting (1.1)		
394	Thrusting (1.1)			530	Thrusting (1.1)		
414	Thrusting (1.1)			Chance	Thrusting (10.1) <b>iron</b>		
421	Thrusting (1.1)						
432		Italic (1.4)					

<sup>†</sup> Explanatory note: In these summary tables I provide an overview of the weapons and their general classifications, that is for spearheads the three basic functional classes identified in this thesis: broad-bladed (best suited to thrusting), narrow-bladed (versatile, suited to the delivery of both thrusting and throwing), and narrow-bladed (best suited to being thrown). For swords I give the commonly known class groups of Italic, cross-bar and *machaira*.

The weapons finds from Incoronata are consistent across the four excavated necropoleis. The most common practice was the inclusion of a single bronze spearhead, generally positioned close to the skull of the deceased. Iron spearheads were noticeably less frequently represented; 40 tombs included a bronze spearhead, compared to 11 tombs yielding iron spearheads. Eight tombs included spearheads in association with a sword. A further three tombs yielded a sword but no spearhead. There were no tombs yielding multiple spearheads.

### *Spearheads*

Fifty-one spearheads were reported from the 8<sup>th</sup> C tombs at Incoronata, 40 of which were bronze. A distinct preference for broad-bladed bronze spearheads is evident; members of the broad-bladed type 1 group of spearheads were the most frequently represented, with type 1.1 the most common sub-type (28 examples). The type group has a distribution throughout South Italy in the Late Bronze and Early Iron Age and is part of a broader tradition of Late Bronze Age to Early Iron Age spearhead forms throughout Italy, Central Europe and the former Mycenaean world.<sup>17</sup> A further seven spearheads were allocated to the broad-bladed type 3 group, also suggestive of broader cultural ties. The polygonal midrib section is a trait commonly observed in Villanovan and Etruscan spearhead forms. Members of Type 3.5, the sub-type most frequently represented at Incoronata (five examples), is also recorded from 9<sup>th</sup> C and, particularly, 8<sup>th</sup> C burials from the Southern Villanovan sites of Pontecagnano and Sala Consilina.<sup>18</sup> The type 3.4 spearhead from Tomb 326 finds a parallel in a

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<sup>17</sup> Snodgrass 1964, 116; Kilian 1970, 129-136; Stary 1981, Table 4. A comparable spearhead and a partial terracotta mould were on display in the temporary exhibition of the Taranto Museum in 2001 whilst the museum was undergoing renovations. The items were grouped together with a number of other objects labelled vaguely as dating to the 13th-9th C. No information regarding provenience was included in the display.

<sup>18</sup> Pontecagnano Tomb 3284 (two examples) and Sala Consilina tombs A25 and 182P.

contemporary spearhead from Palazzo San Gervasio in the province of Potenza, and another example from a Late Bronze Age - Early Iron Age necropolis at Pazhok in Albania.<sup>19</sup> Two narrow-bladed members of the Type 2.1 spearhead represent the only narrow-bladed bronze spearheads found at Incoronata.

The small collection of iron spearheads published from Incoronata shows a diversity of forms, which seem to slightly favour longer, narrower blades when compared to the bronze spearheads. Four iron spearheads could be allocated to the narrow-bladed type 6 group, with a further example allocated to the narrow-bladed Type 8.4. Members of the type 6 and type 8 groups also appear at Pontecagnano and Sala Consilina in Southern Campania during the 8<sup>th</sup> C and at Cairano during the 6<sup>th</sup> C. Other sites from Basilicata and Daunia discussed in this thesis have little material dating to the 8<sup>th</sup> C, however members of the type 6 and type 8 groups are identifiable in material dating from the 6<sup>th</sup> C. Two spearheads have been allocated to type 10.1, a small and relatively rare form which is also noted at Daunian sites from the 6<sup>th</sup> C. Two iron spearheads could be allocated to the broad-bladed type 7.2; members of the type 7 group appear at Sala Consilina in the late 8<sup>th</sup> C and at Braida di Vaglio and Satrianum during the late 6<sup>th</sup> C to early 5<sup>th</sup> C.

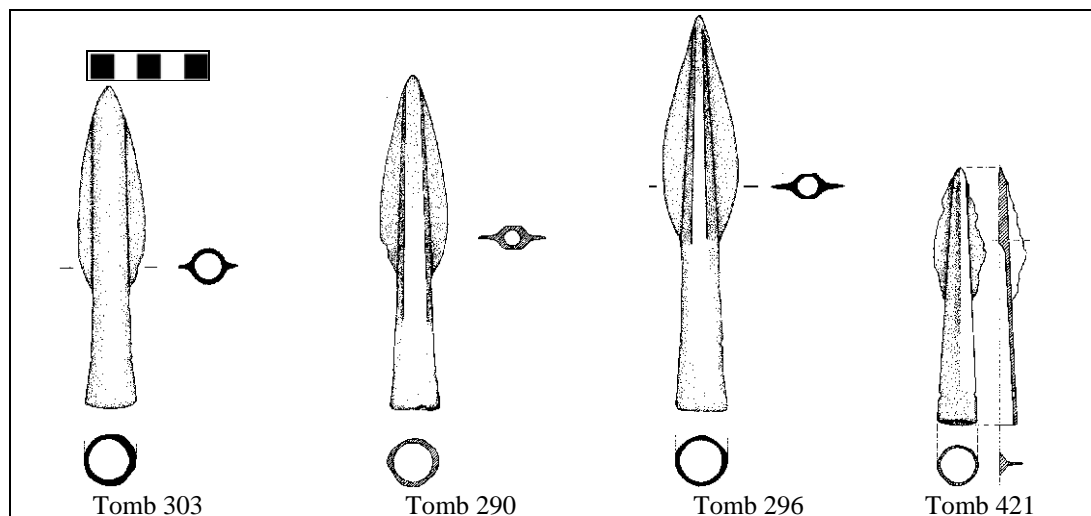
A comparison of the bronze and iron spearheads at Incoronata indicates a difference in preferred length. Complete bronze spearheads have an average length of 16.7cm, whilst iron spearheads have an average length of 23cm, which, in conjunction with the typological analysis suggests that shorter, broader spearheads were the preferred bronze form and that longer, narrower spearheads were the preferred iron form. As iron is less dense and, consequently, lighter than bronze this may have facilitated the production of longer spearheads in iron than was practicable in bronze.

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<sup>19</sup> Chiartano 1994, 44 and note 1; Kilian 1970, plate 270 no. I – 6; Prendi 1982, fig. 12 No. 13.



*Signs of wear:* four bronze spearheads from Inoronata show signs of wear or damage to their blades (Figure 3, below). They are of types 1.1 and 3.5, from Tombs 303, 319, 328 and 421. The example from Tomb 303 in particular shows significant wear which may be the result of repeated sharpening, whilst the other points show wear of varying degrees. The blades of the point from Tomb 421 show considerable damage; whether the damage was incurred as a result of use or is an accident of preservation is unclear.



**Figure 3: Bronze points from Inoronata showing wear or damage, after Chiartano 1994.<sup>20</sup>**

Book 6 of Xenophon's *Cyropaedia* lists the necessary preparations for war, including the services and equipment soldiers should have available to them. Xenophon has Cyrus call for soldiers to bring with them a file for whetting spear blades.<sup>21</sup> While Xenophon was writing at a later time, the importance of maintaining weapons in good order is unlikely to have changed. The worn weapons from Inoronata suggest that the weapon deposited with the deceased was used in life.

*Sauroter:* A single tomb from Inoronata is recorded as yielding a counterpoint or *sauroter* (Figure 4).<sup>22</sup> It is an ornate counterpoint, associated with a Type 1.1 bronze

<sup>20</sup> Further examples also showing possible wear were recovered from tombs 217, 298, 319 and 328. The degree of wear is less certain and may be the result of the state of preservation.

<sup>21</sup> Xenophon *Cyropaedia*, 6.2.32-3. I am not aware of any finds of whetstones.

<sup>22</sup> Tomb 319: Chiartano 1994, 129 and plates XVIII and 71.

spearhead, both objects placed in close proximity within the grave and both aligned in the same direction,<sup>23</sup> perhaps evidence that the spear shaft was broken before being placed in the tomb. A small number of similar bronze counterpoints are recorded among late 6<sup>th</sup> and early 5<sup>th</sup> C finds from Olympia.<sup>24</sup>

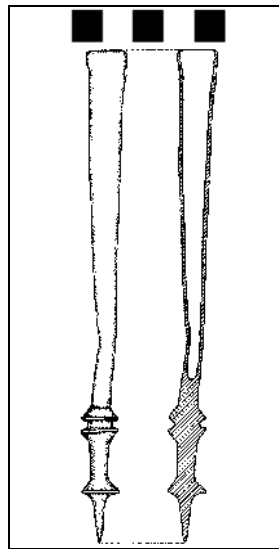


Figure 4. Inoronata Tomb 319 *sauroter*, after (Chiartano 1994, plate 71).

### *Swords*

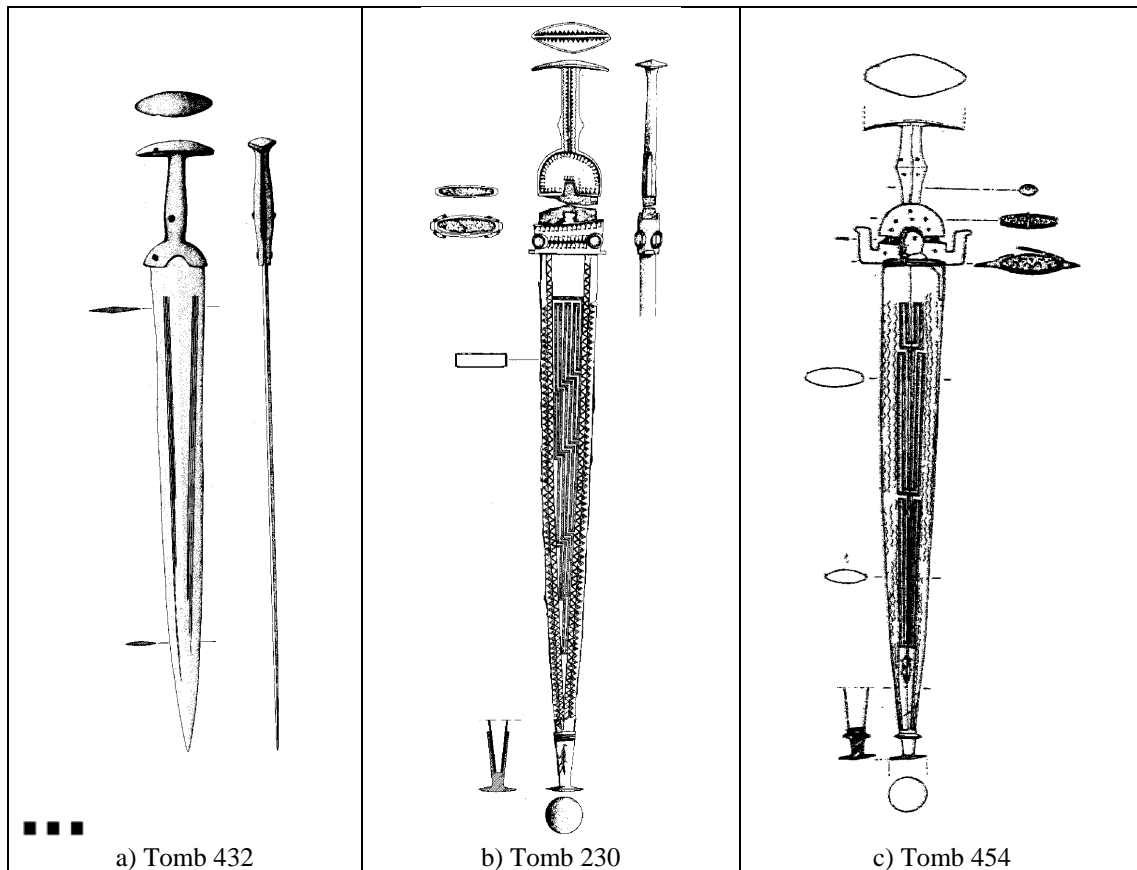
The 11 swords from Inoronata were generally placed either to one side of the deceased or very close to the torso, suggesting that the sword was worn by the deceased. Five swords were able to be conclusively allocated to types with a further three tentatively allocated to a type group, while three were too poorly preserved for type allocation. Members of the type 1 group, Italic swords, were most common with three swords allocated to type 1.4, one example to type 1.3 and a further three swords tentatively allocated to the group.

This small group of type 1 swords from Inoronata could clarify the transition from bronze to iron as the preferred material of manufacture for swords if the chronological

<sup>23</sup> Ibid. plate XVIII

<sup>24</sup> Baitinger 2001 nos. 1073, 1077 and 1173 all show a degree of stylistic similarity to the Inoronata example. However, as none of the spearheads from Inoronata appear to be Greek it is unlikely that the example from Tomb 319 was imported.

sequence for these tombs was better understood. One type 1.4 sword (Figure 5a) was the only example made completely of bronze,<sup>25</sup> while the two swords (Figure 5b-c – also type 1.4) each featured an iron blade with a cast-on bronze hilt. It is clear from their incised decoration that the hilts of these weapons were originally cast in bronze and included no additional perishable materials.



**Figure 5: Incoronata, bronze and combined iron/bronze swords**

The remaining swords featured iron blades with hilt components of perishable materials, probably bone or ivory, traces of which adhere to the metal core of the hilt in some cases.<sup>26</sup> While no T-shaped pommel is preserved, the form of the hilt and shoulder and the associated scabbard all suggest the swords should be placed within the type 1 group. Two further swords are tentatively assigned to the type 1 group on

<sup>25</sup> Chiartano 1994, 160 and plate 116.

<sup>26</sup> The sword from Tomb 455, currently on display in the Metaponto Museum, retains visible traces of an ivory or bone hilt, mentioned by Chiartano though only the scabbard is illustrated in Chiartano's site report: *Ibid.*, 22 and plate 114; personal observation.

the basis of their rounded shoulder profiles and the form of their accompanying scabbards.<sup>27</sup> This particular style of scabbard (Figure 5b-c) is found exclusively in association with Italic swords throughout South and Central Italy and is not known to be associated with swords from outside of that group.<sup>28</sup>

The complete type 1 swords published from Incoronata are generally longer than the contemporary type 1 swords published from Pontecagnano and Sala Consilina and also are as long, or longer, than many of the later type 3 swords examined in this thesis.<sup>29</sup> The type 1 examples range in length from 36.8cm to 64.5cm, the shortest example being the only member measuring less than 50cm. The longest example is longer even than the 'longsword' from Tomb 336.

The longsword differs significantly from the other swords published from Incoronata. Allocated to Type 2.2, the sword (measuring 62.5cm) can be compared to an early 6<sup>th</sup> C example from Oppido Lucano and is related to 8<sup>th</sup> C examples of the Type 2.1 recovered from Valle Sorigliano and Craco.<sup>30</sup> The sword appears to be a Greek form and Snodgrass presented a number of examples which bear a convincing resemblance.<sup>31</sup> The presence of the sword at Incoronata may be indicative of interactions between Greeks and the indigenous population preceding the foundation of the colony at Metaponto.

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<sup>27</sup> Tombs 321 and 350: *Ibid.*, 130, 141 and plates 73 and 84.

<sup>28</sup> Bianco Peroni 1970, 124-36 and plates 59-62.

<sup>29</sup> Tombs 230, 432, 454 and 522.

<sup>30</sup> The example from Oppido Lucano measures 61cm long but is incomplete: Lissi Caronna 1980, 169-70; for the example from Valle Sorigliano see: Frey 1991; Frey 1985, 13-4, 22 and plate 12; Emanuele also 32-4 & 58 discusses the examples from Valle Sorigliano, Craco and Oppido Lucano: Emanuele 1982.

<sup>31</sup> Snodgrass 1964, 94-8 and fig.5: examples c, an 11<sup>th</sup> C iron sword measuring 43.8cm long from the Athenian Kerameikos, Grave 6; d, an iron sword dated c.900 and measuring 88.3cm long from the Athenian Agora Grave XXVII; h, an iron sword from Cyprus of unknown date measuring 69.6cm long; and, j a 53cm long iron sword from the Dictaeon Cave on Crete in particular bear a resemblance to members of the Type 3 group. It should be noted that all except the 11<sup>th</sup> C example from the Athenian Kerameikos feature prominent midribs. Snodgrass includes all of these swords as members of his Type 1.

*Swords and spearheads in association:* Swords were regularly found in association with spearheads, and eight tombs included swords and a single spearhead.<sup>32</sup> There are too few examples to reveal a pattern in the relationship between sword and spear forms; there are broad-bladed spearhead forms (type 1, 3 and 7 groups), but also examples of narrow-bladed forms (type 2, 6 and 8 groups). Five of the spearheads found in association with a sword were bronze, the remaining three iron. Of the three tombs yielding swords but not spearheads, Tomb 350 was the only tomb which had not been robbed.<sup>33</sup>

The material of manufacture for spearheads and swords when they are found in association is also of interest for attempting to understand the nature of the transition from bronze to iron; however, with so few examples it is difficult to discern any pattern. Four iron swords were found in association with a bronze spearhead, a further two iron swords were associated with iron spearheads. The two iron swords with cast-on bronze hilts associated with a bronze and an iron spearhead respectively. It is unfortunate that the chronology for Incoronata is so problematic. These tombs represent a critical period in the transition from the use of bronze to the use of iron for the manufacture of weapons and a better understood relative chronology would elucidate the nature of this transition.

*Scabbards:* Seven swords were accompanied by scabbards featuring incised geometric decoration.<sup>34</sup> The decoration on six of these scabbards compares well with members of the Torre Galli and Pontecagnano types.<sup>35</sup> The scabbard in tomb 432 is

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<sup>32</sup> Tombs 206, 230, 321, 326, 454, 455, 519 and 522.

<sup>33</sup> Tombs 336 yielded only the sword and a bronze ring, whilst Tomb 432 yielded only the sword and associated scabbard. These artefacts fortuitously escaped the thieves and there is no way of knowing what has been lost: Chiartano 1994, 136, 160 and plates 80 and 116.

<sup>34</sup> *Ibid.*, 184, 221 and plates 41, 112: Tombs 230, 321, 350, 432, 454, 455, 522.

<sup>35</sup> Tombs 230 321, 350, 454, 455 and 522: Bianco Peroni 1970, Nos. 194, 197 and 346 from Torre Galli; No. 205a from Tomb 180 at Pontecagnano The geometric design on the scabbard from Tomb

poorly preserved, but features incised zigzag decoration between thin longitudinal bands, and the scabbard compares well with Bianco Peroni's Veio, Pontecagnano and Guardia Vomano types.<sup>36</sup> These scabbards are representative of broad cultural ties between Incoronata and other sites in Calabria, Campania and Central Italy. Italic swords and scabbards featuring incised geometric decoration are noted at Pontecagnano and Sala Consilina and a similar Italic sword and scabbard is recorded at Tursi in Basilicata dated to the 8<sup>th</sup> C.<sup>37</sup> The exclusive relationship between Italic swords and this particular scabbard form allows for the identification of Italic swords even when they are quite poorly preserved. Neither Italic swords nor their associated scabbards appear amongst any of the 7<sup>th</sup> C to 4<sup>th</sup> C material which I have assessed for this thesis suggesting that the type did not survive into the 7<sup>th</sup> C.

*Axes:* Tomb 455 yielded the only example of an axe from the necropoleis of Incoronata and it is not certain whether it should be considered a weapon or a tool. The iron axe has a single cutting edge and a flat, rectangular section; similar hafted axes appear at Pontecagnano and Valle Sorigliano.<sup>38</sup> A double-bladed axe was also reported from a tomb in the western necropolis of Metaponto, thought to be the tomb of an Italic mercenary; the assemblage of that tomb including a range of weapons and tools.<sup>39</sup>

### *Associated Paraphernalia*

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321 find comparison with No. 343 from Torre Galli; Nos. 342 and 345 from the San Antonio necropolis at Sala Consilina; No. 351 from the San Nicola necropolis at Sala Consilina; and, No. 350 from Tomb 889 at Pontecagnano. The concentric geometric motif on the scabbard of Tomb 350 does not find an exact match amongst Bianco Peroni's exemplars; however No. 343 from Torre Galli bears the closest resemblance.

<sup>36</sup> See particularly scabbards No. 368 from Terni, No. 370 from San Marinella and No. 373 possibly from Abruzzi; Nos. 208 and 367 from Pontecagnano; No. 320a from Teramo, Abruzzi; and, No. 310 from Acciaierie, Umbria: *Ibid.*, plates 29, 46 and 54-5.

<sup>37</sup> d'Agostino 1998, 29, fig. 5: Tursi Tomb 31, dated to the 8<sup>th</sup> C.

<sup>38</sup> Valle Sorigliano Tomb 123: Frey 1991, plate 34 A; Pontecagnano Tombs 221, 3267 and 4890: d'Agostino and Gastaldi 1988, 153 and fig. 67; De Natale 1992, 101 and fig. 119; Cinquantaquattro 2001, 25 and plate 19.

<sup>39</sup> Tomb 17/71 loc. Crucinia, western necropolis of Metaponto: Bottini 1993, 123-33.

None of the tombs outlined in the tables above included any evidence of defensive arms.

*Decorative materials associated with weapons*

An interesting phenomenon from the tombs at Incoronata is the appearance of bronze rings, spirals and other decorative elements apparently associated with the spearheads.<sup>40</sup> Decorative elements from Tomb 298 may also be relevant, but the relative position of the decorative materials is not stated by Chiartano.

Similar decorative materials were also noted in association with two swords. Chiartano reported several decorative elements—a small collection of hemispherical buttons, bronze rings, two small bronze chains, and a group of bronze spirals—all directly associated with the sword from Tomb 321. Positioned close to the hilt of the sword from Tomb 350 was a bronze ring along with a group of smaller bronze rings and spirals. Chiartano stressed that these items were contextually associated with the swords, although he was unable to reconstruct them with certainty or ascertain their function.<sup>41</sup> The symbolic meaning of these items is elusive: they may have been purely decorative tokens, talismans or trophies and I am aware of no iconographic material or research into this practice that would elucidate the issue.

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<sup>40</sup> Tombs 294, 206, 296 and 321: Chiartano 1994:119-20 and 130 and plates 61 and 72-4

<sup>41</sup> *Ibid.*, 130 and 141 and plates 72-4 and 84-5.

### *Weapons in Tombs sexed as female*

Two tombs which included weapons were interpreted by Henneberg as female on the basis of osteological analysis. Tomb 219 held the remains of a single individual in a contracted position with an assemblage which included a type 6.4 iron spearhead positioned close to the skull.<sup>42</sup> Henneberg tentatively sexed the deceased as a female aged 25-30 years.<sup>43</sup> Tomb 454, also a single deposition, included amongst the assemblage a type 7.2 iron spearhead and a type 1.4 sword.<sup>44</sup> The remains were poorly preserved, described by Henneberg as in a 'very fragmentary' state. However he tentatively identifies the remains as those of a female aged 30-40 years.<sup>45</sup> The assemblages of these two tombs did not include any items which Chiartano specifically associated with the female gender at Incoronata. Given the poor state of remains and the preliminary nature of the osteological analysis the interpretation of these individuals as female cannot be relied upon.

### ***Conclusion***

The 8<sup>th</sup> C weapons from Incoronata give a snapshot of this early period in Basilicata and the material presents both similarities and differences to contemporary material from Pontecagnano and Sala Consilina. The bronze spearheads are a mix of the widespread South Italian and the Villanovan spear forms, as seen at these Southern Villanovan sites. However, the proportion of Villanovan-type spearheads is markedly different at Incoronata. The widely-produced type 1 and 2 spearhead forms make up

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<sup>42</sup> Ibid., 179 plates VII and 23.

<sup>43</sup> Henneberg points out that the skeletal material from Incoronata was very poorly preserved and had been mishandled during the course of excavation. He also admits that his analysis was quite preliminary and alludes to lacking requisite reference materials during the course of his examination: Henneberg 1994, 39-40.

<sup>44</sup> Chiartano 1994, 221-2 and plates XXVI, 112 and 113

<sup>45</sup> Henneberg 1994, 39-40.



79% of bronze spearheads, Villanovan forms a mere 18%.<sup>46</sup> The presence of Italic swords of the type 1 group at Incoronata is also consistent with contemporary sites in Basilicata, Calabria, Southern Campania, and Central Italy; however, the greater length of the examples from Incoronata hints at a slightly different fighting style, with a desire to gain greater reach in sword combat, reinforced by the presence of the Type 2.2 longsword in the assemblage of Tomb 336.

### **Oppido Lucano**

Oppido Lucano was a settlement located on the Montrone plateau, approximately 40km northeast of Potenza, overlooking the Bradano Valley. The site first came to archaeological notice during the 19<sup>th</sup> C AD when Oppido and the surrounding areas were sporadically excavated by several groups. Some of their finds were published but contextual information was poorly recorded.<sup>47</sup> Oppido was systematically excavated in the late 1960s and early 1970s and published by Elisa Lissi Caronna.<sup>48</sup> Excavations revealed a habitation area and several necropoleis in loc. Montrone with tombs dating between the second half of the 7<sup>th</sup> C and the first half of the 4<sup>th</sup> C. An early 4<sup>th</sup> C habitation area, laid out in what is interpreted as a *Hippodamian* plan, overlaid some areas of the necropoleis, suggesting a change in the occupation of the site during a period when many sites in the region underwent fortification and/ or re-development, often interpreted as representative of incoming Lucanian influence or control.<sup>49</sup> The tombs were fossa burials, the bodies in a contracted position, with the exception of infant burials which were *enchytrismois*.<sup>50</sup>

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<sup>46</sup> The remaining 3% is accounted for by a type 3.4 spearhead, which is allocated to the type 3 group on the basis of its polygonal socket section but which appears to be a Central European form with a parallel in Albania: see Prendi 1982 fig. 12.

<sup>47</sup> Lissi Caronna 1972, 489 notes 1-3.

<sup>48</sup> *Ibid.*; Lissi Caronna 1980; Lissi Caronna 1983; Panciera *et al.* 1990-91.

<sup>49</sup> Pontrandolfo Greco 1982, 107-9; Isayev 2007, 55-69.

<sup>50</sup> Lissi Caronna 1972, 490-1.

Over the course of excavations from 1967 to 1970, 72 tombs were excavated and published between 1972 and 1991.<sup>51</sup> Fifteen tombs yielded weapons, though the reports note that a number of the tombs had been robbed either in antiquity or in more recent years, leaving many of the burial assemblages incomplete.

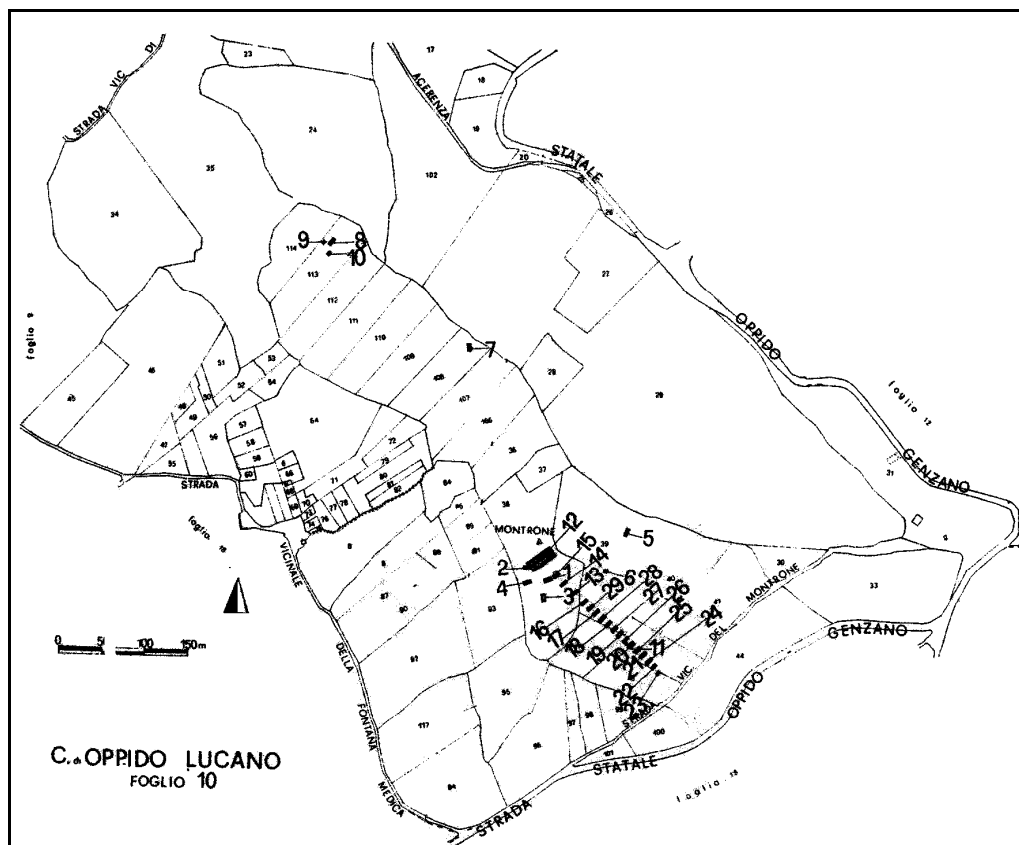


Figure 6: Oppido Lucano 1967 and 1968 excavation areas, after Lissi Caronna 1980.

Additional tombs from Oppido Lucano are on display in the Museo Archeologico Nazionale della Basilicata “D. Adamesteanu”, Potenza.

In the table below the finds of weapons and associated paraphernalia are outlined in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

<sup>51</sup> Ibid.; Lissi Caronna 1980; Lissi Caronna 1983; Panciera *et al.* 1990-91.

**Table 6: Oppido Lucano, weapons and associated paraphernalia.**

Burial Type: F = Fossa; Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
72	Late 7 <sup>th</sup> C/ Early 6 <sup>th</sup> C	F	1	5.1			L 27.8cm		Single deposition fossa burial. The position of the spearhead within the tomb was not noted.	Pancieri <i>et al.</i> 1990-91, 197-8 and fig. 14.
3 Moles	600-580	F	1	5.1	1	3.1	Spearhead: L 42cm; Sword: L 33.5cm		Single deposition fossa burial, osteological analysis suggesting a male, aged 20-25yrs. The iron sword and iron spearhead were placed beside the body, close to the torso.	Pancieri <i>et al.</i> 1990-91, 323-6 and figs. 154-8.
45	Early 6 <sup>th</sup> C	F	1	5.1	1	2.2	Spearhead: L 30cm Sword: L 61cm – incomplete		Single deposition fossa tomb the sword and spearhead were placed beside the deceased, along the south-southwest side of the fossa.	Lissi Caronna 1980, 169-70 and fig. 74.
29	575-550	F	1	6.2			Spearhead: L 29.7cm		Single deposition fossa tomb. Positioned behind the skull of the deceased, was an iron spearhead,. Traces of the spear shaft remained preserved <i>in situ</i> , allowing for a determination of an overall length of approx. 90cm.	Lissi Caronna 1980, 140 and fig. 28.
225	c.550	F	1	6.2			L approx. 20cm		On display at the Museo Archeologico Nazionale della Basilicata “D. Adamesteanu”, Potenza	Personal observation
246	c.550	Ch	2	8.1 9.4/5/ 6	1	3.3	Spearheads: Type 8.1 eg: L c.40cm; Type 9.4/5/6 eg: L approx. 30cm; Sword: L c.50cm		On display at the Museo Archeologico Nazionale della Basilicata “D. Adamesteanu”, Potenza	Personal observation
6	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	1	6.2			L 22cm	Bronze frag. <sup>52</sup>	Single deposition fossa burial. The spearhead was positioned close to the skull of the deceased.	Lissi Caronna 1972, 509 and fig. 27.
34	Early 5 <sup>th</sup> C	F	1	6.2			L 29.5cm – incomplete		Disturbed, single deposition fossa tomb. The spearhead positioned beside the body.	Lissi Caronna 1980, 148-50 and fig. 44.

<sup>52</sup> A bronze fragment interpreted by Lissi Caronna as part of a bronze spearhead. The fragment is neither illustrated nor described in detail and the interpretation of the point as a spearhead is improbable: Lissi Caronna 1972, 509 and fig. 27.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
51	Early 5 <sup>th</sup> C	F	2	6.2			Eg 1: L 29.5cm Eg 2: L 26.4cm	2 iron spits	Single deposition fossa tomb which had been robbed in antiquity. The two spearheads appear to have been preserved <i>in situ</i> along the north wall of the tomb. The iron spits placed close to the spearheads	Lissi Caronna 1983, 217-21 and figs. 2 and 3.
58	500-430	F	1	6.2			L 22cm		Single deposition fossa tomb which had been robbed. The remaining assemblage also included a fragmentary Bloesch type C kylix.	Lissi Caronna 1983, 240 and fig. 27.
46	500-400	F	1	9.2			31.2cm	1 iron spit	Single deposition fossa tomb which had been robbed in antiquity.	Lissi Caronna 1980, 170-3 and fig. 74.
16	c.450	F	1	6.2			L 22cm		Single deposition fossa tomb, the grave goods placed to the left of the body and at the feet.	Lissi Caronna 1972, 529 and fig. 53.
1	450-425	F	2	6.3 ?			Type 6.3: L approx. 31cm Type ?: L unspecified	2 iron spits	Single deposition fossa tomb, the spearheads and iron spits placed alongside the deceased. The second spearhead was badly corroded and is neither illustrated nor described in detail.	Lissi Caronna 1972, 494-8 and fig. 9
53	Late 5 <sup>th</sup> C/ Early 4 <sup>th</sup> C	F	2	9.6			Eg 1: L 15cm, socket diam. 2cm; Eg 2: L 5.6cm, socket diam. 1.2cm		Single deposition fossa tomb. Osteological analysis suggests a male aged approx. 30 years. Both spearheads were positioned next to the deceased, close to the shoulder and both were badly corroded.	Lissi Caronna 1983, 223-7 and fig. 9.
44	Early 4 <sup>th</sup> C	F	1	6.3			L 21.5cm <sup>53</sup>		Single deposition fossa tomb.	Lissi Caronna 1980, 168-9 and figs. 71-2.
68	c.350	F						1 bronze belt Suano Type 4b	Single deposition fossa tomb which had been robbed and the skeletal remains disarticulated.	Pancieri <i>et al.</i> 1990-91, 185-97 and figs. 2, 4 and 6.
Chance find	?		1	5.1			L 35cm		Recovered from Montrone southeast slope during agricultural activities was a badly oxidised iron spearhead.	Pancieri <i>et al.</i> 1990-91, 337 and fig. 165

<sup>53</sup> The socket features unusual barbs, which may have facilitated binding to the shaft; they are not at an angle which would render the weapon difficult to remove from a target: Lissi Caronna 1980, 168-9 and figs. 72.

### *Chronological and Typological Summary*

The sixteen tombs outlined in the tables above have been dated by the excavator between the late 7<sup>th</sup> C and the mid 4<sup>th</sup> C. Throughout this period the inclusion of a single iron spearhead in a tomb was most common (11 tombs), a further four tombs included multiple spearheads, while three tombs included an iron sword in association with one or more spearheads.<sup>54</sup>

**Table 7: Oppido Lucano, summary of 7th C to 6th C weapons (all iron).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>
72	Thrusting (5.1)		
3 Moles	Thrusting (5.1)	Cross-bar (3.1)	
45	Thrusting (5.1)	Longsword (2.2)	
29	Versatile (6.2)		
225	versatile (6.2)		
246	Versatile (8.1) Throwing (9.4/5/6)	Cross-bar (3.3)	

Six tombs are dated to the late 7<sup>th</sup> C or 6<sup>th</sup> C, presenting a mixture of broad-bladed and narrow-bladed spearhead forms ranging in length from 27.8cm to 42cm with an average length of approximately 30cm.<sup>55</sup> Tombs 45 and Tomb 3 (Moles) also yielded an iron sword in association with broad-bladed iron spearheads. Only one tomb from this period yielded multiple spearheads, a versatile narrow-bladed and a throwing spear of the type 9.

The type 2.2 longsword from Tomb 45—measuring 61cm in length—marks a distinct contrast to the cross-bar swords and is indicative of a different fighting style and cultural influence. The longsword finds a parallel with the sword from Tomb 336 at Incoronata dated to the 8<sup>th</sup> C (p. 240, above). Like it, the sword from Tomb 45 is shorter than the related type 2.1 swords recorded from Craco, Guardia Perticara and

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<sup>54</sup> The high incidence of clandestine excavation of tombs at Oppido Lucano may also have created a negative bias on the weapons finds: Lissi Caronna 1972.

<sup>55</sup> The length of the spearheads from Tombs 225 and 246 are estimates only, based on personal observation.

Valle Sorigliano which can be dated to the 8<sup>th</sup> and 7<sup>th</sup> C.<sup>56</sup> The type is Central European or Greek in origin, though members of type 2.2 are of reduced length, similar to the length of other indigenous sword types, possibly representing a local imitation of an imported sword class. However the prospect that these swords are imports or the product of elite gift exchange cannot be dismissed.

The iron cross-bar swords (type 3.1 and 3.3) are both cut-and-thrust swords typical of contemporary swords recorded at numerous sites in Daunia, at Sala Consilina in Campania and at Braida di Vaglio and Ruvo del Monte in Basilicata.

None of the 7<sup>th</sup> C to 6<sup>th</sup> C tombs included paraphernalia often associated with weapons, such as bronze belts, iron spits or armour.

**Table 8: Oppido Lucano summary of 5th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>
6	Versatile (6.2)		Poss. <b>bronze</b> arrowhead
34	Versatile (6.2)		
51	Versatile (6.2) x 2		
58	Versatile (6.2)		
46	Throwing (9.2)		
16	Versatile (6.2)		
1	Versatile (6.3) Indeterminate		

The 5<sup>th</sup> C tombs reveal a shift in the spearhead assemblage; all examples allocated to narrow-bladed type 6 and type 9 spearhead type groups, with a total absence of broad-bladed spearheads. The practice of including a single iron spearhead in the tomb continues to be most common during the 5<sup>th</sup> C, with only two tombs yielding multiple points, one included two versatile type 6.2 points, the other a versatile spearhead (type 6.3) in association with a spearhead described by Lissi Corona as a javelin, suggesting it could perhaps be allocated to the type 9 group of throwing spearheads.

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<sup>56</sup> Chapter 2, 116ff.

Members of the broad-bladed type 5.1 seem to disappear from the burial record at Oppido Lucano around the middle of the 6<sup>th</sup> C, contemporary with an increase in the frequency of type 6 and type 9 groups.

The bronze fragment from Tomb 6 was interpreted by the excavator as a possible spearhead. This is an odd interpretation since the tomb dates to late 6<sup>th</sup> C to early 5<sup>th</sup> C and bronze spearheads do not occur in tombs of that date in South Italy. A small number of bronze arrowheads are recorded dating to this time. As the artefact has not been illustrated, nor described in any detail, it is not possible to determine whether the artefact may be more accurately identified as an arrowhead.<sup>57</sup>

**Table 9: Oppido Lucano summary of 4th C weapons (all iron)**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>	<b>Armour</b>
53	Throwing (9.6) x 2			
44	Versatile (6.3)			
Chance find	Thrusting (5.1)			

Three tombs were dated by the excavator to the late 5<sup>th</sup> C to the mid 4<sup>th</sup> C. Two of these, Tombs 44 and 53 included iron spearheads. Tomb 44 included a single type 6.3 spearhead; Tomb 53 included two poorly preserved type 9.6 spearheads. Unlike the two spearheads recovered from Tomb 51, the 10cm difference in length between the spearheads in tomb 53 is significant and presents a similar situation to Tomb XVII at Cairano in Southern Campania (dated to the 5<sup>th</sup> C) in which three spearheads of the same type group had an average difference of 12cm in length between them.

Tomb 68, a badly disturbed tomb dated by the excavator to the mid 4<sup>th</sup> C included a bronze belt clasp, which can be allocated to Suano's Type 4b; no weapons remained

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<sup>57</sup> Capasso *et al.* 1994: An instance in which an arrowhead was initially mistaken for a javelin head is known from Pontecagnano. Osteological analysis of the remains from Tomb 4141 at Pontecagnano, dated to the 4<sup>th</sup> C noted a bronze javelin head lodged in the right femur of the deceased. Later examination suggests that the bronze point is an arrowhead: Robb, personal communication, see Chapter 6, p. 348.

in the burial assemblage.<sup>58</sup> No other associated paraphernalia were reported from any of the tombs at Oppido Lucano listed in the tables above.

### *Conclusion*

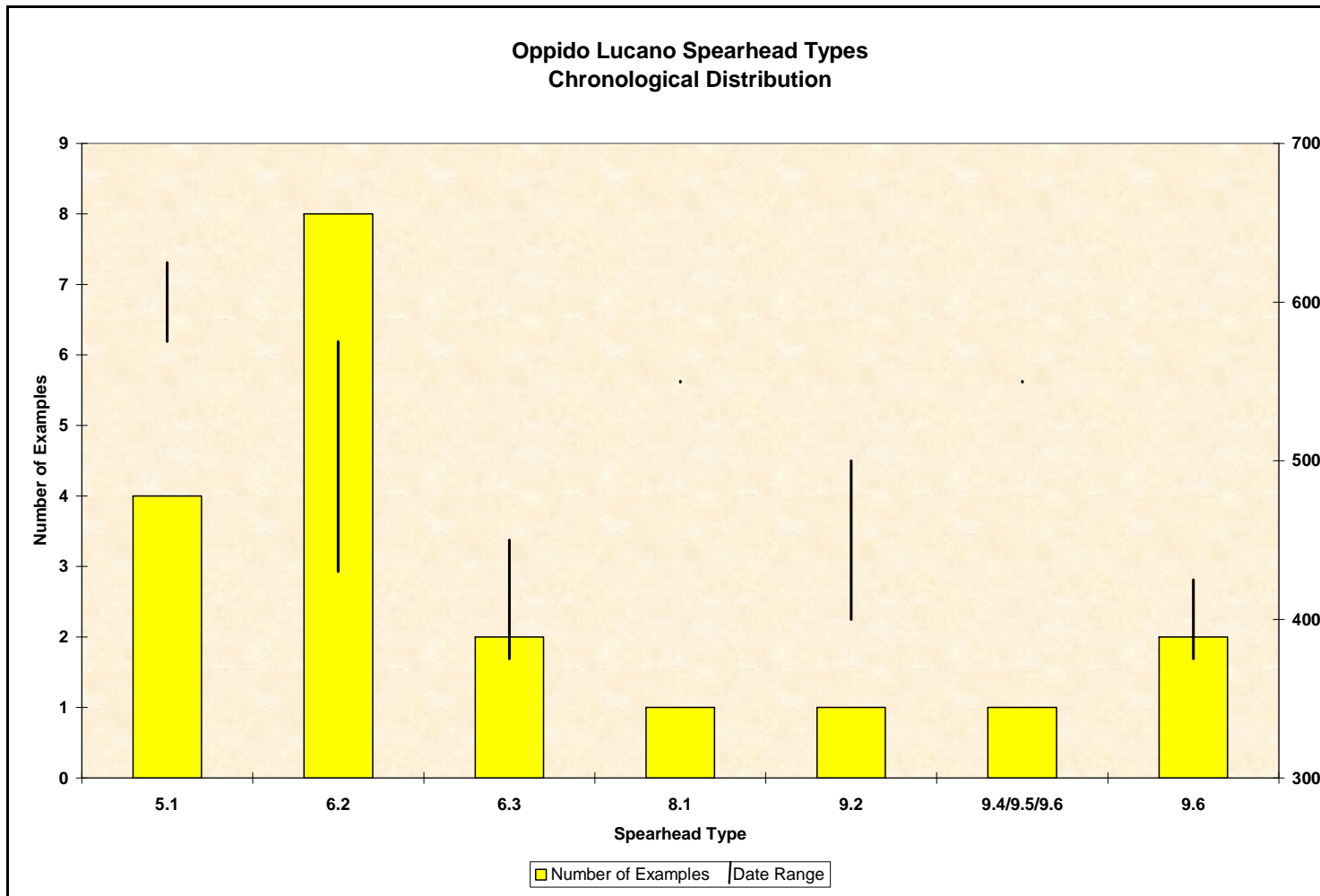
The 20 spearheads and three swords from Oppido Lucano assessed here suggest that in the mid 6<sup>th</sup> C the broad-bladed type 5.1 spearheads—which are better suited to the delivery of thrusting blows—were abandoned in favour of versatile narrow-bladed spears of the type 6 and type 8 groups. Members of type 9 group—well-suited to throwing—also appear with increasing frequency from the 6<sup>th</sup> C suggesting that some change in fighting styles began to occur during this time.

The very few swords assessed here are all cut-and-thrust weapons, the cross-bar swords consistent with contemporary finds at other sites in Basilicata. The notable longsword from Tomb 45 is at least half a century later than other comparable swords in Basilicata and may be the result of gift exchange, and could conceivably have been an heirloom.

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<sup>58</sup> Panciera *et al.* 1990-91 185-90. The possibility that associated items had fallen prey to the tomb robbers cannot be ruled out.





**Figure 7: Chronological distribution of spearhead types at Oppido Lucano**

## Serra di Vaglio

The site of Serra di Vaglio, overlooking a tributary of the Basento River, functioned as a regional centre between the 7<sup>th</sup> C and the 5<sup>th</sup> C, apparently the primary site amongst a group of indigenous centres which included Pietragalla, Cancellara, Oppido Lucano and Acerenza.<sup>59</sup> Located on the exchange route between Metaponto and Poseidonia, Serra di Vaglio provided access to the Ionian coast along the Basento Valley, and the Tyrrhenian coast via the Sele Valley.<sup>60</sup> The strategic location of Serra di Vaglio was defended by fortification walls constructed during the late 5<sup>th</sup> to early 4<sup>th</sup> C, thought to be a response to the Lucanian/Samnite expansion into the area, to which the site seems to have succumbed during the course of the 4<sup>th</sup> C.<sup>61</sup> Serra di Vaglio and the associated sanctuary of Rossano di Vaglio have undergone systematic excavation since the 1960s.<sup>62</sup> Tombs at Serra di Vaglio are fossa burials, the deceased placed in a contracted position, consistent with the burial practices of other contemporary indigenous sites in northwestern Basilicata.

Following the foundation of Metaponto in the last quarter of the 7<sup>th</sup> C there is a progressive increase in Greek imports, evidenced in the appearance of Greek ceramic forms associated with the drinking of wine and the banquet and in architectural elements such as roof tiles and moulded terracotta antefixes.<sup>63</sup> A small number of 7<sup>th</sup> C tombs were recovered during the excavation of the urban settlement area of Serra di Vaglio.

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<sup>59</sup> Greco 1991, 8.

<sup>60</sup> Pontrandolfo Greco 1982, 74-5; Greco 1991, 8.

<sup>61</sup> Greco 1991, 46.

<sup>62</sup> Bottini 1990.

<sup>63</sup> Greco 1991; Bottini 1990, 53.

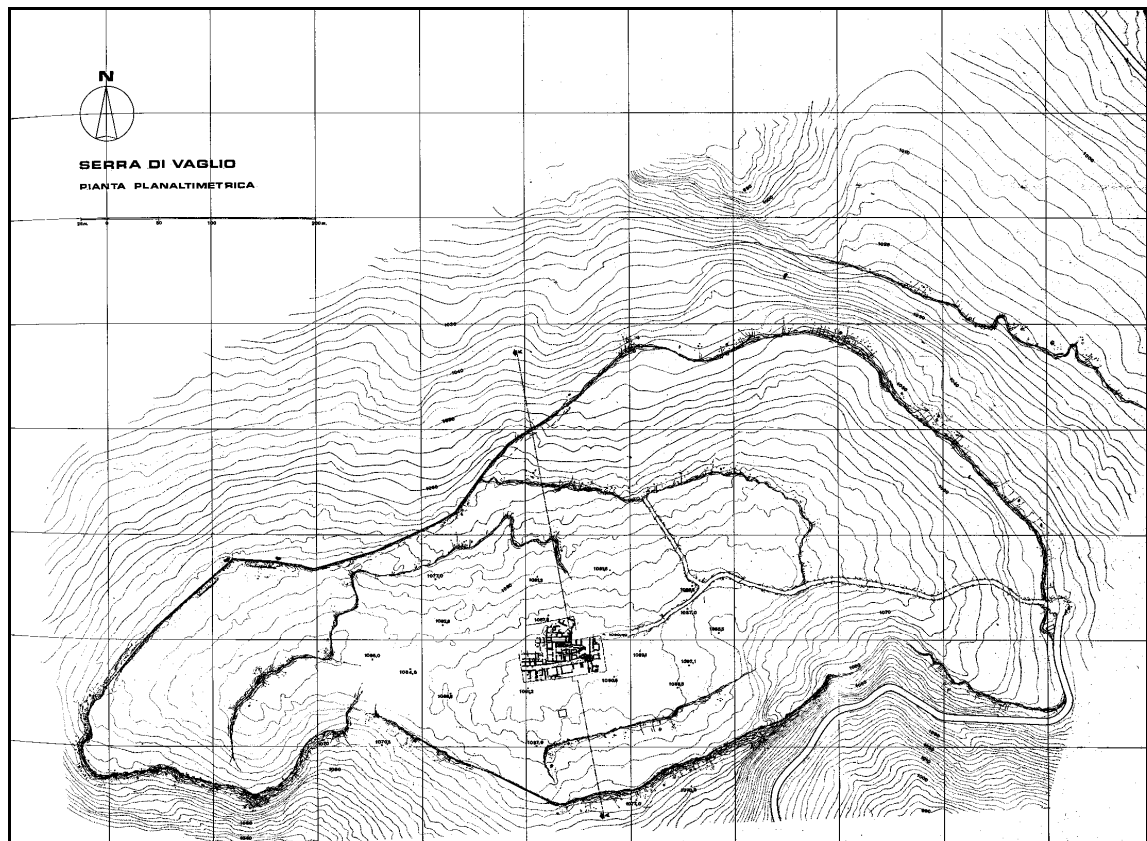


Figure 8. Serra di Vaglio City Walls after Greco 1991 fig. 6.

During excavations in the 1994 season nine 6<sup>th</sup> C – 5<sup>th</sup> C tombs dated were uncovered in loc. Braida—a small nucleus of tombs outside the urban settlement of Serra di Vaglio—containing the remains of 10 individuals: 6 males, 1 female, a male child, female child, and an infant. The form of these tombs was varied, though generally more ostentatious than the fossa burials of Serra di Vaglio. Tomb 109 was lined with wood, the others with stone. Tombs were covered by tumuli of smaller stones. The deceased were placed in a contracted position but appear to have been subjected to partial cremation, a rite also known to have been practiced at Canosa and Lavello in Daunia during the 4<sup>th</sup> C.<sup>64</sup>

<sup>64</sup> The deceased in Tombs 600 and 669-I at Lavello and Ipogeo dei Vimini - Cella B Left deposition at Canosa: Bottini *et al.* 1991, 136 plates 41-3; de Juliis 1990.

The tombs, numbered 101 to 109, were published by Bottini and Setari.<sup>65</sup> Tombs 108 and 109 were isolated from the rest of the tombs; both male inhumations. Tombs 106 (a female) and 107 (male) seem to form a pair. The remaining five tombs form a separate nucleus. Tomb 102 contained a female child, Tomb 104 an infant, and Tomb 103 contained an adult male, and a child, also believed to have been male. Tomb 101, the wealthiest of the tombs, was also the burial of a male individual.

Six of the ten tombs formally excavated at loc. Braida included weapons and associated paraphernalia manifesting an adoption of Greek—or Greek influenced—armour and horse equipment amongst these wealthy burials. The weapons assemblage of the 7<sup>th</sup> C tombs at Serra di Vaglio is similar to that of the late 6<sup>th</sup> C to early 5<sup>th</sup> C tombs at Braida; however, the tombs at Braida include a greater number of weapons and elaborate defensive panoply which is not evident amongst the tombs of the urban area.

In the table below the finds of weapons and associated paraphernalia are outlined in chronological order. Where possible, weapons have been allocated to types on the basis of their illustration and accompanying descriptions.

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<sup>65</sup> Bottini and Setari 2003.

**Table 10: Serra di Vaglio, weapons and associated paraphernalia.**

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
4	700-650	F	2+	?			Approx. L 20-25cm. <sup>66</sup>		The poorly preserved points are on display in the Museo Archeologico Nazionale della Basilicata "D. Adamesteanu", Potenza.	Personal observation.
30	625-600	F	1	6.2	1	4.1	Spearhead: L 30.5cm Sword: L c.60cm		Single deposition fossa of an adult male. The sword was positioned to the right of the deceased, the spearhead adjacent to the sword.	Greco 1991, 24 and figs. 66, 68 and 69.
31	625-600	F	2	9.1 9.2	1	3.1	Spearheads: Type 9.1: L 35cm Type 9.2: L 37cm Sword: L 50cm <sup>67</sup>		Single deposition fossa burial. One spearhead was placed on either side of the deceased. The sword was placed over the right humerus. The sword preserves traces of the scabbard; presumably constructed of wood, remains of which were adhered to the blade.	Greco 1991, 21 and figs. 57, 60 and 63.

<sup>66</sup> The length of these spearheads is an estimate only, based on personal observation.

<sup>67</sup> Greco 1991, Fig.63. The scale has been omitted from the illustration of this sword. The calculated measurement is therefore based on the assumption that the scale is the same as that used for the other figures in the publication.

**Table 11: Loc. Braida di Vaglio, weapons and associated paraphernalia.**

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
101	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	4	8.1 8.2 7.2 9.6	3	3.2x2 ?	Spearheads: <sup>68</sup> <b>Type 8.1:</b> L 45cm W 5.2 (inv.95159); <b>Type 8.2:</b> L 26.5cm – incomplete W 2.8cm (inv.95155) <b>Type 7.2:</b> L 42cm W 7cm (inv.95158); <b>Type 9.6:</b> L 14.5cm (inv.95160) Swords: <b>Type 3.2:</b> L 60, W 3.5cm (inv. 95176) <b>Type 3.2:</b> L 60cm, W 6.5cm (inv.95177) <b>Type ?:</b> approx. L 40cm in frags (inv.95156-7)	1 bronze crest-mount 1 hoplon shield 1 pr bronze greaves 3 bronze belts 2 horse face plates 2 horse chest plates	Wood lined fossa burial of an adult male aged approx. 60 years. The deceased had been placed in a contracted position with the upper body supine. The tomb had been victim of clandestine excavation.	Bottini and Setari 2003, 13-32, and figs. 14-18.
103	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	2	?			The iron spearheads are neither illustrated nor described in detail. One is described as having a bronze laminated socket and the other is described as possibly a javelin.	2 bronze Corinthian helmets 1 <i>hoplon</i> shield 1 pr bronze greaves 5 bronze belts 2 bronze face plates for horses 1 bronze chest plate for a horse iron spits	A dual deposition wood lined fossa tomb, of a 40-year-old male, and a youth of approx. 12 years old, likely also to be male based on grave goods. Most of the assemblage appeared to be associated with the adult, but a series of belts and a spearhead may have been associated with the youth. The tomb had been subjected to clandestine excavation.	Bottini and Setari 2003, 41-50.
105	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	2	5.2 8.1	2	3.? ?	Spearheads: <b>Type 5.2:</b> L 28.2cm W 4.5 (inv.98274); <b>Type 8.1:</b> L 23.2cm W 4.5 (inv.98275) Swords, iron: <b>Type 3.?:</b> L22cm – incomplete, remnants of a wooden hilt interpreted as a cross guard (cat.281). <b>Type ?:</b> L 21cm, with midrib (cat.282).	2 bronze Corinthian helmets <sup>69</sup> 1 bronze-laminate <i>hoplon</i> shield 3 bronze belts Elements of a cart Multiple iron spits	Tomb of a male of approximately 50 years. The second sword was a badly corroded and incomplete blade thought by the excavators to be the remains of a sword. Fragments of bronze laminate, the handle, and other decorative elements of the <i>hoplon</i> shield could be identified.	Bottini and Setari 2003, 57-63 and plates 20, 28 and 35-6.

<sup>68</sup> Two of the spearheads (type 8.1 and type 7.2) had bronze laminate over their sockets, which would have given them a golden gleam when polished. The type 9.6 example is not illustrated in Bottini's volume; however, it is on display in the Museo Archeologico Nazionale della Basilicata "Dinu Adamesteanu".

<sup>69</sup> One Corinthian helmet was assigned by the excavators to the Hermione type. The second bronze Corinthian helmet of indeterminate type: Bottini and Setari 2003, 57-63.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
107	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	5	8.1x4 8.2	1	3.3	Spearheads: Type 8.1: <sup>70</sup> L 30.5cm; 34cm; 31.5cm; and 28.3cm – incomplete (inv.96662- 5), Type 8.2 L 29.5cm – incomplete (inv.96666) Sword: iron, L 53cm.	2 bronze Corinthian helmets <sup>71</sup> 1 pr bronze greaves both moulded for the right shin decorated with snakeheads	A disturbed wood lined tomb of a male approx. 40 years of age Traces of the scabbard were preserved along with bone rings and a blue glass bead thought to be associated with a leather suspension belt.	Bottini and Setari 2003, 66-74 and figs. 39-42 and plates 28 and 35-6.
108	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	2	6.2 ?	1	3.2	Spearheads: Type 6.2: L 30cm (cat.361) Type ?: 22cm (cat.362) Sword: 44cm. Traces of bone preserved near the hilt. <sup>72</sup>	1 bronze Apulo-Corinthian helmet 2 bronze belts	Wood lined fossa tomb of a male aged approx. 60 years.	Bottini and Setari 2003, 75-80, figs. 45-6 and plates 24 and 29-30.
109	Late 6 <sup>th</sup> C/ Early 5 <sup>th</sup> C	F	3	6.2 ?x2	1	?	Type 6.2: L28cm W2.2cm (cat.377) Type ?: <sup>73</sup> L 29cm W 2cm (cat.378) L 25cm W 2.3cm (cat.379) Sword: 13cm – hilt only.	1 U-shaped bronze crest mount 1 bronze belt	Single deposition tomb, male aged 20 to 30 years. The crest mount presumably belonged to a helmet of perishable materials.	Bottini and Setari 2003, 80-3 and plate 29.

<sup>70</sup> The type 8.1 spearheads were decorated with copper laminate bands around the bases of their sockets: Ibid., 66-74 and figs. 39-42 and personal observation.

<sup>71</sup> The two Corinthian helmets were of an intermediate type: Ibid., 66-74 and figs. 39-42 and plates 28 and 35-6.

<sup>72</sup> Traces of wood, some additional iron fragments, and a bronze suspension ring recovered in association with the sword which may have belonged to the scabbard: . Ibid., 75-80.

<sup>73</sup> The partial description of the two un-typed spearheads allows for a tentative allocation to the Type 7 or 8 groups.

## *Chronological and Typological Summary*

**Table 12: Serra di Vaglio weapons summary, urban area 7th C (all iron).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>
4	Indeterminate (?) iron x 2+	
30	Versatile (6.2)	'Dagger' style sword (4.1)
31	Throwing (9.1) Throwing (9.2)	Cross-bar (3.1)

The few spearheads dated to the 7<sup>th</sup> C suggest a preference for spearheads that were either suited to throwing, or were functionally versatile. The two spearheads from Tomb 31 are both allocated to the type 9 group of throwing spears and are of similar dimensions.

The sword from Tomb 30 is unusual, allocated to type 4.1 it features a tang rather than the broader moulded hilt seen in most South Italian swords of this period.<sup>74</sup> The type appears to be a variation of a dagger form which is observed in 9<sup>th</sup> C and 8<sup>th</sup> C tombs at Pontecagnano and Sala Consilina in Campania.<sup>75</sup> The dagger form appears to have evolved from similar daggers recorded in Central and Northern Italy dating back as far as the Early Bronze Age.<sup>76</sup> The sword from Tomb 30 measures 60cm long, 10cm longer than the cross-bar sword from Tomb 31 and similar in length to the type 2.2 longswords from Incoronata (dated to the 8<sup>th</sup> C) and Oppido Lucano (dated to the early 6<sup>th</sup> C) and would have been functionally similar to these swords. Unlike these two type 2.2 examples the sword from Serra di Vaglio features a prominent, strengthening midrib, which is also absent in the shorter Type 4.2 dagger.

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<sup>74</sup> A similarly tanged sword of smaller dimensions was included amongst the votive offerings recovered from Rossano di Vaglio, also on display in the Museo Archeologico Nazionale della Basilicata – Potenza “D. Adamesteanu”

<sup>75</sup> Pontecagnano - sword: Tomb 3184; daggers: Tombs 3190, 3205, 3207, 3253 and 3284; Sala Consilina - dagger: Tomb A50: De Natale 1992, 49, 53, 57-8, 89, 109 and figs. 101, 103-4, 119 and 123; Kilian 1970, 361 and plate 138.

<sup>76</sup> Giardino 2000, 52-3.



The cross-bar sword, measuring approximately 50cm in length, is slightly shorter than the sword from Tomb 30 and being a cut-and-thrust sword was functionally similar, with the added benefit of guard mounts to support a guard made of perishable material.

**Table 13: loc. Braida di Vaglio summary of weapons, late 6th C to early 5th C (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
101	Versatile (8.1) Versatile (8.2) Thrusting (7.2) Throwing (9.6)	Cross-bar (3.2) x 2 Indeterminate	1 <b>bronze</b> crest-mount 1 <b>bronze</b> hoplon shield 1 pr <b>bronze</b> greaves 3 <b>bronze</b> belts 2 <b>bronze</b> horse face plates 2 <b>bronze</b> horse chest plates
103	Indeterminate x 2		2 <b>bronze</b> Corinthian helmets 1 <b>bronze</b> laminate <i>hoplon</i> shield 1 pr <b>bronze</b> greaves 5 <b>bronze</b> belts 2 <b>bronze</b> face plates for horses 1 <b>bronze</b> chest plate for a horse Multiple spits
105	Thrusting (5.2) Versatile (8.1)	Cross-bar (3.?) Indeterminate	2 <b>bronze</b> Corinthian helmets 1 <b>bronze</b> -laminate <i>hoplon</i> shield 3 <b>bronze</b> belts Elements of a cart Multiple spits
107	Versatile (8.1) x 4 Versatile (8.2)	Cross-bar (3.3)	2 <b>bronze</b> Corinthian helmets 1 pr <b>bronze</b> greaves
108	Versatile (6.2) Indeterminate	Cross-bar (3.2)	1 <b>bronze</b> Apulo-Corinthian helmet 2 <b>bronze</b> belts
109	Versatile (6.2) Indeterminate x 2	Indeterminate	1 U-shaped <b>bronze</b> crest mount 1 <b>bronze</b> belt

Six tombs in loc. Braida di Vaglio dated by the excavator to the late 6<sup>th</sup> C to early 5<sup>th</sup> C included weapons and elaborate associated paraphernalia. These individuals were the most elite members of the settlement and the excavators have suggested that they belonged to a ‘royal’ class. Each of these tombs included multiple iron spearheads, in association, with exception of Tomb 103, with at least one iron sword.

Where it was possible to allocate spearheads to a type, members of the narrow-bladed type 6 and type 8 groups of versatile spearheads were most common (eight type 8

examples and two type 6.2).<sup>77</sup> One spearhead could be allocated to type 9.6, a spear form best suited to throwing. While there is a distinct preference for narrow-bladed spearhead forms two broad-bladed spearheads could be identified, each example associated with one or more narrow-bladed spearheads. It is possible that the broad-bladed examples were hunting spears, deposited along with the deceased's martial spear.

With the exception of Tomb 103, each of the tombs at Braida di Vaglio included one or more iron swords—all cut-and-thrust swords of moderate length. Eight swords were recovered in total, Tombs 101 and 105 including multiple examples.<sup>78</sup> Where it was possible to allocate sword to type (five examples) they were exclusively cross-bar swords (type 3). The complete swords range in length from 44cm to 60cm, similar in length to the late 7<sup>th</sup> C type 4.1 sword from tomb 30 in the urban area. The cross guards of each of these is more pronounced than that of the type 3.1 example from Tomb 31 (late 7<sup>th</sup> C) and suggest a desire for greater protection of the hand and an increased focus on a sturdy guard as part of the sword design. The cross-bar sword is widely distributed in Northern Basilicata and Daunia between the 7<sup>th</sup> C and 5<sup>th</sup> C and was probably a South Italian development.

No other weapons were reported amongst the burial assemblages of the wealthy tombs from loc. Braida di Vaglio. However, a large amount of associated paraphernalia was recorded, including horse equipment, armour, shields, bronze belts and iron spits.

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<sup>77</sup> The spearhead type 6.2 is very similar in form to spearhead type 8.2, though lacking the reinforcing midrib distinctive of type 8.2.

<sup>78</sup> Bottini and Setari 2003, 62.

*Scabbards:* Tombs 103, 107 and 108 each included fragmentary evidence of scabbards constructed of wood and leather, which have not survived in the archaeological record. These scabbards appear to have been decorated with metal and/or glass fixtures. Several iron fragments and a bronze suspension ring were recovered from Tomb 108, and Tomb 107 yielded a series of bone rings and a bead of blue glass; these items are thought to have been associated with scabbards. Tomb 103 included a series of six bronze rings, which Bottini suggested may also have been suspension rings for an offensive weapon which had probably been lost to clandestine excavation.<sup>79</sup>

*Horse equipment:* Tomb 101 and 103 each included amongst their wealthy panoplies a pair of bronze *prometopidia* (face plates) for pairs of horses. The *prometopidia* from Tomb 101 were each decorated with incised decoration showing a female figure holding a pair of waterbirds and one with a gorgon head on her mantle. Tomb 101 also included a pair of quasi-anatomical bronze *prosternopidia* (chest-plates for horses). The *prometopidia* from Tomb 103 were not published in detail. Similarly elaborate *prometopidia* are known from Ruvo di Puglia, dated to the late 6th C.<sup>80</sup> No horse-bits were reported from Tombs 101 and 103. These elaborate pairs of horse equipment may represent a warrior and squire but it is also possible that they are representative of a chariot team. Tomb 105 included the remains of a cart or chariot but no horse-armour or horse-bits.<sup>81</sup>

The carved architectural decoration of the Edificio di Braida di Vaglio features a scene of two hoplite warriors engaged in an heroic duel on foot. The warriors are attended by mounted squires, who appear to be tending their masters' horses. The

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<sup>79</sup> Ibid., 50.

<sup>80</sup> De Caro and Borriello 1996, 124-6.

<sup>81</sup> Bottini and Setari 2003, 57-63 and plate 36.

scene is generally interpreted as influenced by Ionian Greek artisans and the figures have been executed using a style which is similar to that found on contemporary monuments at Metaponto, Siris and Poseidonia.<sup>82</sup> Though the motif is clearly Greek the decision to employ such a scene at Braida reflects a familiarity with the use of horses in a military context, though it does not directly imply cavalry activity.

*Hoplion shields:* Tombs 101, 103 and 105 each included a *hoplon* shield; the shield from Tomb 101 was originally made of wood and leather, and only the bronze laminate and handle survive, measuring 90cm in diameter. The *porpax* and *antilabe* were decorated with repoussé motifs including lions, gorgons, men on horseback, and a centaur reflecting the decorative style of the 'edificio di Braida' which has been dated to the 6<sup>th</sup> C.<sup>83</sup> Similar bronze laminate survived on the *hoplon* shields from Tombs 103 and 105, though they were not as well preserved as the example from Tomb 101.

The presence of *hoplon* shields in association with horse armour in Tombs 101 and 103 are not *a priori* evidence of hoplite warfare. Brouwers has recently presented a cogent argument that the *hoplon* shield was well suited to carriage on horseback, the convex design of the shield allowing it to rest on the shoulder of the mounted warrior and providing protection to the torso and leg without causing discomfort or injury to the horse.<sup>84</sup> If horses were being used as a mode of transport to the field of battle the carrying of a *hoplon* shield would have been feasible.

*Helmets:* Three tombs from Braida di Vaglio included two bronze Corinthian or Apulo-Corinthian helmets. Tomb 105 included a poorly preserved bronze Corinthian

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<sup>82</sup> Greco 1991, 32-3; Lubchansky 2005, 80.

<sup>83</sup> d'Agostino 1998, 40-3.

<sup>84</sup> Brouwers 2007, 310 and fig. 5.

helmet (assigned by the excavators to the Hermione type) along with a second bronze Corinthian helmet of indeterminate type. Tomb 103 was also reported to have included two bronze Corinthian helmets, though these were not published in detail. Tomb 107 included two bronze helmets described as intermediate, between the Greek Corinthian and the Apulo-Corinthian helmet forms.

A further three tombs included traces of a single helmet. Tomb 108 included a single bronze Apulo-Corinthian helmet. Tombs 101 and 109 each included bronze crest mount, which presumably belonged to helmets constructed of perishable materials which have not survived. No cuirasses were recorded in the tombs of Braida di Vaglio but they too may have been made of perishable materials.

*Greaves:* Tombs 101 and 107 each yielded a pair of bronze anatomical greaves, each pair decorated with repoussé snakeheads which may be a local motif.<sup>85</sup> The pair of greaves in Tomb 101 were moulded for the right and left shin and were of slightly different dimensions, whilst the Tomb 107 were of identical dimensions and both moulded for the right shin.<sup>86</sup>

*Bronze belts:* Five tombs from Braida di Vaglio included one or more bronze belts. Tomb 101 included three bronze belts, the largest with moulded decoration of frontal feline heads at the ends of the belt, which Bottini suggests may represent sphinxes.<sup>87</sup> Tombs 103, 105 and 108 also included multiple bronze belts, and Tomb 109 a single

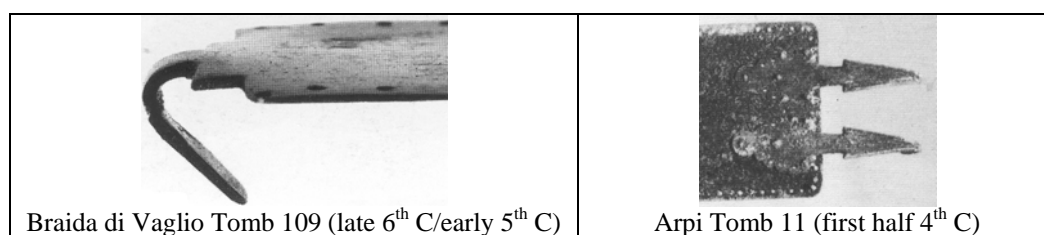
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<sup>85</sup> The greaves are similar to a number of contemporary anatomical greaves throughout Greece and South Italy, although the snake decorative motif is uncommon. A similar greave was recovered from Tomb XVII at Cairano in Campania dated to the 5<sup>th</sup> C: see Bailo Modesti 1980, 30173 and plate 102b. A contemporary helmet on display in the Museo Nazionale Siritide recovered from the western necropolis at Herakleia (Tomb 1188) includes a serpent crest and matching belt with serpentine hooks. However, these serpents are stylistically distinct from the repoussé serpents seen at Braida di Vaglio.

<sup>86</sup> The greaves from Tomb 101 (inv 95149 & 95150) were not of identical size measuring 36.3cm x 39cm and 39.5cm x 45cm. The greaves from Tomb 107 (inv.966680-1) each measured 40cm x 18cm.

<sup>87</sup> Inv. 95151. Holes around the edges of the three belts (inv 95153, 95152, 95151) suggest they were lined, most likely with leather: Bottini and Setari 2003, 25 and fig. 16.

bronze belt. The clasp of one of the bronze belts from Tomb 108 (inv.99097) suggests that the form is a forebear of the so-called Lucanian belts which became widely distributed in South Italy during the 5<sup>th</sup> C to the 3<sup>rd</sup> C (Figure 9), and are clearly distinct from the earlier bronze belts which had been included amongst Southern Villanovan burial assemblages of elite women.



**Figure 9: Bronze belt from Braida di Vaglio Tomb 109 compared with a 4th C South Italian bronze belt.**

*Iron spits:* The inclusion of iron spits in the assemblages of Tombs 103 and 105 is thought to be associated, in part, with the role of the deceased in the distribution of meat from the hunt by members of the social elite.<sup>88</sup> However, it should be noted that the association with hunting is indirect, these items also appearing in elite female tombs.

### ***Conclusion***

Despite the social and chronological differences between the individuals buried in the urban area and the very wealthy elite tombs of loc. Braida di Vaglio the weapons assemblage at Serra di Vaglio is consistent between the two areas. The tombs the urban area and loc. Braida all demonstrate a preference for narrow-bladed spearhead forms—suited to the delivery of both thrusting blows and throwing—and moderate length cut-and-thrust swords. When broad-bladed spearheads appear in the assemblages a slight trend is indicated in favour of an association between a broad-bladed spearhead and one of more narrow-bladed spearheads. With the exception of

<sup>88</sup> Pontrandolfo Greco 1982, 48-9

the type 4.1 sword in Tomb 30 all of the swords represent types broadly distributed throughout Basilicata and Daunia from the 7<sup>th</sup> C to the 5<sup>th</sup> C.

The tombs at Braida di Vaglio are notably wealthier than those assessed from the urban area of Serra di Vaglio. The inclusion of highly ornate horse armour, helmets and shields, and the detailing of iron spearhead sockets with bronze laminate indicate a role beyond the pragmatic demands of personal protection, functioning as forms of ostentatious display both on the field of battle and the parade ground.

Despite the greater wealth of the tombs at Braida the weapons themselves remain consistent with those from the urban area, dated a century earlier, suggesting that the style of fighting employed at Serra di Vaglio had not greatly changed during that time.

## **Ruvo Del Monte**

The site of Ruvo del Monte, located in north-western Basilicata, approximately 20 kilometres southwest of Melfi, was a small but important centre on the Ofanto-Sele exchange route. The site's location also allowed easy access to the Bradano and Basento Valleys.<sup>89</sup> Excavations conducted at Ruvo del Monte during 1977 were published by Bottini in 1981, outlining the assemblages of 30 tombs, 13 of which included weapons or associated paraphernalia.<sup>90</sup> The tombs can be dated between the beginning of the 6<sup>th</sup> C and the third quarter of the 5<sup>th</sup> C. The material culture of Ruvo del Monte places the site in the same 'North Lucanian' cultural sphere as Oppido Lucano, Serra di Vaglio and Satrianum. Ruvo del Monte practiced fossa burial in a contracted position, generally on the right side.<sup>91</sup>

In the table below the finds of weapons and associated paraphernalia are outlined in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>89</sup> Bottini 1981, 183; Di Lieto 2008, 96.

<sup>90</sup> Bottini 1981.

<sup>91</sup> Di Lieto 2008.



**Table 14: Ruvo del Monte, weapons and associated paraphernalia**

Burial Type: F = Fossa; C = Cassa

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
18	600-575	F	2	?	1	5.2		Spearheads: iron, L 4.5cm – incomplete L unspecified Sword: L 30cm – incomplete	1 iron blade fragment 1 iron spit	Fossa burial damaged by the plough. Only the socket of one spearhead is preserved. The other point is described by Bottini as possibly a <i>sauroter</i> . An iron blade fragment in the assemblage could not be conclusively identified.	Bottini 1981, 211, 240 and fig. 25.
21	600-575	F							1 ivory pommel 1 bronze ring	Fossa tomb badly damaged by the plough. The bronze ring is identified by Bottini as associated with equipment and not an item of personal ornamentation.	Bottini 1981, 245-7 and fig. 46.
1	600-550	F							1 iron spit	Fossa tomb badly damaged by the plough. Tomb 3 was later cut so that it overlapped with Tomb 1, confusing their assemblages.	Bottini 1981, 214-15.
10	600-550	F							1 iron spit	Partially destroyed by the cutting of Tomb 9. Some of the burial assemblage may have been mixed up with the assemblage of Tomb 9.	Bottini 1981, 233-4 and fig. 25.
29	600-550	C?	1	?	1	3.1	1 iron axe	Spearhead: iron, fragmentary Sword: L49.5cm Axe: L8.6cm, W 4cm D 2.5cm (Not illustrated).	2 iron blade fragments 2 iron spits poss. bronze helmet poss. bronze shield/s	A large but badly disturbed tomb, thought perhaps to have originally been a wood-lined cassa burial. No skeletal material was preserved. Curved bronze fragments, may have pertained to a helmet. Additional bronze fragments were interpreted by Bottini as the bronze laminate of one or more shields made principally from perishable materials.	Bottini 1981, 211, 270 and figs. 84-5.
30	600-550	C							1 fragmentary iron blade 1 iron firedog mult. iron spits 1 iron wheel	Wood-lined cassa tomb. It could not be determined whether the iron blade pertained to a knife, sword or other implement. The iron wheel is described by Bottini as a 'ruote di carro'	Bottini 1981, 277-81 and fig. 94.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
8	550-525	F	1	?				Spearhead: fragmentary iron socket	1 iron spit	The tomb appeared to have been robbed in antiquity and, consequently, the skeletal material was badly disturbed.	Bottini 1981, 225 and fig. 25.
9	550-525	F							1 fragmentary bronze belt 1 iron spit	A well preserved adult in a contracted position. The tomb partially damaged Tomb 10 which it overlapped, such that the assemblages may have become mixed together.	Bottini 1981, 227 and fig. 25.
20	550-525	F	1	?				Iron, fragmentary. Socket only.		A disturbed tomb with few skeletal remains.	Bottini 1981, 244 and fig. 36.
25	550-500	C							1 iron spit	Wood-lined cassa tomb. A second iron fragment, described by Bottini as a 'rod' may be a second iron spit. There were also some bronze fragments of uncertain function.	Bottini and Setari 2003, 259 and fig. 66.
17	525-500	F	1	?	1	?		Spearhead: iron, fragmentary. Socket only. Sword: iron, fragmentary		The tomb appears to have been disturbed in antiquity. Only a fragment of the sword's hilt was preserved. Traces of wood adhered to the hilt.	Bottini 1981, 237-40 and fig. 36.
26	525-500	C?							1 iron spit 1 ivory pommel	The tomb was disturbed in antiquity. It is thought the tomb may have been a wood-lined cassa though no traces of wood survive. There were no identifiable skeletal remains.	Bottini and Setari 2003, 261-6 and fig. 70.
24	500-450	C			1	3.?		L 38cm	1 bronze crest mount 1 bronze belt 1 iron spit 1 bronze ring	A large wood-lined cassa tomb, robbed in antiquity. The sword is described by Bottini as having a cross-guard although this is not clear from the illustration. The bronze ring may be associated with the sword.	Bottini 1981, 212, 247 and fig. 62.

### *Chronological and Typological Summary*

The panoply evident at Ruvo del Monte appears quite standardised during the 6<sup>th</sup> C and 5<sup>th</sup> C consisting of an iron spearhead, sometimes in association with an iron sword. Unfortunately, the weapons finds from Ruvo del Monte are generally in a very poor condition and most of the tombs had been disturbed, either by tomb robbers or agricultural activity.

**Table 15: Ruvo del Monte, weapons summary (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>	<b>Armour</b>
18	Indeterminate Indeterminate (poss. <i>sauroter</i> )	<i>Machaira</i> (5.2)		
21				
1				
10				
29	Indeterminate	Cross-bar (3.1)	Axe	Poss. <b>bronze</b> helmet Poss. <b>bronze</b> shield/s
30				Wheel
8	Indeterminate			
9				Frag. <b>bronze</b> belt
20	Indeterminate			
25				
17	Indeterminate	Indeterminate		
26				
24		Cross-bar (3.?)		<b>Bronze</b> crest mount <b>Bronze</b> belt

#### *Spearheads*

Due to the poor preservation of material it was not possible to allocate any spearheads to type. Tomb 18 is the only tomb to have included multiple spearheads. The spearheads were very poorly preserved. Bottini has interpreted one of the points as a possible *sauroter*, but the artefact is not illustrated, nor is it described in detail.

#### *Swords*

Only two swords could be allocated to type with certainty. A third sword could be tentatively allocated to a type group on the basis of the excavator's description though it was not possible to identify a sub-type. The presence of sword pommels in tombs in

which swords have not been recorded suggests a greater number of swords had once been present.

Two swords can be identified as cut-and-thrust cross-bar swords of the type 3 group; the sword from tomb 29 allocated to type 3.1 and Tomb 24 tentatively allocated to the type 3 group. The sword from Tomb 18 is a single edged slashing sword allocated to type 5.2 and is contemporary with the type 5.2 slashing sword from Chiaromonte (discussed below). Though the example is incomplete the preserved length suggests the example from Ruvo del Monte was of similar dimensions.

#### *Other weapons*

An object from Tomb 29 was tentatively identified as an iron axe by the excavator but is not illustrated or described in detail. Whether this artefact should be interpreted as a weapon or a tool is uncertain.

#### *Associated paraphernalia*

*Helmets:* Tombs 24 and 29 yielded elements which possibly pertained to helmets. Tomb 24 included a bronze U-shaped crest-mount which Bottini interpreted as the remains of a helmet constructed principally of perishable material. Some curved bronze fragments from Tomb 29 may also have pertained to a bronze helmet.

*Shield:* Additional bronze fragments recorded from Tomb 29 were thought by Bottini to pertain to one or more shields which had been constructed principally of perishable material.

*Horse equipment:* Tomb 30 included iron fragments interpreted by the excavator as a cart wheel. The wheel fragments are poorly preserved but retain rivets for perishable components—thought by the excavator to have consisted of wood—and suggest an

overall diameter of approximately 50cm.<sup>92</sup> The tomb also included iron spits and an iron firedog. Whilst these items are often associated with weapons they also appear in elite female tombs and, therefore, the cart should not be interpreted as having a military function or be taken as indicative of warrior status for the deceased.

*Iron spits and firedogs:* Four of the six tombs to include weapons also yielded iron spits. A further five tombs, which did not contain weapons, also yielded iron fragments which may have pertained to spits.<sup>93</sup> As mentioned above, Tomb 30 also contained iron fragments thought to pertain to a firedog. These items can be interpreted as indicators of elite status, partly associated with the distribution of meat.

### ***Conclusion***

No conclusion can be drawn in regard to spearhead preferences at Ruvo del Monte other than to say that iron spearheads were represented, consistent with material from other contemporary sites throughout South Italy.

The small sword assemblage indicates that both cut-and-thrust swords—similar to contemporary examples observed from Basilicata and Daunia—and slashing swords—with comparanda from Chiaromonte—were utilised at Ruvo del Monte during the 6<sup>th</sup> C and 5<sup>th</sup> C.

The poor preservation of the material makes it impossible to draw sound conclusions about the style of fighting which might have been engaged in by the inhabitants of Ruvo del Monte. Fragmentary evidence suggests that defensive panoplies of perishable materials were being employed and the presence of a cart wheel indicates that domesticated horses were in use at the site. One could infer that military practice

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<sup>92</sup> The estimation of the size of the wheel is based on Bottini's illustration: Bottini 1981, 213, 277-81 and fig. 94.

<sup>93</sup> Ibid. 212 Tombs 3, 10, 25 and 26.

is likely to have been similar to Serra di Vaglio and Oppido Lucano, sites on similar terrain and which had a cultural affinity with Ruvo del Monte.

### **Satrianum**

Satrianum lies on a ridge between Tito and Satriano in the province of Potenza. The ridge bounds the valley of Satriano di Lucania and the river Melandro to the southwest and the Marmo Valley to the northeast. The site has access to the Ionian coast via the Agri Valley and to the Tyrrhenian coast via the Sele Valley, giving Satrianum strategic control of the routes between the settlements of the Sele and the Greek settlements of Siris and Metaponto on the Ionian littoral.<sup>94</sup> There is evidence of occupation at the site from the 7<sup>th</sup> C to the end of the 4<sup>th</sup> C.<sup>95</sup> Interactions with Greek Colonial centres appear to have begun from the 6<sup>th</sup> C with the identification of a small number of imported Greek ceramics. There is also evidence of the construction of city walls from c.500.<sup>96</sup> Later phases of construction show that parts of the original defensive wall were dismantled during the 4<sup>th</sup> C and that the defences extended to cover a broader area. Around 350-325 there appears to have been a widespread conflagration on the acropolis and in the lower city—possibly associated with the campaign of Alexander the Molossian between 334-331 BC—after which the lower city appears not to have been reinhabited.<sup>97</sup>

There were several necropoleis on the site. On the acropolis, burials were found on the western and southern slopes. To the east of the acropolis, the Necropolis Piano della Chiesa was uncovered during construction work pre-1943. The Faraone 2

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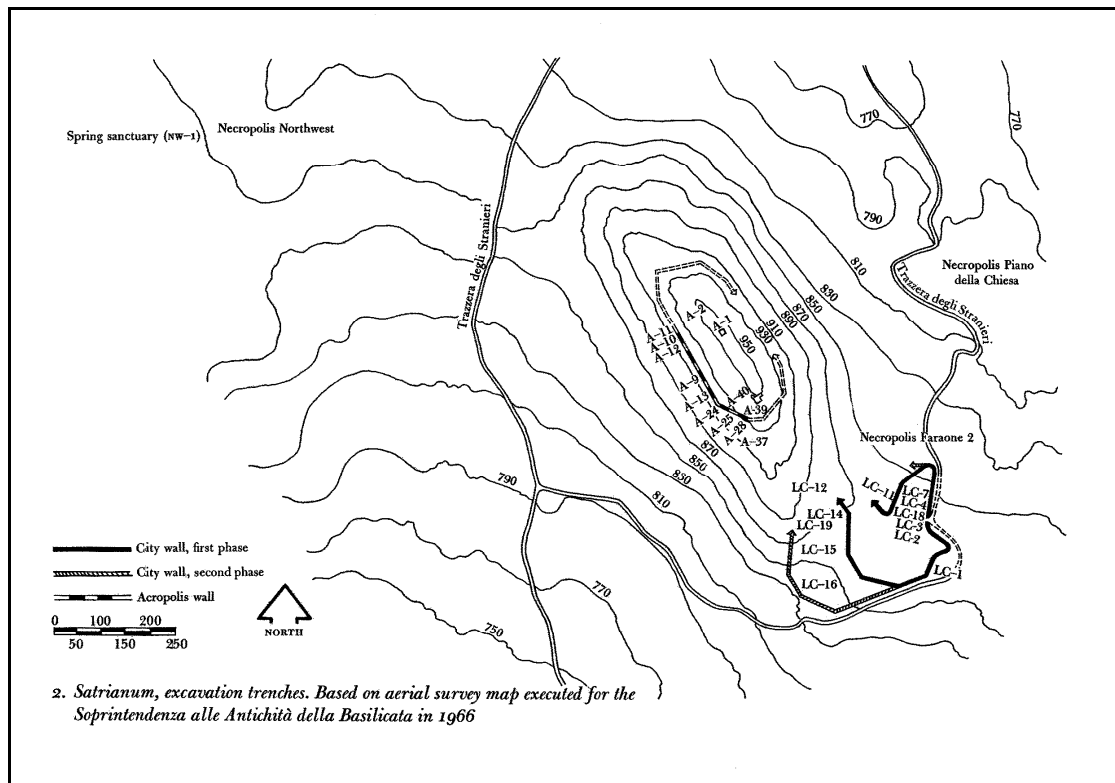
<sup>94</sup> Holloway 1967, 59; Pontrandolfo Greco 1982, 99..

<sup>95</sup> Holloway 1967, 59.

<sup>96</sup> The city walls are similar to those of Serra di Vaglio in their mode of construction, the layout of the walls, featuring a fortified corridor from the acropolis to the lower city also demonstrate Greek influence.: Ibid., 60; Holloway 1970, 8-14 and 17-26.

<sup>97</sup> Holloway 1968, 119; Pontrandolfo Greco 1982, 150-1.

Necropolis lies along the walls of the lower city while in the area to the northwest of the acropolis lies the Northwest Necropolis (tombs here suffered severely from landslides and erosion). 300-500m south of the lower city lies the South Necropolis and Faraone 1 Necropolis (these tombs were affected by deep ploughing and clandestine excavation).



**Figure 10. The acropolis and necropoleis of Satrianum (after Holloway 1970)**

A range of burial practices are recorded for the 6<sup>th</sup> C and 5<sup>th</sup> C. Most common were shallow fossa inhumations, the deceased placed in either a supine or contracted position. There is also a unique ‘seated’ inhumation. Cremation burial was also practiced at Satrianum, the variety in burial practices leading Pontrandolfo Greco to suggest that the site functioned as a frontier zone, possibly with a mixed cultural

population.<sup>98</sup> From the later 5<sup>th</sup> C, however, supine inhumation became the standard burial practice, reflecting a broader change in burial practices at this time.<sup>99</sup>

Holloway published finds from 37 tombs, 29 uncovered by Brown University's excavations during the 1960s.<sup>100</sup> Twelve of these tombs yielded weapons, fashioned exclusively of iron, and several tombs yielded multiple weapons. I outline in the table below the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>98</sup> Pontrandolfo Greco 1982, 28-29.

<sup>99</sup> Holloway 1970

<sup>100</sup> Holloway 1967; Holloway 1968; Holloway 1970.



**Table 16: Satrianum, weapons and associated paraphernalia**

Burial Type: F = Fossa C = Cremation

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
2 (Nec. Far. 1, T-1)	600-500	F	1	9.6			L 25cm - incomplete		Fossa burial badly disturbed by ploughing.	Holloway 1970, 44 and plate 86.
5 (Nec. S, T-1)	600-500	F	2	?			Spearheads: Iron, Eg 1: L 23cm – incomplete Eg 2: L 10cm – incomplete		Fossa burial badly disturbed by ploughing.	Holloway 1970, 49-50 and plate 94.
4 (A-28, T-7)	530-500	C	2	5.2 9.2			Type 5.2: L 23.4cm Type 9.2: L 36cm with evidence of ancient repair.		Cremation burial of a male youth approx. 15yrs. The two iron spearheads, found 18cm above the ashes, deposited after the pyre had burned down.	Holloway 1970, 47-9 and plates 93-4.
7 (Nec. Far. 2, T-1)	c.500	F	1	6.1			L 30.5cm, W 2.74cm, socket diam. 1.7cm	1 iron fork 2 iron spits	A fossa tomb of an individual of approx 45 years of age placed in a contracted position, located along the lower city fortifications The iron ‘fork’ may be as an item of banquet equipment.	Holloway 1970, 51-6 and plates 101-2.
11 (Nec. NW T-E)	Early 5 <sup>th</sup> C	F	2	?	1	?	Spearheads: neither illustrated nor described in detail; Sword: iron blade 10cm – incomplete	1 bronze Corinthian helmet 1 poss. iron spit	The Corinthian helmet shows damage which Holloway interprets as sustained in combat and has been mended.	Holloway 1968, 120 and fig. 7; Holloway 1970, 63-5 and plates 116-9.
13 (Nec. NW, T-A)	Early 5 <sup>th</sup> C	F	2	9.2 9.5	2+	3.1 ?	Spearheads: Type 9.2 L 35.5cm, W3.5cm, socket diam. 2.3cm; Type 9.5 L 33.5, socket diam. 2.19cm; Swords: Type 3.1 L 48.6cm; Type ?: frags, up to 13cm - incomplete		Fossa burial including fragments of at least two, and up to five iron swords. One sword is almost complete the others swords are very fragmentary and it is not possible to determine how many swords are represented.	Holloway 1970, 65-6 and plates 121-2.
14 (Nec. NW T-B)	Early 5 <sup>th</sup> C	F			1	?	L 32.5cm – incomplete		The iron sword is described as having up to 8 fragments, with a tapering blade profile and midrib.	Holloway 1970, 66 and plate 123.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
15 (Nec. NW T-D)	Early 5 <sup>th</sup> C	F	2	5.1 9.4/6	1	?	Spearhead: Type 5.1: L 27cm – incomplete Type 9.4/5/6: L 23.8cm Sword: L 7cm – incomplete		Fossa burial. All of the iron weapons were in a fragmentary state.	Holloway 1970, 66 and plate 123.
16 (Nec. NW T-H)	Early 5 <sup>th</sup> C	F	2	6.1 ?			Type 6.1: L 29cm Type ? eg: L 52.5cm (description similar to Misc. from Tomb 18)		The second spearhead was recovered in five fragments and it is not illustrated, tentative allocation is based on the description.	Holloway 1970, 67 and plate 124.
17 (Nec. NW T-N)	Early 5 <sup>th</sup> C	F	1	7.2			L 41cm		The iron spearhead is quite well preserved.	Holloway 1970, 67 and plate 126.
18 (Nec. NW T-P)	Early 5 <sup>th</sup> C	F	2	8.1 Misc.			Type 8.1 eg: L 25.2cm – incomplete Misc. eg: L 45.5cm, (similar to Type 9.2 with a distinct midrib)		Fossa burial of an adult male of approximately 40 years of age. Both iron spearheads are quite well preserved.	Holloway 1970, 68 and plate 127.
10 (Nec. NW, T-5)	c.450	F	2	6.3x2	1	3.?	Spearheads: Type 6.3 eg 1: L 32cm – incomplete eg 2: 18.8cm – incomplete Sword L 38cm		Fossa burial of a male of approximately 25 years of age in a contracted position. The incomplete state of the spearheads allows for a tentative allocation only.	Holloway 1970, 62-3 and plate 115.

### *Chronological and Typological Summary*

Approximately one third of the tombs published by Holloway included weapons. Two iron spearheads, often in association with an iron sword, is the most common panoply.

**Table 17: Satrianum, summary of 6th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>
2 (Nec. Far. 1, T-1)	Throwing (9.6)	
5 (Nec. S, T-1)	Indeterminate x 2	
4 (A-28, T-7)	Thrusting (5.2) Throwing (9.2)	

Three tombs dated to the 6<sup>th</sup> C included iron spearheads, though no swords or other weapons were recorded from these tombs. Tomb 2 included a single iron spearhead allocated, while Tombs 4 and 5 each included two iron spearheads.

**Table 18: Satrianum, summary of 5th C weapons (iron, unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
7 (Nec. Far. 2, T-1)	Versatile (6.1)		
11 (Nec. NW T-E)	Indeterminate x 2	Indeterminate	<b>Bronze</b> Corinthian helmet
13 (Nec. NW, T-A)	Throwing (9.2) Throwing (9.5)	Cross-bar (3.1) Indeterminate x 2+	
14 (Nec. NW T-B)		Indeterminate	
15 (Nec. NW T-D)	Thrusting (5.1) Throwing (9.4/6)	Indeterminate	
16 (Nec. NW T-H)	Versatile (6.1) Throwing (Misc?)		
17 (Nec. NW T-N)	Thrusting (7.2)		
18 (Nec. NW T-P)	Versatile (8.1) Throwing (Misc.)		
10 (Nec. NW, T-5)	Versatile (6.3) x 2	Cross-bar (3.?)	

Nine tombs including weaponry were dated by Holloway to the 5<sup>th</sup> C, six of which yielded two iron spearheads. Four of those tombs also included one or more iron swords. One tomb included a fragmentary iron sword with no other weapons or paraphernalia found in association. Narrow-bladed spearhead forms dominate the assemblage with members of the versatile 6 and 8 groups most frequently represented (five examples), followed by type 9 throwing spearheads (three examples); in addition the miscellaneous points from Tombs 16 and 18 were functionally similar to type 9.2,

indicating that they too were designed to be thrown.<sup>101</sup> Only two broad-bladed thrusting spearheads can be identified, one of which was found in association with a narrow-bladed throwing spearhead.

Where multiple spearheads were included in a tomb there was a preference to include two spearheads of different forms. A slight trend can be observed favouring the inclusion of a type 9 spearhead, well suited to throwing, in association with a more versatile spearhead which was suited to both thrusting and throwing. Tombs 10 and 13 included two spearheads which could be allocated to the same type group (two members of type 6.3 and type 9.2 and 9.5 respectively); Tomb 10 was the only tomb with two points which did not include a member of the type 9 group.

Five 5<sup>th</sup> C tombs included iron swords; in Tombs 10, 11 and 15 a single sword was associated with two iron spearheads. Tomb 13 yielded a number of poorly preserved iron blade fragments interpreted by Holloway as pertaining to up to five fragmentary iron swords.<sup>102</sup> Tomb 14 was the only iron sword which was not associated with any other weaponry or paraphernalia. The swords were generally in a poor state of preservation and only one—from Tomb 13—could be conclusively allocated to a type (3.1). The sword from Tomb 10 could be very tentatively allocated to the type 3 group. Both were cut-and-thrust swords, the near-complete example from Tomb 13 indicating a total length of approximately 50cm, comparable to other contemporary swords of this type. Illustrations of the sections of the fragmentary swords suggest that these weapons also featured two cutting edges, thus allowing them to be excluded from the type 5 group of single edged slashing swords. The original form and length

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<sup>101</sup> The description of one of the spearheads from Tomb 16 is consistent with the description of the miscellaneous spearhead from Tomb 18, though it was not illustrated in Holloway 1970.

<sup>102</sup> *Ibid.*, 65-6 and plates 121-2.

of these fragmentary swords cannot be determined but it can be inferred that they were also likely to have been versatile cut-and-thrust swords.

#### *Associated paraphernalia*

Very few paraphernalia often associated with finds of weaponry were reported from the tombs assessed here. A sole Corinthian helmet in poor condition and showing evidence of repair was the single defensive item noted, though the possibility exists that other helmets and armour of perishable materials did not survive.

A small number of iron spits and an iron fork were also reported from tombs which also included weapons. Iron spits were not found in tombs that did not include weapons at Satrianum.

#### *Conclusion*

The weapons assemblage of Satrianum indicates a preference for throwing spears of the type 9 group, often in association with a more versatile spearhead with a narrow-bladed profile, suggesting that at least one spearhead in the panoply was intended to be thrown with an additional spearhead held in reserve, potentially for use in close action. The choice of cut-and-thrust swords also demonstrates a desire for versatility, the form and function of these swords being consistent with contemporary swords at other sites in northern Basilicata and Daunia.

## **Chiaromonte**

Chiaromonte was an 'Oenotrian' centre located in the Sinni Valley; the Sinni River was navigable in antiquity and provided direct access to the Ionian coast. The settlement formed part of the exchange network between Sybaris and, later, Siris on the Ionian coast and Noce and Laos on the Tyrrhenian coast.<sup>103</sup> The Oenotrian culture is differentiated from the indigenous sites of northern Basilicata through the burial practices, the deceased generally placed in a supine position within the grave, with an occasional instance in which the deceased was placed in a slightly flexed position, probably to accommodate the accompanying grave goods. Systematic excavation of several necropoleis at Chiaromonte was facilitated by expansion of the modern settlement during the 1970s and 1980s. The necropolis of Sotto La Croce was excavated in 1973, revealing tombs dated to the 7<sup>th</sup> C and 6<sup>th</sup> C; Russo Tagliente and Berlingò published a report of their excavations in 1992 which included 12 tombs yielding weapon or associated paraphernalia.<sup>104</sup>

The table below lists the finds of weapons and associated paraphernalia, laid out in chronological order. Weapons have been allocated to type, where possible, on the basis of their illustration and accompanying descriptions.

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<sup>103</sup> Russo Tagliente and Berlingò 1992, 234-7; Lubtchansky 2005, 71-2.

<sup>104</sup> Russo Tagliente and Berlingò 1992

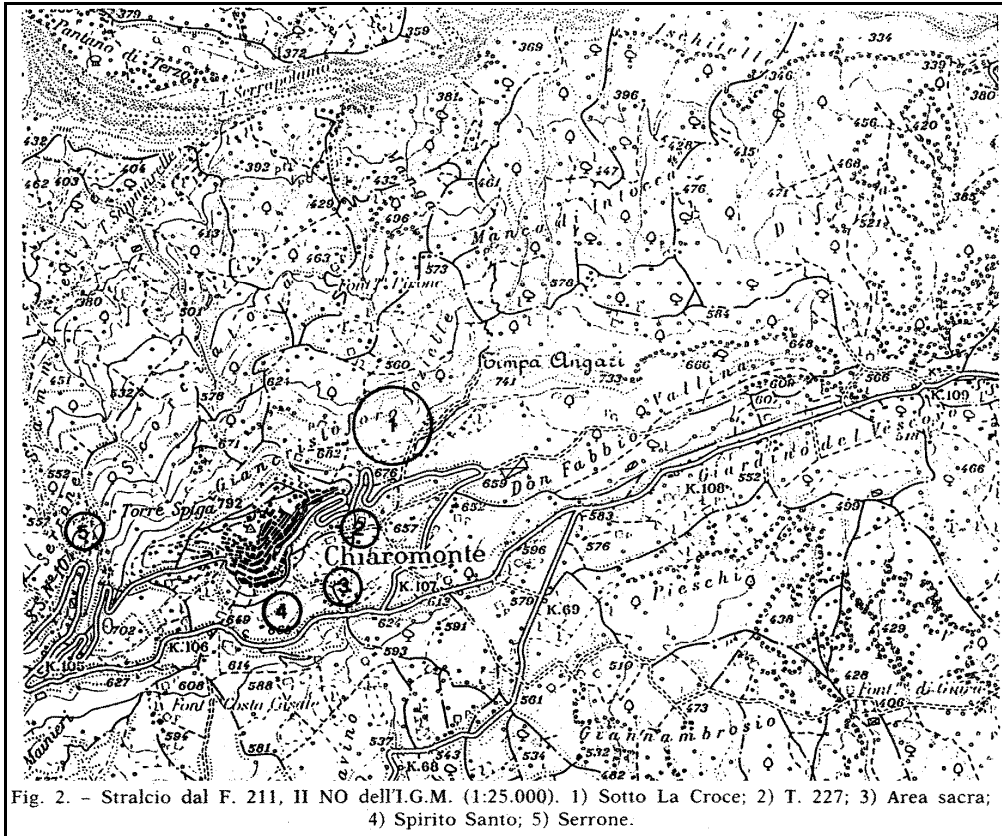


Figure 11: Chiaromonte, excavated areas, after Russo Tagliente and Berlingò 1992, fig. 2.

**Table 19: Chiaromonte, weapons and associated paraphernalia.**

Burial Type F = Fossa

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
24	650-600	F	2	5.1 8.1				Type 5.1 eg: L 47.4cm W 5.4cm Type 8.1 eg: L21.6cm W 2.5cm		Fossa tomb of an adult male and a second skeleton, thought to be that of a child. The spearheads were positioned near to the feet of the adult.	Russo Tagliente and Berlingò 1992, 346-7 and figs. 56 and 70.
27	650-600	F	1	5.1				L 23cm W 4.2cm		Fossa tomb of an adult male, the spearhead positioned amongst other grave goods at the feet of the deceased.	Russo Tagliente and Berlingò 1992, 347-8 and figs. 56 and 72.
3	Late 7 <sup>th</sup> C/ early 6 <sup>th</sup> C	F	1	5.2	1	?		Spearhead: L 45cm W 5cm Sword: iron, L 44cm – incomplete	1 iron shield rim: diam. 50-60cm	Fossa tomb of an adult male. The iron sword was positioned over the left side of the deceased's torso. The shield was constructed principally of perishable materials.	Russo Tagliente and Berlingò 1992, 349-53 and fig. 80.
7	Late 7 <sup>th</sup> C/ early 6 <sup>th</sup> C	F	1	10.2				L 23.3cm W 5cm		Fossa tomb of an adult male. The iron spearhead was positioned near the feet.	Russo Tagliente and Berlingò 1992, 353-6 and figs. 57 and 82.
11	Late 7 <sup>th</sup> C/ early 6 <sup>th</sup> C	F	1	5.1				L 36.7cm W 4.9cm		Fossa tomb of an adult male. The iron spearhead was positioned near the feet.	Russo Tagliente and Berlingò 1992, 355-6 and figs. 57 and 84.
43	Late 7 <sup>th</sup> C/ early 6 <sup>th</sup> C	F	1	8.1				L 26.5cm		Fossa tomb of an adult male. Placed below the feet of the deceased was an iron spearhead.	Russo Tagliente and Berlingò 1992, 362 and figs. 58.
42	Late 7 <sup>th</sup> C/ early 6 <sup>th</sup> C		1	9.6				L 11cm		Fossa tomb of an adult male in flexed supine position. The point is described by Russo Tagliente as a <i>sauroter</i> .	Russo Tagliente and Berlingò 1992, 359-62 and figs. 58 and 90.
39	600-575		1	5.1				L25.6cm allocated on typological comparison with spearhead from Tomb 27.		Fossa tomb, the spearhead placed amongst other grave goods at the feet of the deceased. The spearhead is not illustrated.	Russo Tagliente and Berlingò 1992, 373-5 and fig. 60.



Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
29	600-575	F	2	6.1 9.5	1	5.2		Spearheads: Type 6.1: L 38.8cm W 3cm Type 9.5: L 26cm Sword: L 26cm; flat blade section and a single cutting edge.	1 frag. iron scabbard L 5cm; thought principally of wood, (fragments of which were recovered) and possibly leather.	Fossa tomb of an adult male. The sword is described by Russo-Tagliente as a <i>machaira</i> . Traces of an accompanying scabbard were also recovered from the tomb. Two bronze rivets attached to a small, square fragment of bronze laminate were perhaps also associated with the scabbard.	Russo Tagliente and Berlingò 1992, 369-70 and figs. 50, 59 and 105.
26	575-525	F	3	6.1	1	5.1	1 iron axe	Spearheads: Eg 1: L 24.7cm Eg 2: L 33cm W 3cm Eg 3: L 26.7cm Sword: L 35.5cm; Axe: L 17.7 W 7.8cm	2 iron sickles ( <i>drepana</i> ) L 33.3cm L 32.6cm	Fossa tomb of an adult male. The sword and spearheads were positioned by the feet of the deceased, the sickles and axe by the legs. The sword is described by Russo-Tagliente as a <i>machaira</i> . The iron axe features a single cutting edge and an eyehole socket. <sup>105</sup>	Russo Tagliente and Berlingò 1992, 382-6, and figs 61 and 123.
31	525-500	F	1	10.2				L 16.7cm		Fossa tomb of an adult male, placed below the feet of the deceased, was an iron spearhead.	Russo Tagliente and Berlingò 1992, 389-92 and figs. 62 and 131.
34	525-475	F					1 iron axe	L 16.9cm, W 7.8cm Two cutting edges.	Iron chisel Iron pliers Iron pincers 6 iron spits	Fossa tomb of an adult male. The tools were placed by the feet of the deceased and may have formed part of a labourer's toolkit. The axe was placed near the shoulders; it is uncertain whether the axe would have functioned as a weapon.	Russo Tagliente and Berlingò 1992, 393 and figs. 62 and 135.

<sup>105</sup> Ibid., 324: suggests this item may have functioned as either a sacrificial tool or as a weapon referring to two passages from the *Iliad* (XIII, 612; XV, 711) that mention the use of axes in the context of battle.

### *Chronological and Typological Summary and Conclusions*

The twelve tombs which contained weapons yielded a range of spearheads and swords, made exclusively of iron, dated between the mid 7<sup>th</sup> C and the first quarter of the 5<sup>th</sup> C. The weapons assemblage was consistent throughout this period, usually a single iron spearhead (eight instances). Tomb 3, included a single iron spearhead in association with an iron sword while a further three tombs included multiple iron spearheads, two of those in association with an iron sword. Tomb 26 included an iron axe in association with an iron spearhead and a sword. Tomb 34 yielded a single iron axe but no other associated weapons.

**Table 20: Summary of weapons at Chiaromonte (all iron).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>	<b>Armour</b>
24	Thrusting (5.1) Versatile (8.1)			
27	Thrusting (5.1)			
3	Thrusting (5.2)	Indeterminate		Shield rim
7	Thrusting (10.2)			
11	Thrusting (5.1)			
43	Versatile (8.1)			
42	Throwing (9.6)			
39	Thrusting (5.1)			
29	Versatile (6.1) Throwing (9.5)	<i>Machaira</i> (5.2)		
26	Versatile (6.1) x 3	<i>Machaira</i> (5.1)	Axe	2 sickles ( <i>drepana</i> )
31	Thrusting (10.2)			
34			Axe	Chisel Pliers Pincers

#### *Spearheads*

The preference for narrow-bladed versatile and throwing spearheads observed at other sites in Basilicata is not seen in the spearhead assemblage of Chiaromonte. There is a distinct preference for broad-bladed thrusting spearheads evidenced in the presence of broad-bladed type 5 and type 10 spearheads in seven of the twelve tombs. Type 10 spearheads appear earlier at Inconronata, but at none of the sites in northern Basilicata.

Four tombs included spearheads of the versatile type 6 and type 8 groups, one of these (Tomb 24) found in association with a broad-bladed type 5.1 spearhead. Only two spearheads could be allocated to the type 9 group of throwing spearheads, suggesting that the type was not favoured at Chiaromonte. This distinct preference for broad-bladed spearheads at Chiaromonte in the 7<sup>th</sup> C and 6<sup>th</sup> C possibly represents an ‘Oenotrian’ cultural preference for spearheads best suited to the delivery of thrusting blows.

### *Swords*

Three iron swords were reported from the tombs listed above, each in association with one or more iron spearheads. The sword from Tomb 3 clearly features two cutting edges and while it cannot be allocated to a sword type it can be readily identified as a cut-and-thrust sword similar in length to type 3 swords recorded at other sites in Basilicata and Daunia between the 7<sup>th</sup> C and the 5<sup>th</sup> C. The swords in Tombs 26 and 29, dated to the 6<sup>th</sup> C, are short, single-edged slashing swords and the possibility that these items functioned as sacrificial tools should also be considered as has been discussed in Chapter 3 (p. 132). Both swords are described by Russo-Tagliente as *machairai*; the example from Tomb 26 demonstrated a significant balance of weight close to the point, a trait that would make the sword well suited to the delivery of slashing blows. The short blade length of these swords—if they were weapons—implies they would have been employed in a very close fighting style.

### *Other weapons*

The two iron axes (in Tombs 26 and 34) may have functioned as weapons. Each axe can be identified as belonging to a different type; the axe from Tomb 26 features a single cutting edge and an eyehole socket and finds comparanda with a number of

axes of the Early Iron Age throughout South Italy.<sup>106</sup> Russo-Tagliente suggests this item may have functioned either as a sacrificial tool or as a weapon, referring to two passages from the *Iliad* that mention the use of axes in the context of battle.<sup>107</sup> The assemblage of Tomb 26 also included two iron sickles (*drepana*) suggesting that an interpretation of a non-military function should perhaps be preferred in this instance. Similarly, the double-edged axe from Tomb 34 was associated with iron pliers, pincers and other items interpreted by the excavator as a metalworker's toolkit, making it unlikely that the axe functioned as a weapon.<sup>108</sup>

#### *Associated paraphernalia*

An iron shield rim from Tomb 3 associated with an iron spearhead and a cut-and-thrust sword was the only defensive item reported. The rim indicates that the shield was circular with a diameter of 50-60cm, evidently constructed principally of perishable materials, most likely wood or leather.

The metalworking kit in Tomb 34 was also associated with six iron spits. While iron spits are often interpreted as associated with the distribution of meat by members of the elite they could also have functioned as currency.<sup>109</sup> It is possible that in this instance the spits were representative of the deceased's metal craft and the social status associated with that profession.

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<sup>106</sup> See Carancini and Peroni 1999 plate 33 for a range of axe types in use during the Early Iron Age, plate 35 for a chart of relative chronologies.

<sup>107</sup> *Iliad* XIII, 612; XV, 711.

<sup>108</sup> Russo Tagliente and Berlingò 1992, 324 and fig. 48: citing a number of representations of metalworking and of Hephaestus in 6<sup>th</sup> C vase painting which include double-bladed axes.

<sup>109</sup> See: Kostoglou 2003.

## ***Conclusions – Basilicata***

### *Spearheads*

Incoronata is the sole site in this survey with material datable to the 9<sup>th</sup>/8<sup>th</sup> C and which covers the transition from bronze to iron as the preferred material for manufacture for spearheads and swords. The bronze spearheads from Incoronata reflect the contemporary material from Southern Campania, a mixture of locally produced and Villanovan spearhead forms, with broad-bladed Central European forms dominating the assemblage. Broad-bladed spearhead forms continue to be represented in the iron spearheads from Incoronata along with an increase in narrow-bladed spearheads, with members of the type 6 group most common.

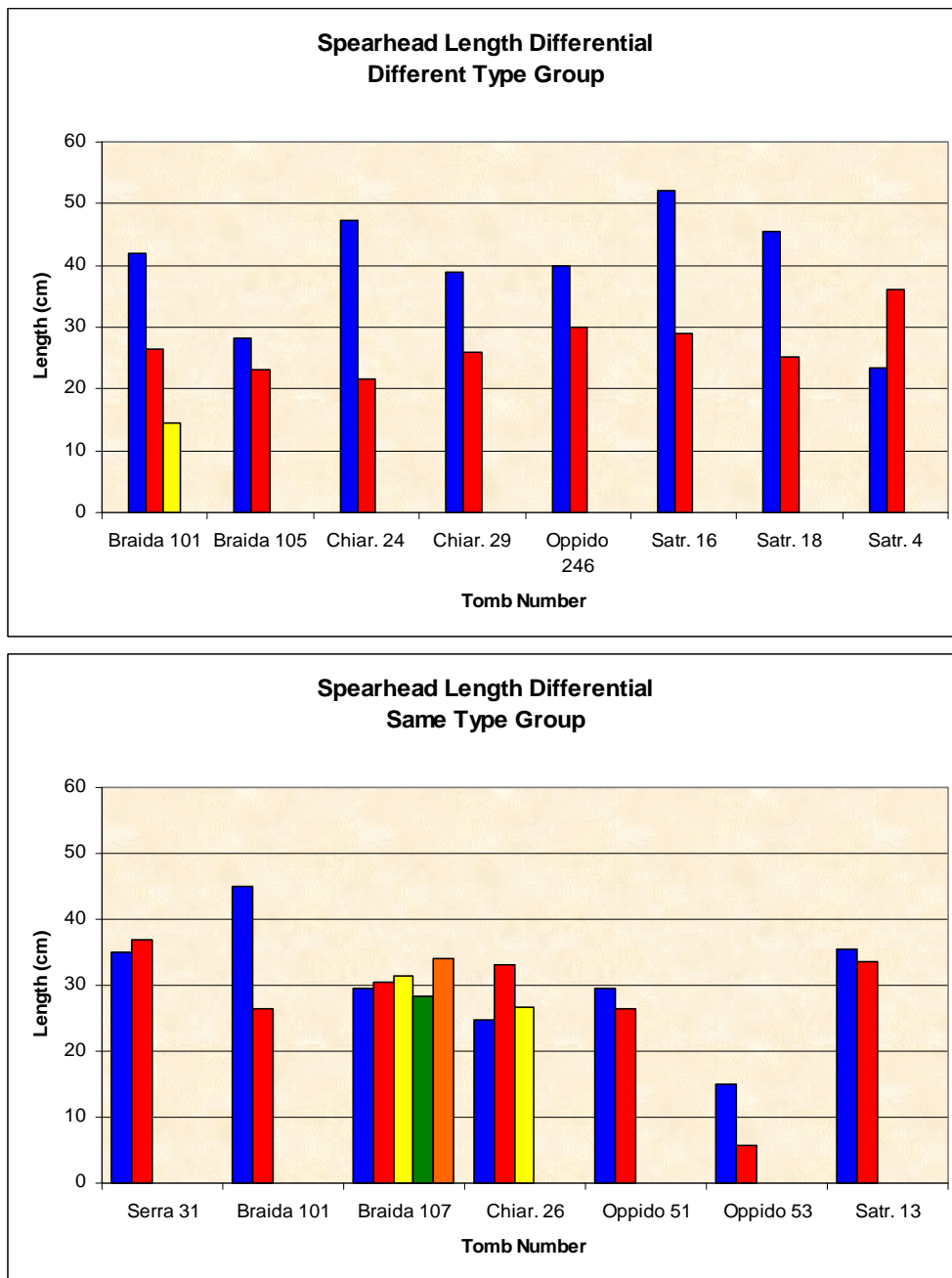
There is a distinct preference for broad-bladed thrusting spearheads at Chiaromonte in the 7<sup>th</sup> and 6<sup>th</sup> C, which may be an 'Oenotrian' trait. Members of the type 5 group are much less common in northern Basilicata, and members of type 10 do not appear at any of the northern sites.

At the northern sites of Oppido Lucano, Serra di Vaglio, Ruvo del Monte and Satrianum, narrow-bladed spearhead forms of type 6 and 9 groups dominate the record. The spearheads are either versatile or best-suited to throwing with relatively few members of the type 5 and 7 groups specifically suited to the delivery of thrusting blows.

Evidence of ancient repair to the type 9.2 spearhead from Tomb 4 at Satrianum and signs of significant wear to several of bronze spearheads from Incoronata suggest that these were functional weapons which had been subjected to use over a prolonged period.

The inclusion of multiple spearheads in tombs at every site except Incoronata suggests that multiple spearheads were carried by warriors in active combat. Multiple spearheads appear in the 7<sup>th</sup> C but with greater frequency from the 6<sup>th</sup> C onwards. The diversity of these panoplies also indicates differential functions between spearhead types. There is a slight but constant trend amongst multiple spearhead assemblages in favour of either a versatile spearhead of the type 6 or 8 group in association with a throwing spear of the type 9 group, or a broad-bladed spear of the type 5 group in association with a more versatile narrow-bladed spearhead form.

Where multiple spearheads are included, pairs of the same type group are generally (with few exceptions) of similar length. In contrast, where pairs are drawn from different type groups there tends to be a difference of more than 10cm in length between spearheads (Figure 12). This suggests that a difference was perceived between spearhead forms by those depositing them in the funerary assemblage.



**Figure 12: Comparative spearhead lengths for tombs including multiple spearheads.**

*Swords*

The swords represented in the tombs of Basilicata were predominantly cut-and-thrust swords and most were cross-bar swords. The type 4.1 sword from Serra di Vaglio reflects daggers from Southern Campania and Central Italy, modified to create a sword, its presence at Serra di Vaglio perhaps a product of the site's prominent

position in the exchange network between the Adriatic, Tyrrhenian and Ionian coasts. The complete cut-and-thrust swords range in length from 37cm to 64.5cm with an average length of 54cm. The variation in length of the cut-and-thrust swords is consistent across each of the sites discussed in this chapter and throughout the chronological period under examination suggesting that sword length was a matter of personal preference.

The so-called longswords from Incoronata and Oppido Lucano are both similar in form to longer examples from Craco, Valle Sorigliano in Basilicata and from Athens. The length of the Incoronata and Oppido Lucano swords, at 60cm, is close to that of other cut-and-thrust swords of the type 1 and type 3 groups and type 4.1—which are local types—suggesting that these two ‘longswords’ may be local imitations of much longer Greek versions while the examples from Craco and Valle Sorigliano, which are equivalent in length to examples known from Greece and Central Europe, may have been imported.

The few slashing swords, recorded at Ruvo del Monte and Chiaromonte are, on average, c.20cm shorter than the cut-and-thrust swords. The longest example, from Tomb 26 at Ruvo del Monte, measures 35.5cm in length, and is slightly shorter than the shortest of the cut-and-thrust swords. They are certainly shorter than complete examples from Sala Consilina (44cm), dated to the 8<sup>th</sup> C and Paestum (77cm), dated to the 5<sup>th</sup> C,<sup>110</sup> and the possibility that these artefacts did not function as weapons, but rather as sacrificial tools, cannot be excluded.

A correlation between the presence of slashing swords and cavalry activity has often been asserted, particularly when they are found in association with horse equipment.

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<sup>110</sup> Kilian 1970, 318, 378 and plate 203; Cipriani and Longo 1996, 149-55 fig. 58.15.



No horse equipment was reported from the tombs from Ruvo del Monte and Chiaromonte assessed in this chapter.<sup>111</sup>

#### *Other Weapon Classes*

Four axes were reported from tombs included in this chapter. Three of these were associated with weapons. However, one of those tombs also included two iron sickles. The fourth example came from a tomb without weapons, but which included a range of tools associated with metal- or wood-working. It is likely that these last two, in particular, functioned as tools rather than weapons.

No arrowheads were included in the tombs assessed in this chapter. However, this does not indicate that archery was not practiced in the region. Excavations at Serra di Vaglio during 2005 uncovered a bronze arrowhead, which was not found *in situ*.<sup>112</sup>

#### *Associated Paraphernalia*

*Armour, Belts and Shields:* The armour represented in the panoplies assessed in this chapter mostly demonstrates Greek influence, with the presence of Corinthian helmets and greaves. Yet, there are clear indications of local armour forms in the Apulo-Corinthian helmets, and traces of helmets constructed of perishable materials, demonstrated by the bronze crest mounts from Braida di Vaglio and Ruvo del Monte. There are no cuirasses recorded amongst the material assessed in this chapter and while the possibility of perishable leather or linen cuirasses cannot be excluded, none of the reports note clasps or trappings thought to be associated with such items.

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<sup>111</sup> Lubtchansky 2005. Tombs 71 and 72 at Chiaromonte reported iron horse bits in association with *machairai*. The ceramics from these tombs were published in Tagliente 1985 (172 and 175) where mention is made of the inclusion of horse bits and *machairai* in these tombs, but they are not published in detail. This description of horse equipment in association with *machairai* led Lubtchansky to conclude a direct association between cavalry service and *machairai* for the individuals in those tombs, citing Xenophon *On Horsemanship* 12.11 in support of this conclusion.

<sup>112</sup> Personal observation.

Several *hoplon* shields were recorded from the wealthy tombs of Braida di Vaglio and the partial rim of a smaller round shield was also recovered from Chiaromonte. Each shield appears to have been constructed of either wood or leather with bronze laminate or other metal additions. Fragmentary bronze laminate from Ruvo del Monte was also interpreted by the excavator as pertaining to a shield which had also been made of perishable materials. Wood and/ or leather would have facilitated shock absorption and given the shield density, without the weight of solid metal. These shield forms would also have been suited to both mounted and dismounted combat, again demonstrating versatility of purpose which is also evident in the weapons assemblage.

The bronze belts from the wealthy assemblages of Braida di Vaglio present a variety of forms; the clasp of one of the belts from Tomb 108 suggests it may be a forerunner of later 'Lucanian' belts of the 5<sup>th</sup> C and 4<sup>th</sup> C. At Braida di Vaglio four tombs include multiple belts perhaps as trophies, a practice later noted more widely.

The armour and shields all appear to be functional examples, capable of protecting their wearer while simultaneously serving as potent symbols of wealth and warrior status both in parade and on the battlefield.

*Horse equipment:* The horse armour from Braida di Vaglio and the Braida monument indicate that horses were employed in a military context in Basilicata during the 6<sup>th</sup> C. The carts from Braida di Vaglio and Ruvo del Monte may have pertained to martial practice, but were more likely modes of transport associated with ritual processions or funerary games, as was the case in Paestum during the 5<sup>th</sup> C and 4<sup>th</sup> C. Certainly, historical sources document large-scale cavalry conflicts in Campania and Apulia during the 5<sup>th</sup> C and 4<sup>th</sup> C and it is possible that these 6<sup>th</sup> C examples represent the

beginning of the rise of cavalry in Basilicata. However, the level of cavalry action during the 6<sup>th</sup> C remains unclear and better publication of the material from Chiaromonte may elucidate the extent of cavalry practice there.

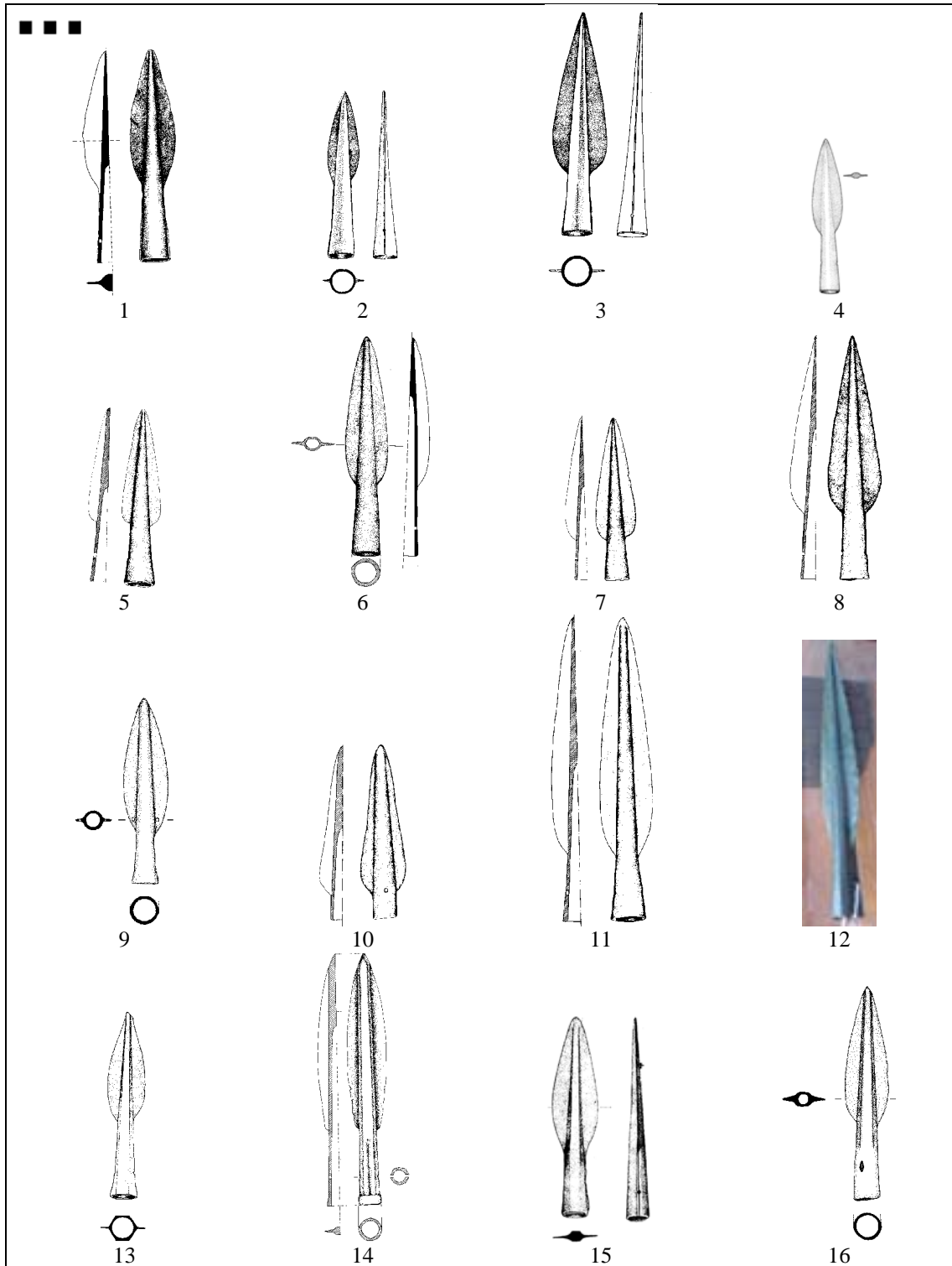
*Iron Spits:* The practice of distributing meat to one's social dependents was an important practice in Iron Age South Italy, represented by the inclusion of iron spits and fire-dogs in tombs. However, the connotations of these items are more complex, and were perhaps also at times indicative of commercial wealth, as in Tomb 34 at Chiaromonte.

**Table 21: Typological distribution of spearheads in Basilicata during 8th C - 4th C (X=presence)**

Spearhead Type		Sites				
		Incoronata	Oppido Lucano	Serra di Vaglio	Satrianum	Chiaromonte
1	1.1	X				
	1.2	X				
	1.3					
	1.4	X				
2	2.1	X				
	2.2					
	2.3					
	2.4					
3	3.1					
	3.2					
	3.3	X				
	3.4	X				
	3.5	X				
	3.6					
4	4.1					
	4.2					
	4.3					
5	5.1		X		X	X
	5.2			X	X	X
6	6.1				X	X
	6.2	X	X	X		
	6.3	X	X		X	
	6.4	X				
7	7.1					
	7.2	X		X	X	
8	8.1		X	X	X	X
	8.2			X		
	8.3					
	8.4	X				
9	9.1			X		
	9.2		X	X	X	
	9.3					
	9.4					
	9.5					X
	9.6		X	X	X	X
10	10.1	X				
	10.2					X

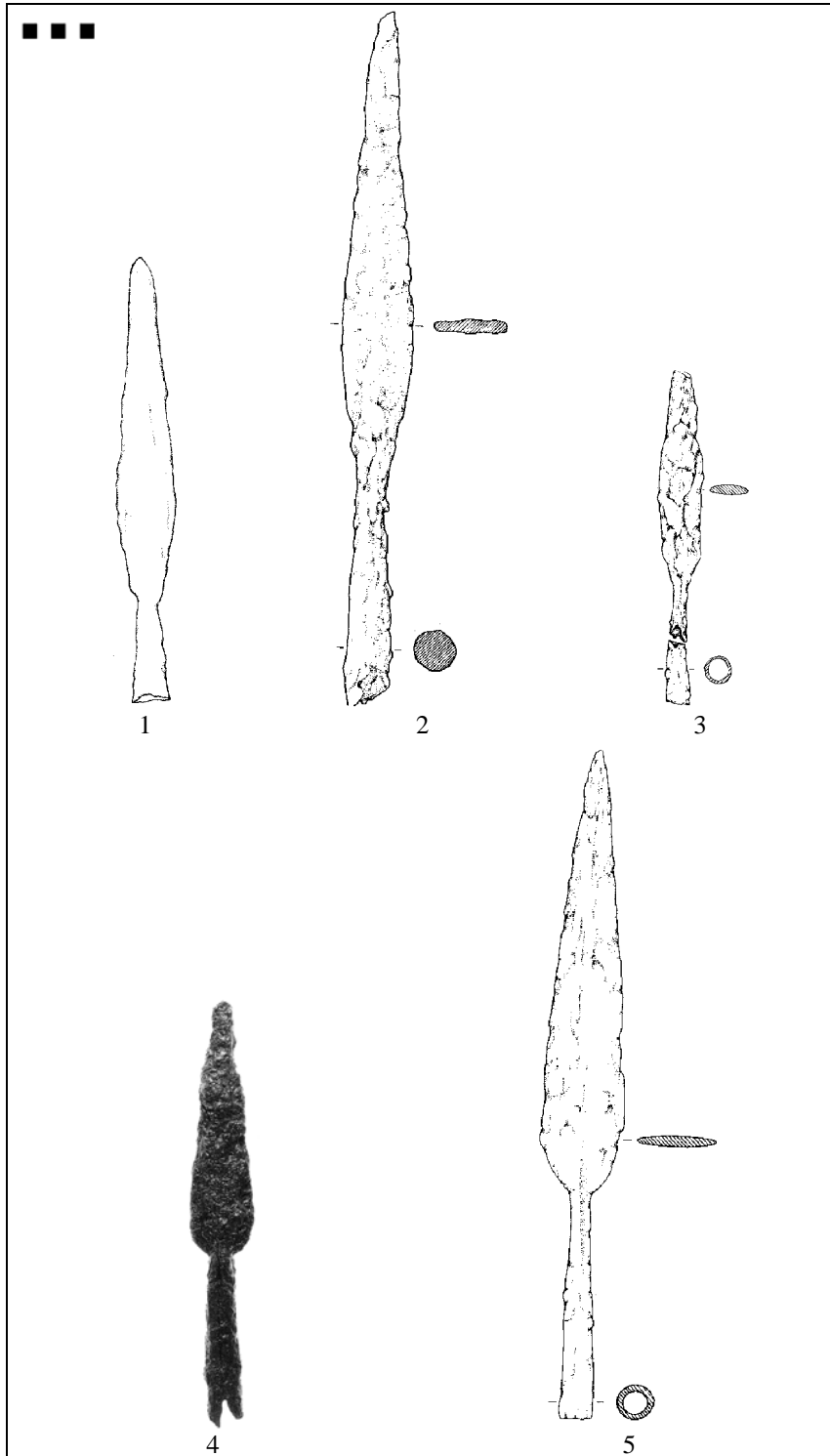
**Table 22: Typological distribution of swords in Basilicata during 8th C - 4th C (X=presence)**

Sword Type		Sites				
		Incoronata	Oppido Lucano	Serra di Vaglio	Satrianum	Ruvo del Monte
1	1.1					
	1.2					
	1.3	X				
	1.4	X				
2	2.1					
	2.2		X			
3	3.1		X	X	X	X
	3.2		X	X		
	3.3			X		
4	4.1			X		
	4.2					
5	5.1					X
	5.2					X
	5.3					



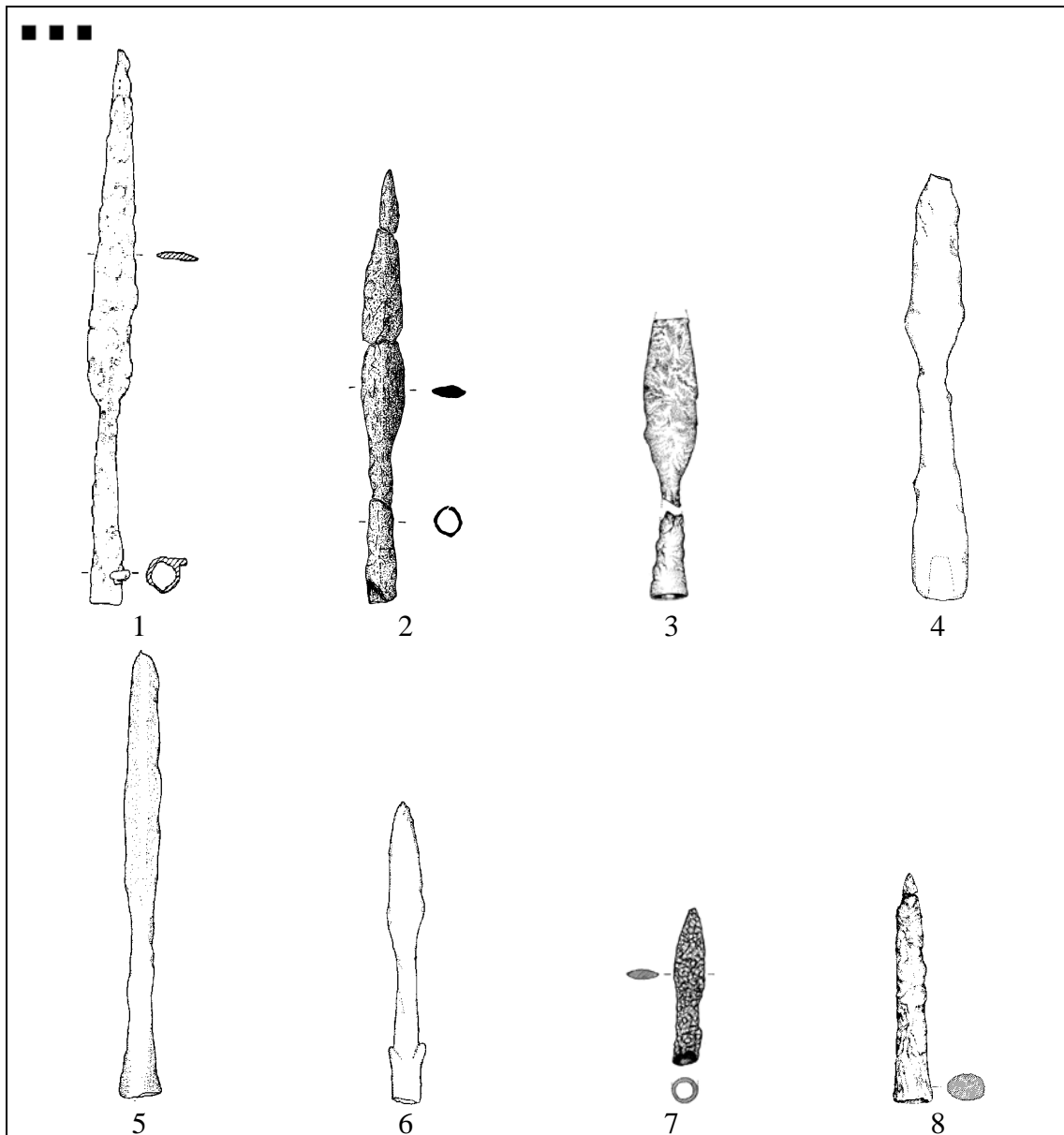
**Figure 13: Basilicata, bronze spearheads (to scale)**

- |                                 |                                  |
|---------------------------------|----------------------------------|
| 1. Inconata Tomb 43 - Type 1.1  | 10. Inconata Tomb 244 - Type 1.4 |
| 2. Inconata Tomb 125 - Type 1.1 | 11. Inconata Tomb 206 - Type 2.1 |
| 3. Inconata Tomb 129 - Type 1.1 | 12. Inconata Tomb 522 - Type 3.1 |
| 4. Inconata Tomb 165 - Type 1.1 | 13. Inconata Tomb 126 - Type 3.3 |
| 5. Inconata Tomb 195 - Type 1.1 | 14. Inconata Tomb 326 - Type 3.4 |
| 6. Inconata Tomb 205 - Type 1.1 | 15. Inconata Tomb 83 - Type 3.5  |
| 7. Inconata Tomb 221 - Type 1.1 | 16. Inconata Tomb 298 - Type 3.5 |
| 8. Inconata Tomb 229 - Type 1.1 |                                  |
| 9. Inconata Tomb 294 - Type 1.2 |                                  |



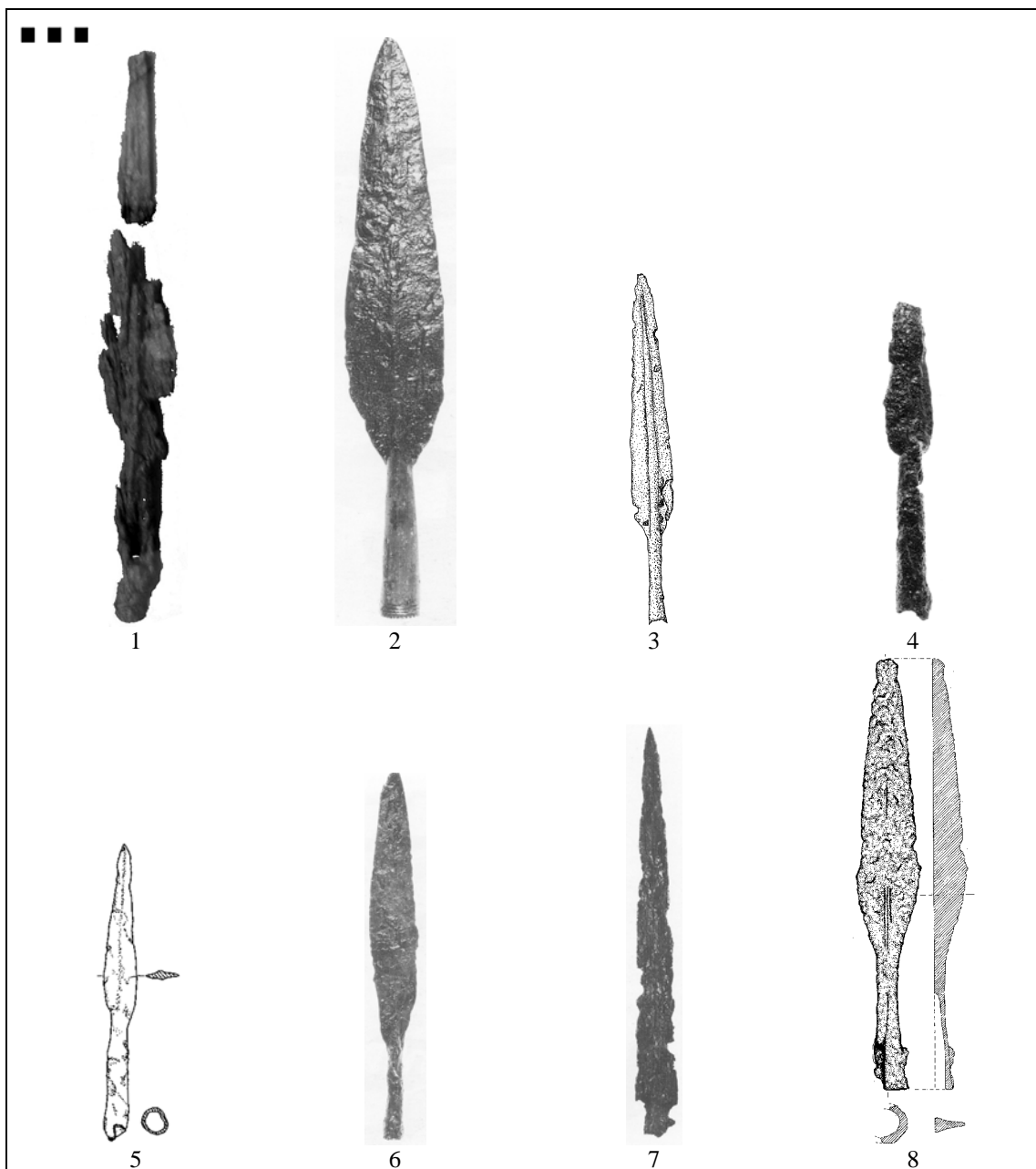
**Figure 14: Basilicata Type 5 Iron Spearheads (to scale)**

1. Oppido Lucano Tomb 45 - Type 5.1
2. Chiaromonte Tomb 24 - Type 5.1
3. Chiaromonte Tomb 27 - Type 5.1
4. Braida di Vaglio Tomb 105 - Type 5.2
5. Chiaromonte Tomb 3 - Type 5.2



**Figure 15: Basilicata Type 6 Iron Spearheads (to scale)**

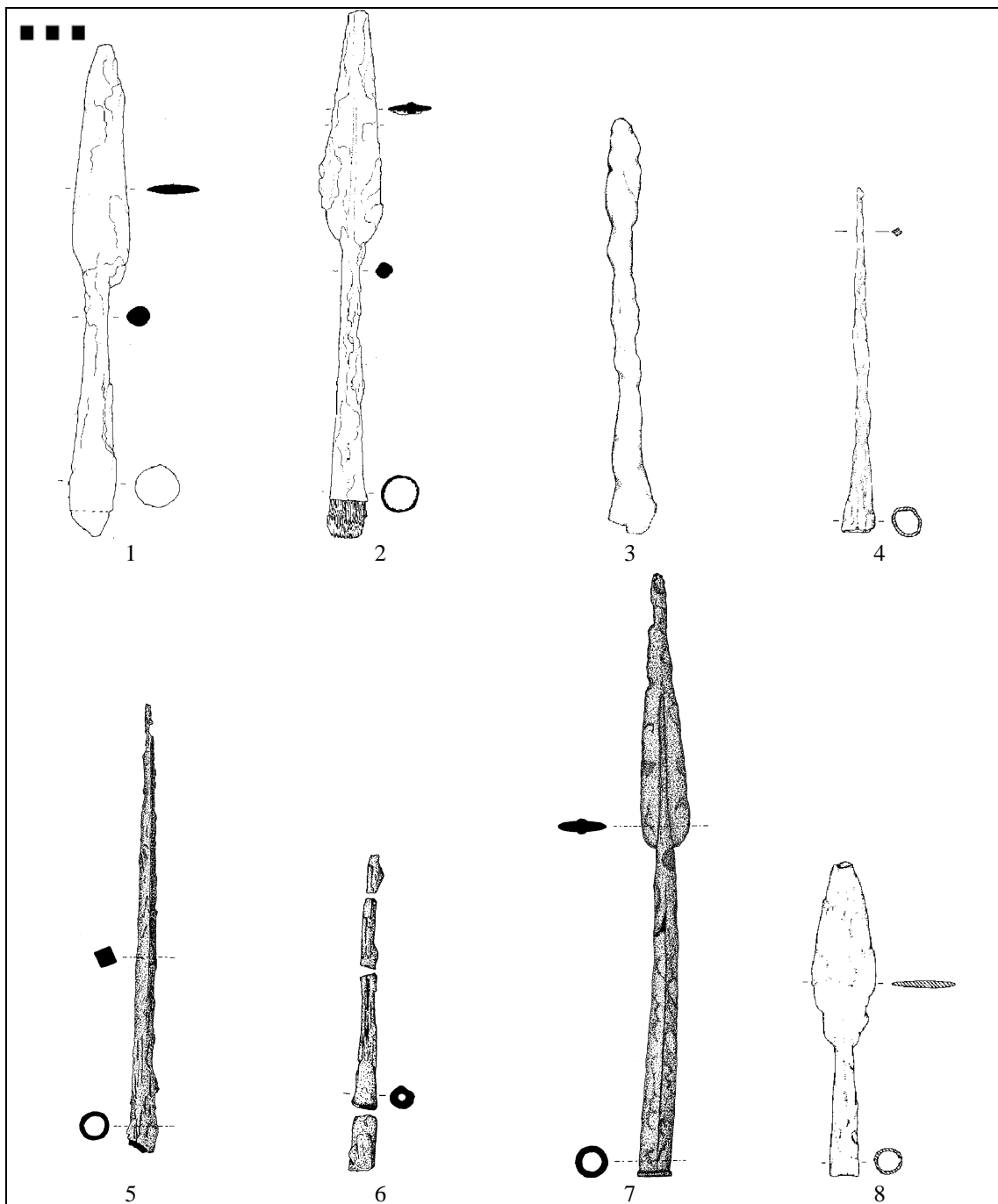
1. Chiaromonte Tomb 29 - Type 6.1
2. Satrianum Tomb 7 - Type 6.1
3. Incoronata Tomb 150 - Type 6.2
4. Oppido Lucano 29 - Type 6.2
5. Oppido Lucano Tomb 1 - Type 6.3
6. Oppido Lucano Tomb 44 - Type 6.3
7. Incoronata Tomb 261 - Type 6.3
8. Incoronata Tomb 219 - Type 6.4



**Figure 16: Type 7 & Type 8 Iron Spearheads (to scale).**

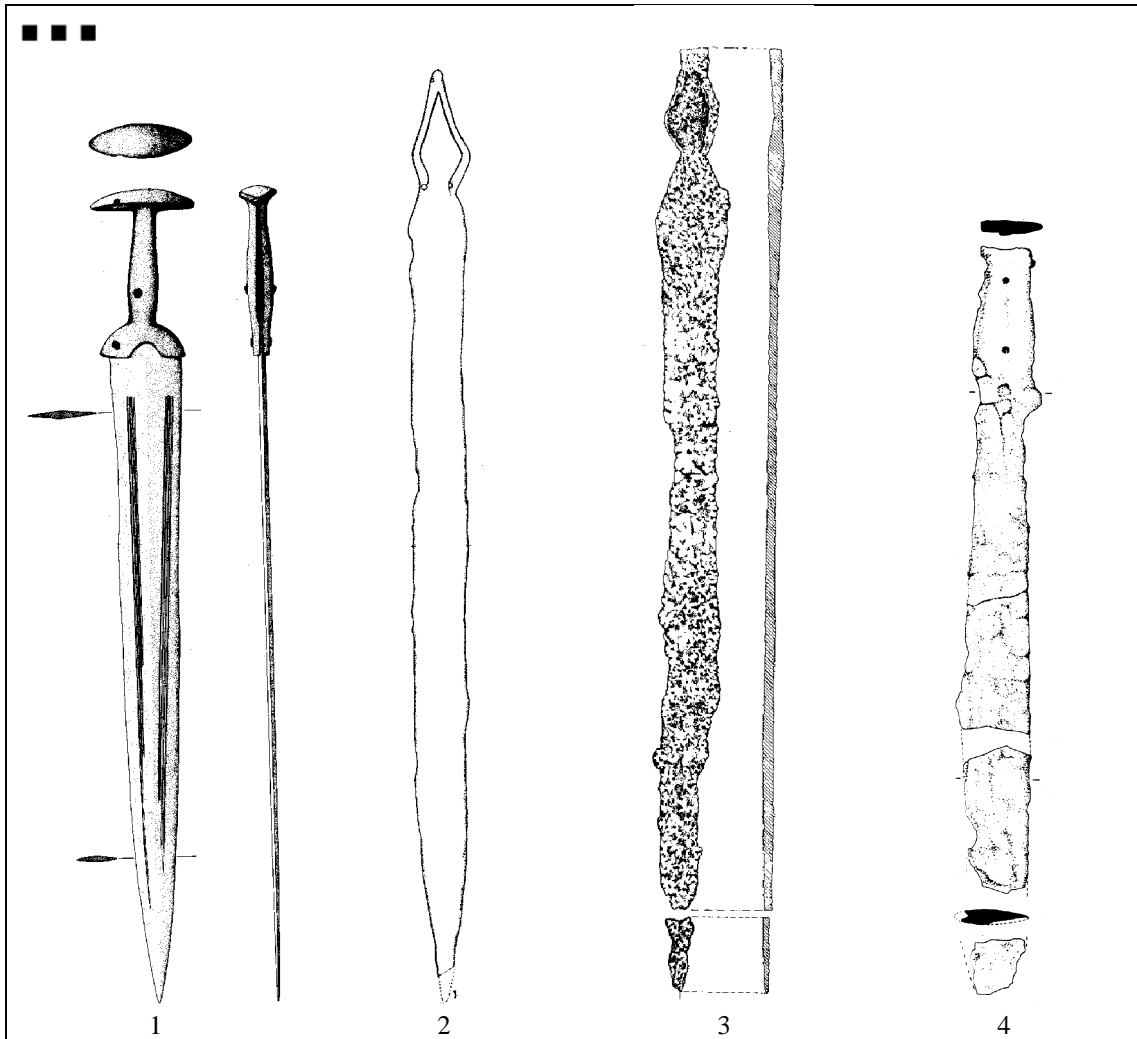
1. Incoronata Tomb 454 - Type 7.2
2. Braida di Vaglio Tomb 101 - Type 7.2
3. Satrianum Tomb 18 - Type 8.1
4. Braida di Vaglio Tomb 105 - Type 8.1
5. Chiaromonte Tomb 24 - Type 8.1
6. Braida di Vaglio Tomb 101 - Type 8.2
7. Braida di Vaglio Tomb 107 - Type 8.2
8. Incoronata Tomb 455 - Type 8.4





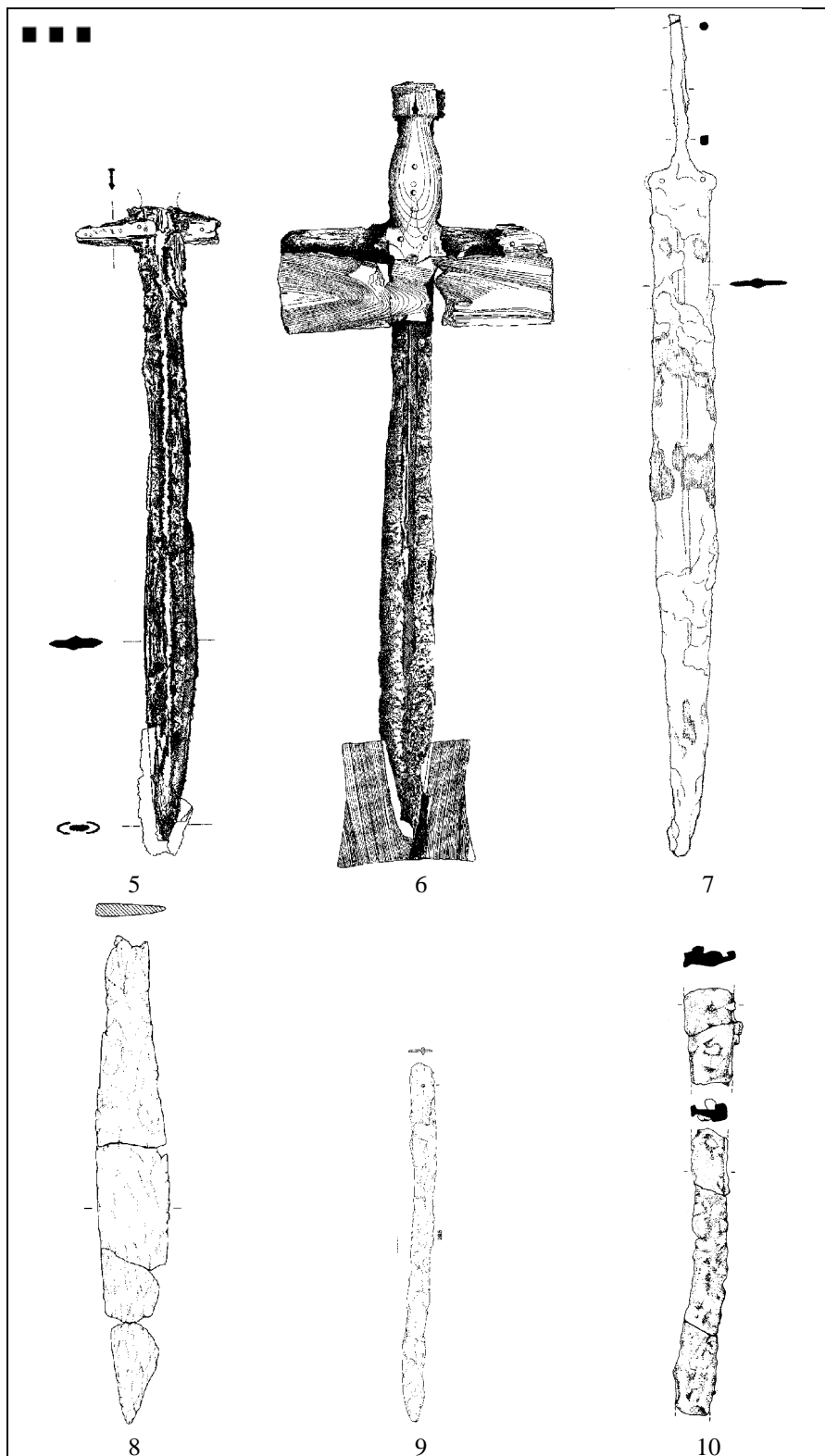
**Figure 17: Type 9 & Type 10 Iron Spearheads (to scale).**

1. Serra di Vaglio Tomb 31 - Type 9.1
2. Serra di Vaglio Tomb 31 - Type 9.2
3. Oppido Lucano Tomb 45 - Type 9.2
4. Chiaromonte Tomb 29 - Type 9.5
5. Satrianum Tomb 13 - Type 9.5
6. Satrianum Tomb 15 - Type 9.4/5/6
7. Satrianum Tomb 18 - Misc.
8. Chiaromonte Tomb 7 - Type 10.2



**Figure 18: Basilicata Swords (to scale).**

1. Incoronata Tomb 432 - Type 1.4 (bronze)
2. Oppido Lucano Tomb 45 - Type 2.2
3. Incoronata tomb 335 - Type 2.2
4. Ruvo del Monte Tomb 29 - Type 3.1



**Figure 19: Basilicata Swords cont. (to scale).**

5. Braida di Vaglio Tomb 101 - Type 3.2
6. Braida di Vaglio Tomb 107 - Type 3.3
7. Serra di Vaglio Tomb 30 - Type 4.1
8. Chiaromonte Tomb 26 - Type 5.1
9. Chiaromonte Tomb 29 - Type 5.2
10. Ruvo del Monte Tomb 18 - Type 5.2

## Chapter 6

### Regional Comparison of Weapons – Southern Campania

During the Iron Age Southern Campania was a culturally diverse region. Campania formed a nexus between Etruscan centres to the north, Oenotrian centres to the south and the inland settlements of Basilicata and Daunia.<sup>1</sup> Locally, Southern Villanovan centres co-existed along side the indigenous *Fossakultur* sites. The region also had contacts with Sicily and Sardinia and functioned as the hub of the earliest Greek contacts in the Iron Age.<sup>2</sup> There are several key sites in Campania, which I have chosen to survey in this thesis; they are the Southern Villanovan sites of Pontecagnano and Sala Consilina, the Greek and Lucanian centre of Poseidonia/Paestum, and the *Fossakultur* sites of Oliveto-Citra and Cairano.<sup>3</sup> The Southern Villanovan site of Pontecagnano had links to the coastal Etruscan sites of Tarquinia through the gulf of Salerno. Sala Consilina, located in the Vallo di Diano, straddled the heavily Etruscan-influenced Campanian coast, inland Basilicata and the broad avenue to Calabria, formed by the Vallo di Diano.<sup>4</sup> Poseidonia, was founded as a colony c.600 BC (according to tradition, from Sybaris), but by the end of the 5<sup>th</sup> C was in the process of transformation into a Lucanian centre; it became a Roman city, renamed Paestum, in 273 BC. Oliveto-Citra and Cairano were non-Villanovan sites of the local *Fossakultur* with strong connections to the Melfese.<sup>5</sup> These sites are all linked via the ancient routes of communication between the uplands of Basilicata and the coast. The sites were closely connected in antiquity and the weapons recovered from them demonstrate connections to sites in Basilicata as well as to Central Italy.

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<sup>1</sup> Bartoloni 2000, 66.

<sup>2</sup> Ibid., 69.

<sup>3</sup> Generally *Fossakultur* sites and necropoleis are underpublished.

<sup>4</sup> Pontrandolfo Greco 1982, 56; Ridgway 1992, 122-3.

<sup>5</sup> Pontrandolfo Greco 1982, 36-8.



Figure 1. Campanian sites discussed in this chapter, highlighted red.

### Pontecagnano

Pontecagnano, located approximately 10km to the south of Salerno in Campania, is situated on the south bank of the Picentino River, approximately 3km inland from the Tyrrhenian Coast. The site shows evidence of largely uninterrupted occupation from the Eneolithic to the present day. The position of the Iron Age settlement facilitated control of the agricultural lands of the plain and access to the nearby coast via the river system; topographical analysis suggests there were lakes and lagoons in the vicinity which would have provided anchorage.<sup>6</sup> The maritime contacts of

<sup>6</sup>Bonghi Jovino 2000, 160; Gastaldi 1994, 50.

Pontecagnano also extended to Sardinia, the Aeolian Islands Sicily, Greece and Phoenicia.<sup>7</sup>

In the Early Iron Age Pontecagnano emerged as a settlement apparently founded by Villanovan migrants, with ties to the southern coastal Etruscan sites of Veii, Vulci and (especially) Tarquinia.<sup>8</sup> During the 9<sup>th</sup> C and 8<sup>th</sup> C Pontecagnano demonstrates clear cultural ties to southern Etruria and presents a material culture which is closer to the Southern Villanovan of Sala Consilina than to the other great Southern Villanovan site of Capua.<sup>9</sup> “A tenda” ware and metal finds also demonstrate exchange links with the hinterland of Basilicata, the Vallo di Diano and Calabria.<sup>10</sup> Throughout the 8<sup>th</sup> and 7<sup>th</sup> C Pontecagnano served as an *emporion* for exchange with Greek and Etruscan trade networks, and was the Tyrrhenian terminus of the Sele-Ofanto trade routes to the Adriatic coast, however this role appears to have declined during the 6<sup>th</sup> C with a shift of trade away from Pontecagnano in favour of Capua.<sup>11</sup> Pontecagnano did not regain its prominence and by the 4<sup>th</sup> C had become a Lucanian centre, which gravitated towards Poseidonia, though epigraphic evidence suggests a continued Etruscan presence.<sup>12</sup>

Iron Age necropoleis were first discovered in the locality of Pagliarone during the 1930s with additional areas uncovered throughout the last century. The necropoleis

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<sup>7</sup> Gastaldi 1994, 52.

<sup>8</sup> Bonghi Jovino 2000, 159; d'Agostino and Gastaldi 1988, 16-108 - the ceramic assemblages, fibulae, and razors all find comparanda in Tarquinia, Veii, Vulci, Terni and Vetulonia. Fibulae also suggest cultural ties to southern Etruria as well as South Italy and Sicily.

<sup>9</sup> Whose ties were rather with inland Etruria via land routes: d'Agostino and Gastaldi 1988, 5-7, 39-41. The form and decoration of biconical cinerary urns from Pontecagnano and Sala Consilina are very similar in the 9<sup>th</sup> C, urns of similar form, but different decoration are observed at Cerveteri and Veii; Bartoloni 2000, 64.

<sup>10</sup> d'Agostino and Gastaldi 1988, 108.

<sup>11</sup> Pontrandolfo Greco 1982, 55 and 88-92.

<sup>12</sup> Ibid., 120.

have undergone systematic excavation and continuous study since the 1950s.<sup>13</sup> By the turn of the millennium more than 6,000 Iron Age tombs had been excavated.<sup>14</sup> Pontecagnano is also one of the few South Italian sites where, though the quality of the osteological material is quite varied, extensive osteological analysis has been undertaken.<sup>15</sup> Finds from Pontecagnano have been published in a series of reports. The Iron Age necropolis in loc. Picentino, an area within the *Necropoli Occidentale* was published in three volumes by d'Agostino and Gastaldi in 1988,<sup>16</sup> with Gastaldi releasing a further volume on the Iron Age necropolis of Pagliarone, located to the southeast of the ancient settlement in 1998.<sup>17</sup> Finds from the Iron Age necropolis of S. Antonio were published by De Natale in 1992.<sup>18</sup> A small number of tombs dating to the Orientalising Period from S. Antonio had previously been published by d'Agostino in *Notizie degli Scavi di Antichità* in 1968.<sup>19</sup> A series of 4<sup>th</sup> C and 3<sup>rd</sup> C tombs from the *Necropoli Occidentale* were published by Serritella in 1995.<sup>20</sup> Most recently, Cinquantaquattro published material from the necropoleis of loc. Casella in 2001.<sup>21</sup> Material dating to the 7<sup>th</sup> C - 5<sup>th</sup> C from Pontecagnano has not been published as a detailed catalogue, though Cuozzo's excellent *Reinventando la Tradizione* provides a cultural synthesis of necropoleis dated to the Orientalising Period.<sup>22</sup>

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<sup>13</sup> d'Agostino and Gastaldi 1988, 3-8.

<sup>14</sup> Robb *et al.* 2001, 214.

<sup>15</sup> Capasso *et al.* 1994; d'Agostino and Gastaldi 1988; Gastaldi 1993; Ridgway 1994; Robb *et al.* 2001; Vida Navarro 1992.

<sup>16</sup> Gastaldi 1998.

<sup>17</sup> d'Agostino and Gastaldi 1988.

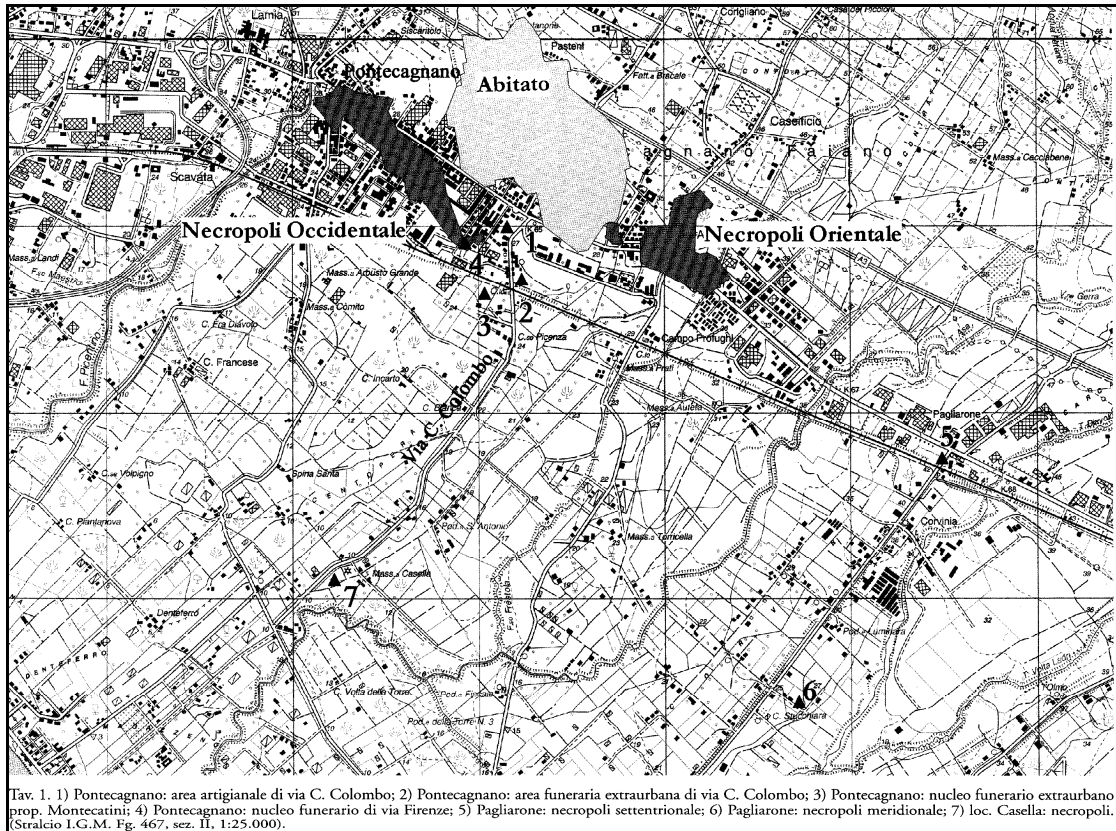
<sup>18</sup> De Natale 1992.

<sup>19</sup> d'Agostino 1968.

<sup>20</sup> Serritella 1995.

<sup>21</sup> Cinquantaquattro 2001.

<sup>22</sup> Cuozzo 2003.



Tav. 1. 1) Pontecagnano: area artigianale di via C. Colombo; 2) Pontecagnano: area funeraria extraurbana di via C. Colombo; 3) Pontecagnano: nucleo funerario extraurbano prop. Montecatini; 4) Pontecagnano: nucleo funerario di via Firenze; 5) Pagliarone: necropoli settentrionale; 6) Pagliarone: necropoli meridionale; 7) loc. Casella: necropoli. (Stralcio I.G.M. Fig. 467, sez. II, 1:25.000).

**Figure 2. Necropoleis of Pontecagnano, after Serritella 1995, plate 1.**

### *Chronology of the necropoleis and mode of burial*

The necropoleis of Pontecagnano include both cremation and inhumation burials dating from the 9<sup>th</sup> C to the 3<sup>rd</sup> C. Cremation was the principal funerary ritual at Pontecagnano during Phases IA and IB (900-850BC and 850-770BC respectively), the remains placed in a biconical urn, sometimes covered by a lid, occasionally in the form of a clay helmet.<sup>23</sup> Inhumation burials were consistently in a supine position, and fossa graves were generally lined with pebbles. During Phase II at Pontecagnano (c.770-730BC) inhumation supplants cremation as the favoured funerary practice. It has been suggested that this change in burial ritual was the result of increasing

<sup>23</sup> Similar biconical urns were included amongst contemporary funerary assemblages at Vulci, where the inclusion of clay helmets does not appear to have been a feature of the burial ritual: Gastaldi 1994, 52.



integration with the indigenous *Fossakultur* peoples, although a similar shift in burial practice occurred in Etruria at this time.<sup>24</sup>

Burials of the 4<sup>th</sup> and 3<sup>rd</sup> C were located in new areas of the necropoleis of Pontecagnano, in nuclei separated from the Iron Age burials.<sup>25</sup> The burial practice during this later phase was almost exclusively inhumation burials, the deceased placed in a supine position. The types of tomb included simple fossa burials, more elaborate tile covered tombs, stone and tile lined *cassa* tombs and a small number of painted chamber tombs, similar to the Lucanian tombs of Poseidonia.

### *The Picentino Necropolis*

The Picentino necropolis at Pontecagnano is located to the west of the ancient settlement area, close to the Picentino River. D'Agostino and Gastaldi published 104 Early Iron Age tombs from the Picentino necropolis, excavated during the 1960s and 1970s, fourteen of which included weapons.<sup>26</sup> The earliest Iron Age tombs were concentrated in a single area of the necropolis, which was broken up by d'Agostino and Gastaldi into three separate chronological phases, IA, IB and II. The absolute chronology for the phases presented by d'Agostino and Gastaldi is tentative, placing Phase IA from the late 10<sup>th</sup> C to the first half of the 9<sup>th</sup> C, Phase IB is placed from the mid 9<sup>th</sup> C to the beginning of the 8<sup>th</sup> C and Phase II c.770-730.<sup>27</sup> Several different modes of burial were observed among the Early Iron Age graves. During Phase IA cremation is the predominant funerary practice (83%) with a smaller number of fossa inhumations (17%). A greater number of graves are dated by the excavators to Phase IB, and during this period the trend of cremation (83%) being favoured over fossa

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<sup>24</sup> Bonghi Jovino 2000, 160-4.

<sup>25</sup> Serritella 1995.

<sup>26</sup> d'Agostino and Gastaldi 1988, 4.

<sup>27</sup> For a discussion of the relative and absolute chronology of Pontecagnano and other Proto-Villanovan and Villanovan centres see *Ibid.*, 101-15.

inhumation (17%) remains consistent. A slightly smaller number of graves are dated by the excavators to Phase II and, as in Etruria, there is a distinct shift in this period with fossa inhumation (65%) replacing cremation (35%) as the favoured burial practice, although cremation remains the funerary ritual of a significant number of elite individuals.<sup>28</sup> Where inhumation was the chosen funerary ritual the deceased was routinely placed in a supine position.

The tables below outline the finds of weapons and associated paraphernalia, with the finds of each necropolis are laid out in chronological order from earliest to most recent.

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<sup>28</sup> Bietti Sestieri and De Santis 2000, 37; d'Agostino and Gastaldi 1988, 241-3.

**Table 1: Pontecagnano, Picentino Necropolis weapons and associated paraphernalia**

Burial Type: C= Cassa; F= Fossa; P = Pozzo (pit); R = Ricettacolo

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
180	900 - 850	F	2	1.3 2.1	1	1.2		Spearheads: Type 1.3: L 12.7cm; Type 2.2: 33.5cm with incised decoration on the blade; Bronze sword: <sup>29</sup> L 38.5cm	1 bronze scabbard 1 pr bronze greaves <sup>30</sup>	The pebble covered fossa contained the fragmentary skeletal remains of a single individual. The scabbard is also published by Bianco Peroni, who provides comparanda from Tarquinia and Populonia with related examples from Vetulonia, Vulci, Terni and several unprovenanced examples acquired by private collectors during the 19 <sup>th</sup> C. <sup>31</sup>	d'Agostino and Gastaldi 1988, 132 and figs. 56-7.
2052	850 - c.770	P	1	3.1				L 27.1cm	1 clay helmet	A cremation pit ( <i>pozzo</i> ) burial. The clay helmet featured incised geometric decoration and was not a functional item of military equipment, but rather a cover for the biconical vase that served as the cinerary urn. <sup>32</sup>	d'Agostino and Gastaldi 1988, 174 and figs. 130 and 150.
2055	850 - c.770	R			1	1?		Decorated bone fragments interpreted as the remains of a T-shaped pommel	Small bronze fragment, poss. part of a scabbard.	A cremation burial ( <i>ricettacolo</i> ), partially destroyed by a modern wall construction.	d'Agostino and Gastaldi 1988, 175 and figs. 77, 130 and 150.
4852	850 - c.770	F	1	3.1				L 24cm	1 bronze binding 1 clay helmet	Fossa burial of the incinerated remains of a single individual (within a biconical vase). Fragments of bronze wire, thought by the excavators to be binding associated with the spearhead. clay helmet with incised geometric decoration	d'Agostino and Gastaldi 1988, 209-11 and figs. 187, 197 and 205.

<sup>29</sup> The sword has been well published and featured as one of the type ideals for Bianco Peroni's 'Pontecagnano Type' in her 1970 typology: Example No. 205: Bianco Peroni 1970, 84 and plate 30. The sword had previously been published in *St Etr* 33 1965, 674 and plate 136a.

<sup>30</sup> The greaves are comparable to examples from Torre Galli in Calabria, Canosa in Puglia, Catania on the east coast of Sicily, Greece, Cyprus and Ilijak in Bosnia, suggestive of a broader network of cultural interactions. Stary 1981, 436 and Map 16; d'Agostino and Gastaldi 1988, 174 and figs. 130 and 150; Leighton 1999, 109 and fig. 105; Albanese Procelli 1994, 155 and fig. 1.

<sup>31</sup> The incised decoration of the scabbards is clearly similar, although the example from Pontecagnano Tomb 180 lacks the animal motifs seen in the other examples published in Bianco Peroni's catalogue: Bianco Peroni 1970, 128-9 and plates 59-60.

<sup>32</sup> The shape of the clay helmet can be compared with bronze examples from Central Italy and the cisalpine region: Stary 1981, map 2.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
2145	850 - c.770	F	1	1.3				L 23cm	1 bronze <i>sauroter</i> 1 bronze binding 1 clay helmet	Fossa burial of the incinerated remains of a single individual (within a biconical vase) The 'puntale' or <i>sauroter</i> measures 19cm in length and features a rounded point, suggesting that it functioned primarily as a counterpoint, although it is unclear whether the rounded tip was part of the initial design or was the result of wear.	d'Agostino and Gastaldi 1988, 197 and figs. 87-8 and 162.
560	850 - c.770	?					1 bronze arrowhead			This tomb was not published in any detail and can only be tentatively dated – see note 78 below.	d'Agostino and Gastaldi 1988, 62, 79 and plates 24.
226	c.770 - c.730	F	1	2.1				L 26.1cm		A fossa burial covered with pebbles. The bronze spearhead and an iron knife were positioned close to the head of the deceased.	d'Agostino and Gastaldi 1988, 157 and fig. 70.
2150	c.770 - c.730	F	2	1.1 4.1	1	1.2		Spearheads: Type 1.1: L 25.2cm; Type 4.1: L38.4cm; Iron sword: L45cm, retains fragments of a bone handle	1 bronze <i>sauroter</i>	The bronze <i>sauroter</i> measures 20cm long and has a circular section and incised decoration close to the socket. The point of the <i>sauroter</i> is slightly rounded (possibly as the result of wear) but could have been used in an offensive action.	d'Agostino and Gastaldi 1988, 198 and fig. 163.
2157	c.770 - c.730	F	1	3.1				L 18.5cm	1 bronze <i>sauroter</i>	The <i>sauroter</i> measures 12.8cm in length and features a rounded point and incised decoration at the base of the socket.	d'Agostino and Gastaldi 1988, 202 and fig. 164.
4856	c.770 - c.730	F	1	8.4				L 24.6cm		A fossa burial with a cover of river pebbles. It appears that the spearhead was positioned close to the head of the deceased. Traces of wood remain in the socket of the spearhead.	d'Agostino and Gastaldi 1988, 214 and fig. 206.
4858	c.770 - c.730	F	1	1.1				L 18cm		A fossa burial with a cover of river pebbles. It appears that the spearhead was positioned close to the head of the deceased. Traces of wood remain in the socket of the spearhead.	d'Agostino and Gastaldi 1988, 215 and fig. 206.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
221	c.770 - c.730	F					1 iron axe	Shaft-hole axe: L 15.7cm, traces of wood remain in the socket	2 poss. iron spit frags	Two iron fragments also included within the burial assemblage may be the remains of iron spits.	d'Agostino and Gastaldi 1988, 153 and fig. 67.
212	c.770 - c.730	F							1 bronze <i>sauroter</i>	The bronze counterpoint measured 18.2cm long and featured a polygonal section and rounded point, the lip of the socket was decorated with incised herringbone decoration. It is possible that this item could have functioned as a weapon as no other weapons were found, though it should also be considered that the item was a grave gift meant to express that the deceased was a member of the warrior class though no spearhead was available for deposition. <sup>33</sup>	d'Agostino and Gastaldi 1988, 149 and fig. 66.
Tombs 205; 214; 2097	c.770 - c.730	F F F							truncated bronze counterpoint	Each of these tombs included a truncated counterpoint. No weapons were found in association.	d'Agostino and Gastaldi 1988, 141, 150 and 190 and fig. 59.
224	c.770 - c.730	F							2 iron firedogs	A fossa burial covered with pebbles and a large tufa stone. No traces of skeletal remains were recovered. Two fragmentary iron firedogs were noted amongst the assemblage. Also noted was the presence of a bronze wheel and a ceramic loom weight, items believed indicative of female gender.	d'Agostino and Gastaldi 1988, 154-6 and figs. 9 and 29.

<sup>33</sup> I do not seek here to venture into the complex issue of grave goods and the constructed identity of the deceased. See: Parker-Pearson 1999, 85-86.

### *S. Antonio Necropolis*

The S. Antonio necropolis was located to the east of the ancient settlement area. The necropolis yielded 108 tombs of the early Iron Age at the time of d'Agostino and De Natale's publications, the majority of which they date to phase II in the Pontecagnano EIA chronology (i.e. c.770-c.730).<sup>34</sup> Rescue excavations were conducted during the 1960s and 1970s ahead of property development activities. D'Agostino published finds from 38 tombs excavated in 1968 from areas adjacent to the modern Autostrada between Naples and Reggio Calabria. The tombs were principally fossa burials and osteological analysis suggested that at least 14 of the deceased were children.<sup>35</sup> A small number of 4<sup>th</sup> C fossa inhumation tombs were also uncovered in the area excavated by d'Agostino, and published by d'Henry.<sup>36</sup>

In 1992 De Natale published finds from a further 60 tombs on the western fringe of the eastern necropolis, close to the SS18.<sup>37</sup> Again, the fossa was the preferred tomb form for both inhumation and cremation burials with a smaller number of cremation burials in *cassa* and *ricettacolo* tombs. Osteological analysis suggests that there was a fairly even distribution of male and female graves with the deceased ranging from approximately five to over sixty years of age at death. In contrast, a gender assessment based solely on grave goods suggests approximately 60% were the tombs of females.<sup>38</sup> In inhumation burials ceramic grave goods were positioned by the feet of the deceased, with weapons and other personal items placed by the head and body. The contents of cremation burials were similarly distributed, with the ceramic finds at one end of the tomb and the skeletal remains and other effects placed at the other. Of

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<sup>34</sup> d'Agostino and Gastaldi 1988, 4.

<sup>35</sup> d'Agostino 1968.

<sup>36</sup> d'Henry 1968.

<sup>37</sup> De Natale 1992.

<sup>38</sup> *Ibid.*, 7-9.

the 28 tombs to yield weapons or associated paraphernalia 16 were fossa tombs (four of which contained cremation burials), 11 were cassa tombs and one tomb was a ricettacolo tomb.

**Table 2: Pontecagnano, S. Antonio Necropolis weapons and associated paraphernalia**

Burial Type: F= Fossa Inhumation; F(c) = Fossa Cremation P = Pozzo (pit); R = Ricettacolo; Ch = Chamber; C = Cassa

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3188	850 - c.770	F	2	3.6				L 15.4cm: L 19.4cm		A fossa burial of a single individual, cuted into a bank of travertine and covered with pebbles. Skeletal material was scattered throughout the fossa, however, the ceramic assemblage would appear to have been positioned near the feet of the deceased and the bronze spearheads located close to the skull or upper torso.	De Natale 1992, 52 and fig.102.
3190	850 - c.770	R			1	4.2		L 29cm, traces of perishable material were adhered to the tang.	1 clay helmet	A cremation burial, the cremated remains placed in a biconical urn, the clay helmet serving as a cover. The bladed weapon, interpreted by the excavator as an iron dagger, features two cutting edges, a lenticular blade section (without a midrib) and a very short, rectangular tang with a single rivet hole for handle attachment.	De Natale 1992, 53 and fig. 104.
3191	c.770 - c.750	F (c)	1	3.1				L 25.2cm	1 bronze <i>sauroter</i> 1 clay helmet	A fossa burial of the cremated remains thought to be those of a child aged approximately 5-6 years. The remains placed within a biconical vase, the clay helmet serving as its cover. The bronze <i>sauroter</i> measures 21.9cm and features a polygonal section, incised decoration around the base of the socket, and a rounded point.	De Natale 1992, 54 and fig. 102.
3253	c.770 - c.750	C	1	5.2	1	4.2		Spearhead: L 28.8cm; Dagger: L 24.4cm		A cremation burial in a small stone-lined cassa with a large travertine coverstone.	De Natale 1992, 89 and fig. 119.



Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3262	c.770 - c.750	F (c)	1	3.1				L12cm	1 clay helmet	A fossa burial of the incinerated remains of a single individual within a biconical vase, the clay helmet serving as its cover.	De Natale 1992, 94 and fig. 119.
3277	c.770 - c.750	F (c)	1	?				Iron, L 10.9cm - incomplete		A fossa burial of the incinerated remains of a single individual within a biconical urn, covered with a mixture of pebbles and tufa stones. Only the socket of the spearhead has been preserved.	De Natale 1992, 107 and fig. 125.
3294	c.770 - c.750	F	1	5.2				L 20.8cm		A fossa burial covered with tufa and travertine stones; the skeletal material was not preserved. The spearhead was thought by the excavators to have been positioned close to the skull.	De Natale 1992, 121 and fig. 125.
3208	c.770 - c.750	F							1 bronze belt	A fossa burial covered with pebbles and tufa stones. The bronze belt bore incised decoration similar to that seen on the belt from Tomb 2106. The presence of amber beads amongst the burial assemblage suggests this was the tomb of a female.	De Natale 1992, 59 and fig. 111.
3212	c.770 - c.750	C							1 bone truncated counterpoint	A cremation burial in a small stone-lined chamber The counterpoint was fashioned from bone and was in a fragmentary state. The remaining fragment measured 2.3cm in length. It is likely that this item served as a decorative object.	De Natale 1992, 65 and fig.106.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3184	c.750 - c.730	F	2	4.1 4.3	1	4.2		Spearheads: Type 4.1: L 28.8cm; Type 4.3: L 24.5cm; Iron sword: L 33.5cm The sword is only a few centimetres longer than the longest of the daggers, from Tomb 3190.	1 bronze truncated counterpoint 1 iron spit	A fossa burial with a covering of pebbles. The spearheads were positioned close to the head of the deceased. The iron sword and spit and the bronze counterpoint were positioned with the ceramic finds, presumably by the feet of the deceased. The type 4.3 spearhead features incised decoration at the base of the blade and socket. The truncated counterpoint measures 4.2cm in length.	De Natale 1992, 49 and figs. 25 and 101.
3241	c.750 - c.730	C	1	3.6				L 14.8cm	1 clay helmet	A cremation burial in a stone-lined cassa with a large travertine coverstone. The remains were placed in a biconical urn, the clay helmet serving as its cover. The spearhead bears incised decoration along the midrib and socket.	De Natale 1992, 82 and fig. 112.
3267	c.750 - c.730	F	1	5.1			1 iron axe	Spearhead: L 13.5cm; Axe: L 12.7cm, W 4.8cm		A fossa burial covered with pebbles and encircled by a ring of tufa and travertine stones. No skeletal remains were preserved, however the axe and spearhead were thought by the excavators to have been positioned close to the skull. The axe features a tang and rectangular blade section. Traces of wood were observed in the socket of the spearhead.	De Natale 1992, 101 and figs. 40 and 119.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3284	c.750 - c.730	F	2	3.5	1	4.2	1 iron axe	Spearheads: L 23.6cm; L 20.7cm Both spearheads feature incised decoration; Dagger: L 14.9cm; Axe: L 16.3cm	1 bronze binding 1 bronze truncated counterpoint L4cm 1 bronze chisel L14cm	A fossa burial cut into a bank of travertine, covered with pebbles and tufa. The assemblage represents the largest number of weapons and associated paraphernalia published by De Natale. The axe features an eyehole socket and flaring blade. Bronze wire was believed to be associated with the bronze spearheads.	De Natale 1992, 109 and figs. 36 and 123.
3285	c.750 - c.730	C	1	5.2			1 iron axe	Spearhead: L 23.5cm; Axe: L15cm		A cremation burial in cassa cut into a bank of travertine. The axe features a shaft-hole, rectangular blade and rectangular blade section.	De Natale 1992, 111 and fig. 124.
3214	c.750 - c.730	C							1 bone truncated counterpoint	A cremation burial in a stone-lined cassa. The truncated counterpoint is similar to that seen in Tomb 3212. This item was most likely decorative in function.	De Natale 1992, 70 and fig. 109.
3205	c.770 - c.730	C			1	4.2		L 22.8cm	1 clay helmet	A cremation burial in a stone-lined cassa covered by two irregular blocks of travertine. The remains were placed in a biconical urn, the clay helmet serving as its cover. The dagger was found within the cinerary urn along with a bronze razor and fragmentary bronze fibula.	De Natale 1992, 57 and fig. 104.
3207	c.770 - c.730	F			1	4.2		L 18.9cm		A fossa burial, the dagger presumed by the excavators to have been positioned on or near the deceased's torso. Traces of a perishable material, thought by the excavators to be wood, remain adhered to the tang of the weapon.	De Natale 1992, 58 and figs. 29 and 103.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3210	c.770 - c.730	C							1 bronze truncated counterpoint	A cremation burial in a stone-lined cassa. No cover remained and the tomb had been disturbed by agricultural work. The truncated counterpoint measured 3.7cm long and could not have functioned as a weapon.	De Natale 1992, 61 and fig. 104.
596	730-710	F	1	6.2				L 34.4cm (L 10cm socket), max. W 8cm, though the scale illustration would suggest an actual width of approximately 4.3cm if the length is accurately reported.		A fossa burial with no traces of a cover. The skeletal remains did not survive. The ceramic finds were positioned close to one end of the fossa the spearhead positioned close to the opposite end, presumably close to the head of the deceased.	d'Agostino 1968, 129 and figs. 7 No. I.1 and 32.
575	730-710	C	2	6.3 8.4			2 iron axes	Spearheads: Type 6.3: L 14cm Type 8.4: L 44.2cm W 5.1cm, socket diam. 2.6cm; Iron axes: L 16.4cm , W 8.3cm; L 14.5cm , W 7cm	1 iron chisel	Cassa tomb constructed of travertine with a travertine coverstone. The first axe features a shaft hole for mounting to the handle. The second axe head, in contrast, features a tang.	d'Agostino 1968, 131-2 and figs. 7 Nos. III.1, III.3, III.5 and III.6 and 32.
745	730-710	F					1 iron axe	L 12cm The form of the axe head appears to be a variation on the shaft-hole axe		A fossa tomb which underlay the later Tombs 601 and 740. Some skeletal remains were preserved, the axe positioned close to the centre of the tomb. The axe retains the profile of a shaft-hole axe but has no hole for mounting the handle, rather, a small spur close to the base of the blade allowed mounting to a handle.	d'Agostino 1968, 148-50 and fig. 7 No XV.6.
742	710-675	C	1	6.3				L 21.1cm		A cassa tomb of cut travertine blocks. An iron nail was fixed to the socket of the spearhead, presumed by the excavators to have been for securing the point to its shaft.	d'Agostino 1968, 157-60 and fig. 7 No. XX.7.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
601	630-620	F	1	6.3			2 bronze arrow-heads	Spearhead: L 16.5cm; Arrowheads: L 6.6cm; L 7.2cm The two bronze arrowheads feature prominent barbs, designed to inhibit their removal.	1 iron spit with a foliate end L92cm	A fossa burial with a bed of pebbles. The arrowheads are similar in form to that lodged in the femur of the individual in Tomb 4141. D'Agostino recorded ephemeral traces of the spear shaft preserved <i>in situ</i> . The length of the shaft impression is not stated.	d'Agostino 1968, 182-3 and figs. 7 Nos. XXIV.1.2, XXIV.4 and 67.
737	630-620	C	1	6.3				L 15cm		A travertine cassa with a fragmentary cover. The tomb was that of a child, approx. 1.1m tall. The spearhead was included amongst a collection of finds positioned near to the feet of the deceased.	d'Agostino 1968, 183-5 and figs. 7 No. XXXV E, 67 and 74.
738	625-600	F					1 iron axe Not illustrated	L 14cm Similar to the hafted axe from Tomb 575.		A fossa burial with traces of travertine lining. Skeletal material was sufficiently preserved to identify as those of an adult. The axe was positioned close to the feet.	d'Agostino 1968, 186-7 and fig. 67.
602	400-200	F	1	8.1 ?				Type 8.1: L 40.8cm, W 4cm, socket diam. 2cm; Type ?: iron, L130cm, socket diam. 1cm	1 iron spit	A fossa burial determined by the excavators to be of an adult male. The type ? example is interpreted by the excavator as an almost complete spear, featuring an extreme point, measuring 20cm with square section. The tip is broken with two lateral barbs. The spear is not illustrated in any detail and there is no clear explanation why an interpretation as a spear was preferred over an interpretation as an iron spit. The iron spit included features a similar rectangular section and measures 90cm in length. The spit is also described as having a swelling at one end and an extreme point at the other, overall, not dissimilar to the description of the 'spear'.	d'Henry 1968, 203 and figs. 1 and 2.2.

### *Pagliarone Necropolis*

Several areas of the Pagliarone necropolis have been excavated. Located to the southeast of the ancient settlement area, the excavated areas of the necropolis are divided principally into a northern necropolis and a southern necropolis. Gastaldi published finds from 123 tombs dated to the 9<sup>th</sup> C and 8<sup>th</sup> C BC, excavated in the southern part of necropolis. Cremation—the preferred funerary rite of the social elite—was the predominant funerary ritual (63%) with a smaller number of inhumation burials (37%), the tombs consistently containing a single deposition and, in the case of inhumation burial the deceased was placed in a supine position.<sup>39</sup> There was a distinct gender bias in favour of males for cremation burials, with a similar gender bias in favour of females for inhumation. Approximately 34% of cremation burials can be identified as female, and it appears that these individuals belong to the social elite of Pontecagnano. Where males were inhumed the size of the fossa grave was significantly larger than corresponding female fossa inhumations.<sup>40</sup> Of the 123 tombs published from Pagliarone only three contained weapons. Two were cremation burials and the third, an inhumation burial of large dimensions, contained weapons assemblage thought by the excavators to indicate an individual from Calabria.<sup>41</sup> The presence of cinerary urn covers in the shape of clay helmets were noted in a number of cremation burials, their social function interpreted by the excavator as indicative of elite male status, reflecting a warrior/capofamiglia ideal.

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<sup>39</sup> Gastaldi 1998, 5.

<sup>40</sup> *Ibid.*, 155-65.

<sup>41</sup> *Ibid.*, 163.

**Table 3: Pontecagnano, Pagliarone Necropolis weapons and associated paraphernalia**

Burial Type: F= Fossa; P = Pozzo; R = Ricettacolo; Ch = Chamber; C = Cassa

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
889	850 - c.770	F	1	2.1	1	1.2	Spearhead: L 30.1cm Sword: iron, L 48cm	1 bronze scabbard with incised decoration similar to scabbard from Tomb 180, Picentino (table 1 above).	A very long fossa burial covered with large pebbles. The spearhead was positioned by the head of the deceased. The iron sword, representing a very early example, was placed across the torso, the point towards the feet, accompanied by a bronze scabbard	Gastaldi 1998, 127 and plates 45 and 113.
6107	850 - c.770	R?			1	1.2	Sword: Bronze, L 45.6cm	1 bronze scabbard – incomplete with incised decoration similar to the scabbard from Tomb 180. 1 clay helmet 2 bone handles	A pebble covered cremation burial, seemingly disturbed by excavation equipment. <sup>42</sup> The cremated remains placed within a biconical urn, the clay helmet serving as its cover. The scabbard features incised animal motives, possibly deer, similar to the scabbard recovered from Tomb 495. <sup>43</sup> The animal motif bears comparison to scabbards recovered from Vulci and Tarquinia. <sup>44</sup> Two small bone handles recovered from the assemblage may also have been associated with the sword or scabbard.	Gastaldi 1998, 142 and plates 49 and 123.
664	c.770	P	1	3.1			Spearhead: L 27.4cm	1 clay helmet	A pebble covered <i>pozzo</i> burial, dated by the excavator to the end of Phase IB. The clay helmet served as a cover to the biconical urn, which held the metal finds, including the bronze spearhead.	Gastaldi 1998, 75 and plate 94.

<sup>42</sup> The excavation report alludes to mechanical damage of the biconical urn though it is not stated whether this occurred during excavation, agricultural activities or construction work: Ibid., 142.

<sup>43</sup> Bianco Peroni 1970, 84 and plate 60 No. 206

<sup>44</sup> No. 209a from Tarquinia, Poggio dell'Impiccata, Tomb 1, dated to the first half of the 8<sup>th</sup> C; No. 207a from Tarquinia, Monterozzi Arcatelle Tomb 23/3/1883, dated to the second half of the 9<sup>th</sup> C; and, No. 354 from Vulci, (undated), associated with an iron sword: Ibid., plates 59 and 60.

### *Other Necropoleis:*

#### *Casella Necropolis*

A limited excavation conducted at loc. Casella revealed 29 tombs dated to the late 8<sup>th</sup> C. The tombs were exclusively inhumation burials (either fossa burials with pebble and stone tumuli or travertine lined cassa burials) and the necropolis appeared to be laid out in nuclei of family groups.<sup>45</sup> Osteological analysis of 25 tombs from loc. Casella identified nine adults, three young adults or adolescents and 13 children or infants. Gender analysis of the burial assemblages identified five males; two of those tombs included weapons, positioned by the feet of the deceased.<sup>46</sup>

#### *Piazza Risorgimento*

In 1966 an excavation was conducted in the vicinity of Piazza Risorgimento ahead of property development. A large number of tombs were uncovered, most dating between the Orientalising Period and the 4<sup>th</sup> C BC. At the edge of the excavation area, directly adjacent to Piazza Risorgimento, two tombs distinguished themselves by their form and elaborate burial assemblages. Tombs 926 and 928 were so-called 'princely tombs' and were the feature of d'Agostino's celebrated 1977 publication.<sup>47</sup>

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<sup>45</sup> Cinquantaquattro 2001, 10-11 and 65-68.

<sup>46</sup> Ibid., 68.

<sup>47</sup> d'Agostino 1977



*Casella Necropolis*

**Table 4: Pontecagnano, Casella Necropolis weapons and associated paraphernalia**

Burial Type: F= Fossa

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
4881	Late 8 <sup>th</sup> C	F	1	8.1				L20.5cm		A fossa burial of an adult male, thought to have been covered with pebbles. The spearhead was positioned to the left of the skull of the deceased.	Cinquantaquattro 2001, 15 and plate 15.
4890	Late 8 <sup>th</sup> C	F	1	9.4			1 iron axe	Spearhead: L 60cm; Axe: L 14.5cm The axe features a round carinated socket. Cinquantaquattro likens the axe to one from Pontecagnano Tomb 926.	2 iron chisels L 17.2cm and L 13cm. 1 iron file L 18cm compared to an 8 <sup>th</sup> C example from Veii.	A pebble covered fossa burial thought be that of an adult male. The burial assemblage was positioned by the feet of the deceased, the spearhead pointed away from the body.	Cinquantaquattro 2001, 25 and plate 19.

**Table 5: Pontecagnano, Piazza Risorgimento weapons and associated paraphernalia**

Burial Type: Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Items	Notes	Bibl.
			No.	Type	No.	Type					
926	675-650	Ch	2	6.3			3 iron axes	Spearheads: L 22, 17cm Iron Axes: L 20, 17, 21cm	2 iron firedogs 12 iron spits	Unusual stone-lined tomb forms with a smaller, stone-lined cassa cut into centre of the larger tomb area cremation burial	d'Agostino 1977, 9-12 and figs. 2 and 6.
928	675-650	Ch	18	5.1x4 6.3x 10 6.4x2 8.1x2			3 iron axes	Spearheads: Type 5.1: L18cm, 29cm, 26cm; 31cm Type 6.3 L(cm) 17, 18, 17, 13.5 (incomplete), 18, 19cm, 21, 25, 17, 14 Type 6.4 L 21cm, 19 cm Type 8.1 L 15 (incomplete), 27 Iron Axes: L 15cm, 14cm, 14cm	2 iron firedogs 9 iron spits 4 <i>saurotères</i> L 9cm L 9cm L 11cm L 16cm	Unusual stone-lined tomb forms with a smaller, stone-lined cassa cut into centre of the larger tomb area cremation burial	d'Agostino 1977, 12-14 and figs. 13 and 17.

#### *Fourth and third century necropoleis*

New areas of the western urban necropolis opened up during the 4<sup>th</sup> C and 3<sup>rd</sup> C BC. Located at the extreme western and southern fringes of the western necropolis tombs in these areas represent the final years of Pontecagnano as a Lucanian centre, a period when the site oriented itself towards the more prominent contemporary Lucanian centre of Poseidonia. Several nuclei of 4<sup>th</sup> C to 3<sup>rd</sup> C tombs were excavated during the early 1980s with a representative sample published by Serritella in 1995.<sup>48</sup> Inhumation was the predominant funerary ritual of this period, represented in a number of tomb forms. A small number of ornate chamber tombs with *dromos* appear alongside *cassa* tombs and several forms of *fossa* burial. Some chamber tombs show evidence of the practice of partial cremation within the burial chamber, a practice also observed in contemporary tombs of Canosa and Lavello.<sup>49</sup>

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<sup>48</sup> Serritella 1995

<sup>49</sup> *Ibid.*, 120.

**Table 6: Pontecagnano, Western Necropolis 4th C tombs weapons and associated paraphernalia**

Burial Type: F= Fossa; Ch = Chamber; C = Cassa; Cap = Cappuccina

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
5762	375-350	C	1	5.1			L 35cm		A tile <i>cassa</i> tomb of an adult male which had been disturbed by modern construction. The iron spearhead was recovered from outside of the tomb, loc. to the northeast of the covering tiles.	Serritella 1995, 29 and plates 43 and 65.
5755	350	F	1	9.4			L 20.4cm		A fossa burial covered by three blocks of travertine. The tomb held the well preserved remains of a child or adolescent aged 10 to 15 years. The point was recovered from outside of the tomb, loc. to the southwest of the cover stones.	Serritella 1995, 27 and plates 44 and 64.
5760	350	C	1	8.1			L 27.5cm		A tile covered <i>cassa</i> tomb of an adult male. The spearhead was recovered from outside of the tomb, to the east of the covering tiles.	Serritella 1995, 28 and plates 44 and 65.
4044	350	C	1	?			Iron, L 25.8cm poorly preserved		A tile covered <i>cassa</i> tomb of a child. The spearhead was placed adjacent to the right hip of the remains.	Serritella 1995, 67 and plates 58 and 78.
4433	350-325	Ch	1	9.4			L 49cm (incomplete) The point of the weapon was damaged.	1 bronze belt Allocated to Suano Type 5a	A Chamber tomb of an adult male, disturbed by tree root activity. The bronze belt was discovered that the foot of the funerary bed, the iron spearhead positioned to the side of the funerary bed.	Serritella 1995, 15 and plates 34 and 61.
4439	350-325	C						1 bronze belt poorly preserved	Stone <i>cassa</i> tomb of an adult male. The bronze belt was worn by the deceased.	Serritella 1995, 20 and plate 63.
4441	350-325	Cap.	1	?			L 6.8cm – incomplete, socket only.		<i>Cappuccina</i> tomb of an adult male. The skeleton well preserved, the spearhead positioned next to the right shoulder.	Serritella 1995, 20 and plate 61.
5761	350-325	C	1	6.3			L 23cm		Tile <i>cassa</i> tomb of an adult male. No burial assemblage was recovered from the tomb. The iron spearhead was recovered from outside the tomb, to the southeast of the cover tiles, adjacent to the position of the deceased's head within the tomb.	Serritella 1995, 29 and plates 47 and 66.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
5763	350-325	C	1	6.3			L 20cm		A stone covered <i>cassa</i> tomb of an adult male. The iron spearhead was recovered from outside the tomb, to the southwest of the cover stones.	Serritella 1995, 29 and plates 45 and 66.
5766	350-325	F	1	?			Iron, L 7cm – incomplete.		The fossa burial of an adult male. The spearhead was located by the left femur.	Serritella 1995, 30 and plates 42 and 66.
5767	350-325	F	1	5.1			L 21.3cm		The fossa burial of a male aged approximately 17-19 years of age. The iron spearhead was positioned between the left arm and the ribcage, the point towards the feet of the deceased.	Serritella 1995, 31 and plates 42 and 66.
4040	350-325	Cap.	1	8.4			L 40.5cm		<i>Cappuccina</i> tomb of an adult male, the iron spearhead placed against the right humerus of the deceased. A single boar's tooth was also included, recovered from the left shoulder.	Serritella 1995, 67 and plates 58 and 77.
4348	350-325	C	1	6.1			L 24.2cm W 3cm		Tile <i>cassa</i> tomb of an adult male. The iron spearhead was recovered from outside the tomb, resting against the tile cover.	Serritella 1995, 71 and plate 80.
4443	325-300	C	1	?			Iron, fragmentary socket was preserved.	1 bronze belt clasps only (Suano Type 5a.)	Stone <i>cassa</i> tomb of an adult male damaged by a modern canal. The spearhead, in very poor condition, was positioned near the left knee. The position of the belt clasps was not recorded.	Serritella 1995, 21 and plate 63.
4404	325-300	C	1	9?			L35cm-incomplete socket only, tentative allocation based on socket length.		A stone <i>cassa</i> burial of an adult male, which had been cut into by modern construction. The spearhead was positioned between the legs of the deceased.	Serritella 1995, 34 and plates 47 and 67.
4409	325-300	C	1	6.2?			L 33cm tentatively assigned to Type		Stone <i>cassa</i> tomb of an adult male. The walls retain traces of red and ochre paint. Spearhead placed against the right knee.	Serritella 1995, 37 and plates 46 and 68.
4036	325-300	C	1	9.4			L 26.9cm – incomplete W 1.8cm tip of the point missing		Tile <i>cassa</i> tomb of an adult male. The iron spearhead was the sole funerary object. The spearhead was positioned between the left arm and the torso of the deceased.	Serritella 1995, 65 and plates 57 and 77.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
4048	325-300	C	1	7.1			L 29cm W 4.5cm	1 bronze belt (Suano Type 4a)	Stone <i>cassa</i> burial of an adult male, the small dimensions of the tomb necessitating a flexion of the legs. The deceased wore the bronze belt. The iron spearhead was recovered from outside the tomb on the south side of the tomb.	Serritella 1995, 69 and plates 59 and 78.
4435	Late 4 <sup>th</sup> C/ Early 3 <sup>rd</sup> C	C	1	?			Iron: L 27.6cm – incomplete, socket only		A painted stone <i>cassa</i> tomb which held four depositions, an adult male, placed in the centre of the tomb, and three infants, positioned in the corners. The iron spearhead was positioned by the right humerus and skull of the adult.	Serritella 1995, 17 and plates 36 and 62.
4015	325-300	F						1 bronze belt Fragmentary	Fossa tomb of an adult male, the bronze belt worn by the deceased.	Serritella 1995, 47 and plate 72.
4453	Late 4 <sup>th</sup> C/ Early 3 <sup>rd</sup> C	Ch						1 bronze belt (Suano Type 5b)	Painted chamber tomb of an adult male. The bronze belt, positioned along the right side of the deceased.	Serritella 1995, 25 and plates 41 and 64.
4424	Mid 4 <sup>th</sup> C/ Early 3 <sup>rd</sup> C	Ch						1 bronze belt clasp only, (Suano Type 5a)	Painted chamber tomb, disturbed by a modern canal. The belt clasp was positioned near to the foot of the funerary bed.	Serritella 1995, 40 and plate 68.
4406	Early 3 <sup>rd</sup> C	Ch						1 bronze greave fragment moulded to fit the knee L 20cm, W 11.5cm	A travertine chamber tomb, with evidence of a funerary pyre in the southeast corner of the chamber indicative of the practice of partial cremation. The bronze greave fragment was located close to the tomb entrance in the northwest corner of the burial chamber.	Serritella 1995, 34, 120 and plates 50 and 69.
4781	Early 3 <sup>rd</sup> C	C						1 bronze belt (Suano Type 5b)	Tile <i>cassa</i> tomb with no traces of skeletal remains. The burial assemblage was placed at the southwest corner of the chamber.	Serritella 1995, 43 and plates 53 and 70.
4051	350-325	Cap						1 bronze belt (Suano Type 6b)	<i>Cappucina</i> tomb of an adult male. The belt was worn by the deceased.	Serritella 1995, 70 and plate 79.

### *Chronological and Typological Summary*

Weapons are extremely rare in the published tombs dating to the first half of the 8<sup>th</sup> C. Among the published finds from Pontecagnano examined for this thesis only one, Tomb 180 in the Picentino necropolis, included weapons. The panoply is exceptional, featuring two complete bronze spearheads, a bronze sword, bronze scabbard and bronze greaves. The spearheads are members of type 1.3 and type 2.1, forms with a broad distribution throughout the Mediterranean and Central Europe from the Bronze Age to the Early Iron Age. Similar swords and scabbards have been recorded from Central Italy and also from Incoronata in Basilicata and a number of sites in Calabria. The greaves are comparable to examples from Torre Galli in Calabria, Canosa in Puglia, Catania on the east coast of Sicily, Greece, Cyprus and Ilijak in Bosnia, suggestive of a broader network of cultural interactions.<sup>50</sup>

Ten published tombs dated to Phase IB (summarised in the table above) included weapons. The normal weapons assemblage evident in Phase IB consisted of a single bronze spearhead or a sword (either of bronze or iron). One tomb also included a bronze *sauroter*.<sup>51</sup> Only one tomb did not fit this pattern, including two spearheads, both members of the same type and sub-type (3.6). Type 3 spearheads are the most frequently represented type group at Pontecagnano during this period. They are a group of broad-bladed spearheads, best suited to the delivery of thrusting blows, with clear comparanda from Central Italy, noted in Latium and Umbria between the 9<sup>th</sup> and 6<sup>th</sup> C.<sup>52</sup> In South Italy similar spearheads appear at Sala Consilina and a single

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<sup>50</sup> Stary 1981, 436 and Map 16; d'Agostino and Gastaldi 1988, 174 and figs. 130 and 150; Leighton 1999, 109 and fig.105; Albanese Procelli 1994, 155 and fig. 1.

<sup>51</sup> Tomb 2145 also included a bronze *sauroter* d'Agostino and Gastaldi 1988, 197 and figs. 87-8 and 162. *Sauroteres* will be discussed in more detail below p. 341.

<sup>52</sup> Stary 1981, Vol 2 481-2 and Beilagen 4-6.

example from Incoronata.<sup>53</sup> The type 1 and type 2 spearhead groups, which are also represented, suggest a continuation of the broad exchange contacts of the preceding period. There is a clear preference for broad-bladed spear forms with the narrow-bladed type 2 group represented by only one example. The association of a bronze spearhead with an iron sword provides a clear indication that, at Pontecagnano, the sword preceded the spear in the transition from bronze to iron as the preferred material of manufacture.

**Table 7: Summary of weapons Pontecagnano, Phase IB (850-c.770)  
(all bronze unless otherwise indicated).<sup>†</sup>**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
2052	Thrusting (3.1)			
2055		Pommel only (1.?)		
4852	Thrusting (3.1)			
2145	Thrusting (1.3)		<i>sauroter</i>	
560			arrowhead	
3188	Thrusting (3.6) Thrusting (3.6)			
3190		Dagger (4.2) <b>Iron</b>		
889	Versatile (2.1)	Italic (1.2) <b>Iron</b>		
6107		Italic (1.2)		
664	Thrusting (3.1)			

The two swords, one of bronze, the other of iron, are Italic swords (type 1.2), analogous with Bianco Peroni's Pontecagnano type,<sup>54</sup> though these examples are slightly longer than the Phase IA example (above), measuring 46-48cm. Gastaldi has suggested that the presence of these swords at Pontecagnano is indicative of the arrival of a group of warriors from Calabria.<sup>55</sup> However, the type is widespread with

<sup>53</sup> Sala Consilina Kilian 1970 – Tombs 1, 31, 33, 36, 124, and 223; and, Incoronata Tomb 522 Pisticci on display in the Metaponto Museum. The spearhead from Incoronata is published in: Chiartano 1996, 55 and plate 23, however the longitudinal striations are not represented in Chiartano's illustration.

<sup>†</sup> Explanatory note: In these summary tables I provide an overview of the weapons and their general classifications, that is for spearheads the three basic function classes I identify in this thesis, thrusting (broad-bladed, best suited to thrusting), versatile (narrow-bladed, suited to the delivery of both thrusting and throwing), throwing (best suited to being thrown). For swords I give the commonly known class groups of Italic, cross-bar and *machaira* and 'dagger' – which I include in the sword column.

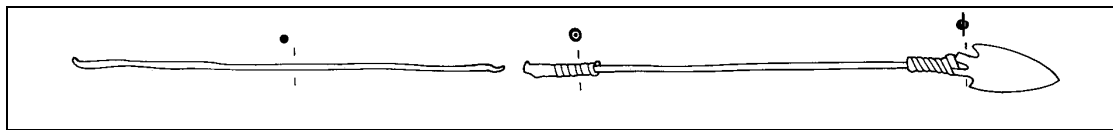
<sup>54</sup> Bianco Peroni's type is named after the example from Pontecagnano Tomb 180: Bianco Peroni 1970, 84 and plate 30.

<sup>55</sup> Gastaldi 1998, 163.

examples known from Calabria, Campania, Basilicata and Central Italy and need not suggest a specifically Calabrian presence.

The type 4.2 iron dagger is a Villanovan continuation of a Bronze Age dagger form with precedents in Central and Northern Italy.<sup>56</sup> The dagger's total length of 29cm is indicative of use at very close quarters, much closer than the contemporary type 1 Italic swords which were medium length cut-and-thrust swords.

One Phase IB tomb included a bronze arrowhead with no other weapons.<sup>57</sup> The arrowhead is distinctive for the preservation of a long narrow bronze shaft or tang measuring approximately 25cm in length (Figure 3). Arrowheads rarely appear in the burial record and I am aware of no other examples of a preserved tang of this kind.



**Figure 3: Pontecagnano Tomb 560, bronze arrowhead (scale 1:2).**

*Phase II (c.770 - c.730)*

Eighteen tombs dated to Phase II of Pontecagnano, included weapons. Five dated to phase IIA, to phase IIB. The remainder could not be ascribed to a sub-phase. Most of these tombs included a single spearhead of either bronze or iron. The beginning of phase II coincides with the establishment of Pithekoussai, however no distinctly Greek or Phoenician weapon forms appear to have been adopted at Pontecagnano during this phase. Spearheads dated to phase II are principally broad-bladed forms, members of types 1, 3 and 5, with 71% of phase II spearheads belonging to these type groups. However, narrow bladed forms begin to appear with greater frequency, with members of types 2, 4 and 8 represented (29%).

<sup>56</sup> Giardino 2000, 52-3.

<sup>57</sup> d'Agostino and Gastaldi 1988, 76-9.



**Table 8: Summary of weapons Pontecagnano, Phase IIA (c.770- c.750)  
(all iron unless otherwise indicated).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
3191	Thrusting (3.1) <b>bronze</b>		<b>Bronze sauroter</b>	
3253	Thrusting (5.2)	Dagger (4.2)		
3262	Thrusting (3.1) <b>bronze</b>			
3277	Indeterminate			
3294	Thrusting (5.2)			
3208				<b>Bronze belt</b>
3212			<b>Bone</b> truncated counterpoint	

The tradition of including a single spearhead in the tomb continues in phase IIA, though for the first time we see the appearance of iron spearheads. The broad-bladed type 5.2 the iron spearheads seem to replicate the form of the broad-bladed bronze examples of the preceding period, continuing the preference for broad-blade spearhead forms. No swords are reported from published phase IIA tombs, and the sole iron dagger is allocated to type 4.2—like the phase IB example—but at 24cm is slightly shorter than the earlier example.

**Table 9: Summary of weapons Pontecagnano, Phase IIB (c.750-c.730)  
(iron, unless otherwise indicated).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
3184	Versatile (4.1) <b>bronze</b> Versatile (4.3)	Dagger (4.2)	Truncated counterpoint <b>bronze</b>	
3241	Thrusting (3.6) <b>bronze</b>			
3267	Thrusting (5.1)		Axe	
3284	Thrusting (3.5) <b>bronze</b> Thrusting (3.5) <b>bronze</b>	Dagger (4.2)	Axe <b>Bronze</b> truncated counterpoint <b>Bronze</b> chisel	
3285	Thrusting (5.2)		Axe	
3214			<b>Bone</b> truncated counterpoint	

During phase IIB assemblages of multiple weapons appear with greater frequency, with four of the five tombs datable to phase IIB yielding multiple weapons. A preference for broad-bladed spearhead forms made of both bronze and iron continued in phase IIB, with only one tomb including narrow-bladed spearheads. Type 4 daggers continue to appear, however no swords can be specifically dated to this period.

Axes appear in the assemblage for the first time in phase IIB. All are constructed of iron and each example was associated with one or more spearheads. This association would suggest that the axes formed part of the weapons assemblage of the deceased and at least one representation of a warrior bearing an axe as a weapon is known: the Avele Feluske stele from Vetulonia in Central Italy, dated c.600.<sup>58</sup> However, the association of one example with a bronze chisel casts doubt on a military function for axes and raises the possibility that they should be interpreted, at least in some cases, as wood-working tools. Indeed, De Siena has applied such an interpretation to the axe from the well known 5<sup>th</sup> C Tomb 17/71 from the western necropolis loc. Crucinia at Metaponto, where both weapons and chisels were recovered in association with an axe.<sup>59</sup>

**Table 10: Summary of weapons Pontecagnano, Phase II (c.770-c.730)  
(iron, unless otherwise indicated).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>	<b>Armour</b>
226	Versatile (2.1) <b>bronze</b>			
2150	Thrusting (1.1) <b>bronze</b> Versatile (4.1) <b>bronze</b>	Italic (1.2)	<b>Bronze sauroter</b>	
2157	Thrusting (3.1) <b>bronze</b>		<b>Bronze sauroter</b>	
4856	Versatile (8.4)			
4858	Thrusting (1.1) <b>bronze</b>			
221			Axe	
212			<b>Bronze sauroter</b>	
3205		Dagger (4.2)		
3207		Dagger (4.2)		
Tombs 205; 214; 2097 3210			<b>Bronze truncated counterpoint</b>	

Those tombs dated to phase II which could not be allocated to a sub-phase exhibited a similar mixture of bronze and iron spearheads, with a slightly higher proportion of narrow-bladed points. Whether the axe reported from Tomb 221 should be interpreted

<sup>58</sup> Torelli 2007, p 211-2.

<sup>59</sup> De Siena gave an outline of the assemblage from Tomb 17/71, thought to be an Italic mercenary, in: Bottini 1993, 123-33, in which he included the axe amongst his catalogue of tools rather than the catalogue of weapons.

as a weapon or a tool is uncertain as no other weapons were found in association. The presence of a short iron rod in the tomb may have formed part of an iron spit but the possibility that this poorly preserved artefact was a chisel should also be considered.

The bronze *sauroter* reported from Tomb 212 is also problematic as it was not associated with a spearhead. The form of the *sauroter* is consistent with the polygonal socket of type 3 spearheads and d'Agostino interpreted similar objects as directly associated with bronze spearheads; however, he does not suggest that they may have functioned as spearheads. The absence of an associated spearhead casts doubt on the identification of this artefact as a *sauroter*. *Sauroteres* and other counterpoints will be discussed in more detail in my concluding remarks.

**Table 11: Summary of weapons Pontecagnano, Late 8<sup>th</sup> C (all iron).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
4881	Versatile (8.1)			
4890	Throwing (9.4)		Axe Chisel x 2 File	
596	Versatile (6.2)			
575	Versatile (6.3) Versatile (8.4)		Axe x 2 Chisel	
745			Axe	

Five tombs dated to the final decades of the 8<sup>th</sup> C in the S. Antonio and Casella necropoleis included weapons. None of these tombs includes bronze weapons, suggesting that the transition from bronze to iron as a material for weapons manufacture was complete by this time. The weapons assemblage of this period consists entirely of spearheads and axes; no swords or daggers appear. Two tombs which included axes also yielded an assemblage of tools, possibly for woodworking. The inclusion of other tools enhances the possibility that the axes were included as non-military items. The spearhead forms observed during this period also show a move away from the broad-bladed forms prevalent during the late 9<sup>th</sup> C and early 8<sup>th</sup>

C in favour of more versatile, narrow-bladed weapons of the type 6 and type 8 groups. For the first time, also we see a member of the type 9 group, specifically a throwing spear.

**Table 12: Summary of weapons Pontecagnano, 7<sup>th</sup> C (all iron unless otherwise indicated).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
926	Versatile (6.3)		Axe x 3	
928	Thrusting (5.1) x 4 Versatile (6.3) x 10 Versatile (6.4) x 2 Versatile (8.1)x 2	18	Axe x 3 <i>Sauroter</i> x 4	
601	Versatile (6.3)		<b>Bronze</b> arrowhead x 2	
737	Versatile (6.3)			
738			Axe	

Few tombs dated between the 7<sup>th</sup> C and 5<sup>th</sup> C have been published in detail. Cuozzo published a synthesis of material dating to the Orientalising period in which she discusses the role of weaponry in elite male tombs as markers of social status.<sup>60</sup> However, she does not include any discussion of the possible military function of weapons and does not publish any tomb assemblages in detail. Narrow-bladed iron spearheads (type 6.3 predominating) and iron axes continue to dominate the weapons assemblage during the 7<sup>th</sup> C; and again there are no swords or daggers amongst the published assemblages and it appears their inclusion was very rare during this period.<sup>61</sup> The two bronze arrowheads feature more pronounced barbs than the phase IB example (above) and are similar in form to a contemporary example from Sala Consilina.<sup>62</sup>

The ‘princely’ tombs 926 and 928 near Piazza Risorgimento were unusual stone-lined tombs with a smaller, stone-lined *cassa* cut into centre of the larger tomb area.

<sup>60</sup> Cuozzo 2003, 57 and 99-101. Ridgway also expresses frustration that most of the Orientalising assemblages remain unpublished: Ridgway 2005, 452.

<sup>61</sup> Cuozzo reports that only three swords and two daggers are recorded from tombs dated to the Orientalising period: Cuozzo 2003, 57.

<sup>62</sup> S. Rocco Tomb B39: Kilian 1970, 357 and plate 118.

Despite the unusual tomb form and the wealthy grave goods, the weapons assemblage of tomb 926 was characteristic of 7<sup>th</sup> C tombs, yielding two type 6.3 spearheads, and three iron axes consistent with other axes recovered from Pontecagnano. The presence of multiple axes is not unprecedented, but Tombs 926 and 928 are the only assemblages to contain as many as 3 axes. The assemblage of tomb 928 was extravagant, including 18 spearheads<sup>63</sup> in association with three iron axes and four iron *sauroteres*. There is once again a preference for narrow-bladed forms with 14 spearheads allocated to the versatile type 6 and type 8 groups. Four type 5.1 spearheads are the only broad bladed spears included amongst this opulent panoply.

**Table 13: Summary of weapons Pontecagnano, 4<sup>th</sup> C (all iron unless otherwise indicated).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
5762	Thrusting (5.1)		
5755	Throwing (9.4)		
5760	Versatile (8.1)		
4044	Indeterminate (?)		
4433	Throwing (9.4)		<b>Bronze</b> belt (Suano 5a)
4441	Indeterminate (?)		
5761	Versatile (6.3)		
5763	Versatile (6.3)		
5766	Indeterminate		
5767	Thrusting (5.1)		
4040	Versatile (8.4)		
4348	Versatile (6.1)		
4443	Indeterminate		<b>Bronze</b> belt clasps (Suano 5a.)
4404	Throwing (9.?)		
4409	Versatile (6.2?)		
4036	Throwing (9.4)		
4048	Thrusting (7.1)		<b>Bronze</b> belt (Suano 4a)
4435	Indeterminate (?)		
602	Versatile (8.1) Indeterminate		

Of 226 tombs from the western necropolis of Pontecagnano published by Serritella 18 (8%) contained weapons with a further seven including associated paraphernalia but no weapons. One of the three 4<sup>th</sup> C tombs published by d'Henry from the S. Antonio

<sup>63</sup> Only one other tomb examined in this thesis, the 4<sup>th</sup> C Tomb 699-II from Lavello includes a greater number of spears (Chapter 4, 151 and 161).

necropolis also included a weapon.<sup>64</sup> The practice of including multiple weapons observed during phase II and during the 7<sup>th</sup> C at Pontecagnano has not continued into the 4<sup>th</sup> C. The exclusive manifestation of weaponry in published burial assemblages of this period was the inclusion of a single iron spearhead, a possible standardisation of funerary practice. However, the preference for narrow-bladed spearhead forms continues with members of type 6, 8 and 9 groups most commonly represented. The presence of type 9 spearheads is greatly increased during the 4<sup>th</sup> C (approx. 20% of spears); only one example can be dated to an earlier period (late 8<sup>th</sup> C) at Pontecagnano. Broad-bladed spear forms do persist, however, and for the first time an identifiable member of type 7.1 appears, similar to type 5 but featuring a strengthening midrib which is not present in type 5 examples.

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<sup>64</sup> d'Henry 1968, 203 and figs. 1 and 2.2. D'Henry records two spearheads in her catalogue of finds for tomb 602. However, the description of the first of these makes identification as an iron spit far more appropriate.

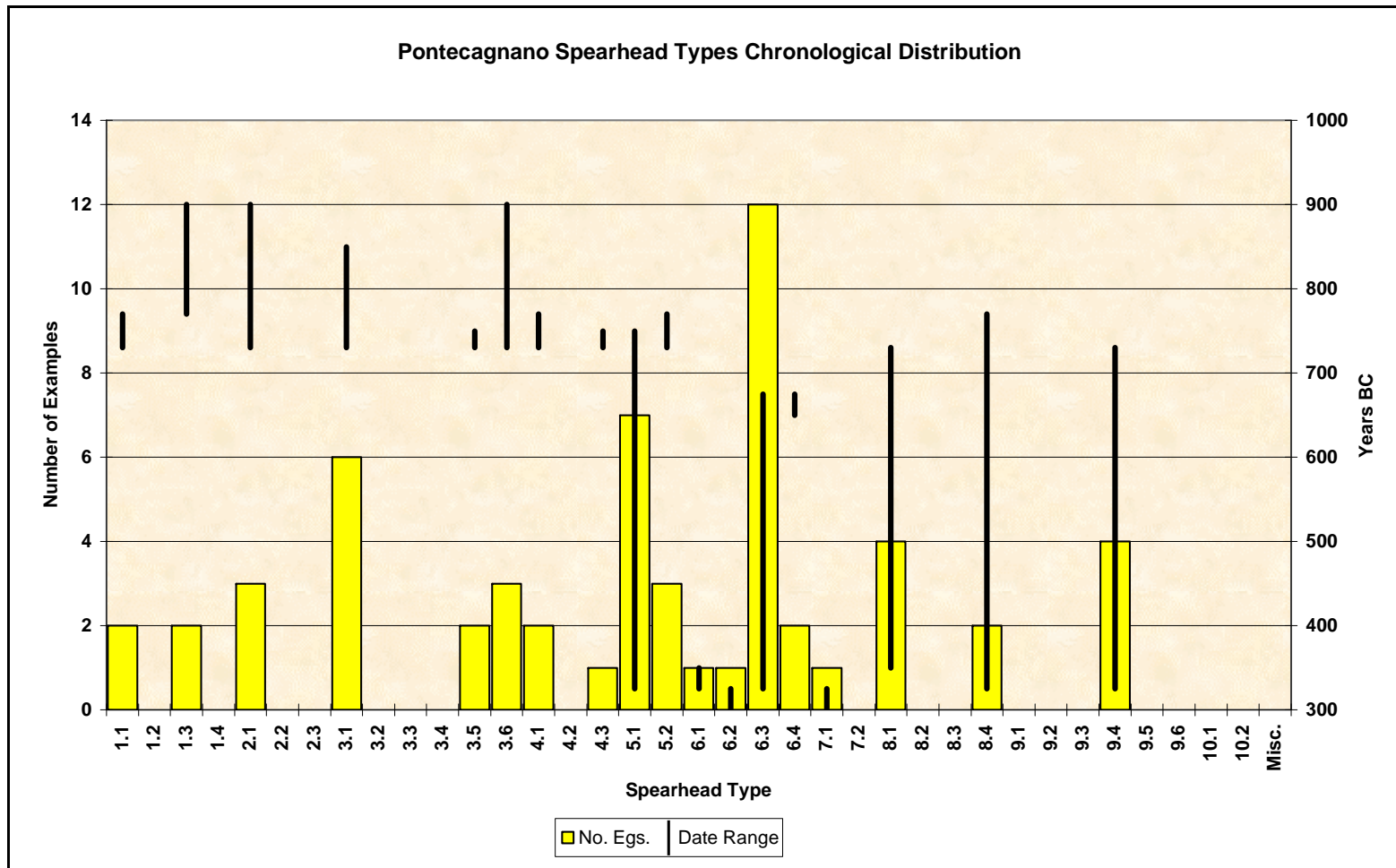
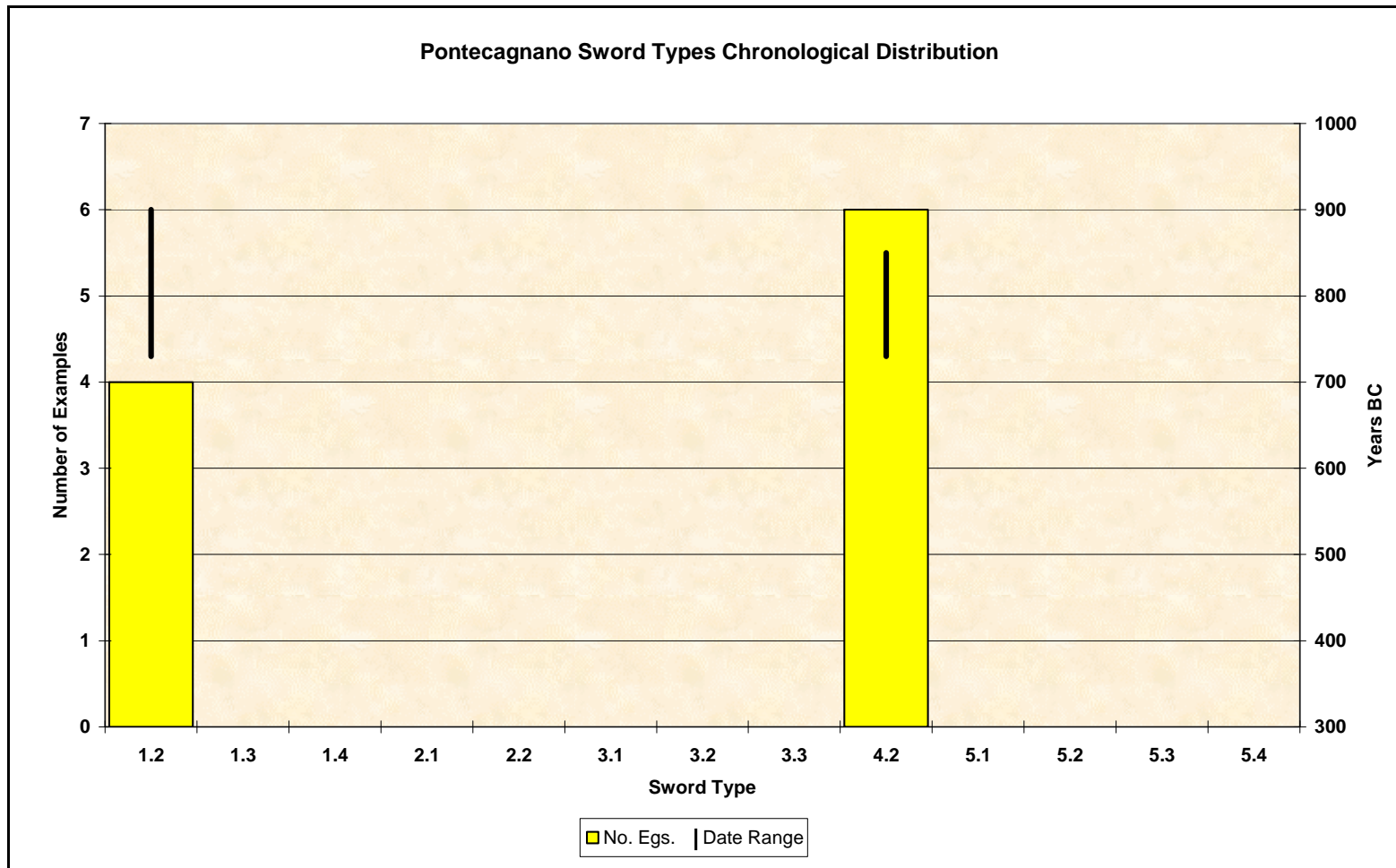


Figure 4: Chronological Distribution of spearhead types at Pontecagnano.



**Figure 5: Chronological Distribution of sword types at Pontecagnano.**



## *Discussion of weapon classes*

### *Spearheads*

Spearheads are the most prevalent weapon class represented in the funerary assemblages of Pontecagnano. Frequently a spearhead is the only weapon included, and only the wealthiest of tombs included multiple spearheads. In some instances a spearhead was placed outside of the tomb and was thus not directly included amongst the burial assemblage, yet clearly formed an offering which was part of the funeral rite.<sup>65</sup>

During the 9<sup>th</sup> C and early 8<sup>th</sup> C bronze spearheads of distinctly Villanovan types are most common, though forms which are widely distributed throughout the peninsula, the wider Mediterranean and Central Europe are also present. The first iron spearheads appear c.770 BC, contemporary with the establishment of Pithekoussai. However, it should be noted that ironworking was well known in South Italy prior to the establishment of Pithekoussai and it is unlikely that the explosion of iron spearheads from this time is not a direct outcome of this event. Certainly there is no indication in the forms of the spearheads of any influence of Greek types. By the end of the 8<sup>th</sup> C iron has completely supplanted bronze as the material of manufacture for spearheads. From the late 8<sup>th</sup> C the frequency of broad bladed spear forms decline in favour of narrow bladed forms with members of the type 6 and type 8 groups most commonly represented (type 6.3 the most frequent).

### *Counterpoints/ Sauroteres*

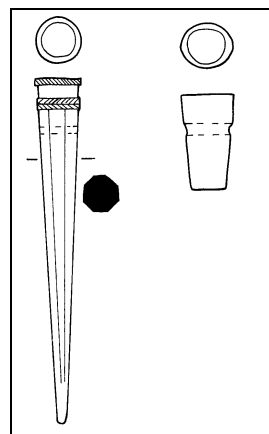
Six of tombs listed in the tables above yielded *sauroteres* or counterpoints. A further eight tombs also yielded what has been identified by d'Agostino as a *puntale di forma*

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<sup>65</sup> Tombs 4348, 4048, 5755, 5760, 5761, 5762 and 5763.

*troncoconica*. The *sauroteres* (with the exception of the examples from tomb 928) were all bronze and date to the 9<sup>th</sup> and 8<sup>th</sup> C. They average 18cm in length, all with varying degrees of rounding to the tip, whether by design or as the result of wear is unclear, and each example could have functioned in an offensive capacity. Indeed, the *sauroter* from tomb 212 was not associated with a spearhead or any other weapon, though it is of course conceivable that the item was a grave gift meant to express that the deceased was a member of the warrior class though no spearhead was available for deposition.<sup>66</sup>

The eight truncated counterpoints,<sup>67</sup> constructed of either bone or bronze and measuring only a few centimetres in length, could not have served any offensive function. Some examples feature holes for attachment to a shaft and several examples have incised decoration. Only two examples were found in association with weapons. While the excavators include these items in their catalogue of weapons they do remark on the low incidence of association and the implication that they served a military function must be questioned.<sup>68</sup>



**Figure 6: Tomb 212 bronze sauroter,  
Tomb 214 truncated counter point  
(scale 1:4, after d'Agostino and Gastaldi 1988, fig.66 ).**

<sup>66</sup> I do not seek here to venture into the complex issue of grave goods and the constructed identity of the deceased. See: Parker-Pearson 1999, 85-86.

<sup>67</sup> Conical sockets with a circular section that is open at both ends.

<sup>68</sup> d'Agostino and Gastaldi 1988, 78-9.

### *Swords and daggers*

There are six Italic swords (type 1) and six daggers (type 4.2) noted amongst the publication of material from Pontecagnano, all recovered from tombs dated to the 9<sup>th</sup> and 8<sup>th</sup> C. Three tombs, dated to the 9<sup>th</sup> C, included bronze swords, each of which allocated to Type 1.2.<sup>69</sup> A fourth 9<sup>th</sup> C tomb included fragments of a T-shaped sword pommel along with bronze fragments thought to pertain to a scabbard; the T-shaped pommel is consistent with members of the type 1 group.<sup>70</sup> Two tombs dated to the 9<sup>th</sup> C and 8<sup>th</sup> C included a type 1.2 iron sword. The six iron daggers (all allocated to Type 4.2) were also recovered from tombs dating from the 9<sup>th</sup> C – 8<sup>th</sup> C.<sup>71</sup> The practice of including swords in tombs appears to have ended during the Orientalising Period at Pontecagnano, when a very small number of instances are recorded, and, notably swords and daggers are both excluded from the wealthy grave goods of tombs 926 and 928.<sup>72</sup>

The swords are all short cut-and-thrust swords ranging in length from 38.5 to 48cm with an average length of 45cm. Each of the Italic swords (type 1.2) was associated with a bronze scabbard<sup>73</sup> featuring incised decoration. Two featured motives of deer, while the other examples have simple geometric decoration. The scabbards are similar to examples from Tarquinia, Populonia, Vetulonia, Vulci and Terni, in Central Italy

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<sup>69</sup> Tombs 180, 495 and 6107 Bianco Peroni 1970, 84 and plate 60, No. 206. This sword was included amongst Bianco Peroni's catalogue, in which she mentions the presence of a spearhead in association, though the description does not include material of manufacture. Tomb 495 has not been included in the published site reports.

<sup>70</sup> The tomb had been badly damaged by the construction of a modern wall: d'Agostino and Gastaldi 1988, 175 and figs. 77, 130 and 150.

<sup>71</sup> Tombs 3184, 3190, 3253, 3205, 3207 and 3284.

<sup>72</sup> Cuzzo 2003, 57.

<sup>73</sup> Only a small bronze fragment believed to pertain to a scabbard was associated with the Type 1 sword pommel from Tomb 2055: d'Agostino and Gastaldi 1988, 175 and figs. 77, 130 and 150.

and from Torre Galli in Calabria and Incoronata in Basilicata underscoring the broad cultural connections of Pontecagnano during the Early Iron Age.<sup>74</sup>

The dagger form represented at Pontecagnano appears to have evolved from similar daggers recorded in Central and Northern Italy from the Early Bronze Age.<sup>75</sup> Pontecagnano and Sala Consilina are the only sites surveyed in this thesis at which members of this sub-type have been identified.<sup>76</sup> The daggers range in length from 14.9 to 33cm with an average length of 24cm. All of these weapons would have been suited to close range fighting. None of the Type 4.2 daggers was associated with a scabbard, suggesting that these examples were considered distinct from Italic swords by those who interred them.

Swords and daggers are sometimes found with one or more spearheads but there is no clear pattern of associations. When spearhead and swords or daggers do appear together the spearheads are (with only one exception) made of bronze, regardless of whether the associated sword or dagger was constructed of bronze or iron.

### *Axes*

Axe heads have been published from ten tombs at Pontecagnano dated to the 8<sup>th</sup> and 7<sup>th</sup> C.<sup>77</sup> Examples of both hafted axes and shaft-hole axes are represented along with two axes which do not fit easily into either classification. In eight instances axes were associated with one or more spearheads; five of those tombs also included a bronze or iron chisel amongst the burial assemblage. The association of the axe heads with

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<sup>74</sup> Bianco Peroni's No. 197 from Torre Galli Tomb 36; No. 209a from Tarquinia, Poggio dell'Impiccata, Tomb 1, dated to the first half of the 8<sup>th</sup> C; No. 207a from Tarquinia, Monterozzi Arcatelle Tomb 23/3/1883, dated to the second half of the 9<sup>th</sup> C; and, No. 354 from Vulci, (undated), associated with an iron sword: Bianco Peroni 1970, plates 59 and 60.

<sup>75</sup> Giardino 2000, 52-3.

<sup>76</sup> A variant form, extended to sword length is recorded from a 7<sup>th</sup> C tomb at Serra di Vaglio, see: Chapter 2, 122 and Chapter 5, 260.

<sup>77</sup> Tombs 221, 575, 745, 3267, 3284, 3285 and 4890 dated to the 8<sup>th</sup> C and Tombs 738, 926 and 928 dated to the 7<sup>th</sup> C.

utilitarian tools such as chisels calls into question a military interpretation for their function (discussed in the Appendix, 446ff).

### *Arrowheads*

Three arrowheads from Pontecagnano have been published.<sup>78</sup> The arrowheads in tomb 601 measured 6.6cm and 7.2cm in length, featuring barbed heads measuring approximately 3cm in length with a tang. The arrowhead from Tomb 560 also featured a barbed head measuring approximately 3cm long with a narrow bronze shaft measuring approximately 25cm. Another, possible, bronze arrowhead has been identified lodged in the femur of the individual buried in Tomb 4141, discussed below. Being the result of an injury, it should be noted that this arrowhead did not form part of the burial assemblage; it would appear that arrows were not a common grave gift. The form of the arrowhead is very similar to that of the arrowheads recovered from Tomb 601, but measures approximately 1.5cm. While it is not possible to deduce the circumstances in which this individual was wounded his injury suggests archery was practiced in a martial context.

### *Clay Helmets*

Forty-four tombs dated by the excavators to the 9<sup>th</sup> C and 8<sup>th</sup> C included clay helmets, thought to imitate metal helmets. This class of artefact was interpreted by the excavators, and later by Vida Navarro, as an indicator of male gender and elite status.<sup>79</sup> Clay helmets were not functional items of military equipment, but rather served as covers for cinerary urns. The shape of the clay helmets can be compared

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<sup>78</sup> Tomb 601: d'Agostino 1968, 182-3 and figs. 7 Nos. XXIV.1.2, XXIV.4 and 67; the example from Tomb 560 is not published in detail and the date is not specified: d'Agostino and Gastaldi 1988, 62, 79 and plates 24 and 26. D'Agostino's typological notes include Tomb 560 in the distribution of a lead pin, (Type 33B), which he dates to phase IB. Near number tombs listed on the seriation table, plate 26, suggest that tombs numbered in the 550s to 570s formed a necropolis dated primarily to phase IB.

<sup>79</sup> d'Agostino and Gastaldi 1988; Gastaldi 1993; Vida Navarro 1992.

with functional bronze examples from Central Italy and the cisalpine region.<sup>80</sup> Clay helmets were associated with weapons only occasionally.

### *Bronze Belts*

A number of 8<sup>th</sup> C tombs yielded bronze belts in association with artefacts believed indicative of female gender.<sup>81</sup> They are consistent with Villanovan bronze working techniques and are found exclusively in elite female graves. Examples are known from Tarquinia, Massa Marittima and the nearby Southern Villanovan settlement of Sala Consilina, suggesting a Central Italian origin for the belt's design.<sup>82</sup> There is a significant chronological gap between the belts noted in these 8<sup>th</sup> C tombs and those recovered from the 4<sup>th</sup> C,<sup>83</sup> and there is a definitive change in their appearance and cultural function. The 4<sup>th</sup> C belts are characteristically South Italian, with similar belts appearing throughout the region in the 5<sup>th</sup> C and 4<sup>th</sup> C. The belt clasps can be readily allocated to Suano's typology with members of her type 5a and 5b prevalent, forms which appear most frequently in Northern Basilicata and Daunia, appearing in the funerary record as markers of status.<sup>84</sup>

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<sup>80</sup> Stary 1981, map 2.

<sup>81</sup> Tombs 558, 572, 2106, 2596, 3208 and 5053; only the examples from Tomb 2106 and 3208 are published in detail: d'Agostino and Gastaldi 1988, 66 n. 259, 196, and plate 21; De Natale 1992, 59 and fig. 111.

<sup>82</sup> d'Agostino and Gastaldi 1988, 66 n. 259, 196, and plate 21; Kilian 1970, supplement 17.

<sup>83</sup> Tombs 4015, 4048, 4051, 4424, 4433, 4439, 4453 and 4781

<sup>84</sup> Suano 1996, 28-31.

### *Children*

Four published tombs which included weapons were identified as the graves of children, ranging between approximately 5 and 15 years of age.<sup>85</sup> In each case the burial assemblage was consistent with that provided in the tombs of adult males and the weapons included (a single spearhead, one associated with a *sauroter*) are also congruent with those included in adult tombs.<sup>86</sup> The assemblages are suggestive of the aspirations for adult status which those who buried these children had hoped they would have achieved had they lived to adulthood.<sup>87</sup>

### *Osteological Analysis*

The osteological remains at Pontecagnano has been subjected to analysis.<sup>88</sup> Some of the material from inhumation burials was quite well preserved, whilst other material, particularly that from the cremation burials is poorly suited to analysis. D'Agostino and Gastaldi included a report of the osteological analysis of 86 tombs in their publication of the Picentino necropolis.<sup>89</sup>

Robb *et al.*, published an analysis of remains from Pontecagnano in 2001.<sup>90</sup> Their findings suggest that the skeletal remains of males from tombs that included weapons indicated that those individuals experienced noticeably better overall health and

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<sup>85</sup> Tomb 737: d'Agostino 1968, 183-5 and figs. 7 No. XXXV E, 67 and 74.; Tomb 5755: Serritella 1995, 27 and plates 44 and 64.; Tomb 3191: De Natale 1992, 54133 and figs. 28, 43, 76 and 102.; and, Tomb 4044: Serritella 1995, 67 and plates 58 and 78.

<sup>86</sup> A different practice is observed in Daunia where only adolescent/young adult males received grave goods consistent with adult male status. Young male children had grave goods which differed from adult males, see Chapter 4, 160.

<sup>87</sup> For a discussion of burial practices relating to children see: Parker-Pearson 1999, 102-4.

<sup>88</sup> Robb *et al.* 2001.

<sup>89</sup> d'Agostino and Gastaldi 1988, 247-78. The remains of cremated individuals (68 of the tombs analysed) were extremely poorly preserved so that it was not possible to determine the biological sex with any certainty, though it was sometimes possible to estimate age on the basis of skull fragments and the ends of some long bones.

<sup>90</sup> Robb *et al.* 2001, attempted to determine whether differences in social status evident in burial assemblages coincided with differences in pathology in a sample of remains dated between the 7<sup>th</sup> and 3<sup>rd</sup> C.

displayed less evidence of the stresses associated with demanding physical labour. It is very likely from Robb's analysis that weapons were the accoutrements of members of a distinct and elite social class at Pontecagnano in the 7<sup>th</sup> to 3<sup>rd</sup> C. In death, weapons served as markers that demonstrated and reinforced the social status of the deceased.

A brief but notable report was made by Capasso in 1994 in which he outlined an interesting osteological discovery from Tomb 4141 at Pontecagnano, described as dating to the 4<sup>th</sup> C.<sup>91</sup> It appears that the individual interred within this tomb had a bronze point lodged in his right femur. It is of particular interest that the point, interpreted by Capasso as that of a javelin, is made of bronze rather than iron. Further, Capasso noted evidence of healing indicating the individual survived 'a long time' after receiving this injury and went on to suggest that forensic analysis suggests (based on the angle of entry) the wound was administered while the injured party was on horseback with his assailant probably on foot.



**Figure 7: Right femur from Pontecagnano Tomb 4141, and detail: Robb with permission.**

In contrast, Robb has suggested that the metal fragment may in fact be that of an arrowhead.<sup>92</sup> The object, measuring approximately 10-15mm in length, has not been subjected to any formal metallurgical analysis; the green colour of the metal's

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<sup>91</sup> Capasso *et al.* 1994.

<sup>92</sup> Robb, personal communication.



corrosion is the rationale for its identification as bronze. The identification of the embedded object as either arrowhead or spearhead was not certain, as until now, it has been studied by osteologists. In the detail (Figure 7, right) it is possible to discern the presence of a barb. The small number of bronze arrowheads from burial and sanctuary contexts throughout the Iron Age of South Italy almost all feature barbs. Certainly, the three published arrowheads from Pontecagnano feature barbs and their size and morphology appear consistent with the point lodged in the femur of the individual from Tomb 4141.<sup>93</sup> Further, it seems unlikely that this object would be a fragment from a spearhead as I have not observed any bronze spearheads dating to the 4<sup>th</sup> C, either at Pontecagnano or at any of the South Italian sites I have examined in this thesis.

The frequency of arrowhead finds is very low in comparison to that of spearheads or swords, but their presence is significant, confirming that the art of archery was known and practiced in South Italy during the Iron Age. Little account has been made of the role of archery in Iron Age South Italy in either warfare or the hunt. The presence of the point embedded within the right femur of the individual from Tomb 4141 suggests that archery played a part in military conflict.

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<sup>93</sup> Tomb 560 is not included in the catalogue and is neither dated nor discussed in any detail: d'Agostino and Gastaldi 1988, 174 and figs. 130 and 150.

## **Sala Consilina**

Sala Consilina is located in the Vallo di Diano, a valley of the Tanagro River, approximately 70km southeast of Pontecagnano and approximately 20km to the southwest of the site of Satrianum in Basilicata. The Tanagro River Valley provided access to the Sele River to the northwest and to Calabria to the southeast, while a series of tributaries permitted access to the uplands of Basilicata. The Iron Age settlement at Sala Consilina, founded in the 9<sup>th</sup> C, demonstrated links with both the Villanovan and local cultures.<sup>94</sup> During the 8<sup>th</sup> C there appears to have been an increase in wealth and social stratification at Sala Consilina expressed principally in the wealth of grave goods, particularly in elite female tombs, but also in a notable increase in the frequency of weapons in male tombs.<sup>95</sup> During the 7<sup>th</sup> and 6<sup>th</sup> C Sala Consilina appears to have benefited from economic contacts not only with Etruria but also with the Greek colonies on the Ionian coast and the population of the site appears to have grown during this period.<sup>96</sup> The necropoleis end c.470 BC, and Sala Consilina's economic role may have been assumed by Padula. In the final years of Sala Consilina burial goods include mostly locally produced items.<sup>97</sup> The ancient settlement site has not been located but is believed to lie beneath the modern settlement making it uncertain whether the site was destroyed or abandoned.<sup>98</sup>

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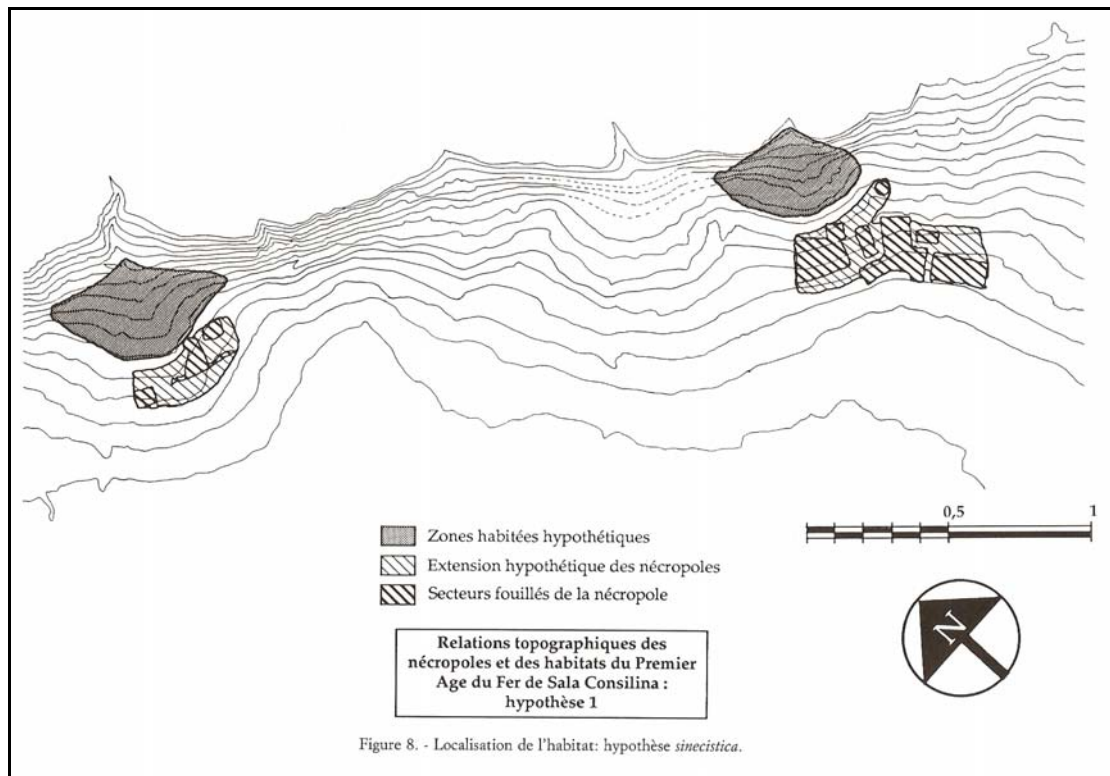
<sup>94</sup> De La Genière 1968, 4.

<sup>95</sup> Pontrandolfo Greco 1982, 29-33.

<sup>96</sup> *Ibid.*, 84-5.

<sup>97</sup> *Ibid.*, 102-3.

<sup>98</sup> Ruby 1995, 30-34.



**Figure 8: Sala Consilina, necropoleis and possible habitation areas, after Ruby 1995 fig. 8.**

The Iron Age necropoleis of the site first came to light during road construction during the 1870s. Excavations in the 1890s uncovered a group of tombs including a ‘princely’ tomb dated to the end of the 6<sup>th</sup> C. The extent of the necropoleis at Sala Consilina was not recognised until the 1950s when a series of excavations revealed over 1500 tombs dating between the early 9<sup>th</sup> C and the early 5<sup>th</sup> C.<sup>99</sup> Two principal necropoleis have been identified, one located to the northwest of the modern settlement—divided into the two areas, S. Antonio and S. Nicola, which have yielded several hundred tombs dated to the Early Iron Age—and the S. Rocco necropolis, southeast of the modern settlement, where approximately 1500 tombs have been excavated, c.50% of which date to the Early Iron Age.<sup>100</sup>

Burial practices at Sala Consilina demonstrate the site’s affinity with Villanovan populations through the practice of cremation burials placed in pits. However, rather

<sup>99</sup> Ibid., plate 7.

<sup>100</sup> Trucco 1997, 304.

than the *pozzo* and *ricettacolo* forms common in Etruria and also noted at the Southern Villanovan site of Pontecagnano, cremation burials were generally placed in a square, stone-lined *cassa*.<sup>101</sup> Like Pontecagnano, and Villanovan sites in Central Italy, the practice of cremation declined during the course of the 8<sup>th</sup> C to be replaced by supine inhumation.<sup>102</sup>

In 1968 La Genière published a catalogue of tombs from the S. Antonio, some of which were uncovered during excavations conducted in 1962.<sup>103</sup> In 1970 Kilian published a report on the German excavations (principally of the S. Rocco necropolis, though his report also included a small number of tombs from S. Antonio and S. Nicola)<sup>104</sup> and in 1995 Ruby published further material from the northwest necropolis as part of a broader analysis of the site, its geography, likely habitation areas, population density and burial practices.

Use of the necropoleis peaked during the Early Iron Age, the majority of tombs being datable to Phase II.<sup>105</sup> However, the chronology of the site is problematic (discussed below p. 364) and many of the tombs include artefacts which are difficult to date.<sup>106</sup> The tombs of the earliest phases are laid out as familial groups centred around the wealthier burials of a male and a female, similar to practices observed from Pontecagnano and from Etruscan proto-urban centres.<sup>107</sup> As with Pontecagnano a degree of social stratification was identifiable through the burial assemblages, the social elite marked out by the inclusion of gender specific items such as weaving

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<sup>101</sup> Pontrandolfo Greco 1982, 27-29. A few stone *cassa* burials have been noted at Pontecagnano (Tombs 227, 4855, 4866 and 4868 4855 227 all dated 770-730 BC) reported in d'Agostino and Gastaldi 1988

<sup>102</sup> Pontrandolfo Greco 1982, 34-5.

<sup>103</sup> De La Genière 1968.

<sup>104</sup> Kilian 1970

<sup>105</sup> Trucco 1997, 305.

<sup>106</sup> For a discussion of the ceramic assemblage as it relates to chronology see: Sabatini 2005.

<sup>107</sup> Ruby 1995; Trucco 1997; d'Agostino and Gastaldi 1988, 231-45; Bietti Sestieri and De Santis 2000, 33-8; De Santis 1995.

implements, weapons and specific types of fibulae. Individuals lower in the social spectrum were afforded simpler grave goods consisting principally of ceramic assemblages which were not gender specific.<sup>108</sup>

*The Northwest Necropolis – S. Antonio and S. Nicola*

*J. De La Genière*

La Genière published a catalogue of 51 tombs in 1968, 13 of which included weapons or associated paraphernalia. These tombs have all been dated by La Genière to Phase II, c.770-700BC, equivalent to Henken's Phase II at Tarquinia. No descriptions or plans of the tombs are included in La Genière's catalogue, although she comments that cremation was the dominant funerary ritual of Phase I with a rapid transition to inhumation at the beginning of Phase II.<sup>109</sup>

*P. Ruby*

Pascal Ruby published a catalogue of 111 tombs in 1995 (50 Tombs from S. Antonio loc. Bivio and 61 from S. Antonio propr. Masino) 16 of which included weapons or associated paraphernalia. Ruby also undertook an analysis of the chronological frameworks previously published by La Genière and Kilian (discussed below p. 364). He noted that during Phase I (c.900-770) approximately 52% of all tombs were cremations but during Phase II (c.770-730) this figure drops to 7% of all tombs and during Ruby's Phase 3 cremation ceases to be practiced altogether.

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<sup>108</sup> Trucco 1997, 305; d'Agostino and Gastaldi 1988, 238-40.

<sup>109</sup> De La Genière 1968, 246.

*The Finds*

**Table 14: Sala Consilina, Kilian's excavation of S. Antonio and S. Nicola, weapons and associated paraphernalia**

Burial Type: F = Fossa; P = *pozzo* cremation; ? = not reported

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
S. Antonio Tomb 29	900-800	?	1	1.1	1	1.2		Spearhead: L 12cm; Sword: iron, L 42cm	1 clay helmet 1 bronze scabbard	The bronze scabbard was allocated by Bianco Peroni to her Torre Galli Type. <sup>110</sup> The clay helmet is described as a 'ring-helmet' having comparanda in Tarquinia.	Kilian 1970, 142, 387 and plate 243.
S. Antonio Tomb 32	900-800	?					1 bronze arrowhead	L 3cm		No details of the tomb were reported. Kilian's illustration of the assemblage includes what appear to be a number of boar's tusks, though they are not described in the text.	Kilian 1970, 387 and plate 244.
S. Antonio Tomb 14	900-800	?			1	1.2		Iron, L unspecified.		The iron sword is described in Kilian's distribution table as similar to that in S. Antonio Tomb 29, allowing for allocation to Type 1.2 on a comparative basis.	Kilian 1970, 318.
S. Nicola Tomb 27	900-800	?			1	1.2		Iron, L 45cm		No details of the tomb were reported.	Kilian 1970, 388 and plate 256.

**Table 15: Sala Consilina, La Genière's excavation of S. Nicola, weapons and associated paraphernalia**

Burial Type: F = Fossa; P = *pozzo* cremation; ? = unknown

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
S. Nicola 66	770-750	?	1	1.3				L 16.3cm	1 bronze <i>sauroter</i> L18cm	The socket of the spearhead was decorated with incised parallel lines.	De La Genière 1968, 257 and plate 2 fig.4.
S. Antonio 73	770-750	?	1	2.1				L 41.2cm, W 6.2cm		The edges present a slightly concave profile possibly as a result of resharpening.	De La Genière 1968, 258 and plate 3 fig.2.

<sup>110</sup> The scabbard measures 31.4cm long and is dated by Bianco Peroni to the first half of the 9<sup>th</sup> C: Bianco Peroni 1970, 126 and plate 65

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
S. Nicola 23	770-750	?	1	1.1				L 21cm, W 6cm		The assemblage also included a fragment of bronze wire, possibly for binding the spearhead to the shaft.	De La Genière 1968, 259 and plate 4 fig.1.
S. Nicola 44	770-750	?			1	?		Iron, fragmentary. The sword is too poorly preserved to be allocated to a Type.	1 bronze scabbard L26.5cm	The scabbard bears similar incised decoration to that seen on the scabbards from Tombs 180, 889 and 6107 at Pontecagnano, a style of decoration also recorded on scabbards from Villanovan sites in Central Italy. <sup>111</sup>	De La Genière 1968, 260 and plate 4 figs. 4 and 5.
D137	750-700	?	1	?				Iron, fragmentary.		La Genière records a number of iron fragments which she posits may have been a spearhead.	De La Genière 1968, 264 and plate 6 fig. 2.
A262	675-600	?	1	?				Iron, L 22.3cm - incomplete		The spearhead is damaged and has not been clearly illustrated. It was not possible to allocate the spearhead to a Type.	De La Genière 1968, 265 and plate 6 fig. 3.
A32	675-600	?	1	?				Iron, L 20cm – incomplete W 3.9		The spearhead was not clearly illustrated and could not be allocated to a Type.	De La Genière 1968 265 and plate 6, fig.4.
A248	675-600	?	1	?				Iron, L 28.5cm	1 bronze Corinthian helmet	The spearhead is poorly illustrated and cannot conclusively be allocated to a Type. The helmet is similar to that recovered from Tomb A410.	De La Genière 1968, 270 and plate 8 fig. 2.
A46	675-600	?	1	5.1	1	3.1		Spearhead: L 30cm W3.8cm; Sword: Iron, L 54cm W5cm	3 iron spits the longest measuring 8.5cm long.	Also included in the burial assemblage was a fragment of antler measuring 25cm long.	De La Genière 1968, 270 and plate 8 fig. 4.
A410	675-600	?							1 bronze Corinthian helmet	Similar to the helmet recovered from Tomb A248.	De La Genière 1968, 268 and plate 7 fig. 2.

<sup>111</sup> Bianco Peroni's No. 209a from Tarquinia, Poggio dell'Impiccata, Tomb 1, dated to the first half of the 8<sup>th</sup> C; No. 207a from Tarquinia, Monterozzi Arcatelle Tomb 23/3/1883, dated to the second half of the 9<sup>th</sup> C; and, No. 354 from Vulci, (undated), associated with an iron sword: Ibid., plates 59 and 60.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
B79	575-550	?	2	?	1	?	1 iron axe	Spearheads: Iron, eg 1: L 19cm – incomplete eg 2: L 18.5cm – incomplete Sword: iron, L 42.5cm (Three fragments L20, 9 and 13.5cm) Axe: iron, L11.5cm W 5.5cm	1 iron sickle 1 iron firedog 2 iron <i>sauroteres</i> L21cm L17.5cm	These items are illustrated in a single photograph, none of them in sufficient detail to permit allocation to a Type. None of the weapons is complete. The longer <i>sauroter</i> had a bronze band around the base of the socket.	De La Genière 1968, 282 and plate 13.
D37	575-550	?	1	5.1			1 iron axe	Spearhead: L30cm; Axe: iron, L14cm W 7cm		La Genière compared axe to finds from Francavilla Marittima and Roccanova.	De La Genière 1968, 289 and plate 16.
E16	575-550	?	1	5.2				L 39cm, W 4.5cm		No details of the tomb were reported.	De La Genière 1968, 291-4 and plate 17.

### Ruby Publication

**Table 16: Sala Consilina Ruby's excavation of S. Nicola, weapons and associated paraphernalia.**

Burial Type: F = Fossa; F (c) = Fossa Cremation P = *pozzo* cremation; ? = not reported

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
025P	900-800	P	1	Misc.				L 38.5cm, W3.6cm	1 clay helmet	The bronze spearhead was placed inside a bowl adjacent to the cinerary urn. The point is described amongst the list of miscellaneous spear forms in Ch 1.	Ruby 1995, 270 and plates 18-9.
035B	900-800	P	1	3.1				L 25.2cm, W4.8cm		<i>Pozzo</i> tomb with vestibule which was cut into an inhumation tomb (035P). The bronze spearhead features incised transversal lines at the base of the socket.	Ruby 1995, 276 and plate 24.
049P	900-800	P							1 frag. bronze blade L 4.1cm	The function of the blade fragment could not be determined.	Ruby 1995, 286.
039P	800-770	P	1	?				Iron, L 18.3cm – incomplete		The spearhead is described as having a symmetrical blade measuring with a distinct midrib. Also included was a pair of wild boar's teeth.	Ruby 1995, 279 and plate 27.



Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
047P	800-770	?					1 bronze arrow-head	L 3.2cm Perforated by two holes for attachment to shaft.	1 clay helmet	The arrowhead was compared by Ruby to example from Bourget in France. Also included in the assemblage was a fragment of a clay helmet.	Ruby 1995, 284 and plate 34.
015P	770-750	F	1	1.1				L 26.5cm, W 5cm		The burial assemblage, including the spearhead, was positioned at the foot of the grave.	Ruby 1995, 265 and plate 14.
165P	770-750	P	1	1.1				L 13.4cm, W 2.8	1 clay helmet	Both the blade and tip of the spearhead are heavily worn. Also included was a pair of wild boar's teeth.	Ruby 1995, 287 and plates 36-7.
169P	770-750	F							1 truncated bronze counterpoint	Truncated counterpoint (placed at the foot of the tomb) measures 4.5cm long with a socket diameter of 2.5cm at one end and 1.7cm at the opposite end.	Ruby 1995, 290 and plate 40.
182P	770-750	F	1	3.5				L 24.1cm, W 4.9cm		The spearhead was positioned near the head of the tomb, pointed towards the foot of the fossa.	Ruby 1995, 300 and plate 51.
187P	770-750	F							1 iron <i>sauroter</i>	The iron point was placed at the foot of the tomb. The point measures 10.4cm long, possibly a <i>sauroter</i> .	Ruby 1995, 305 and plate 56.
192P	770-750	F							1 bronze <i>sauroter</i>	The bronze point, possibly a <i>sauroter</i> measuring 7.1cm long. The point has a flat base and could not have been used in an offensive capacity.	Ruby 1995, 308 and plate 60.
201P	750-730	F							1 bronze truncated counterpoint	The truncated bronze counterpoint was placed at the foot of the fossa and measures 3cm long with a socket diameter of 2cm at one end and 1.5cm at the opposite end.	Ruby 1995, 316 and plate 66.
216P	750-730	F	1	?				Frag. bronze socket, L5.4cm		The socket features an elliptical section. The blade is not preserved.	Ruby 1995, 326 and plate 78.
255P	750-730	F	1	2.1				L 17.5cm – incomplete		The bronze spearhead was positioned near the head of the fossa. The tip of the spear has not been preserved.	Ruby 1995, 333 and plate 86.
256P	?	F	1	1.1				L 17.3cm, W 3.8cm		The tomb was unable to be dated and had been disturbed by construction of a modern wall.	Ruby 1995, 334 and plate 87.

*The Southeast Necropolis, S. Rocco*

Klaus Kilian published a group of tombs and stray finds from Sala Consilina in 1970.<sup>112</sup> He assessed a wide range of material and constructed a typology for each class of material. A typology of weapons was included in this assessment (discussed in detail in Chapter 3). Kilian does not provide a great deal of detail about individual tombs in his text, using the material to support his morphological typology, though he provides selective illustrations of (often incomplete) tomb groups.

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<sup>112</sup> Kilian 1970.

*Kilian's excavation*

**Table 17: Sala Consilina, Kilian's excavation of S. Rocco, weapons and associated paraphernalia**

Burial Type: F = Fossa; P = *pozzo* cremation; ? = unknown

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
B22	900-850	C	1	2.1				L 29cm, W 4.8cm	1 clay helmet	Stone lined <i>cassa</i> with a square plan.	Kilian 1970, 356 and plate 116.
D81	900-850	F	1	3.2				L 18cm, W 4cm		The spearhead was positioned near the skull of the deceased.	Kilian 1970, 364 and plate 146.
J50	900-850	C	1	1.1				L 15cm, W 2.8cm		The spearhead was considerably well worn, the blades significantly reduced.	Kilian 1970, 383 and plate 225.
A25	900-850	C	1	3.5				L 17.5cm, W 4cm		Cremation burial with a rectangular plan.	Kilian 1970, 332 and plate 9.
G13	900-850	F	1	2.2				L 37.5cm, W 5.5cm		The spearhead was positioned at the shoulder, and Kilian noted traces of the shaft.	Kilian 1970, 376 and plate 196.
D86	900-850	C					bronze arrowhead x 3	L 3cm – incomplete L 2.6cm – incomplete L 2cm – incomplete		The position of the arrowheads within the tomb was not noted.	Kilian 1970, 364 and plate 147.
C1	850-800	C	1	3.1				L 30cm, W 6cm		Cremation burial on a square plan.	Kilian 1970, 359 and plate 127.
A207	900-800	C	1	2.1				L 21cm, W 4cm	1 clay helmet	Cremation burial on a square plan, the spearhead placed in the cinerary urn.	Kilian 1970, 343 and plate 52.
G8	900-800	F	1	1.1				L 11cm, W 3cm		The bronze spearhead was positioned close to the shoulder of the deceased.	Kilian 1970, 376 and plate 195.
B24	900-800	C	1	1.1				L 15cm, W 3cm		Two cremation graves with a square plan, a male and a female, in close association (B24 and B25). The spearhead was recovered from within the cinerary urn of the male grave.	Kilian 1970, 356 and plate 116.
A 82	800-770	F	1	1.1				L18cm, W 4.5cm		The bronze spearhead was positioned close to the shoulder of the deceased.	Kilian 1970, 336 and plate 26.
A114	800-770	F	1	3.6				L 17.5cm, W 4cm		The bronze spearhead was positioned close to the shoulder of the deceased.	Kilian 1970, 338 and plate 35.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
A152	800-770	F	1	9.1				L 36cm, W 3cm	1 iron <i>sauroter</i> L19.4cm	The spearhead and <i>sauroter</i> were both positioned by the left shoulder of the deceased.	Kilian 1970, 340 and plate 40.
A328	800-770	F	1	5.1				L 25.5cm, W 4cm		The iron spearhead was positioned close to the shoulder of the deceased.	Kilian 1970, 351 and plate 93.
A392	800-770	F	1	1.1				L 31cm, W 6cm		The bronze spearhead was positioned close to the left shoulder of the deceased.	Kilian 1970, 354 and plate 108.
D138	800-770	F	1	2.1				Spearhead: L 44cm, W 6.5cm		The bronze spearhead was positioned close to the left hand of the deceased.	Kilian 1970, 367 and plate 162.
D65	800-770	F	1	1.1				L 17cm, W 4cm		The bronze spearhead was positioned close to the chest of the deceased.	Kilian 1970, 363 and plate 142.
F28	800-770	F	1	4.3				L 32cm, W 6cm		The bronze spearhead was positioned in the middle of the fossa grave.	Kilian 1970, 374 and plate 190.
G33	800-770	F	1	4.2	1	5.2		Spearhead: L 33cm, W 5cm; Sword: iron L 44cm		The bronze spearhead and iron sword were positioned near the right shoulder of the deceased.	Kilian 1970, 378 and plate 203.
M20	800-770	?			1	5.2		The iron sword is likened by Kilian to that from Tomb G33 allowing type allocation on a comparative basis.		The tomb is not described in detail, nor is the sword illustrated.	Kilian 1970, 318.
M31	800-770	F	1	3.1				L 38cm, W 6cm		The bronze spearhead was positioned near the right hip of the deceased.	Kilian 1970, 386 and plate 236.
A221	770-750	F	1	4.3				L 28.5cm, W 5cm		The bronze spearhead was positioned near the right arm of the deceased.	Kilian 1970, 344 and plate 59.
D132	770-750	F	1	1.1				L 19.5cm W 3.5cm		The bronze spearhead was positioned close to the left shoulder of the deceased. The tip of the spearhead is noticeably worn, possibly from resharpening	Kilian 1970, 367 and plate 160.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
D113	770-750	F	1	2.3				L 26.5cm, W 4.5cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 366 and plate 156.
D50	770-750	F			1	4.2		L 5cm – incomplete		The dagger fragment is described by Kilian as a knife fragment. The position of the dagger in the tomb is not noted.	Kilian 1970, 361 and plate 138.
D71	770-750	F							1 bronze <i>sauroter</i> L11.4cm	The <i>sauroter</i> was placed to the left of the deceased. The point has a flat base and could not have been used in an offensive capacity.	Kilian 1970, 363 and plate 142
A34	770-750	F					1 flint arrowhead	L 3cm		The position of the arrowhead within the tomb is not noted.	Kilian 1970, 334 and plate 19.
L9	750-730	F	1	5.1?				L 27cm – incomplete		The iron spearhead was positioned close to the skull of the deceased.	Kilian 1970, 385 and plate 230.
A32	730-700	F	1	5.1				L 25cm, W 4cm		The iron spearhead was positioned close to the feet of the deceased.	Kilian 1970, 332 and plate 9.
A42	730-700	F	1	8.4	1	3.1		Spearhead: L 35cm; Sword: iron, L 38cm		The iron spearhead was positioned close to the right pelvis of the deceased, whilst the iron sword was positioned close to the feet.	Kilian 1970, 334 and plate 20.
A46	730-680	F	1	6.3	1	3.1		Spearhead: L 30cm, W 3.5cm; Sword: iron, L 42.5cm W 3.5cm		The iron spearhead and iron sword were positioned close to the right hand of the deceased.	Kilian 1970, 334-5 and plates 21-2.
A77	730-700	F	1	9.1				L 23.5cm, W 3.5cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 336 and plate 25.
A100	730-700	F	1	1.1				L 9.5cm, W 3cm		The bronze spearhead was positioned near the right hand of the deceased.	Kilian 1970, 337 and plate 31.
A393	730-700	F	1	7.1				L 29cm, W 5cm		The iron spearhead was positioned near to the right arm of the deceased.	Kilian 1970, 354 and plate 109.
A405	730-700	F	1	8.4				L 26cm, W 3cm		The iron spearhead was positioned near to the right arm of the deceased.	Kilian 1970, 355 and plate 111.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
D137	730-700	F	1	6.3?				L 22cm – incomplete Kilian's illustration allows tentative allocation to Type 6.3.		The spearhead was placed close to the chest of the deceased.	Kilian 1970, 367 and plate 161.
J21	730-700	F	1	9.5				L 24cm, socket diam. 2.8cm		The point is described by Kilian as a 'vierkantspitze' but the illustration reveals a distinct round socket at one end.	Kilian 1970, 382 and plate 217.
A412	770-700	F	1	8.4				L 15.5cm, W 2cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 355 and plate 112.
B70	770-700	F	1	2.1				L 22cm, W 4.5cm		The iron spearhead was positioned on the right side of the deceased.	Kilian 1970, 357 and plate 122.
D124	770-700	F	1	3.1				L 33cm, W 6.5cm		The iron spearhead was positioned close to the left hand of the deceased.	Kilian 1970, 367 and plate 159.
D51	770-700	F	1	8.4				L 26cm, W 4cm		The iron spearhead was positioned in the middle of the fossa grave.	Kilian 1970, 361 and plate 138.
J11	770-700	F	1	8.4				L 27cm, W 3cm		The iron spearhead was placed in the west side of the grave.	Kilian 1970, 380 and plate 216.
M36	770-700	F	1	3.1				L 25cm, W 6cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 387 and plate 238.
A26	700-680	F	1	9.1				L 32cm, W 2.5cm		The iron spearhead was positioned near the feet of the deceased.	Kilian 1970, 334 and plate 18.
A35	700-680	F	2	9.1x2				Eg 1: L 29cm, W 3.5cm; Eg 2: L 27cm, W 2.8cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 334 and plate 19.
A161	700-680	F	1	6.3				L 24		The position of the spearhead within the tomb is not noted.	Kilian 1970, 340 and plate 42.
A204	700-680	F	1	6.3				L 17cm, W 2cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 343 and plate 52.
A223	700-680	F	1	3.1				L 25cm, W 4.5cm		The position of the spearhead within the tomb is not noted.	Kilian 1970, 344 and plate 60.
A388	700-680	F	1	2.1				L 27cm, W 4.5cm		The position of the spearhead within the tomb is not noted. The point of the spearhead appears worn.	Kilian 1970, 354 and plate 107.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
A343	700-680	F			1	3.1		L 50cm, W 6cm, iron.		The position of the iron sword within the tomb is not noted.	Kilian 1970, 352 and plate 96.
A382	700-680	F	1	7.1	1	?		Spearhead: L 39cm, W 6.5cm; Sword: iron, L 42cm – incomplete		The iron spearhead and iron sword were positioned close to the feet of the deceased. The iron sword was in fragments, the longest of which measuring approximately 42cm. The blade has a lenticular section. The sword is too poorly preserved to allocate to a Type.	Kilian 1970, 354 and plate 105.
A45	650-600	F			1	5.1		L 38cm, iron		The iron sword was positioned near the right shoulder of the deceased.	Kilian 1970, 334 and plate 21.
A118	650-600	F			1	3.1		L 35cm – incomplete, iron Neither hilt nor tip is preserved. The blade has two cutting edges and a lenticular section with no discernable midrib		The position of the iron sword within the tomb is not noted. Kilian has allocated the sword to his Type L6b, similar to that in Tomb A42, allowing the sword to be allocated to Type 3.1 on a comparative basis.	Kilian 1970, 338 and plate 35.
L 13	650-600	F			1	5.2		L 31cm, iron		The position of the iron sword within the tomb is not noted.	Kilian 1970, 385 and plate 232.
B39	650-600						1 bronze arrowhead	L 4.4cm	1 iron <i>sauroter</i> L15cm	The positions of the arrowhead and <i>sauroter</i> within the tomb are not noted.	Kilian 1970, 357 and plate 118.

### *Chronological and Typological Summary*

The material recovered from the two necropoleis of Sala Consilina is quite uniform and seems to cover similar periods. The burials unfortunately yielded few artefacts that could be securely placed within the broader chronology of Iron Age Southern Italy.<sup>113</sup> The chronology of Sala Consilina has been further complicated by the number of teams that have excavated there, each developing their own chronological phasing for the site:

**Table 18: Proposed chronological frameworks for Sala Consilina**

<b>La Genière</b>	<b>Kilian</b>	<b>Ruby</b>
IA – 900-850	IA – 900-850	IA – 900-850
IB – 850-800	IB – 850-800	IB – 850-800
IC – 800-770	IC – 800-770	IC – 800-770
II A – 770-750	II A – 770-750 II B	IIA – 770-750
II B – 750-700	II C – 750-700 II D	IIB – 750-730
III A – 700-650	III A – 700-680	Phase 3 – 730-700
III B – 650-600	III B – 680-650	
III C – 600-550	III C – 650-600(?) III D	

Ruby attempted to integrate the two previous chronological schemes into a single absolute chronology; all three are outlined in Table 18.<sup>114</sup> I have chosen to follow the chronology laid out by Ruby in my assessment of the material from Sala Consilina.

Most tombs of phase I which contained weapons, contained a single weapon: 18 with a bronze spearhead, two with an iron spearhead, two with a bronze arrowhead and 3 with an iron sword. Two further tombs contained a bronze spearhead and an iron sword and one tomb contained three bronze arrowheads.

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<sup>113</sup> Sabatini 2005.

<sup>114</sup> Ruby 1994, 111-20.



**Table 19: Summary of weapons Sala Consilina, Phase I (900-770)  
(bronze unless otherwise indicated).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
025P (R)	Throwing (Misc.)			
035B (R)	Thrusting (3.1)			
039P (R)	Indeterminate <b>iron</b>			
047P (R)			Arrowhead	
B22 (K)	Versatile (2.1)			
D81 (K)	Thrusting (3.2)			
J50 (K)	Thrusting (1.1)			
A25 (K)	Thrusting (3.5)			
G13 (K)	Versatile (2.2)			
D86 (K)			Arrowhead x 3	
S. Antonio T29 (K)	Thrusting (1.1)	Italic (1.2) <b>iron</b>		
S. Antonio T32 (K)			Arrowhead	
S. Antonio T14 (K)		Italic (1.2) <b>iron</b>		
S. Nicola T27 (K)		Italic (1.2) <b>iron</b>		
C1 (K)	Thrusting (3.1)			
A207 (K)	Versatile (2.1)			
G8 (K)	Thrusting (1.1)			
B24 (K)	Thrusting (1.1)			
A 82 (K)	Thrusting (1.1)			
A114 (K)	Versatile (3.6)			
A152 (K)	Versatile (9.1) <b>iron</b>		<b>Iron sauroter</b>	
A328 (K)	Thrusting (5.1) <b>iron</b>			
A392 (K)	Thrusting (1.1)			
D138 (K)	Versatile (2.1)			
D65 (K)	Thrusting (1.1)			
F28 (K)	Versatile (4.3)			
G33 (K)	Versatile (4.2)	<i>Machaira</i> (5.2) <b>iron</b>		
M20 (K)		<i>Machaira</i> (5.2) <b>iron</b>		
M31 (K)	Thrusting (3.1)			

As at Pontecagnano, Villanovan spearhead forms (types 3 and 4) appear, as do forms widely distributed throughout the peninsula (types 1 and 2). Type 1.1 was most common (eight examples), followed by members of the type 3 group (five examples), both broad-bladed spearhead forms. Narrow-bladed spearheads also appear with members of the type 2 group (three examples) and type 4 (two examples). The greater representation of the type 1 and type 3 groups suggests a preference for broad-bladed weapons, also noted at Pontecagnano.

The bronze spearhead from Tomb 025P is unique, and does not fit with any of the spearhead types identified in the typology outlined in Chapter 2, where it is listed amongst my miscellaneous examples. The blade features three distinct midribs and

has an unusual, ridged transition from socket to blade. The incised horizontal decoration at the base of the socket is seen by Ruby as similar to that of a contemporary spearhead from Veii.<sup>115</sup> While the form of the spearhead from Veii does not correspond closely with that of the spearhead from Tomb 025P, incised socket decoration appears to be a Villanovan trait and the possibility that the spearhead is an import from Central Italy should be considered.

Two tombs dated to phase I yielded an iron spearhead as the sole weapon, suggesting that the appearance of iron spearheads at Sala Consilina occurred by 770 BC, and perhaps by as much as a generation before; the chronology of the site does not allow for a more specific date. One spearhead is a broad-bladed type 5.1 spearhead, the other an early member of type 9.1, which would have been well suited to use as a throwing spear. The type 9.1 spearhead from Tomb 152 was associated with a point identified by the excavator as an iron *sauroter*. The *sauroter* tapers to a point approximately 6mm in diameter and could easily have functioned as an additional offensive weapon, as will be discussed further below.

During Phase I at Sala Consilina five iron swords were reported by Kilian, La Genière and Ruby. Three of these swords can be allocated to Type 1.2, analogous with Bianco Peroni's Pontecagnano type, which appeared in both bronze and iron throughout the 9<sup>th</sup> C and 8<sup>th</sup> C, with comparanda from Pontecagnano, Tarquinia and Calabria.<sup>116</sup> The two tombs which included a bronze spearhead in association with an iron sword reinforce the pattern observed at Pontecagnano, which saw spearheads lagging behind swords in the transition from bronze to iron as a material for manufacture.

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<sup>115</sup> Ruby 1995, 271. The spearhead from Veii cited by Ruby could be allocated to my Type 3.1.

<sup>116</sup> Bianco Peroni 1970, 84-7.

The swords from tombs G33 and M20 are single edged swords allocated to Type 5.2, clearly designed for the delivery of slashing blows. These swords represent the earliest examples of single-bladed slashing swords in South Italy and predate other examples by over a century. The Type 5.2 example from Chiaromonte in Basilicata, dated to the early 6<sup>th</sup> C, is quite similar in form to the examples from Sala Consilina and may represent a connection between the weapons technology of the two sites. Snodgrass's sword types II and IIA are single edged swords which bear some similarity to the examples from Sala Consilina. His examples came from Fortesta and Halos, dated to the 9<sup>th</sup> C and 8<sup>th</sup> C. The example from Tomb G33, which has been illustrated by Kilian, does not correspond directly with either of Snodgrass's type ideals and may have been locally manufactured.<sup>117</sup>

The four bronze arrowheads dated to phase I all feature barbs, consistent with the contemporary example from Pontecagnano; each complete example measured approximately 3cm in length.<sup>118</sup> One example featured a tang for attachment to a shaft; the other examples featured small holes to facilitate binding them to the shaft. No other weapons were found in any of the tombs which yielded arrowheads.

Thirty-seven tombs of phase II included weapons or associated paraphernalia; however, a number of these tombs could not be securely dated to any of the sub-phases proposed by the excavators.

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<sup>117</sup> The sword from Tomb M20 was not illustrated, but was described by Kilian as like the sword from Tomb G33 and has been allocated to type 5.2 on a comparative basis.

<sup>118</sup> S. Rocco Tomb D86, S. Antonio Tomb 32 and Tomb 047 from S. Nicola.

**Table 20: Summary of weapons, Sala Consilina phase II (770 – 700)  
(all bronze unless indicated otherwise).**

Tomb No.	Spearheads	Swords	Other Weapons	Armour
S. Nic. 66 (G)	Thrusting (1.3)		<i>Sauroter</i>	
S. Ant. 73 (G)	Versatile (2.1)			
S. Nic. 23 (G)	Thrusting (1.1)			
S. Nic. 44 (G)		Indeterminate <b>iron</b>		
D137 (G)	Indeterminate <b>iron</b>			
015P (R)	Thrusting (1.1)			
165P (R)	Thrusting (1.1)			
169P (R)			Truncated counterpoint	
182P (R)	Thrusting (3.5)			
187P (R)			<i>Sauroter</i>	
192P (R)			<i>Sauroter</i>	
201P (R)			Truncated counterpoint	
216P (R)	Indeterminate			
255P (R)	Versatile (2.1)			
256P (R)	Thrusting (1.1)			
A221 (K)	Versatile (4.3)			
D132 (K)	Thrusting (1.1)			
D113 (K)	Versatile (2.3)			
D50 (K)		Dagger (4.2) <b>iron</b>		
D71 (K)			<i>Sauroter</i>	
A34 (K)			<b>Flint</b> arrowhead	
L9 (K)	Thrusting (5.1) <b>iron</b>			
A32 (K)	Thrusting (5.1) <b>iron</b>			
A42 (K)	Versatile (8.4) <b>iron</b>	Cross-bar (3.1) <b>iron</b>		
A46 (K)	Versatile (6.3) <b>iron</b>	Cross-bar (3.1) <b>iron</b>		
A77 (K)	Throwing (9.1) <b>iron</b>			
A100 (K)	Thrusting (1.1)			
A393 (K)	Thrusting (7.1) <b>iron</b>			
A405 (K)	Versatile (8.4) <b>iron</b>			
D137 (K)	Versatile (6.3) <b>iron</b>			
J21 (K)	Throwing (9.5) <b>iron</b>			
A412 (K)	Versatile (8.4) <b>iron</b>			
B70 (K)	Versatile (2.1)			
D124 (K)	Thrusting (3.1)			
D51 (K)	Versatile (8.4) <b>iron</b>			
J11 (K)	Versatile (8.4) <b>iron</b>			
M36 (K)	Thrusting (3.1)			

Most tombs which contained weapons contained a single weapon: 15 with one bronze spearhead, 11 with one iron spearhead, five with a bronze counterpoint, one with an iron dagger, one with an iron sword and one with a flint arrowhead. A further two tombs included an iron spearhead in association with an iron sword, and one tomb included a bronze spearhead in association with a bronze *sauroter*.

During Phase II iron spearheads appear with increasing frequency, though bronze examples continue to appear. Amongst bronze spearheads, members of the type 1 and 2 groups—which are widely distributed throughout the Italian peninsula—overshadow the spearhead forms of Villanovan ancestry (types 3 and 4), perhaps an indication of the site’s progressive cultural integration with the indigenous populations of Campania. The iron spearheads were predominantly narrow-bladed forms, with Type 8.4 most common. Two members of the Type 9 group are also represented during this period, including a very early example of Type 9.5. Four *sauroteres*<sup>119</sup> and two truncated counterpoints noted during this period which will be discussed in more detail below.

Two iron swords and an iron dagger are datable to phase II, each a member of different type group. The bronze scabbard associated with the poorly preserved sword from S. Nicola Tomb 44 would suggest the sword was a member of the type 1 group of Italic swords. A single fragmentary Type 4.2 dagger recovered from the contemporary Tomb D50 in the southeast necropolis is contemporary with similar examples from Pontecagnano.

During the latter part of the 8<sup>th</sup> C at Sala Consilina we see the first example of a crossbar sword (type 3.1).<sup>120</sup> Type 3.1 becomes the most frequently represented sword form during the 7<sup>th</sup> C at Sala Consilina and members of this group are widely distributed in South Italy between the 7<sup>th</sup> C and 5<sup>th</sup> C.

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<sup>119</sup> Ruby 1995 305 and 309 does not use the term *sauroter*, rather describing these artefacts as ‘talon de hampe’. Kilian 1970, 363 describes the artefact as a ‘Stockspitze’

<sup>120</sup> Tomb A42 S. Rocco.

**Table 21: Summary of weapons, Sala Consilina 7th C to 6th C (iron unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Other Weapons</b>	<b>Armour</b>
A262 (G)	Indeterminate			
A32 (G)	Indeterminate			
A248 (G)	Indeterminate			<b>Bronze</b> Corinthian helmet
A46 (G)	Thrusting (5.1)	Cross-bar (3.1)		
A410 (G)				<b>Bronze</b> Corinthian helmet
B79 (G)	Indeterminate x2	Indeterminate	Axe Sickle <i>Sauroter</i> x2	
D37 (G)	Thrusting (5.1)		Axe	
E16 (G)	Thrusting (5.2)			
A26 (K)	Throwing (9.1)			
A35 (K)	Throwing (9.1) x2			
A161 (K)	Versatile (6.3)			
A204 (K)	Versatile (6.3)			
A223 (K)	Thrusting (3.1) <b>bronze</b>			
A388 (K)	Versatile (2.1) <b>bronze</b>			
A343 (K)		Cross-bar (3.1)		
A382 (K)	Thrusting (7.1)	Indeterminate		
A45 (K)		Machaira (5.1)		
A118 (K)		Cross-bar (3.1)		
L 13 (K)		Machaira (5.2)		
B39 (K)			<b>Bronze</b> arrowhead <i>Sauroter</i>	

Iron spearheads are the predominant weapon form represented at Sala Consilina during the 7<sup>th</sup> C. However, two bronze spearheads are datable to the early 7<sup>th</sup> C, suggesting that the full transition from bronze to iron as the exclusive metal for the manufacture of spearheads occurred later at Sala Consilina than at Pontecagnano.

We also see tombs including multiple spearheads for the first time (two tombs),<sup>121</sup> one of which featured an elaborate assemblage with two iron *sauroteres*, an iron axe and an iron sickle.

Three iron swords dating to the 7<sup>th</sup> C are cut-and-thrust cross-bar swords of type 3.1, ranging in length from 38cm to 54cm. The sword from S. Rocco Tomb A382 also

<sup>121</sup> S. Rocco Tomb A35 included two spearheads allocated to Type 9.1 which were of similar dimensions: Kilian 1970, 334 and plate 19. S. Antonio B79 included two iron spearheads of similar dimensions, both have short sockets and broad, leaf-shaped blades, but are too poorly illustrated to allow typological allocation: De La Genière 1968, 282 and plate 13.

featured two cutting edges and falls within the range of length observed in the type 3.1 examples. While it is not possible to allocate this sword to a type it clearly functioned as a cut-and-thrust sword.

Two iron *machairai* are dated to the 7<sup>th</sup> C are allocated to type 5.1 and type 5.2 measuring 38cm and 31cm respectively. Neither was found in association with any other weapon and it is possible that they served a sacrificial, or other, non-military function, which will be discussed below.

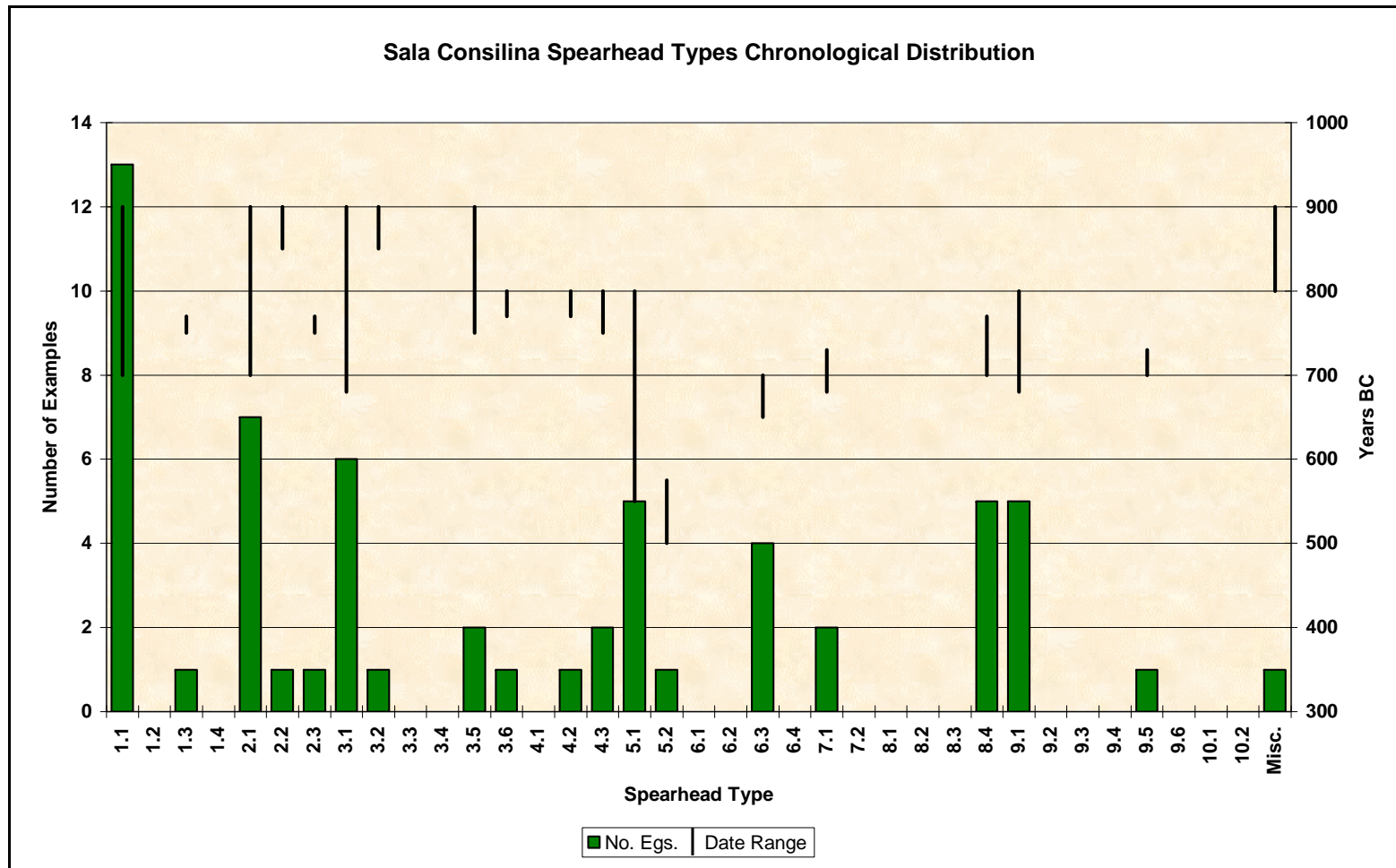


Figure 9: Chronological Distribution of spearhead types at Sala Consilina



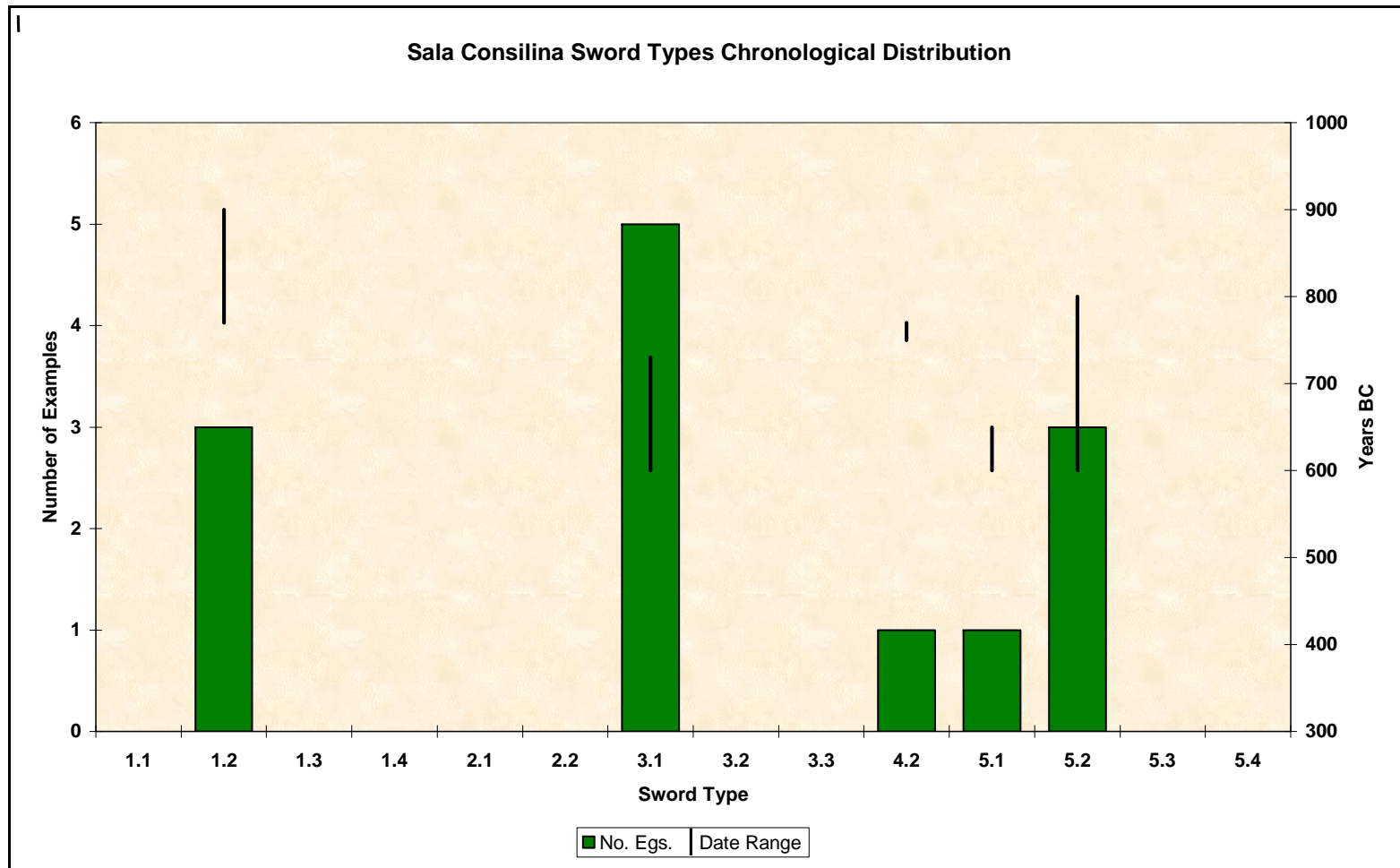


Figure 10: Chronological Distribution of sword types at Sala Consilina

## *Discussion of Weapon Classes*

### *Spearheads*

Spearheads were clearly the most common weapon class in the funerary record at Sala Consilina, deposited in tombs from the 9<sup>th</sup> to the 5<sup>th</sup> C. As at the nearby Southern Villanovan settlement of Pontecagnano, bronze spearheads dominate the record in the 9<sup>th</sup> C with iron spearheads introduced during the 8<sup>th</sup> C. The less secure dating at Sala Consilina makes it harder to distinguish the precise moments when iron spearheads appear, and when they completely replace bronze spearheads.

Four bronze spearheads, the points and blades of which were significantly worn, show evidence of resharpening, suggesting that they had seen active service and had been in use for a significant length of time.<sup>122</sup>

Both broad-bladed and narrow-bladed spear forms appear during the 9<sup>th</sup> to 8<sup>th</sup> C when bronze spearheads dominate. As at Pontecagnano, once iron spearheads appear with greater frequency, narrow-bladed spear forms progressively come to dominate the record, with most examples allocated to the narrow-bladed type 6, 8 and 9 groups.

Ruby undertook an analysis of spearheads recovered from the tombs included in his catalogue.<sup>123</sup> His discussions specifically addressed the question of whether a distinction should be drawn between spearheads and javelin heads (*pointes de lance/pointes de javelot*) and upon what basis such a distinction could be drawn. Ruby compared the length of individual spearheads from Sala Consilina. He found that the length of spearheads tended to cluster into those measuring longer than 22-23cm and

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<sup>122</sup> S. Antonio Tomb 165P and S. Rocco Tombs A388, D132 and J50 in the southwest necropolis.

<sup>123</sup> Ruby 1995, 98-101.

those shorter than 22cm.<sup>124</sup> He also compared the lengths of long arms from Valle del Sarno, Pontecagnano and Torre Galli. Yet, when the analysis was expanded to include arms from multiple sites, the distinction became increasingly blurred. Ruby also observed that authors such as d'Agostino, who had drawn a distinction between spear and javelin on the basis of total length, were inconsistent in their allocations. He concluded that there was no clear standard to which Iron Age smiths were working, though he ultimately chose to continue the practice of dividing points from Sala Consilina into spears and javelins on the basis of length.<sup>125</sup>

### *Sauroteres*

Eight tombs at Sala Consilina included *sauroteres*, six of which could have functioned as offensive weapons in their own right. The type 9.1 spearhead from S. Rocco Tomb A152 was associated with an object identified by the excavator as an iron *sauroter*, which tapers to a point approximately 6mm in diameter and which could therefore easily have functioned as an offensive weapon. The associated spearhead measured 36cm in length, the *sauroter* 19.4cm. Both were positioned near to the left shoulder of the deceased, raising the possibility that each point belonged to a separate weapon placed side by side in the tomb, or that both points belonged to the same weapon, the shaft of which was broken and the two ends placed side by side.

The *sauroteres* from S. Nicola Tombs 66 and B79, S. Antonio Tomb 187P and S. Rocco Tomb B39 could each have functioned effectively as offensive weapons. The bronze example from S. Nicola Tomb 66 had a conical section, tapering to a distinct point. The point was associated with a Type 1.3 spearhead. It is possible that the *sauroter* formed an additional offensive weapon, though La Genière's interpretation

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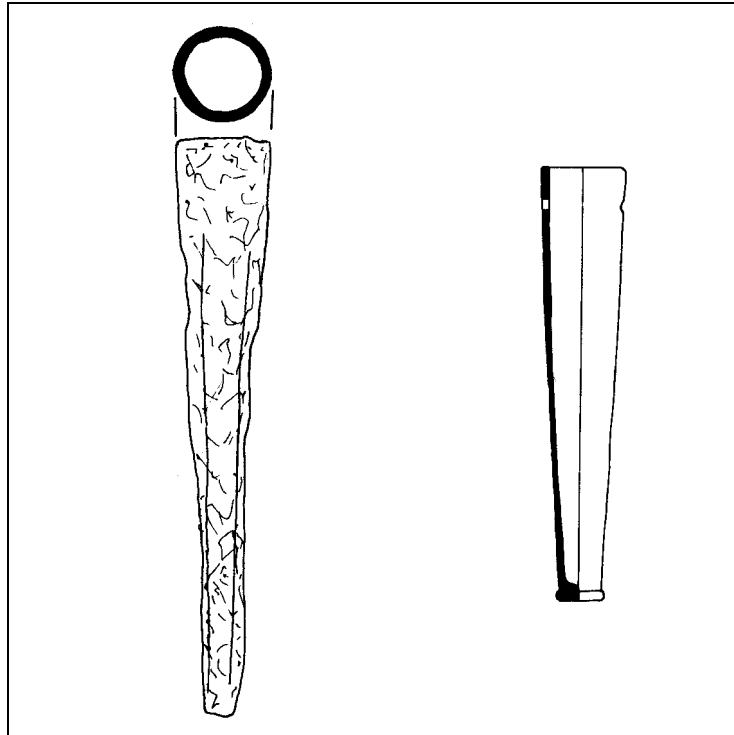
<sup>124</sup> Ibid., fig. 2.77. Ruby also examined the ratio of blade length to overall length of individual points. There were, again, two clusters either side of a horizon at 23cm.

<sup>125</sup> Ibid., 100.

of the artefact as a *sauroter* cannot be ruled out. The point recovered from Tomb 187P, in contrast, was not associated with any other weapons and Ruby's description of the point as having a round socket transitioning to a square section at the point is consistent with my definition of a Type 9.5 spearhead. In the absence of any other offensive weapons the interpretation of this artefact as a *sauroter* must be questioned. Likewise the iron *sauroter* from S. Rocco Tomb B39 was not associated with a spearhead (though the tomb did include an iron axe and a bronze arrowhead) and the interpretation should be questioned.

The two iron *sauroteres* included in the assemblage of S. Nicola Tomb B79 could also have functioned as offensive weapons, neither is complete and both may originally have tapered to sharp tips. The presence of two broad-bladed iron spearheads in the burial assemblage, however, indicates the possibility that these artefacts were indeed *sauroteres*.

In distinct contrast, the two bronze objects classified as *sauroteres* from S. Antonio Tomb 192P and S. Rocco Tomb D71 had distinctly flat bases and could not have functioned in any offensive capacity. The absence of any offensive weapons in both these tombs raises the possibility that their function was non-military. A further two tombs (S. Antonio Tombs 169P and 201P) included truncated counterpoints which could not have functioned as weapons.



**Figure 11: Tapered and flat-based *sauroteres* from Sala Consilina S. Rocco Tomb B39 (left) and Tomb D71 (right), after Kilian 1970, plates 118 and 142 (scale 1:2).**

### *Swords*

Both cut-and-thrust and slashing swords were found at Sala Consilina. The Type 1.2 Italic swords at Sala Consilina are contemporary with similar swords which appear at Pontecagnano, with further comparanda in Central Italy and Calabria. Members of the same type group also appear at Incoronata on the Ionian Coast.<sup>126</sup> What is interesting at Sala Consilina is the absence of any bronze swords. Italic swords appear in both bronze and iron at this time at other South Italian sites, raising the possibility of a slightly earlier transition to iron as the preferred metal for swords at Sala Consilina.

The appearance of slashing swords at Sala Consilina is later than their appearance in Central Europe but contemporary with the first slashing swords in Greece.<sup>127</sup> The examples at Sala Consilina were either Greek imports or local imitations of Greek

<sup>126</sup> Chiartano 1994, 45-8. Specific examples are discussed in this thesis: Chapter 5, 238.

<sup>127</sup> Bailo Modesti 1980, 18; Snodgrass 1964, 100.

slashing swords. The role of these artefacts may have been versatile, functioning as either weapons of war or sacrificial instruments.

The numerous examples of cross-bar swords at Sala Consilina from around the end of the 8<sup>th</sup> C suggests an early adoption of this form of cut-and-thrust sword, which was the most common sword form throughout Northern Basilicata and Daunia during the 7<sup>th</sup> C to 5<sup>th</sup> C.

All of the swords from Sala Consilina, regardless of type, range in length from 38cm to 54cm with an average length of 43cm for complete examples, suggestive of a relatively close style of fighting.

#### *Corinthian helmets*

Two 7<sup>th</sup> C tombs from S. Antonio included Corinthian helmets; both can be allocated to Pflug's Stufe I, and indeed the helmet from Tomb A410 is cited by Pflug as one of his examples. The example from Tomb A248 was constructed from a single piece, whilst that from Tomb 410 was constructed from two sheets of bronze. Both helmets are considered early forms of Corinthian helmet and La Genière accordingly considered both examples to be Greek imports.<sup>128</sup>

#### *Boar's Teeth*

Three tombs dated to the 9<sup>th</sup> C and 8<sup>th</sup> C at Sala Consilina included boars' teeth or tusks, probably representative of the deceased's status as a hunter, it is possible that these items were trophies from hunts conducted by the deceased. In Homeric literature, boar hunting is identified with bravery and military prowess and a similar identification may have prevailed in the Villanovan culture at Sala Consilina.

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<sup>128</sup> De La Genière 1968, 187.

### **Oliveto Citra and Cairano**

Oliveto Citra is located in the Sele Valley, upstream from Paestum and also upstream of the head of the Tanagro River, which diverges from the Sele and flows through the Vallo di Diano. Cairano is located high in the Ofanto Valley, which leads down eventually to Daunia. Both sites form part of the exchange route between the Adriatic and Tyrrhenian coasts in the Iron Age. Oliveto Citra and Cairano reveal connections to the Melfese and to the Adriatic world.<sup>129</sup> The *Fossakultur* of the high Sele and Ofanto valleys is commonly referred to as the Oliveto Citra – Cairano Group. Cairano appears to have been settled during the 9<sup>th</sup> C, followed in the mid 8<sup>th</sup> C by settlement at Oliveto Citra, the *Fossakultur* group expanding from north to south.<sup>130</sup> During the Early Iron Age material finds from Oliveto Citra – Cairano burials include proto-Villanovan and Sicilian fibulae and bracelets, which also appear in Daunia and the east coast of the Adriatic, evidence that these sites were part of an extensive trade network. Since the two sites are culturally similar, and produced relatively few weapons, they are dealt with together in this section.

Oliveto Citra first underwent systematic excavation in 1961. D'Agostino published 27 tombs dated to the 6<sup>th</sup> C and 5<sup>th</sup> C, eight of which included weapons or associated paraphernalia.<sup>131</sup> The burials were fossa tombs (most oriented southeast to northwest), with the deceased placed in a supine position with the grave goods positioned by the legs and feet.

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<sup>129</sup> Pontrandolfo Greco 1982, 38.

<sup>130</sup> Bailo Modesti 1980, 4-5.

<sup>131</sup> d'Agostino 1964.

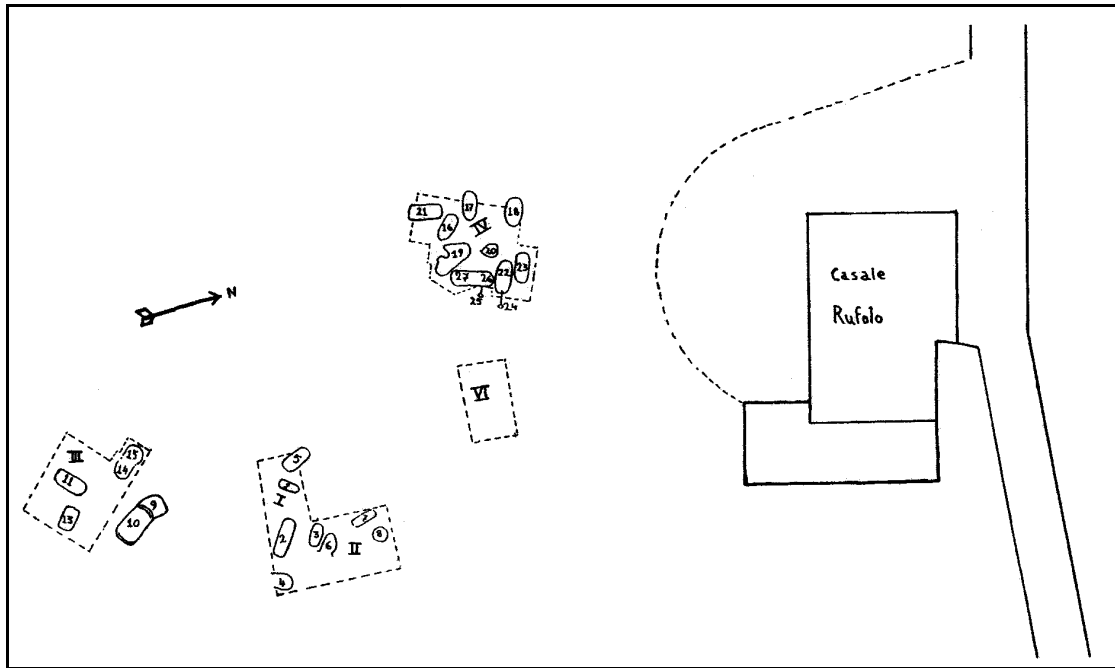


Figure 12: Oliveto Citra, excavation area. After d'Agostino 1964, fig. 2.

Sporadic finds had long been noted at Cairano during agricultural work leading to systematic excavations in 1967, with several further seasons conducted during the early 1970s. Pescatori published 24 tombs dated to the 9<sup>th</sup>/8<sup>th</sup> C and the 6<sup>th</sup>/5<sup>th</sup> C, four of which included weapons.<sup>132</sup> Bailo Modesti published a further 20 tombs uncovered during the 1970s in 1980, eight of which included weapons or associated paraphernalia.<sup>133</sup>

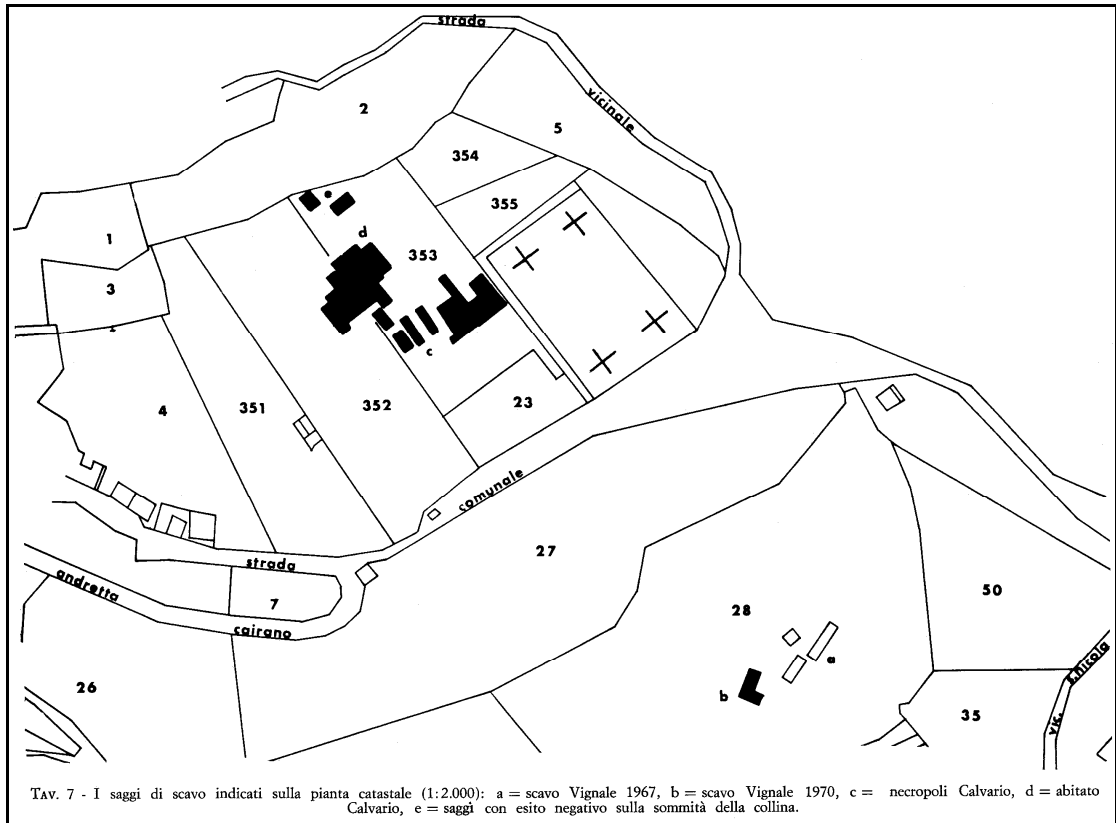
The fossa tombs at Cairano were mostly oriented southwest to northeast with the grave goods positioned along the legs and by the feet, with some of the later tombs also having goods positioned near the chest and by the head of the deceased.<sup>134</sup>

<sup>132</sup> Pescatori 1971.

<sup>133</sup> Bailo Modesti 1980.

<sup>134</sup> Pescatori 1971, 481.





**Figure 13: Cairano, excavation area. After Bailo Modesti 1980, plate 7.**

At Cairano contracted inhumation was initially practiced, changing to supine inhumation during the 8<sup>th</sup> C. Oliveto Citra, settled subsequent to the development of supine burial at Cairano, exclusively practiced supine inhumation.<sup>135</sup>

The finds of weapons and associated paraphernalia published by d'Agostino, Pescatori and Bailo Modesti are outlined in the tables below:

<sup>135</sup> Ibid., 527; Bailo Modesti 1978, 322.

**Table 22: Oliveto Citra weapons and associated paraphernalia.**

F = Fossa

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
5	600-550	F	1	8.2				L 40.5cm		No skeletal material was preserved. The spearhead was positioned near to the feet of the deceased.	d'Agostino 1964, 52-3 and fig. 6 T5.
16	600-550	F	1	6.3			1 Iron dagger	Spearhead: L 19cm Traces of wood adhered to the socket Dagger: L 16cm – incomplete		Fossa burial which had been disturbed by agricultural activities. The spearhead and dagger were positioned by the left side. The iron dagger is neither illustrated nor described in detail.	d'Agostino 1964, 69-71 and fig. 6 T16.
17	600-550	F	1	9.1			1 Iron dagger	Spearhead: L 28.5cm Dagger: L unknown – frag.		Fossa burial with poorly preserved skeletal remains. The spearhead was positioned by the left side of the, dagger was placed by the right femur.	d'Agostino 1964, 71-3 and fig. 6 T17.
18	600-550	F					1 Iron dagger	L unknown - fragmentary	1 Iron spit Leather garment?	Fossa burial, the deceased placed in a true supine position (other burials at Oliveto Citra have the head turned to one side). Organic materials noted close to the left shoulder were thought to be traces of leather, associated with 15 small bronze buttons ranging in size from 0.95cm-1.4cm in diameter.	d'Agostino 1964, 73-4.
21	600-550	F					1 Iron dagger	L 8.5cm – frag. With straight, leaf-shaped blade.	Iron spit	The northeast end of this fossa burial had been robbed. The iron dagger placed on the torso. Not illustrated.	d'Agostino 1964, 77-8.
22	600-550	F	1	9.3			1 Iron dagger	Spearhead: L 34.5cm Dagger: L unknown – fragmentary. Not illustrated		Fossa burial which also included animal bones (possibly canine). The spearhead was positioned by the head and right shoulder. The dagger blade near the right elbow. With two bronze rivets for handle attachment..	d'Agostino 1964, 78-9 and fig. 6 T 22.
23	600-550	F	1	9.3				L 39cm		Fossa burial with well preserved skeletal remains. The assemblage positioned at the feet of the deceased.	d'Agostino 1964, 79-80 and fig. 6 T23.
27	600-550	F	1	7.1				L 37cm		Very large fossa burial, much wealthier than the other tombs published from Oliveto Citra. The spearhead positioned by the feet.	d'Agostino 1964, 84-91 and fig. 6 T27.

**Table 23: Cairano weapons and associated paraphernalia.**

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
3	900-850	F	1	3.5				L 24.6cm		Poorly preserved fossa burial, cut into by the later Tomb 4. The spearhead was placed over the right tibia.	Pescatori 1971, 517-8 and figs. 36 and 37.
9	850-750	F	1	1.1				L 12.3cm		The spearhead was placed near to the feet of the deceased, the point away from the body.	Pescatori 1971, 502 and fig. 31.
4	600-550	F	1	5.2				L 49.7cm		Fossa burial cut into Tomb 3. The spearhead was positioned by the chest of the deceased.	Pescatori 1971, 518-20 and fig. 36.
23	600-550	F	1	6.3				L 23.3cm		The spearhead was positioned by the feet of the deceased.	Pescatori 1971, 515-6 and fig. 36.
II	600-550	F	1	10.1				L 12.5cm		The spearhead was positioned by the feet of the deceased.	Bailo Modesti 1980, 97-8 and plates 11 and 13.
V	600-550	F	1	8.1			1 iron knife or dagger	Spearhead: L 32cm Dagger: L 16.5cm With disc shaped pommel.		Fossa burial of an adult male. The spearhead was positioned near the feet of the deceased, the knife/dagger by the left knee.	Bailo Modesti 1980, 101-2 and plates 12 and 18.
VII	575-550	F	2	8.2 8.4				Type 8.2 eg: L 37.8cm; Type 8.4 eg: L 34.3cm	1 bronze helmet <sup>136</sup> Poss. bronze shield frag. Iron spit frags. 2 fire dogs	Large fossa burial with few skeletal remains preserved. It appears that the iron spearheads, bronze helmet and possible shield fragment were all placed near to the feet of the deceased. The iron spits and fire dogs were positioned close to the head and torso.	Bailo Modesti 1980, 147-51 and plates 65-70.
VIII	575-550	F			2	5.1 ?	1 iron dagger	Swords: Type 5.1: L 26cm Type ?: Iron, L 9.1cm – Dagger: L 11.6cm Hilt only, with a disc-shaped pommel similar to that from Tomb V.	1 iron 'point'	The fossa tomb had been disturbed, possibly by agricultural work and many of the finds were not found <i>in situ</i> . The iron 'point' measures L 5cm with a triangular section and leaf-shaped profile. Its function is unclear.	Bailo Modesti 1980, 151-4 and plates 63 and 75.

<sup>136</sup> The helmet is described by Modesti as 'a calotte emispherica' a type with identified cultural connections to eastern central Italy as well as the southeastern regions of the Alps: Bailo Modesti 1980, 24-7. Stary 1986, 36 also identifies this helmet type as present in eastern central Italy during the 6<sup>th</sup> C.

Tomb No.	Date	Burial Type	Spearheads		Swords		Other Weapons	Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type					
XI	550-500	F	1	8.4				L 29cm – incomplete		The tip of the spearhead has not survived.	Bailo Modesti 1980, 159-60 and plate 80.
XIV	500-450	F							3 iron rods	The tomb appears to have been robbed in antiquity, Bailo Modesti suggesting that metal objects were targeted by the thieves as only fragmentary metal objects remained in the tomb.	Bailo Modesti 1980, 165-70 and plate 91.
XVI	500-400	F							1 bronze Apulo-Corinthian Helmet	Fossa tomb, supine inhumation, oriented northwest to south east, in which the south east end of the fossa was not preserved. The helmet was located by the left femur.	Bailo Modesti 1980, 171-2 and plate 91.
XVII	500-400		3	8.2 8.4 8.1	1	3.2		Spearheads: Type 8.2: L 50.7 Type 8.4: L35.4cm – incomplete Type 8.1: L 26.4cm – incomplete Iron Sword: Type 3.2 L 42cm approx., incomplete	1 bronze helmet <sup>137</sup> 1 bronze belt 1 bronze greave <sup>138</sup> 1 fragmentary scabbard	The tomb had been disturbed by agricultural activity so that only part of the assemblage was preserved. The greave is anatomical for the left leg and measures 25.5cm long and 24cm in diameter. The scabbard was recovered in a fragmentary state, constructed of bronze and iron.	Bailo Modesti 1980, 172-9 and plates 95, 97 and 102.

<sup>137</sup> The bronze helmet is an Italic variant of the Negau helmet with comparanda in Etruria and Central Europe: Bailo Modesti 1980, 27-8.

<sup>138</sup> The bronze greave is described as featuring stylised serpents, though this is not clear on the photograph. Bronze greaves with serpent decoration were recovered from Braida di Vaglio. Tombs 101 and 107, dated late 6<sup>th</sup> C to early 5<sup>th</sup> C: Bottini and Setari 2003, 13-32, 66-74 and figs. 14-18 and 39-42 and plates 28 and 35-6.

### *Chronological and Typological Summary*

The small sample of weapons outlined in the tables above dates primarily between the 6<sup>th</sup> C and the 5<sup>th</sup> C, with two tombs at Cairano datable to the 9<sup>th</sup> C and 8<sup>th</sup> C. Thirteen of the 18 tombs discussed included a single spearhead.

**Table 24: Summary of weapons Cairano, 9th C to 8th C (bronze).**

<b>Tomb No.</b>	<b>Spearheads</b>
Cairano. 3	Thrusting (3.5)
Cairano. 9	Thrusting (1.1)

The two tombs from Cairano which were dated by the excavator to the 9<sup>th</sup> and 8<sup>th</sup> C contain broad-bladed spearheads, of both the Villanovan and widely-distributed spear forms, consistent with contemporary material from both Sala Consilina and Pontecagnano.

**Table 25: Summary of weapons Oliveto Citra and Cairano 6th C - 5th C (iron unless indicated otherwise).**

<b>Tomb No.</b>	<b>Spearheads</b>	<b>Swords</b>	<b>Armour</b>
OC. 5	Versatile (8.2)		
OC. 16	Versatile (6.3)	Dagger (Type ?)	
OC. 17	Throwing (9.1)	Dagger (Type ?)	
OC. 18		Dagger (Type ?)	<b>Leather</b> garment
OC. 21		Dagger (Type ?)	
OC. 22	Throwing (9.3)	Dagger (Type ?)	
OC. 23	Throwing (9.3)		
OC. 27	Thrusting (7.1)		
Cairano 4	Thrusting (5.2)		
Cairano 23	Versatile (6.3)		
Cairano II	Thrusting (10.1)		
Cairano V	Versatile (8.1)	Dagger (Type ?)	
Cairano. VII	Versatile (8.2) Versatile (8.4)		<b>Bronze</b> helmet Poss. <b>bronze</b> shield frag.
Cairano VIII		Machaira (5.1) Indeterminate Dagger (Type ?)	
Cairano XI	Versatile (8.4)		
Cairano XIV			
Cairano XVI			<b>Bronze</b> Apulo-Corinthian Helmet
Cairano XVII	Versatile (8.2) Versatile (8.4) Versatile (8.1)	Cross-bar (3.2)	<b>Bronze</b> helmet <b>Bronze</b> belt <b>Bronze</b> greave

By the 6<sup>th</sup> C iron spearheads had replaced bronze in the burial assemblages of Oliveto Citra and Cairano; narrow-bladed spear forms are most common. As noted at the

other Campanian sites discussed in this chapter there is a distinct preference for narrow-bladed iron spearheads with members of the type 8 and type 9 groups dominating the record. The two tombs which yielded multiple spearheads, included members of the type 8 group exclusively. Three 6<sup>th</sup> C tombs yielded broad-bladed spearheads; two at Cairano and one at Oliveto Citra (types 5.2, 10.1 and 7.1 respectively).

Five tombs dated to the first half of the 6<sup>th</sup> C at Oliveto Citra included poorly preserved iron blades described by d'Agostino as *pugnali* (daggers). None are illustrated, nor are any comparanda listed, making it impossible to assess any of these examples typologically. The example from Tomb 21 is described as having a straight, leaf-shaped blade and the example from Tomb 22 was said to have two preserved bronze rivets for handle attachment. The two daggers from Cairano featured disc-shaped pommels, recalling Snodgrass's Type IV sword, which he identifies as a Central European type.<sup>139</sup> D'Agostino gives a similar description for the hilt of his sword type A2 from Tomb 538 at Pontecagnano; though he does not include any illustrations he cites comparanda in a relief of the Battle of Qadesh, suggesting Middle Eastern origins.<sup>140</sup>

The short *machaira*, dated to the first half of the 6<sup>th</sup> C, measured 26cm in length without a hilt, and can be clearly allocated to sword Type 5.1. Bailo Modesti noted Late Bronze Age and Early Iron Age Central European comparanda for this weapon.<sup>141</sup> The *machaira* may have been a sacrificial implement rather than a weapon.

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<sup>139</sup> Snodgrass 1964, 102.

<sup>140</sup> d'Agostino and Gastaldi 1988, 96 note 320.

<sup>141</sup> Bailo Modesti 1980, 18.

The type 3.2 cross-bar sword from the 5<sup>th</sup> C Tomb XVII at Cairano is a form of cut-and-thrust sword common from the 7<sup>th</sup> to the 5<sup>th</sup> C in Basilicata and Daunia.

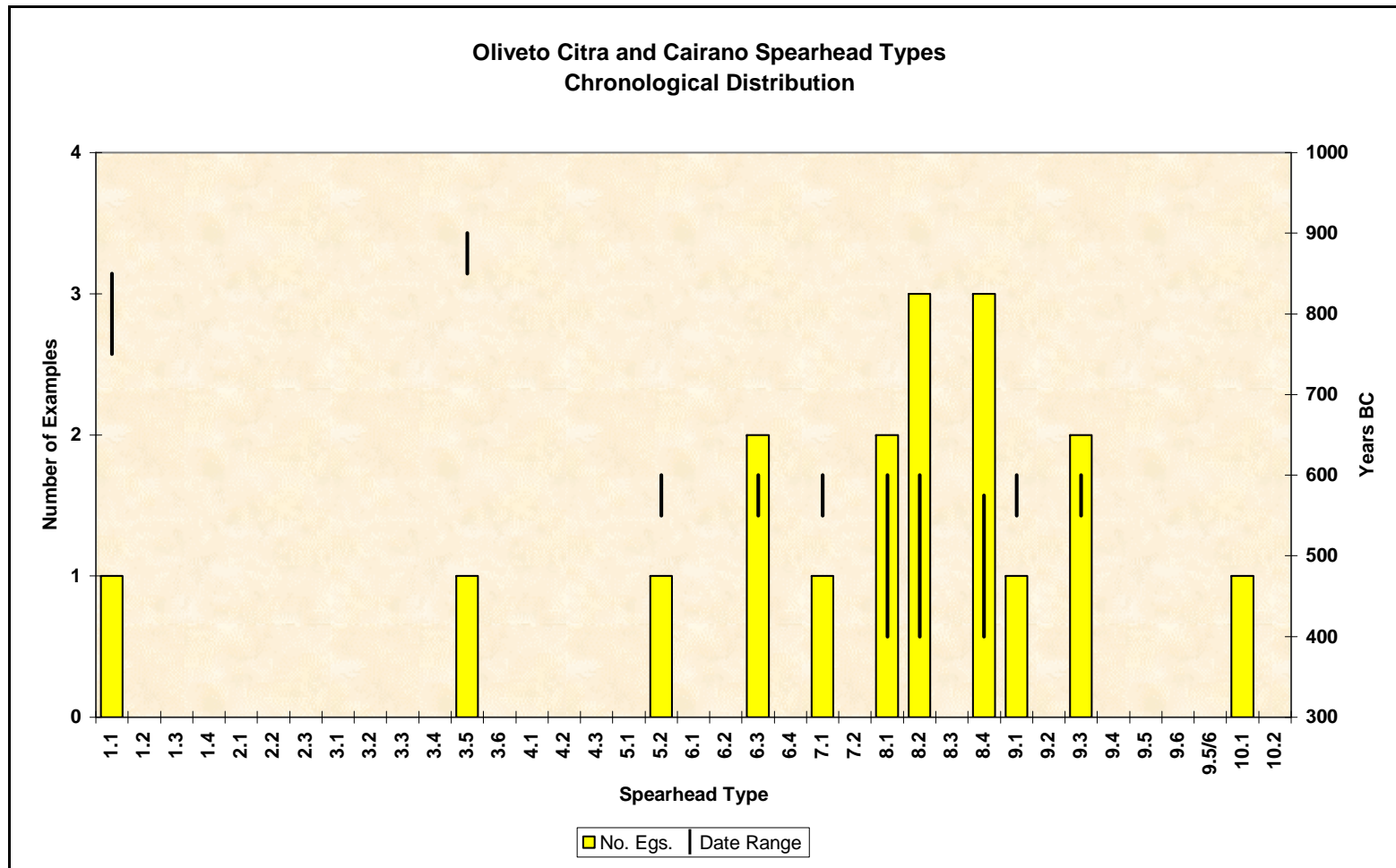


Figure 14: Chronological distribution of Spearhead types at Oliveto Citra and Cairano.



### *Armour and Bronze Belts*

Tomb VII at Cairano, dated to the second quarter of the 6<sup>th</sup> C included a bronze ‘calotta emisferica’ helmet and a bronze fragment which was interpreted by the excavator as possibly belonging to a shield.<sup>142</sup> The helmet was constructed in a single piece and Bailo Modesti cites comparanda in the Piceno, Samnium and Golasecca in Northern Italy.<sup>143</sup> The bronze shield fragment bears a distinct rim and a slightly rounded edge, suggesting a total diameter of approximately 60cm.

The report on Tomb 18 from Oliveto Citra notes traces of organic material thought to be leather, over the left shoulder of the deceased, adorned with hemispherical bronze buttons and pendants. It is known that corselets of perishable material were worn in antiquity, and while this covering cannot be conclusively identified as such it is possible that it served, at least in part, as a protective garment.

The defensive panoply of Cairano Tomb XVII, dated to the 5<sup>th</sup> C, revealed diverse cultural connections. In addition to three type 8 spearheads and a Type 3.2 cross-bar sword the tomb included a Negau bronze helmet, which has both Central European and Etruscan connections and the bronze greave, with its serpent decoration has contemporary parallels at Braida di Vaglio.<sup>144</sup> The bronze belt features clasps that can be allocated to Suano’s type 2c which is most common in Suano’s Zone C, comprising Northern Basilicata, Daunia and Northern Puglia.<sup>145</sup> Apulo-Corinthian bronze helmets like that from the 5<sup>th</sup> C Tomb XVI at Cairano, with incised decoration, have a similar distribution.

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<sup>142</sup> Ibid., 30 and plate 66 n.6.

<sup>143</sup> Ibid., 25-6.

<sup>144</sup> Tombs 101 and 107, dated late 6<sup>th</sup> C to early 5<sup>th</sup> C: Bottini and Setari 2003, 13-32, 66-74 and figs. 14-18 and 39-42 and plates 28 and 35-6.

<sup>145</sup> Suano 1996, 28-32.

### *Firedogs and Iron Spits*

Several tombs from Oliveto Citra and Cairano contained remnants of iron spits. Oliveto Citra Tombs 18 and 21, both dated to the first half of the 6<sup>th</sup> C, each yielded iron fragments which may be the remains of iron spits. Cairano Tomb VII included the greatest number of fragmentary iron spits, perhaps as many as ten, and two iron firedogs, each measuring 78cm in length. The spits and firedogs were positioned in the tomb amongst the ceramic finds which included a full table service.<sup>146</sup>

Overall, the small amount of 9<sup>th</sup>/8<sup>th</sup> C material from Cairano is consistent with the finds from Sala Consilina, including both Villanovan and locally distributed spearhead forms. The 6<sup>th</sup> and 5<sup>th</sup> C weapons, with the preference for narrow-bladed spearhead forms and a small number of throwing spearheads, is similar to contemporary material in western Basilicata. However, the inclusion of daggers in tombs appears to be a trait more closely connected to Southern Campania. Armour was rare, though the fragmentary leather garment from Tomb 18 at Oliveto Citra raises the possibility that cuirasses of perishable material were worn.

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<sup>146</sup> Bailo Modesti 1980, 150-1 and plate 62.

## **Poseidonia/ Paestum**

### *The Site*

Located between the Sele River and the promontory of Agropoli in the bay of Salerno, Poseidonia was a Greek colony traditionally founded from Sybaris c.600. During the late 5<sup>th</sup> C there is a marked change in the burial practices of the necropoleis surrounding Poseidonia, reflecting the takeover of the city by the indigenous Lucanian people. With the exception of a brief 'liberation' by Alexander the Molossian in the 330s the city continued under Lucanian control until it fell to Roman control in 273 BC.<sup>147</sup>

Around Paestum a number of necropoleis have been identified through a combination of accidental discoveries, clandestine activities and, since the mid 20<sup>th</sup> C AD, systematic excavation. These include Gaudio, located approximately 500m outside the city towards the sanctuary of Hera, Andriuolo, Laghetto and Arcioni to the north and Santa Venera, Spinazzo and Licinella to the southeast. Tombs of Greek Poseidonia generally did not contain weapons but there are exceptions, dated c.500-470, attributable to a settlement of indigenous mercenaries.<sup>148</sup> Following the Lucanian takeover weapons begin to appear in the necropoleis with much greater frequency. Burials were clustered around the tombs of prominent individuals, identifiable on the basis of their ostentatious tombs and rich burial assemblages which included—in direct contrast to standard Greek burial practices—weapons and armour.<sup>149</sup>

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<sup>147</sup> Pedley 1990.

<sup>148</sup> Cipriani *et al.* 1996, 37-40.

<sup>149</sup> Cipriani and Longo 1996, 159-65.

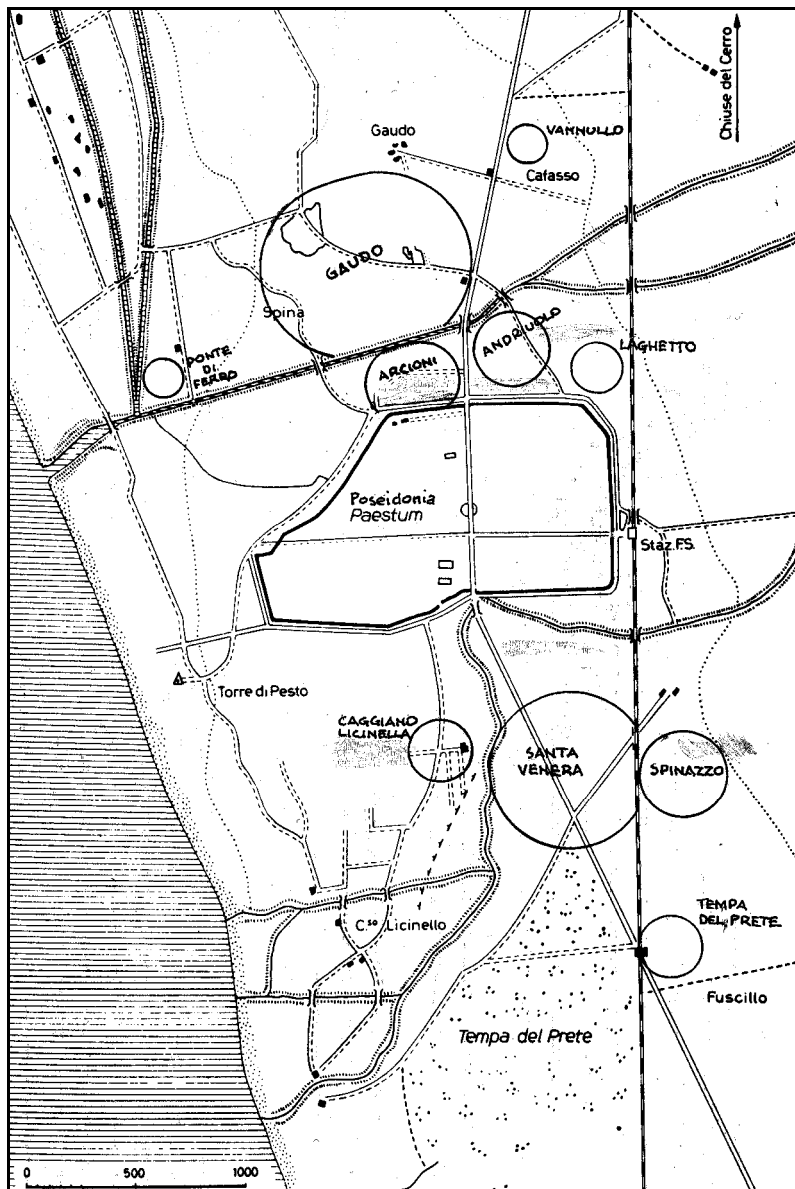


Figure 15: The city of Paestum and its outlying necropoleis, after Cipriani and Longo 1996, 164

More than 2000 tombs have been excavated around Paestum. Best known are the richly painted tombs of the 4<sup>th</sup> C which make up only a small percentage (less than 10%) of known tombs and which have been studied and published extensively.<sup>150</sup> The elaborately painted tombs of the 4<sup>th</sup> C include numerous depictions of armour and weaponry, including action scenes of hunting, funerary games and possible battles.

Regrettably, the weapons recovered from these tombs have been not been well published—attention has been more focused on the tomb paintings, ceramics and

<sup>150</sup> Pontrandolfo *et al.* 2004, 8-9.

armour—making it difficult to identify overall patterns in the distribution of weapons in the necropoleis of Paestum. However, a small number of tomb-groups including weapons have been published in a number of catalogues, often associated with museum exhibitions, which provide a small window onto the kinds of weapons deposited at Paestum. It should be noted that the sample of weapons is likely to be heavily biased in favour of the elite of Paestum, whose painted tombs have been published much more widely than the more numerous unpainted tombs.

## The Finds

### Gaudo

Burial Type: F = Fossa; C = Cassa Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
269	440-430	C	1	9.4			L 18cm – incomplete (inv.122706) The transition from socket to blade has a square section.		An uncovered wood-lined cassa tomb of an adult male aged 35-45 years. The iron spearhead was placed by the right side of the deceased. There were also some iron fragments measuring 8cm, not described in detail, perhaps fragments of the socket.	Cipriani and Longo 1996, 140 and fig. 45.5.
267	440-420	F	1	?			The general description of the tomb mentions a spear; however, it is not included in the catalogue of finds and cannot be allocated to a Type.	1 iron dagger (inv.122680) L 25cm	Stone covered fossa burial of an adult male aged 20-25 years. The spearhead is described as placed along the side of the tomb. The dagger is compared to Bottini's Type 1 knife, <sup>151</sup> based on the illustration I agree that this artefact should be interpreted as a knife rather than a dagger.	Cipriani and Longo 1996, 141.
271	430-420	F	1	?			Iron, fragmentary (inv.122711), The spearhead is not illustrated and cannot be allocated to a Type. <sup>152</sup>	1 bronze belt (inv.122710). The clasps allocated to Suano Type 2b.	A deep, uncovered fossa tomb of an adult male aged 30-35 years. The bronze belt was worn by the deceased.	Cipriani and Longo 1996, 142 and fig. 48.4.
265	430-420	F	1	9.5			L 25cm (inv.122671)	1 bronze belt (inv.122672) The belt clasp in the form of a bull's head.	Stone covered fossa burial of an adult male. The bronze belt was worn by the deceased; the rest of the burial assemblage, including the iron spearhead was positioned by the feet of the deceased.	Cipriani and Longo 1996, 142 No. 49.7.

<sup>151</sup> Bottini *et al.* 1988 *Forentum I*, 250 and plate 42.

<sup>152</sup> The spearhead is described as having a long, straight blade with a midrib with a distinct narrow base and a conical socket: Cipriani and Longo 1996, 142 and fig. 48.4.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
244	430-420	F	1	?			The general description of the tomb mentions a spear; however, it is not included in the catalogue of finds and cannot be allocated to a Type	1 bronze belt (inv.104603) The clasps of the belt can be allocated to Suano Type 2a	Stone-covered fossa burial of an adult male aged 25-30 years, the bronze belt worn by the deceased. The iron spearhead was positioned to the right of the deceased's head.	Cipriani and Longo 1996, 145.
136	420-400	F	1	9.5			Iron, L 36.5cm – incomplete, in 3 fragments (inv.103959). Based on the description the spearhead can be tentatively allocated to Type 9.5. <sup>153</sup>	1 bronze belt (inv.103958) 1 bronze triple-disc cuirass (inv.103957)	Fossa burial of an adult male aged 25-30 years of age. The iron spearhead was placed by the right side of the deceased. The bronze belt and bronze triple-disc cuirass were both worn by the deceased. The belt clasps are in the form of serpents, overlaid with a laminate decoration of a panther or lion attacking a stag.	Cipriani and Longo 1996, 146 and figs. 55.6 and 55.7.
254	420-400	F	2	8.1 9.6			Type 8.1 eg: L 45cm (inv.122634) Type 9.6: L 12cm (122635) The description allows tentative allocation to Type 9.6. <sup>154</sup>	1 bronze belt (inv.122633) The clasps of the belt can be allocated to Suano Type 2a	Stone-covered fossa burial of an adult male aged 30-35 years. The bronze belt was worn by the deceased, the remainder of the burial assemblage positioned by the feet of the deceased.	Cipriani and Longo 1996, 147 figs. 56.6 and 56.7.
259	410-400	F						1 bronze belt (inv.122650) allocated to Suano Type 2a	Stone-covered fossa burial of a child aged 5 or 6 years. The assemblage included a bronze belt worn by the deceased.	Cipriani and Longo 1996, 148-9 and fig. 57.6.

<sup>153</sup> The spearhead is described as having a long socket and short blade with a square section: Ibid., 146.

<sup>154</sup> The second spearhead is described as having a long point with a circular section: Ibid., 147.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
174	390-380	C	1	9.5	1	5.3	Spearhead: L 21cm (inv.104257) Sword: L 77.5cm, max W 13.5cm. (inv.104266) <sup>155</sup> Fragments of ivory remain <i>in situ</i> on the iron hilt.	1 Chalcidian bronze helmet (inv.104256), <sup>156</sup> 1 triple-disc cuirass (inv.104260) 1 pr mis-matched greaves (inv.104258) 1 bronze belt (inv.104259) 1 pr bronze knee guards (inv.104258)	Travertine cassa tomb with white plaster lining of an adult male aged 40-50 years with evidence of a healed fracture to the thorax. The defensive panoply was worn by the deceased, with the exception of the helmet which was placed behind the deceased. The helmet featured an iron crest-mount. Also included in the burial assemblage were several iron fragments thought to pertain to a blade and fragments of silver thought to pertain to a diadem.	Cipriani and Longo 1996, 149-52 and figs. 58.10-15.
197	380-370	C	1	?			Iron, L 45.5cm (inv.104375) The spearhead is not illustrated and cannot be allocated to a Type. <sup>157</sup>	1 triple-disc cuirass (inv.104376) 2 bronze belts (inv.104377) allocated to Suano Types 2b and 5c	Cassa tomb with white plaster of an adult male. The triple-disc cuirass and one of the bronze belts were worn by the deceased. The iron spearhead was placed to the left side of the deceased; the second bronze belt placed the right side of the deceased.	Cipriani and Longo 1996, 152-5 and figs. 60.17-9.

<sup>155</sup> Similar swords are said to have been recovered from Andriuolo Tomb 112 (dated late 5<sup>th</sup> C) and Gaudio Tomb 1 Gaudio (dated 370-360): Ibid., 150.

<sup>156</sup> Ibid., 149 The helmet measures 28cm high, 16.5cm wide. The total height including the crest mounts is 47cm. C.f. Bottini and Pflug 1988, 137, the helmet is also similar to one from Tomb 11 at Pisticci (dated c.470) and published in: Bottini 1993, 135.

<sup>157</sup> The spearhead is described having a leaf-shaped blade with a midrib and a socket with a circular section.



Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
164	380-370	F	1	?			Iron, L 42.5cm. (inv.104109) The spearhead is not illustrated cannot be allocated to a type. <sup>158</sup>	1 Italo-Chalcidian bronze helmet (inv.104106) 1 triple-disc cuirass (inv.104110) 1 bronze belt (inv.104108) 1 pr bronze greaves (inv.104110)	Fossa burial of an adult male aged 17-20 years. The deceased wore the cuirass, belt and greaves; the helmet placed to the left near the head. The helmet also featured bronze crest mounts. The iron spearhead was placed to the right of the deceased. The bronze belt clasps can be allocated to Suano Type 2b.	Cipriani and Longo 1996, 155.
1	370-360	C	2	?	1	5.3	Spearheads: Iron, (inv.26621 and 26622) both in a fragmentary state. Sword: iron (inv.134718) is described as similar to that recovered from Gaudo Tomb 174 and can be allocated to Type 5.3 on a comparative basis.	1 bronze belt (inv.26623 and 22634) is allocated to Suano's type 4a.	Cassa tomb with two sloping cover stones and fresco painted in Style II 2b of an adult male The iron spearheads, sword and bronze belt were all in very poor condition. One spearhead (inv.26622) is described by Cipriani as having a leaf-shaped blade and midrib and is described by Pontrandolfo as a javelin. <sup>159</sup>	Cipriani and Longo 1996, 174-6; Pontrandolfo and Rouveret 1992, 377-80.

<sup>158</sup> The spearhead but is described as having a conical socket and a blade which is broadest at the bottom third of the blade with lenticular section and a midrib: Cipriani and Longo 1996, 155.

<sup>159</sup> Ibid., 175; Pontrandolfo and Rouveret 1992, 379.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
2	c.350	Ch	2	5.2 ?	1	?	Spearheads: Type 5.2 eg: L 45.5cm, socket diam. 2cm (inv.4814) ? eg: L 17cm (inv.4825) described as a javelin in a is not illustrated but is described as being in a fragmentary state; Sword: iron, L 31.7cm, W 5cm, fragmentary (inv.4826)	1 iron spur (inv.4829) 1 Italo-Chalcidian bronze helmet (inv.4801) 1 anatomical bronze cuirass (inv.4815) 1 pr bronze greaves (inv.4812-13) 2 bronze belts (inv.4795-96)	Travertine chamber tomb of a male, decorated in System I 2a The greaves, helmet and on of the iron spearheads are shown in the plan as positioned close to the feet of the deceased. One of the bronze belts was worn by the deceased, the other placed by the right side of the deceased. The position of the other artefacts was noted on the plan.	Pontrandolfo and Rouveret 1992, 380-5.
4	Late 4 <sup>th</sup> C	C						1 poss. bronze cuirass.	Cassa tomb decorated in System II 3 of a male. The assemblage included poorly preserved bronze fragments pertaining to a cuirass.	Pontrandolfo and Rouveret 1992, 390.

### *Andriuolo*

Burial Type: F = Fossa; C = Cassa Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
102	380-370	C	1	?			L 18cm - incomplete fragmentary iron socket (inv.22447), thought to belong to a spearhead		Cassa tomb of a male, decorated in System II 1a.	Pontrandolfo and Rouveret 1992, 312.
12	c.375	C						1 bronze belt (inv.21225) allocated to Suano's Type 8	Cassa tomb of a male, decorated in System II 2b.	Pontrandolfo and Rouveret 1992, 314.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
84	350-340	C	2	8.3 9.6			Type 8.3 eg: L 54cm, W 6cm, socket diam. 2cm (inv.22252) Type 9.6 eg: 14.5cm, socket diam. 2cm (inv.22251a)	1 iron blade L16cm (inv.22251b) 1 bronze belt clasp (inv.22253) allocated to Suano's Type 4b	Cassa tomb of an adult male with painted frescos decorated in System I 1a.	Cipriani and Longo 1996, 171; Pontrandolfo and Rouveret 1992, 334.
90	350	C	1	8.1			L 37cm, W 4cm, socket diam. 2cm (inv.22333)	1 bronze belt (inv.22330)	Cassa tomb of a male decorated in System 2b. The bronze belt was in a fragmentary state	Pontrandolfo and Rouveret 1992, 319.
51	350-325	C	1	8.1			L 54cm, W 4cm, socket diam. 2.5cm (inv.21544)	1 bronze belt (inv.21543)	Cassa tomb of a male. The bronze belt has been allocated to Suano Type 4a.	Pontrandolfo and Rouveret 1992, 329.
8	340-330	C						1 bronze belt (inv.21187)	Cassa tomb of a child decorated in System III 1. The belt was in a fragmentary state.	Pontrandolfo and Rouveret 1992, 340.
4	Late 4 <sup>th</sup> C							1 bronze belt clasp (inv.24684)	Cassa tomb of an adult male decorated in System II 3. The belt clasp was allocated to Suano's Type 4b	Pontrandolfo and Rouveret 1992, 350; Cipriani and Longo 1996, 181.

### Vannullo

Burial Type: F = Fossa; C = Cassa Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
4	350	C	1	9.5/6			L41cm-51cm, socket diam. 1.7cm-2cm. (inv.31744). <sup>160</sup>	1 bronze belt	Cassa tomb of a male decorated in Style II 2b. Due to conflicting descriptions and illustrations it is not possible to definitively state whether the spearhead should be allocated to Type 9.5 or 9.6.	Cipriani and Longo 1996, 173; Pontrandolfo and Rouveret 1992, 396.

<sup>160</sup> Variant descriptions are given of the spearhead. Cipriani describes the spearhead as measuring 51cm long, 21.5cm of which is blade length with a socket diameter of 1.7cm and a point with a midrib and square section. Pontrandolfo describes the spearhead as measuring 41cm long with a socket diameter of 2cm, with a consistently circular section, tapering to a diameter of 1cm at the tip. Cipriani's description and the accompanying photograph of the spearhead would allow allocation to Type 9.5, whilst Pontrandolfo's illustration and description suggest the spearhead could be allocated to Type 9.6.

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
2	360-350	C	1	9.6			L 41cm, socket diam. 3cm (inv.31720)	2 bronze belts (inv.31718 and 31719)	Cassa tomb of an adult male with frescos in Style II 2b. The bronze belts are both allocated to Suano's Type 2b. Approximately 2cm of the spear shaft remain lodged in the socket.	Cipriani and Longo 1996, 194; Pontrandolfo and Rouveret 1992, 394.
3	350-325	C	1	8.1			L 40cm, W 4cm, socket diam. 3cm (inv.31731)	1 bronze belt. (inv.31733)	Cassa tomb of a male decorated in System II 2b. The bronze belt has been allocated to Suano's Type 1b	Pontrandolfo and Rouveret 1992, 397.

### Arcioni

Burial Type: F = Fossa; C = Cassa Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
Porta Aurea 2	380-370	C	1	8.2			L 35cm, W 3.5cm, socket diam. 1cm (inv.1762)	1 triple-disc cuirass (inv.1760) 1 bronze belt (inv.1759) 1 bronze belt clasp (inv.1759 a) 1 frag. bronze helmet (inv.1761)	Cassa tomb of a male decorated in System I 1a.	Pontrandolfo and Rouveret 1992, 363.

### Santa Venera

Burial Type: F = Fossa; C = Cassa Ch = Chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
109	Early 4 <sup>th</sup> C	C	1	9.2			L approx 23cm. socket L 14cm (no inv.)	2 bronze belts (no inv.)	Cassa tomb of a male decorated in System I 1a	Pontrandolfo and Rouveret 1992, 370.
110	c.400	C	1	9.2			L 51cm, W 5cm, socket diam. 1.7cm (no inv)	1 triple-disc cuirass 2 bronze belts (no inv.)	Cassa tomb of a male decorated in System II 2a.	Pontrandolfo and Rouveret 1992, 368.

*Laghetto*

Burial Type: F = Fossa; C = Cassa Ch = Chamber SC = Semi-chamber

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
LXIV	370-360	C	2	5.1			Eg 1: L 30cm, W 4.5cm, socket diam. 2.5cm (inv.6127) eg 2: L27cm W 4.5cm socket diam. 2.5cm (inv.6129)	2 bronze belts (inv.6130 and 6131)	Cassa tomb of a male decorated in System II.	Pontrandolfo and Rouveret 1992, 353.
XVIII	325-300	SC						1 bronze belt (inv.5997) allocated to Suano's Type 4b.	Semi-chamber tomb of a male decorated in System III 2.	Pontrandolfo and Rouveret 1992, 359.

*Other Tombs in the vicinity of Paestum*

Burial Type: F = Fossa; C = Cassa Ch = Chamber SC = Semi-chamber ? = unknown

Tomb No.	Date	Burial Type	Spearheads		Swords		Description	Assoc. Paraphernalia	Notes	Bibl.
			No.	Type	No.	Type				
Rocccadaspide, Contrada Tempa Rossa Tomb 3	360-350	Ch	3	?			Eg 1: L 43cm; Eg 2: L 43cm; Eg 3: L unspecified. None are illustrated and cannot be allocated to types. (inv.32152 and 32153 possibly a printing error)	1 bronze belt (inv.32148) 1 pr bronze greaves (inv.32150)	Painted chamber tomb of an adult male, the decorative scheme unidentified.	Cipriani and Longo 1996, 194.
Agropoli, Contrada Muoio Tomb 1	360-350	?	1	?			Iron, L 5cm – incomplete (inv.7426), not illustrated and cannot be allocated to a Type.	1 bronze belt (inv.7431)	Tomb of an adult male. The spearhead is described as in a fragmentary condition, the largest fragment measuring 5cm with a flat blade.	Cipriani and Longo 1996, 199.

## *Chronological and Typological Summary*

**Table 26: Summary of weapons Poseidonia (all iron unless indicated otherwise).**

Tomb No.	Spearheads	Swords	Armour
Gaud. 269	Throwing (9.4)		
Gaud. 267	Indeterminate		
Gaud. 271	Indeterminate		<b>Bronze</b> belt (Suano 2b)
Gaud. 265	Throwing (9.5)		<b>Bronze</b> belt
Gaud. 244	Indeterminate		<b>Bronze</b> belt (Suano 2a)
Gaud. 136	Throwing (9.5)		<b>Bronze</b> belt <b>Bronze</b> triple-disc cuirass
Gaud. 254	Versatile (8.1) Throwing (9.6)		<b>Bronze</b> belt (Suano 2a)
Gaud. 259			<b>Bronze</b> belt (Suano 2a)
Gaud. 174	Throwing (9.5)	<i>Machaira</i> (5.3)	Chalcidian <b>bronze</b> helmet <b>Bronze</b> triple-disc cuirass Pair mismatched <b>bronze</b> greaves <b>Bronze</b> belt Pair <b>bronze</b> knee guards
Gaud. 197	Indeterminate		<b>Bronze</b> triple-disc cuirass <b>Bronze</b> belts x 2 (Suano 2b, 5c)
Gaud. 164	Indeterminate		Italo-Chalcidian <b>bronze</b> helmet <b>Bronze</b> triple-disc cuirass <b>Bronze</b> belt (Suano 2b) Pair <b>bronze</b> greaves
Gaud. 1	Indeterminate x 2	<i>Machaira</i> (5.3)	<b>Bronze</b> belt (Suano 4a)
Gaud. 2	Thrusting (5.2) Indeterminate	Indeterminate	Spur Italo-Chalcidian <b>bronze</b> helmet Anatomical <b>bronze</b> cuirass Pair <b>bronze</b> greaves <b>Bronze</b> belts x 2
Gaud. 4			Possible <b>bronze</b> cuirass
And. 102	Indeterminate		
And. 12			<b>Bronze</b> belt (Suano 8)
And. 84	Versatile (8.3) Throwing (9.6)		<b>Bronze</b> belt clasp (Suano Type 4b)
And. 90	Versatile (8.1)		<b>Bronze</b> belt
And. 51	Versatile (8.1)		<b>Bronze</b> belt (Suano 4a)
And. 8			<b>Bronze</b> belt
And. 4			<b>Bronze</b> belt clasp (Suano 4b)
Van. 4	Throwing (9.5/6)		<b>Bronze</b> belt
Van. 2	Throwing (9.6)		<b>Bronze</b> belts x 2 (both Suano 2b)
Van. 3	Versatile (8.1)		<b>Bronze</b> belt (Suano 1b)
Arc. Porta Aurea 2	Versatile (8.2)		<b>Bronze</b> triple-disc cuirass <b>Bronze</b> belt <b>Bronze</b> belt clasp Fragmentary <b>bronze</b> helmet
S. Ven. 109	Throwing (9.2)		<b>Bronze</b> belts x 2
S. Ven. 110	Throwing (9.2)		<b>Bronze</b> triple-disc cuirass <b>Bronze</b> belts x 2
Lagh. LXIV	Thrusting (5.1) x 2		<b>Bronze</b> belts x 2
Lagh. XVIII			<b>Bronze</b> belt (Suano 4b)
Roccadaspide, Contrada Tempa Rossa T3	Indeterminate x 3		<b>Bronze</b> belt Pair <b>bronze</b> greaves
Agropoli, Contrada Muioio T1	Indeterminate		<b>Bronze</b> belt

The 31 tombs listed in the tables above can all be dated to the late 5<sup>th</sup> C and 4<sup>th</sup> C when Poseidonia/Paestum functioned as a Lucanian centre. The small number of well-published examples makes it difficult to identify any chronological changes in the pattern of weapons deposited in graves between the 5<sup>th</sup> C and 4<sup>th</sup> C. The most common expression is the inclusion of a single iron spearhead often in association with one or more bronze belts, sometimes in conjunction with more elaborate defensive panoply. Six tombs yielded multiple spearheads, two of which (Gaudo Tombs 1 and 2) also included swords as part of the burial assemblage. No axes, arrowheads or other tools or weapons were included amongst the burial goods.

All of the spearheads recovered from Paestum were manufactured of iron. Of the 32 spearheads reviewed in this chapter it has been possible to allocate 18 to specific types. A further three spearheads were given tentative allocations to type groups, though it was not possible to specifically identify a sub-type. Members of the type 9 group (10 examples) were most heavily represented followed by members of the type 8 group (six examples), narrow-bladed spearheads with a distinct midrib. Two spears could be loosely allocated to the type 7 or type 8 groups on the basis of their descriptions. Three spearheads could be allocated to the type 5 group, broad-bladed spearheads with no discernable midrib. Members of the type 6 group which was well represented at Pontecagnano and, to a lesser degree, Sala Consilina do not appear at Paestum, possibly a reflection of the chronology of the Lucanian takeover which will be discussed below.

Swords, where it is possible to allocate them to a type, are exclusively members of Type 5.3, Greek *machaira*. When swords appear they are always associated with one or more spearheads and generally accompanied by rich defensive panoply.

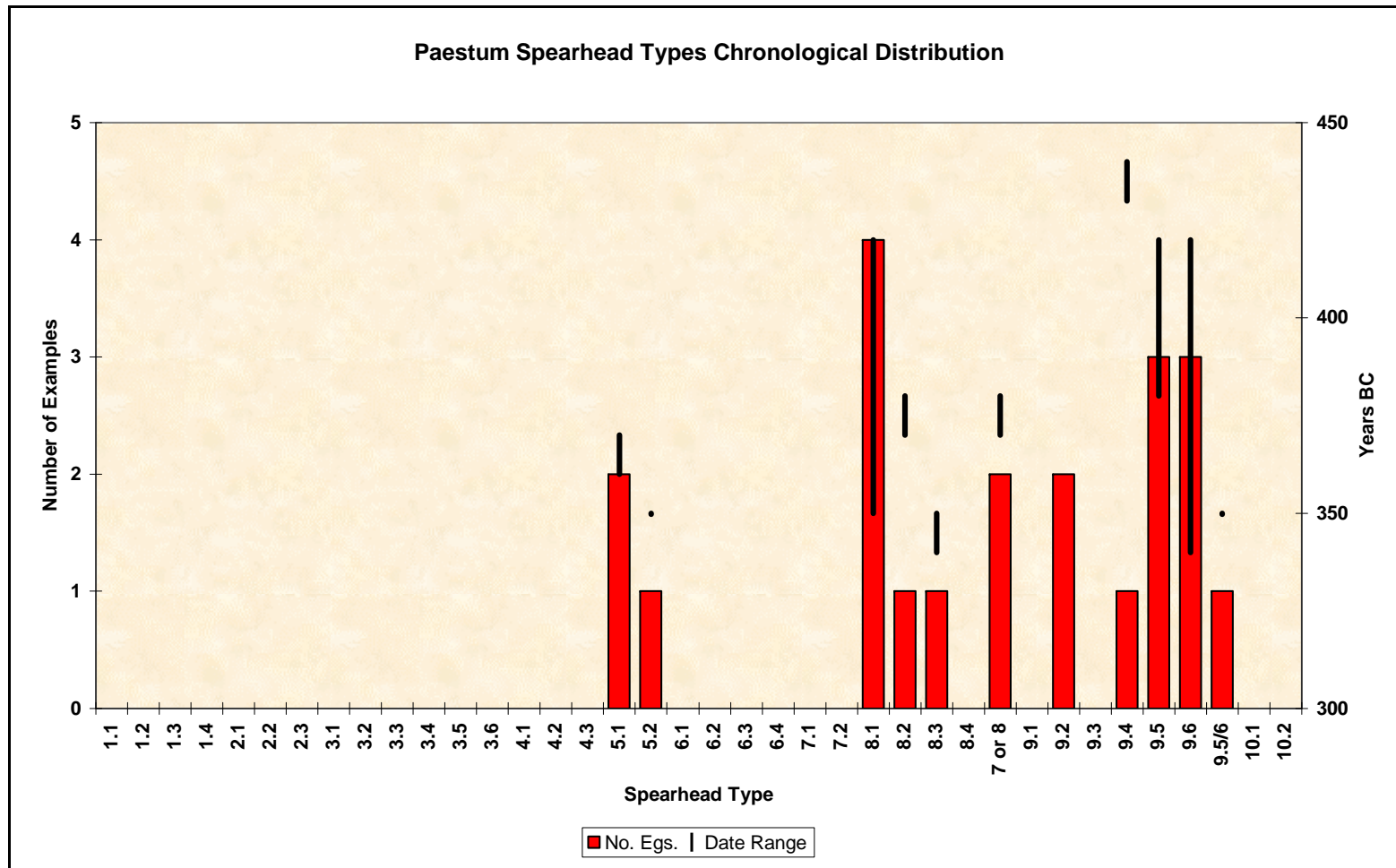


Figure 16: Chronological distribution of Spearhead types at Paestum



## *Discussion of Weapon Classes*

### *Spearheads*

The weapons recovered from Paestum indicate a preference for narrow-bladed spearhead forms and it appears that spears may have frequently served as throwing spears.<sup>161</sup> As already noted, the type 9 group of spears is particularly well suited for throwing. While members of the type 8 group, with their narrow blade profiles and strengthening midribs, would have been well-suited to the delivery of thrusting blows, they may also have been thrown. However, they would not be as effective as the long socketed spears of the type 9 group and some of the longer examples (up to 54cm) may have been too heavy to throw.

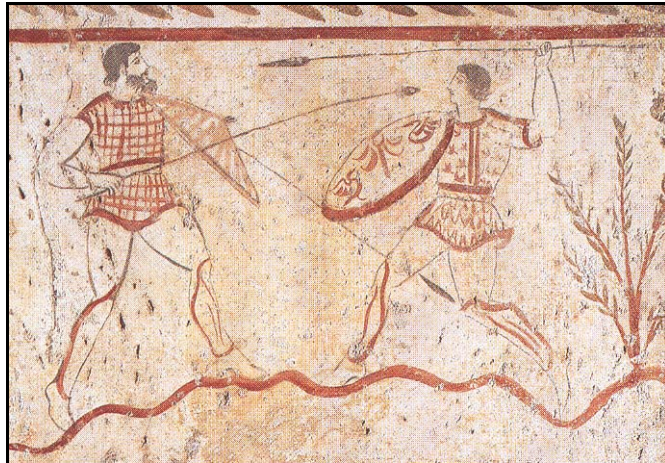
The Paestan tomb paintings of the 4<sup>th</sup> C show spears being wielded in both an overhand manner, suggestive of a throwing action, and an underhand grip, suggestive of the delivery of thrusting blows. Mounted warriors and warriors on foot are both depicted using these two motions. Occasionally in duelling scenes one combatant is depicted using an underhand thrusting motion whilst his opponent uses an overhand throwing motion, suggesting a fluid fighting style with diverse methods of attack. A number of representations also include detail of what appear to be throwing loops close to the spearhead.<sup>162</sup> Whilst the burials rarely included multiple spearheads, Paestan tomb paintings frequently depict warriors carrying two or three spears, again suggesting that actual practice differed from the expression in the funerary record.<sup>163</sup>

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<sup>161</sup> The very few broad bladed spearheads - three examples can be identified, though descriptions of spearheads (which are not illustrated) in publications of painted tombs suggest that there may be two additional broad-bladed spearheads from Paestum.

<sup>162</sup> Cipriani and Longo 1996, 58, fig. 70.3 Andriuolo Tomb 24, east wall; Pontrandolfo *et al.* 2004, fig. 48 Gaudio Tomb 7, north wall. The function of throwing loops is discussed further in Chapter 2, 71-4.

<sup>163</sup> Two spears: Cipriani and Longo 1996, 57, 60, 128 and figs. 69.3, 71.1, 81.1, 81.2 Andriuolo Tomb 12, east wall, Andriuolo Tomb 84 (note, the burial assemblage of Tomb 84 did include two spearheads), Andriuolo Tomb 61 north and south walls; three spears: Cipriani and Longo 1996, 124, 126 and figs. 78.2 and 79.2 Andriuolo Tomb 58 north wall, Andriuolo Tomb 53 south wall.



a) Arcioni Tomb 1 West Wall, detail after Cipriani and Longo 1996, 122 fig. 77.3



b) Andriuolo Tomb 58, North Wall detail after Cipriani and Longo 1996, 124 and fig. 78.2

**Figure 17: Paestan Tomb paintings depicting spear action.**

The apparent absence of type 6 spearheads at Paestum may be reflective of the chronology of the Lucanian takeover of the site. Type 6 spearheads are narrow-bladed and without a midrib, while type 8 spearheads, which are a similar narrow-bladed form, feature a strengthening midrib. The chronology of the appearance of the type 6 and type 8 groups is different amongst South Italian sites. Spearheads of the type 8 group appear c.770 at Pontecagnano and Sala Consilina, prior to the appearance of type 6 (c.700-675). At Cairano both types appear contemporaneously in the first half of the 7<sup>th</sup> C. Both groups also appear at Incoronata (though the chronology is poorly understood) and both type groups are present in Chiaromonte by the early 6<sup>th</sup> C. However, in north western Basilicata and Daunia the appearance of these two types is

quite different. Members of type 6 appear at Serra di Vaglio by the last quarter of the 7<sup>th</sup> C. In contrast, members of type 8 are not observed until the late 6<sup>th</sup> C. At Lavello also type 6 appears in the 7<sup>th</sup> C while members of type 8 do not appear until the 5<sup>th</sup> C. By the end of the 4<sup>th</sup> C at Lavello, type 8 appears with greater frequency than members of type 6, perhaps indicating the replacement of an inferior and outdated spearhead form. The arrival of the Lucanians at Paestum during the late 5<sup>th</sup> C may indicate that type 8 spearheads had already superseded the type 6 group by this time.

### *Swords and other weapons*

The *machairai* identified in the funerary record at Paestum were specifically slashing swords, well suited to use on horseback, yet, it must be noted that the many Paestan tomb paintings depicting warriors on horseback never show the horsemen carrying swords. Indeed, mounted warriors are consistently represented bearing one or more spears, revealing that the embodiment of the warrior ideal at Paestum was manifested in the spear rather than the sword. In one of the few tomb paintings to depict use of a sword in action the secondary role of the weapon is clear. The north wall of Arcioni Tomb 271 apparently depicts funerary games (Figure 18). Two warriors duel at the left end of the panel, each bearing a shield which has been punctured by a spear. The warrior on the left bears what appears to be his second spear in his right hand, in an underhand, thrusting motion. The warrior to his right, seemingly having expended all of his spears (the shaft of the one lodged in his opponent's shield has snapped), wields a sword about to deliver a slashing blow from overhead. The sword features a distinct guard, suggesting it is perhaps a cross-bar sword, in direct contrast to the identifiable sword types represented in the burial assemblages.<sup>164</sup>

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<sup>164</sup> Cipriani and Longo 1996, 64. Pontrandolfo and Rouveret 1992, 199, fig.4: Andriuolo Tomb 4 also includes representation of a sword on the eastern wall. This sword also appears to be a cross-bar sword.



Figure 18: Arcioni Tomb 271 North Wall, detail. After Cipriani and Longo 1996, 64, fig. 76.4.

Neither axes nor arrowheads were included amongst the burial assemblages summarised in this chapter, yet both are depicted in Paestan tomb paintings. Arcioni Tomb 1/1990 depicts on its north wall a mythological scene of a warrior fighting a hippocampus. The warrior bears a spear in his left hand, in an underhand thrusting grasp, but in his right hand he bears a bow. Andriuolo Tomb 47 depicts a ritual scene of a bull being led to sacrifice. The figure leading the bull bears an axe in his left hand. There are no depictions of axes in a military context amongst the tomb paintings of Paestum.

### *Armour*

Armour finds at Paestum are common, including helmets with elaborate crest mounts, cuirasses of both the indigenous triple-disc and Greek-style anatomical forms, as well as greaves and, occasionally, other guards. The panoply is consistently made of bronze with evidence that individual pieces were lined with perishable material, likely leather or linen. Such armour is also depicted in the 4<sup>th</sup> C tomb Paestan paintings and on contemporary red figured vases, communicating the Lucanian ideal of the elite warrior. The importance of armour as a symbolic representation of the warrior ethos during the 4<sup>th</sup> C is further represented in the votive deposition of miniature armour

recovered from the *Athenaion* at Paestum.<sup>165</sup> In tomb paintings men, particularly in the later 4<sup>th</sup> C, can be shown wearing bronze belts as part of a civic, rather than martial, costume (for example, the so-called Tomb of the Magistrate).<sup>166</sup>

No shields appear to have survived in the burial record at Paestum, though depictions of *pelta* and *hoplon* shield forms are represented in Paestan tomb paintings along with instances where a cloak appears to be used in a defensive capacity, draped over the left arm of the warrior or hunter.<sup>167</sup> The north wall of Andriuolo Tomb 114 features a scene of two phalanxes of warriors bearing *hoplon* shields facing off against one another.<sup>168</sup> The warriors wear a mixture of *pilos* and Chalcidian helmets and each bears a spear angled for the delivery of thrusting blows.

### *Bronze Belts*

The tomb paintings of Paestum frequently depict men wearing bronze belts; they are often also borne by returning warriors as trophies.<sup>169</sup> This role would appear to be reinforced in the burial assemblages. A number of tombs have yielded multiple bronze belts, often one belt worn by the deceased with a second belt placed either alongside the deceased or by the feet. Bronze belts were also recovered from tombs which did not include weapons and were also included in the burials of some children.<sup>170</sup>

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<sup>165</sup> Cipriani and Longo 1996, 220 and fig. 170.

<sup>166</sup> Cipriani and Longo 1996, 282-4.

<sup>167</sup> *Ibid.*, 62, 124 and figs. 73.1 and 78.2: Andriuolo Tomb 18 East Wall and Andriuolo Tomb 58 North Wall.

<sup>168</sup> *Ibid.*, 134 and fig. 84.4.

<sup>169</sup> *Ibid.*, 57 fig. 69.1 Andriuolo Tomb 12, east wall

<sup>170</sup> For example, Gaudio Tomb 259 was the tomb of a child aged approximately 5-6 years, wearing a bronze belt, the clasps allocated to Suano's type 2a: *Ibid.*, 148-9 and fig. 57.6.

### *Horse Equipment*

The spur recovered from Gaudo Tomb 2, dated to the mid 4<sup>th</sup> C, is the only item of horse equipment noted in the tables above. Spurs have been recovered from a number of sites in Basilicata and Daunia from the 6<sup>th</sup> C to the 4<sup>th</sup> C.<sup>171</sup> The absence of further horse equipment in the archaeological record is surprising given the historical record of Campanian cavalry during the 4<sup>th</sup> C and their reputation as a formidable force.<sup>172</sup> The under-representation of horse equipment in the funerary record serves as a clear demonstration that the world of the grave cannot be taken as direct reflection of actual military practice.

### **Conclusions – Southern Campania**

The assessment of material from the five Southern Campanian sites discussed in this chapter, Pontecagnano, Sala Consilina, Oliveto Citra and Cairano, and Paestum included 177 spears, 17 *sauroteres*, 39 swords and daggers, 13 axes, and 10 arrowheads. The allocation of weapons to functional types reveals some patterns in the distribution of weaponry and gives some indication of the fighting styles which may have been employed in Campania between the 9<sup>th</sup> C and the 4<sup>th</sup> C.

### *Spearheads and Sauroteres*

During the 9<sup>th</sup> C and 8<sup>th</sup> C Pontecagnano, Sala Consilina and Cairano each yielded Villanovan bronze spear forms of the type 3 and 4 groups. Alongside these Villanovan forms are a smaller number of type 1 and type 2 spearheads, forms which were widely-distributed throughout the Italian Peninsula, Mediterranean and Central

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<sup>171</sup> For example: Canosa, Vico San Martino Tomb 2, Cella A, deposition 4 dated to 4<sup>th</sup> C published in Cassano 1992, 457-67, No.145; Paestum, published in Pontrandolfo 1999; Metaponto, Western Necropolis, loc. Crucinia, propr Riccardi, Tomb 17/71 dated to the late 6<sup>th</sup> to early 5<sup>th</sup> C, published in Bottini 1993, 123-9.

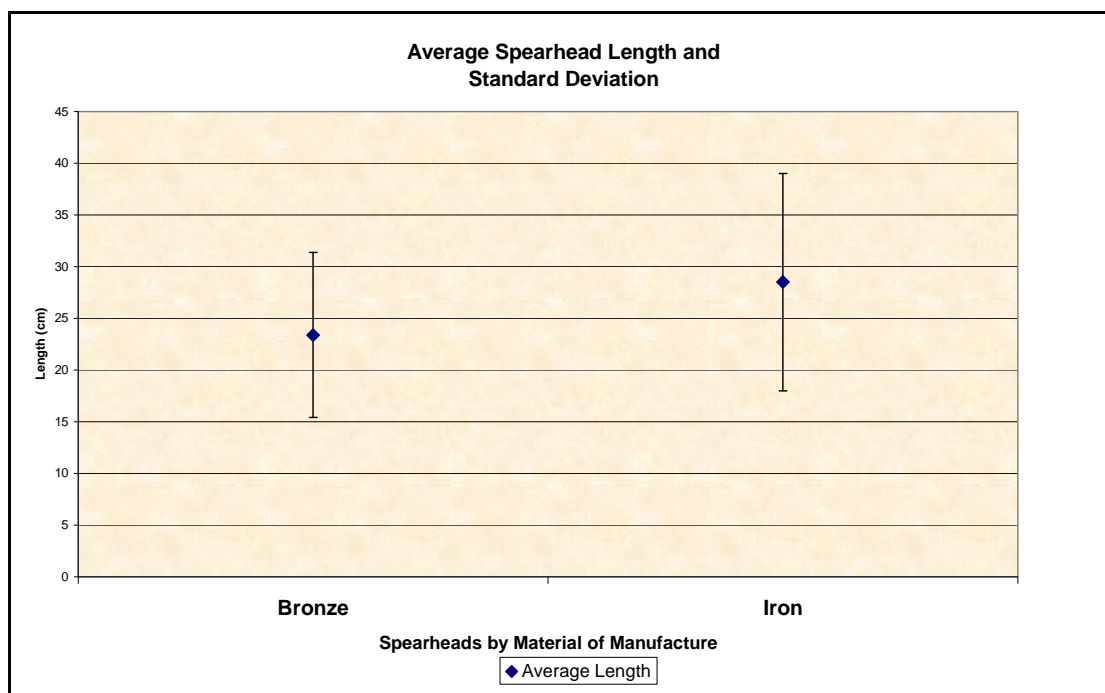
<sup>172</sup> Siculus *Library*, 15.101-2.

Europe during the Late Bronze Age and which continued into the Early Iron Age in Italy. This contrasts with Basilicata, where Villanovan forms are rare, and with Daunia where they are unknown (although, admittedly, the very few spearheads of this date from Daunia have been published). There was a clear preference for broad-bladed spear forms of the type 1 and type 3 groups. While some bronze spearheads, such as the Miscellaneous Type example from Tomb 025P at Sala Consilina are likely to have been direct imports from Etruria it is likely that many spearheads were locally produced. The transition from bronze to iron as the exclusive material for the manufacture of spearheads seems to have been fairly consistent across these three sites, and was probably true for the Southern Campanian region generally, though further data for the 8<sup>th</sup> C would clarify the sequence of the transition. At Pontecagnano this transition appears to coincide with the foundation of Pithekoussai. However, it is clear from the presence of iron swords and other iron objects that iron working was known in the region prior to 770 BC, and while it is possible that the increasing foreign contacts may have augmented the metalworking technology the spearhead forms remain of local design and manufacture.

Following the transition from bronze to iron as the exclusive material of manufacture for spearheads, narrow-bladed spear forms come to dominate the record and this trend is borne out across all five Southern Campanian sites assessed in this Chapter. From the beginning of the 7<sup>th</sup> C members of the narrow bladed spear type 6, 8 and 9 groups significantly outnumber members of the broad bladed type 5 and 7 groups at each site.

The overall length of spearheads increases slightly with the transition from bronze to iron the preferred material of manufacture (Figure 19). Iron is less dense and therefore lighter than bronze, allowing the manufacture of larger spearheads at the same or

lesser weight than their bronze counterparts.<sup>173</sup> The need to forge each iron spearhead individually may also have opened the way for creation of new and diverse spear forms, represented in the broader range of shapes identified in the iron spear type groups.



**Figure 19: Average length of complete spearheads in Campania by material of manufacture, showing standard deviation.**

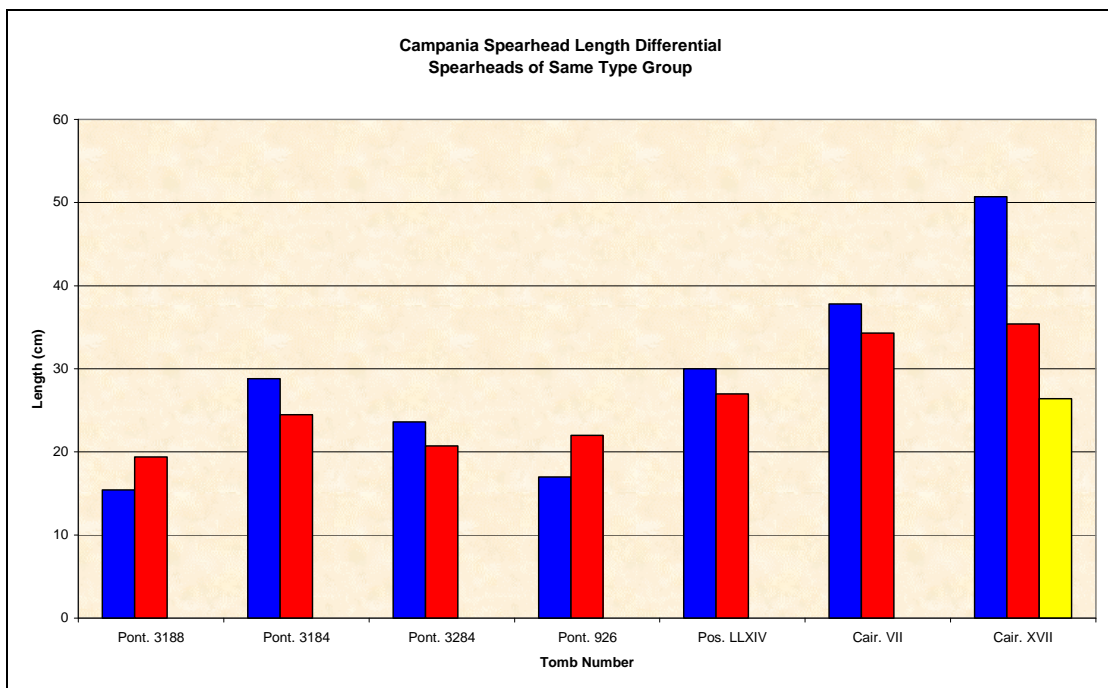
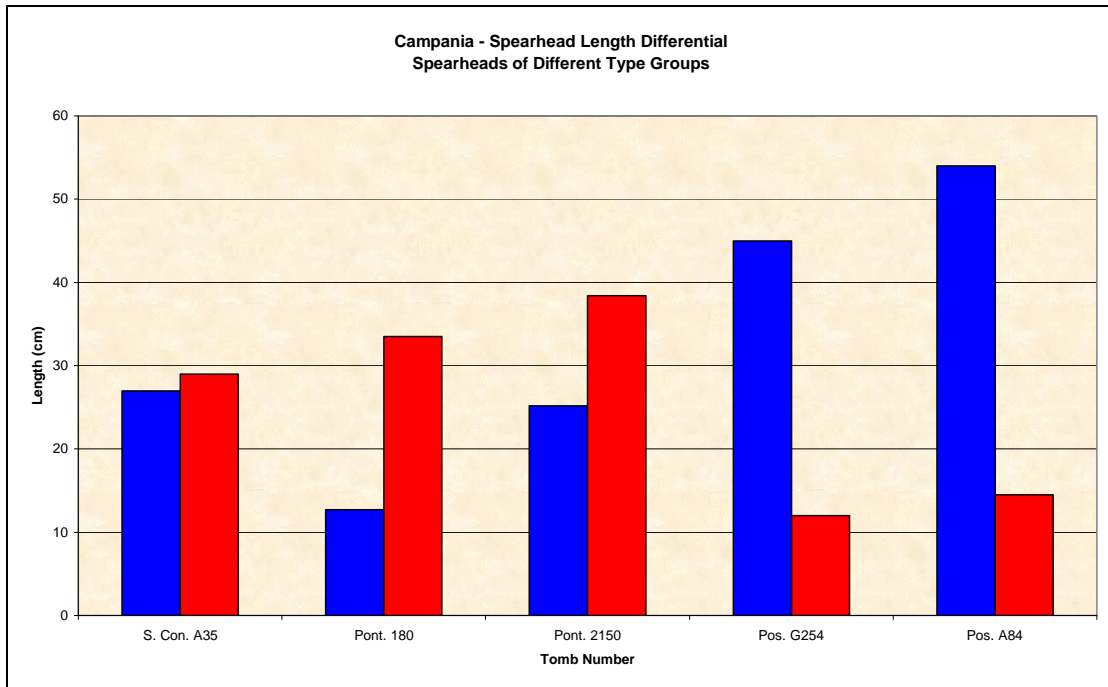
The diversity of spear forms observed from the 7<sup>th</sup> C to the 4<sup>th</sup> C also indicates the employment of a versatile fighting style using both throwing and thrusting spears. Paestan tomb paintings depicting warriors in action also suggest that flexible fighting techniques were practiced and that spears capable of use for both thrusting and throwing would have been ideal.

Representations on figured pottery and in tomb paintings of the late 5<sup>th</sup> and 4<sup>th</sup> C suggest that multiple spearheads were the common panoply, though the inclusion of multiple spearheads in tombs is much rarer, suggesting that the single spearhead was representative of social status and not directly indicative of the functional panoply that

<sup>173</sup> Giardino 1998, 17 and 194-209.



may have been used by the deceased in combat. With few exceptions, where members of the same spearhead type group were included together in a tomb their comparative length was very similar, whilst members of different type groups found in association often had markedly different lengths from one another (Figure 20), suggesting that they were perceived differently and may have been expected to serve different functions.



**Figure 20: Comparative spearhead lengths from assemblages of multiple spearheads when members are from different type groups, compared with multiple spearheads from the same type group.**

Artistic representations also suggest that the total length of a spear was often equal to or greater than the height of a man, though several Paestan tomb paintings depict

shorter spears. Excavation reports for Pontecagnano Tomb 601 and Sala Consilina tombs A25 and G13 in the S. Rocco necropolis mention partially preserved spear shafts; however no details indicating overall spear length are reported. The socket diameter of most spearheads is between 2cm and 3cm indicating that the diameter of spear shafts was consistent across spear types throughout the 9<sup>th</sup> C to 4<sup>th</sup> C, and that this was the optimum diameter for functional spear shafts. A number of spearheads retain traces of wood in their sockets, though none of the excavators appear to have conducted any analyses to determine wood species.

Most artefacts identified by their excavators as *sauroteres* could have functioned in an offensive capacity, either as weapons in their own right or as reserves in the instance of a spear shaft snapping. Representations of *sauroteres* are not uncommon, though in many instances they are represented as ornate items, sometimes with a flat base, rather than as simple conical sockets which taper to a point. The interpretation of these items as *sauroteres* may therefore be uncertain and should be questioned particularly in instances where no spearhead was found in association.

### *Swords and Daggers*

The sword was not nearly as well represented as the spear; it was principally a marker of high status and clearly served as a back up weapon in the offensive panoply of Southern Campania between the 9<sup>th</sup> C and 4<sup>th</sup> C. This is illustrated in South Italian red-figured vase paintings where the sword is frequently depicted in its scabbard at the warrior's side while he employs his spear.<sup>174</sup> The 39 swords and daggers assessed in this chapter include members of each of the sword classes outlined in my typology, with the exception of type 2 longswords. Cut-and-thrust swords of the Italic (type 1) and cross-bar (type 3) groups predominate, their capacity to deliver both thrusting and

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<sup>174</sup> For example RvAP 1/005, 2/006c and 18/040-2.

slashing blows suggesting a preference for versatility. A smaller number of daggers can be allocated to Type 4.2, the longest of which are only fractionally shorter than the shortest cut-and-thrust swords. These daggers, with two cutting edges and tapering blade profiles, are functionally similar to the cut-and-thrust sword, but simply on a smaller scale. The chronological distribution of cut-and-thrust weapons in Southern Campania is consistent with similar weapons in Basilicata, Calabria and Central Italy and it would appear that Type 1 swords originated in Central Italy whilst Type 3 cross-bar swords originated in Daunia or Northern Basilicata. The Type 4.2 dagger is most frequently represented in Pontecagnano and derives from dagger forms known in the North and Central Italian Bronze Age.

Six swords are clearly identifiable as slashing swords, *machairai* (type 5 group), functionally distinct from the cut-and-thrust swords and daggers. Slashing swords were suited to use from horseback, though iconographic evidence would suggest that preference for the spear extended to mounted combat and slashing swords are less frequently represented in vase and tomb paintings than cut-and-thrust swords. The type appears to be of Central European origin, being adopted in Southern Campania after the adoption of the type in Greece, the Southern Campanian examples are likely to be either Greek imports or imitations thereof. The complete example from Gaudo Tomb 174 at Paestum was extremely long (77cm) and was clearly modelled on contemporary Greek *machairai*. However, the earlier examples from Sala Consilina are significantly shorter (31-44cm) and may have functioned in a sacrificial capacity.<sup>175</sup>

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<sup>175</sup> Discussed in more detail in Chapter 3, 132.

### *Other Weapon Classes*

Axes were noted in the excavation reports for Pontecagnano and Sala Consilina in tombs dated between the 8<sup>th</sup> C and mid 6<sup>th</sup> C. Of the 12 tombs to include axes assessed in this chapter, half also included chisels, suggesting that the axes may have functioned as tools, though their potential role as weapons is also supported as only three axes were not associated with other weapons. The Avele Feluske stele from Vetulonia also supports a martial function, particularly in Villanovan/Etruscan contexts.<sup>176</sup> However, the depiction of an axe in a sacrificial procession on the wall of Andriuolo Tomb 47 at Paestum also raises possibility of a sacrificial function for axes. Ultimately, the specific function of individual axes remains uncertain.

Arrowheads are rare in the burial assemblages of Southern Campania; the few examples represented here are of similar dimensions and are cast in bronze, with the exception of the flint arrowhead from Tomb A34 in the south western necropolis of Sala Consilina. As noted with spearheads above, the funerary record does not accurately represent functional offensive panoply, being rather representative of social status. It is possible that in Southern Campania, as in contemporary Greece, archery was not valued as a skill embodying valour and elite warrior status and consequently its equipment was not often chosen for inclusion in the tomb.

### *Associated Paraphernalia*

During the 9<sup>th</sup> C and 8<sup>th</sup> C finds of armour in Southern Campanian tombs demonstrate connections to Central Italy, Central Europe, the Trans-Adriatic region and Calabria. The lack of armour dating to this period from Daunia and Basilicata means we cannot draw comparisons from those areas. By the 7<sup>th</sup> C Greek armour supplanted these

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<sup>176</sup> Torelli 2007, p 211-2.

earlier influences, and this trend continues throughout the period under consideration, along with local derivatives and indigenous inventions like the triple-disc cuirass noted at Pontecagnano and Paestum.

From the 5<sup>th</sup> C bronze belts appear in tombs, often associated with weaponry.<sup>177</sup> The presence of these belts in Southern Campania indicates connections with Basilicata and Daunia along the Ofanto – Sele route. The belts were widespread throughout South Italy, and Suano's typological analysis of belt clasps suggests that the examples from Paestum appear with greatest frequency in north western Basilicata and Daunia.<sup>178</sup> Evidence from Paestum also supports that bronze belts were taken as trophies in combat, a custom which does not appear to have been a practice in Daunia.

Very little horse equipment appears in the burial assemblages outlined in this chapter, clearly under-representing the actual practice of horsemanship and the role of cavalry, which is well attested in historical and iconographic sources. The region of Campania, was famed for the strength of its cavalry.<sup>179</sup> The Lucanian warriors of the Tyrrhenian coast are said to have engaged Thurii in the early 4<sup>th</sup> C with a substantial cavalry force, numbered in the thousands.<sup>180</sup> The vast quantity of iconographic evidence underscores the importance of horsemanship in the warrior ideal of the 5<sup>th</sup> and 4<sup>th</sup> C, yet, it was not common practice to include horse equipment in tombs.

The role of hunting in association with warfare and the construction of elite warrior status is represented in the funerary assemblages of Southern Campanian sites through the inclusion of boars' teeth and tusks recorded at Pontecagnano and Sala Consilina

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<sup>177</sup> Incised bronze belts had appeared in tombs at Pontecagnano and Sala Consilina during the 8<sup>th</sup> C. These belts were Villanovan in design and cultural affinity, appearing in elite female tombs. They are unrelated to the South Italian belts which appeared during the 5<sup>th</sup> C.

<sup>178</sup> Suano 1996, 28-31.

<sup>179</sup> Frederiksen 1968 gives an excellent overview of the historical sources; and, Frederiksen 1984, 74-5.

<sup>180</sup> Diodorus Siculus, *Library*, 15.101-2.

during the 9<sup>th</sup> and 8<sup>th</sup> C (which may have served as trophies or emblems of the role of the deceased as hunter), and the recurrent hunting scenes in late 5<sup>th</sup> C Paestan tomb paintings. Broad-bladed thrusting spears could have been hunting spears, as described by Xenophon.<sup>181</sup>

**Table 27: Distribution of Identifiable Sword Types - Campanian Sites (X=presence).**

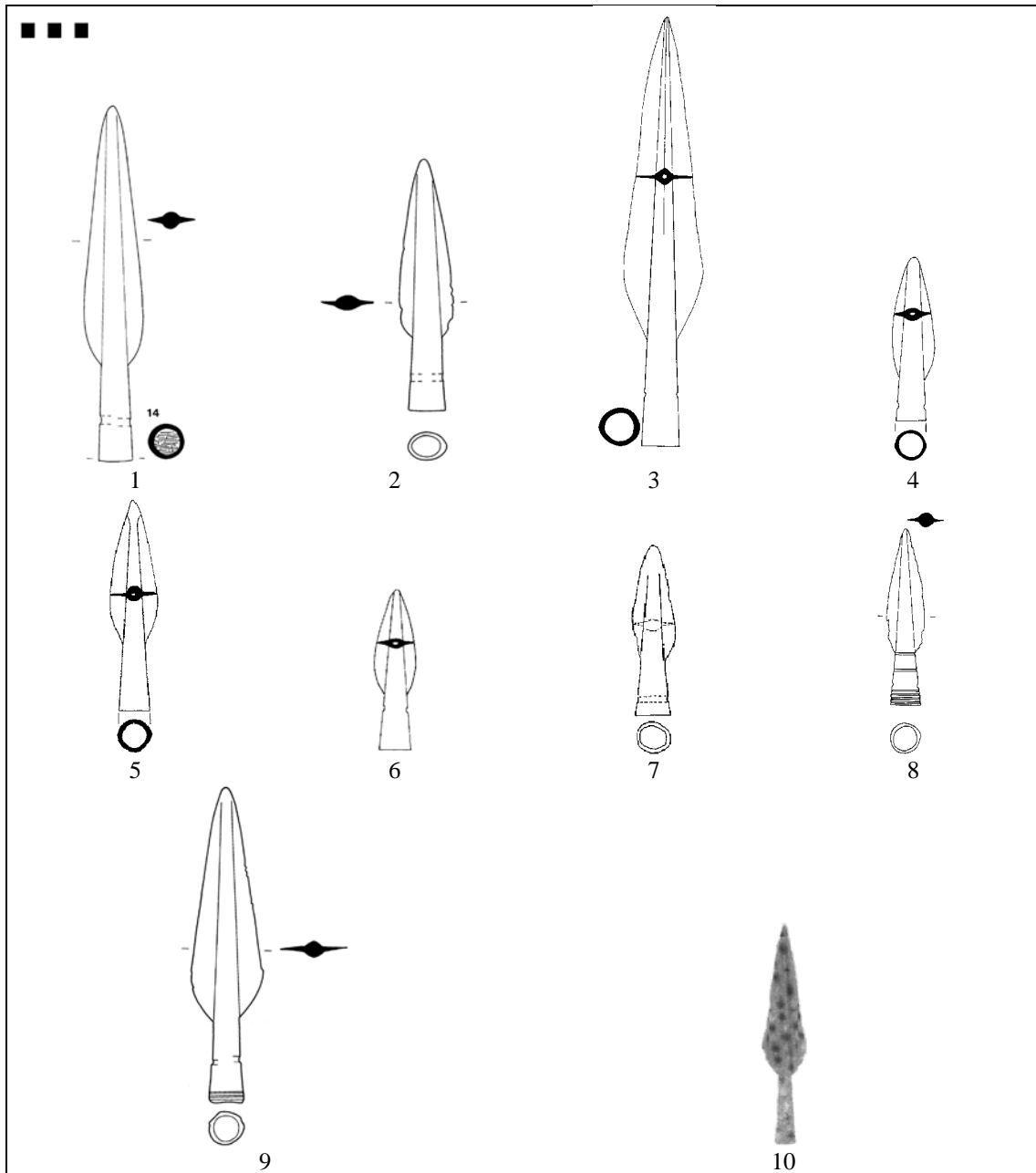
Sword Type		Sites				
		Pontecagnano	Sala Consilina	Paestum	Oliveto Citra	Cairano
1	1.1					
	1.2	X	X			
	1.3					
	1.4					
2	2.1					
	2.2					
3	3.1		X			
	3.2					X
	3.3					
4	4.1					
	4.2	X	X			
5	5.1		X			X
	5.2		X			
	5.3			X		

<sup>181</sup> Xenophon *On Hunting*, 10.3.

**Table 28: Distribution of Identifiable Spearhead Types - Campanian Sites (X=presence).**

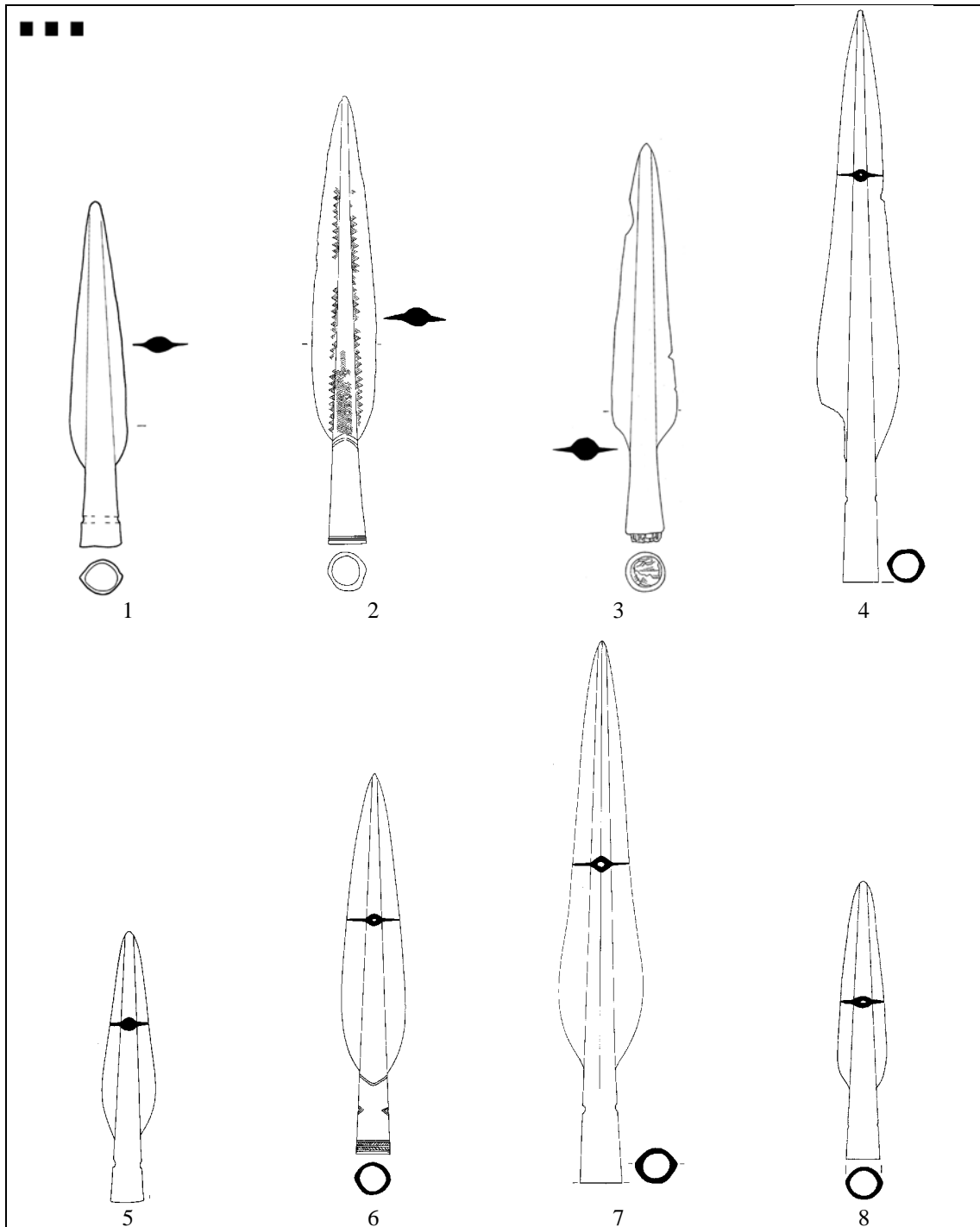
Spearhead Type		Sites				
		Pontecagnano	Sala Consilina	Paestum	Oliveto Citra	Cairano
1	1.1	X	X			X
	1.2					
	1.3	X	X			
	1.4					
2	2.1	X	X			
	2.2		X			
	2.3		X			
	2.4					
3	3.1	X	X			
	3.2		X			
	3.3					
	3.4					
	3.5	X	X			X
	3.6	X	X			
4	4.1	X				
	4.2		X			
	4.3	X	X			
5	5.1	X	X	X		
	5.2	X	X	X		X
6	6.1	X				
	6.2	X				
	6.3	X	X			X
	6.4	X				
7	7.1	X	X		X	
	7.2					
8	8.1	X		X		X
	8.2			X	X	X
	8.3			X		
	8.4	X	X			X
9	9.1		X		X	
	9.2			X		
	9.3				X	
	9.4	X		X		
	9.5		X	X		
	9.6			X		
10	10.1				X	X
	10.2					





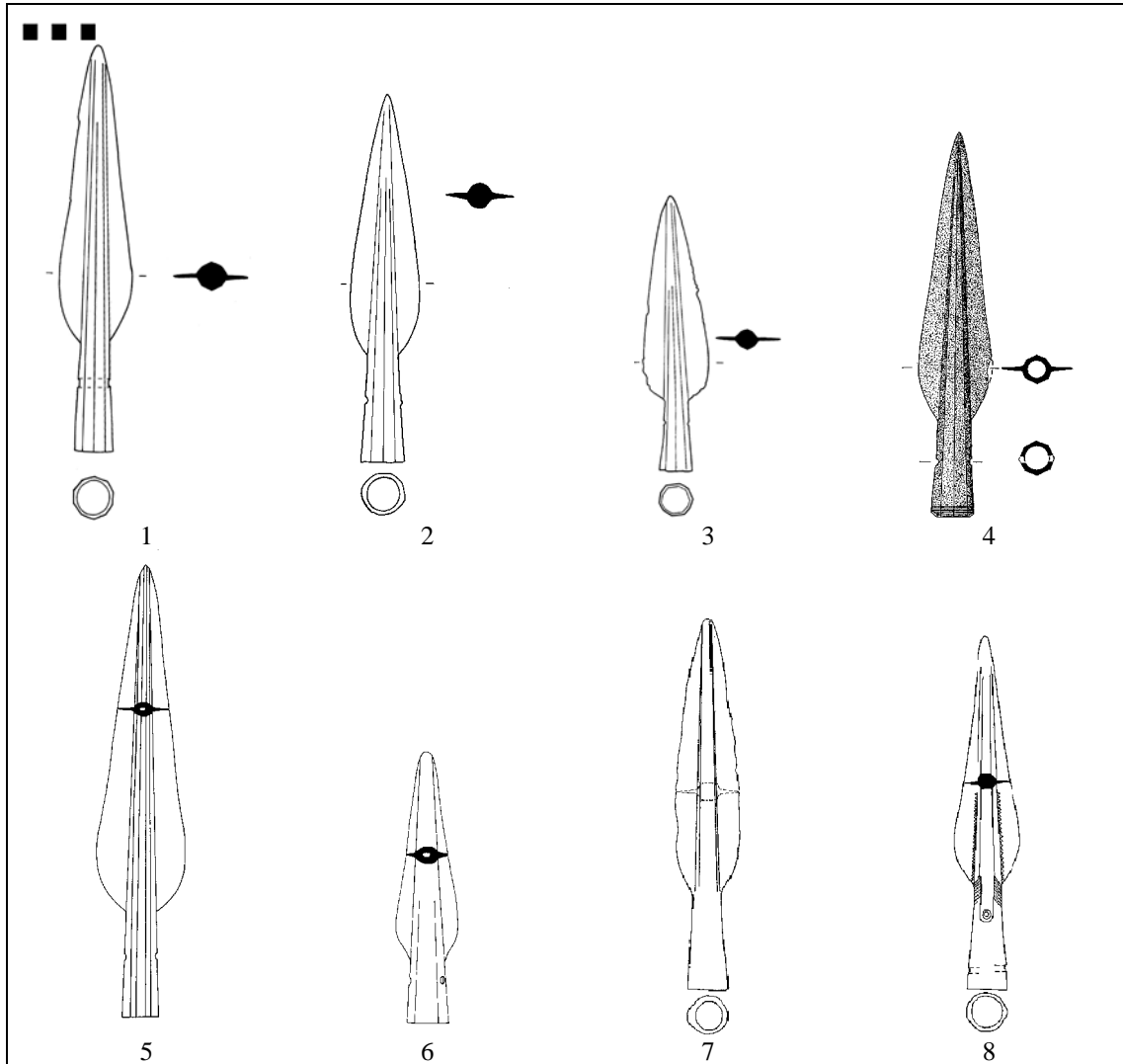
**Figure 21: Type 1 Spearheads (to scale).**

1. Pontecagnano Tomb 2150 - Type 1.1
2. Pontecagnano Tomb 4858 - Type 1.1
3. Sala Consilina S. Rocco Tomb A392 - Type 1.1
4. Sala Consilina S. Antonio Tomb 29 - Type 1.1
5. Sala Consilina S. Rocco Tomb B24 - Type 1.1
6. Sala Consilina S. Rocco Tomb G8 - Type 1.1
7. Cairano Tomb 9 - Type 1.1
8. Pontecagnano Tomb 180 - Type 1.3
9. Pontecagnano Tomb 2145 - Type 1.3
10. Sala Consilina S. Nicola Tomb 66 - Type 1.3



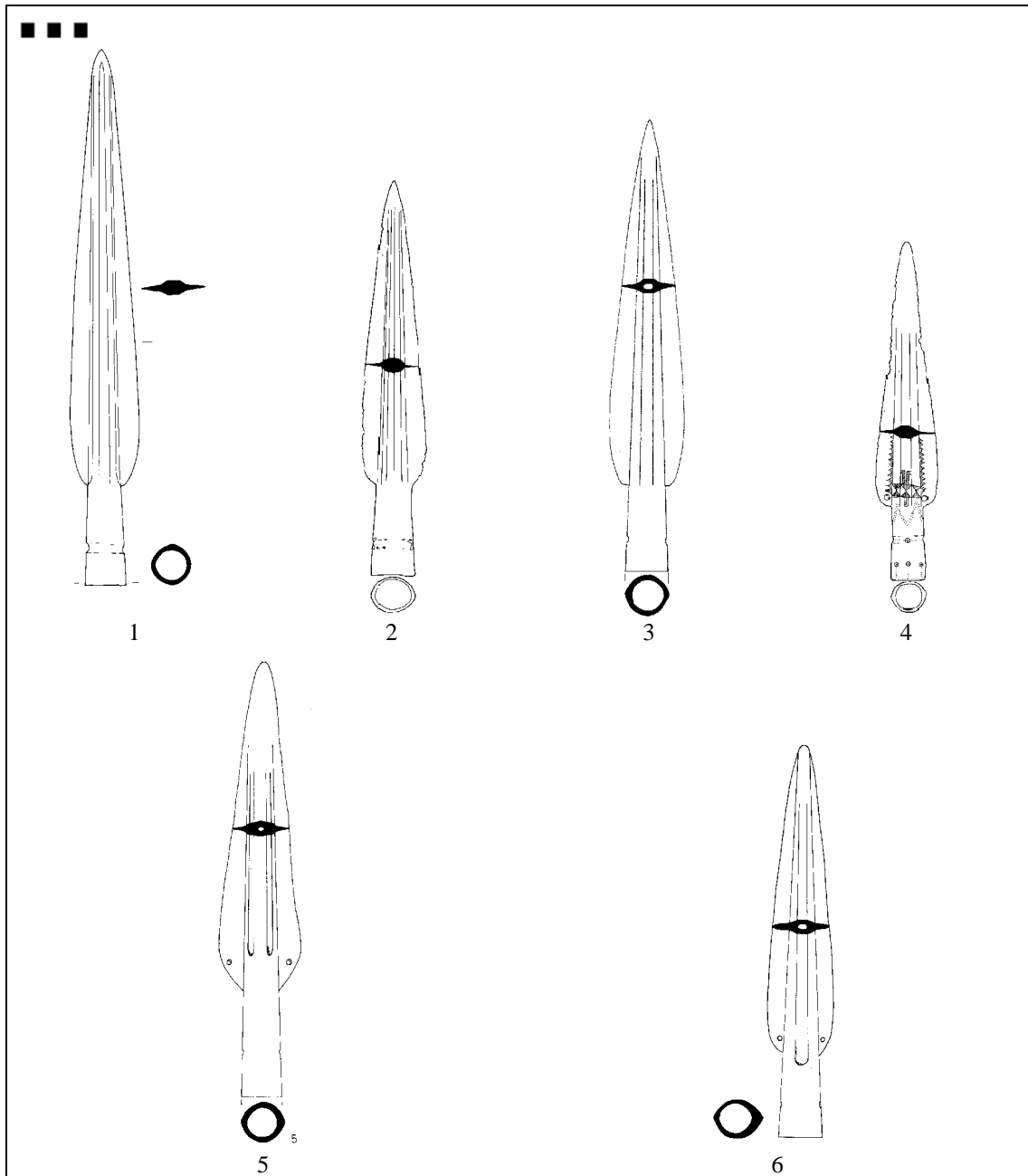
**Figure 22: Type 2 Spearheads (to scale).**

1. Pontecagnano Tom 226 - Type 2.1
2. Pontecagnano Tomb 180 - Type 2.1
3. Pontecagnano Tomb 889 - Type 2.1
4. Sala Consilina S. Rocco Tomb D138 - Type 2.1
5. Sala Consilina S. Rocco Tomb A207 - Type 2.1
6. Sala Consilina S. Rocco Tomb B22 - Type 2.1
7. Sala Consilina S. Antonio Tomb 73 - Type 2.1
8. Sala Consilina S. Rocco Tomb B70 - Type 2.1



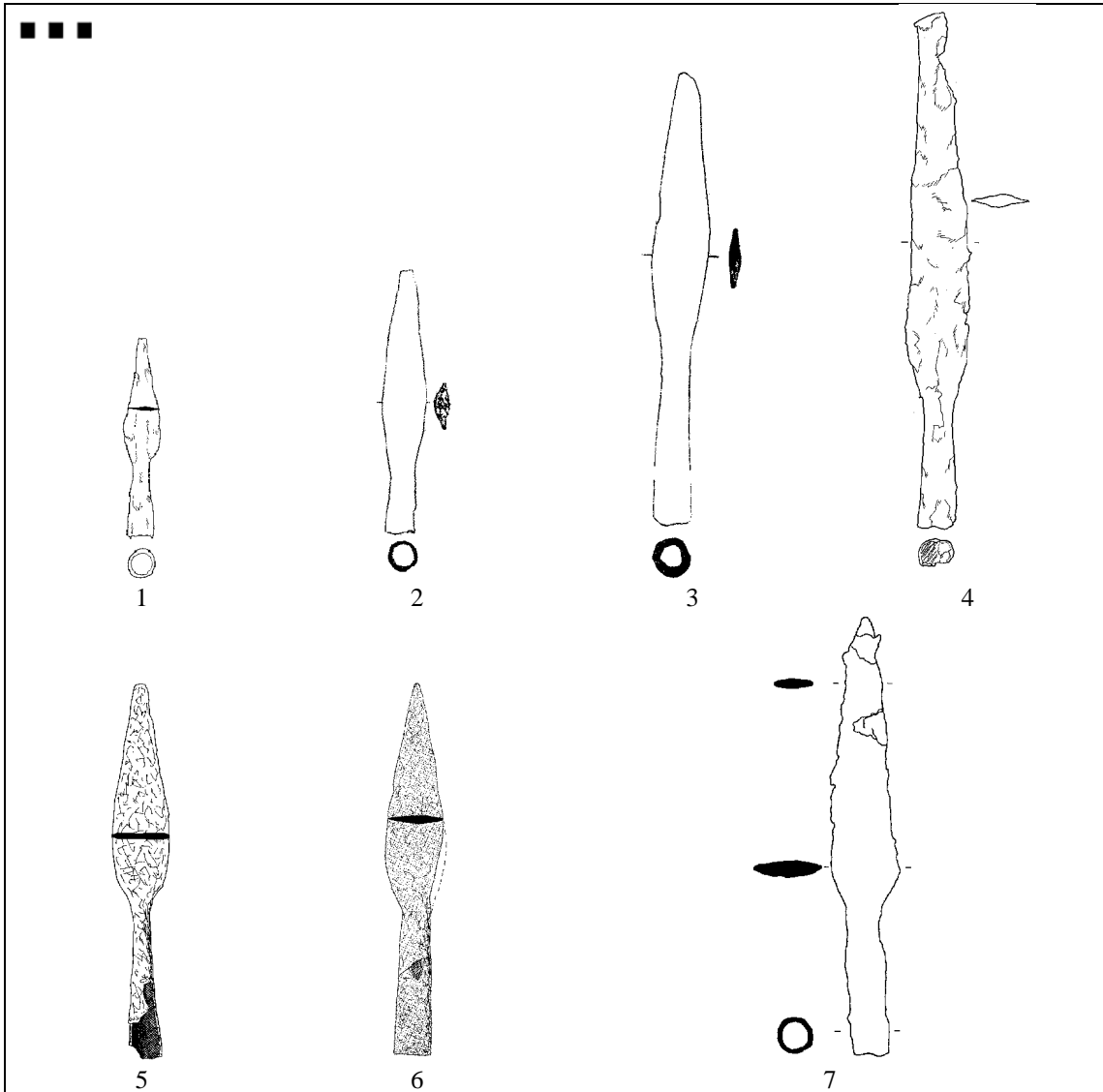
**Figure 23: Type 3 Spearheads (to scale).**

1. Pontecagnano Tomb 2052 - Type 3.1
2. Pontecagnano Tomb 4852 - Type 3.1
3. Pontecagnano Tomb 2157 - Type 3.1
4. Sala Consilina S. Antonio Tomb 035B - Type 3.1
5. Sala Consilina S. Rocco Tomb C1 - Type 3.1
6. Sala Consilina S. Rocco Tomb D81 - Type 3.2
7. Cairano Tomb 3 - Type 3.5
8. Pontecagnano Tomb 3284 - Type 3.5



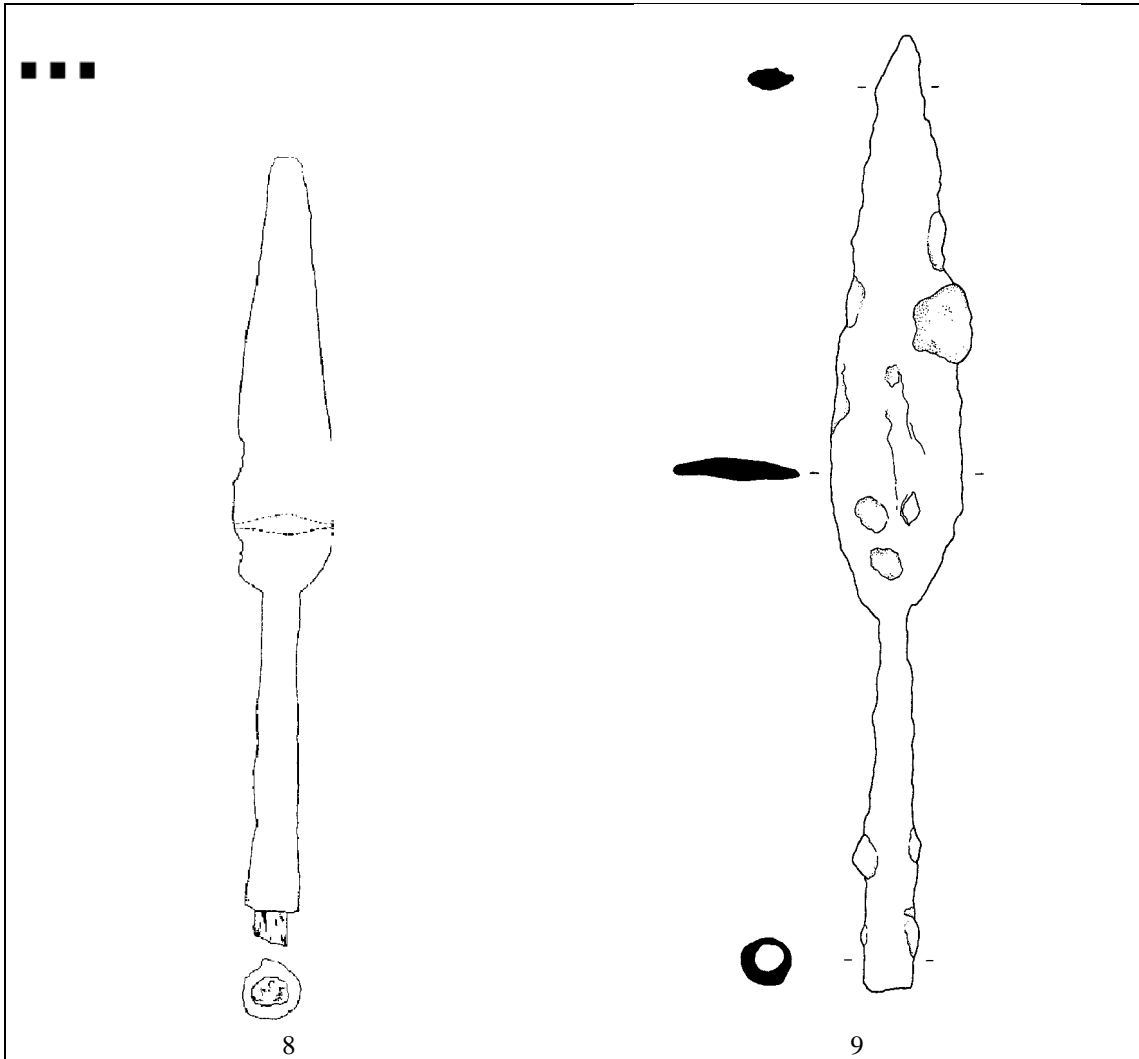
**Figure 24: Type 4 Spearheads (to scale).**

1. Pontecagnano Tomb 2150 - Type 4.1
2. Pontecagnano Tomb 3184 - Type 4.1
3. Sala Consilina S. Rocco Tomb G33 - Type 4.2
4. Pontecagnano Tomb 3184 - Type 4.3
5. Sala Consilina S. Rocco Tomb F28 - Type 4.3
6. Sala Consilina S. Rocco Tomb A221 - Type 4.3



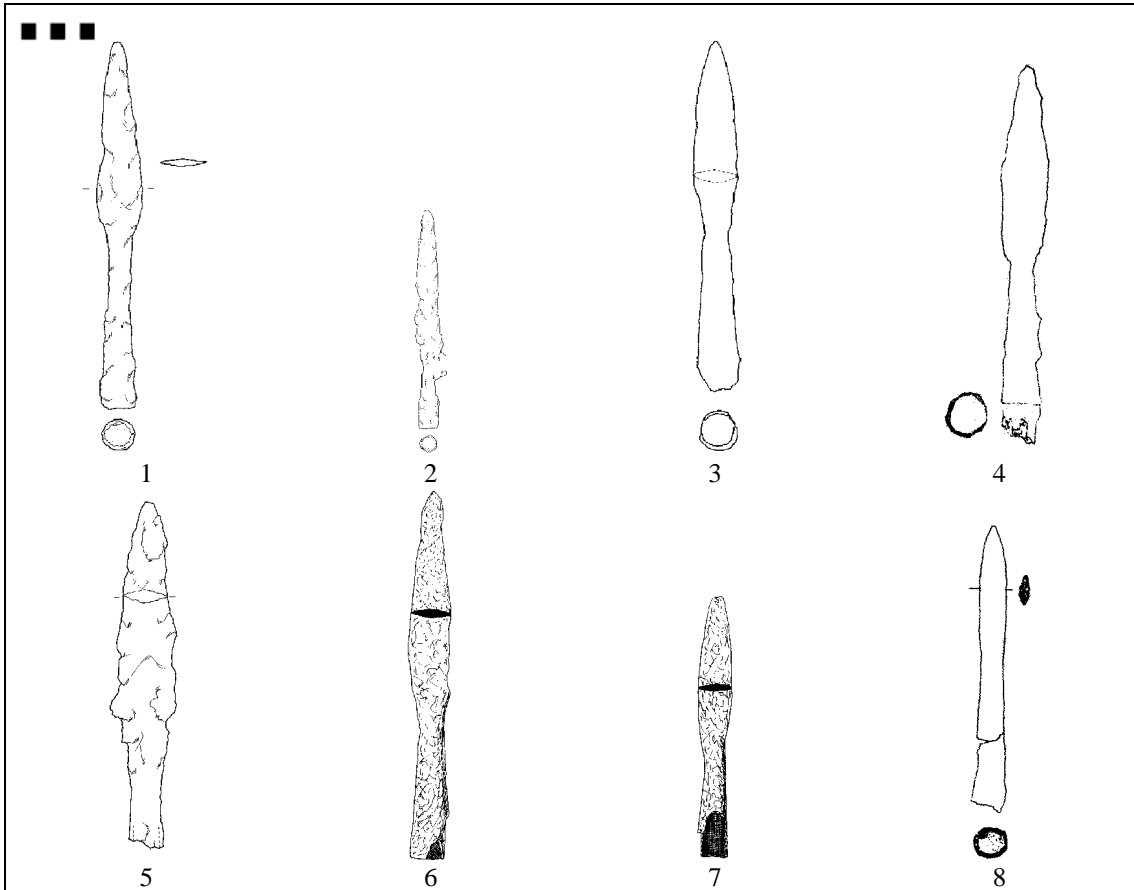
**Figure 25: Type 5 Spearheads (to scale).**

1. Pontecagnano Tomb 3267 - Type 5.1
2. Pontecagnano Tomb 928 - Type 5.1
3. Pontecagnano Tomb 928 - Type 5.1
4. Pontecagnano Tomb 5267 - Type 5.1
5. Sala Consilina S. Rocco Tomb A328 - Type 5.1
6. Sala Consilina S. Rocco Tomb A32 - Type 5.1
7. Paestum Laghetto Tomb LXIV - Type 5.1



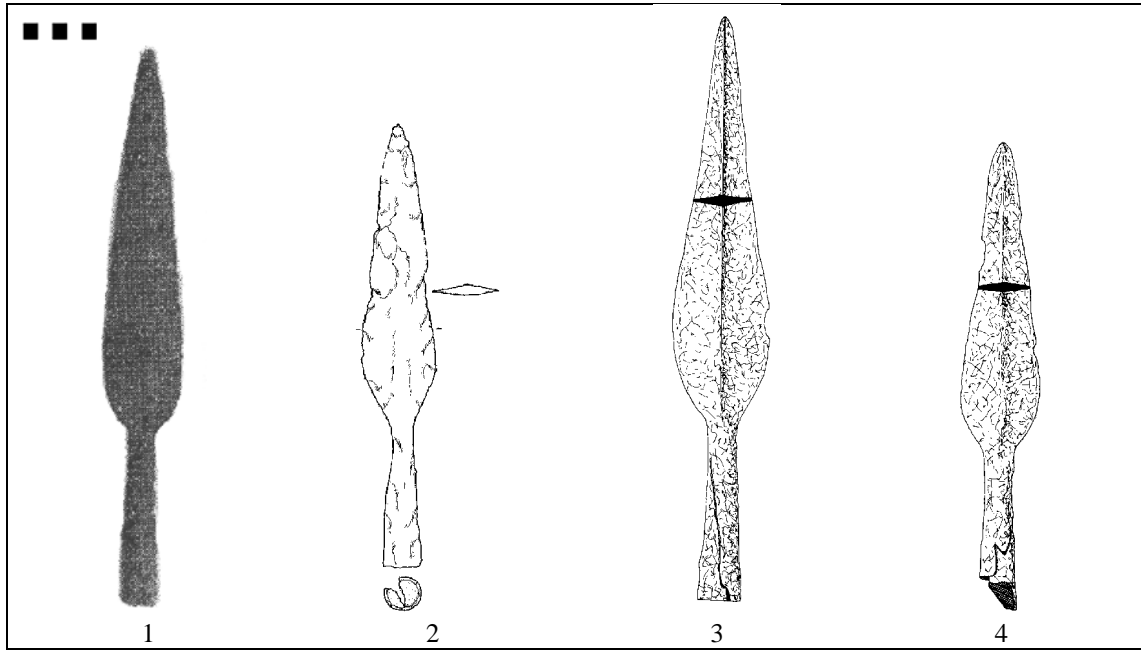
**Figure 26: Type 5 Spearheads cont. (to scale).**

- 8. Cairano Tomb 4 - Type 5.2
- 9. Paestum Gaudo Tomb 2 - Type 5.2



**Figure 27: Type 6 Spearheads (to scale).**

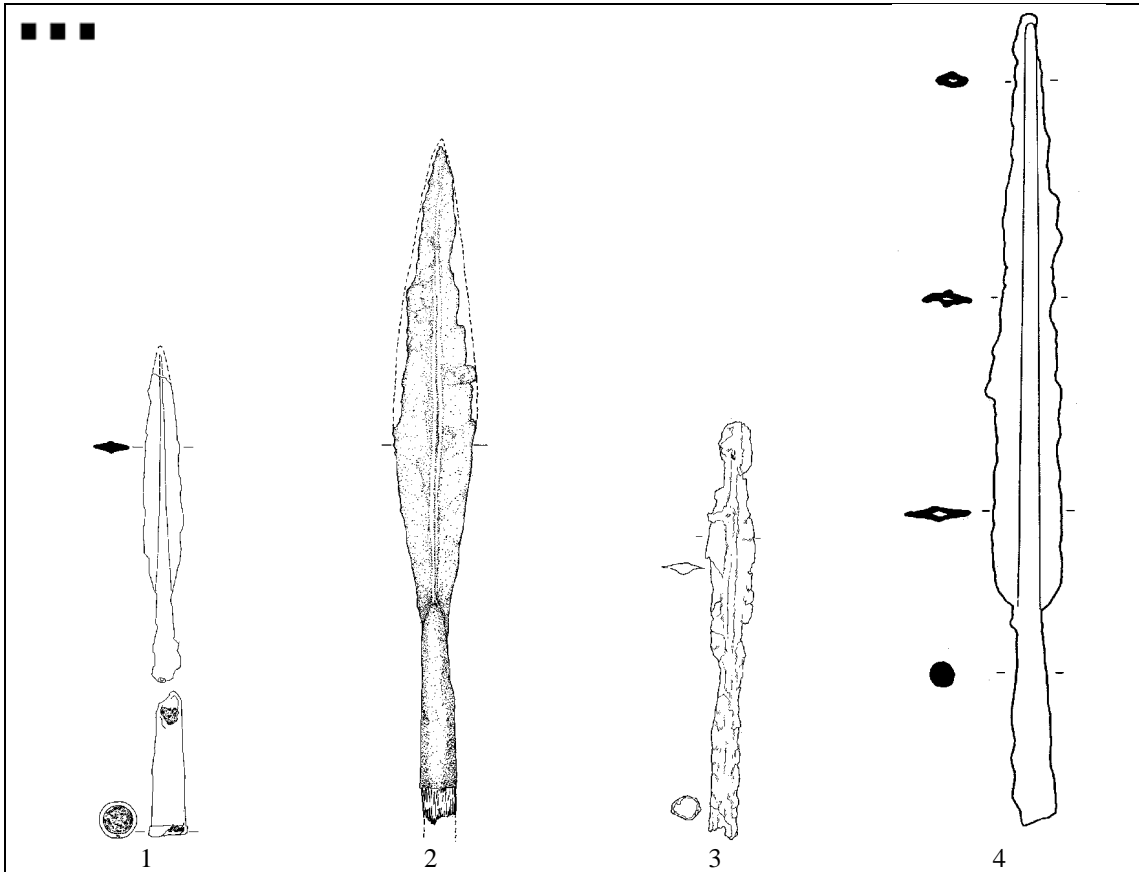
1. Pontecagnano Tomb 4348 - Type 6.1
2. Pontecagnano Tomb 4409 - Type 6.2
3. Cairano Tomb 23 - Type 6.3
4. Pontecagnano Tomb 926 - Type 6.3
5. Pontecagnano Tomb 5761 - Type 6.3
6. Sala Consilina S. Rocco Tomb A161 - Type 6.3
7. Sala Consilina S. Rocco Tomb A204 - Type 6.3
8. Pontecagnano Tomb 928 - Type 6.4



**Figure 28: Type 7 Spearheads (to scale).**

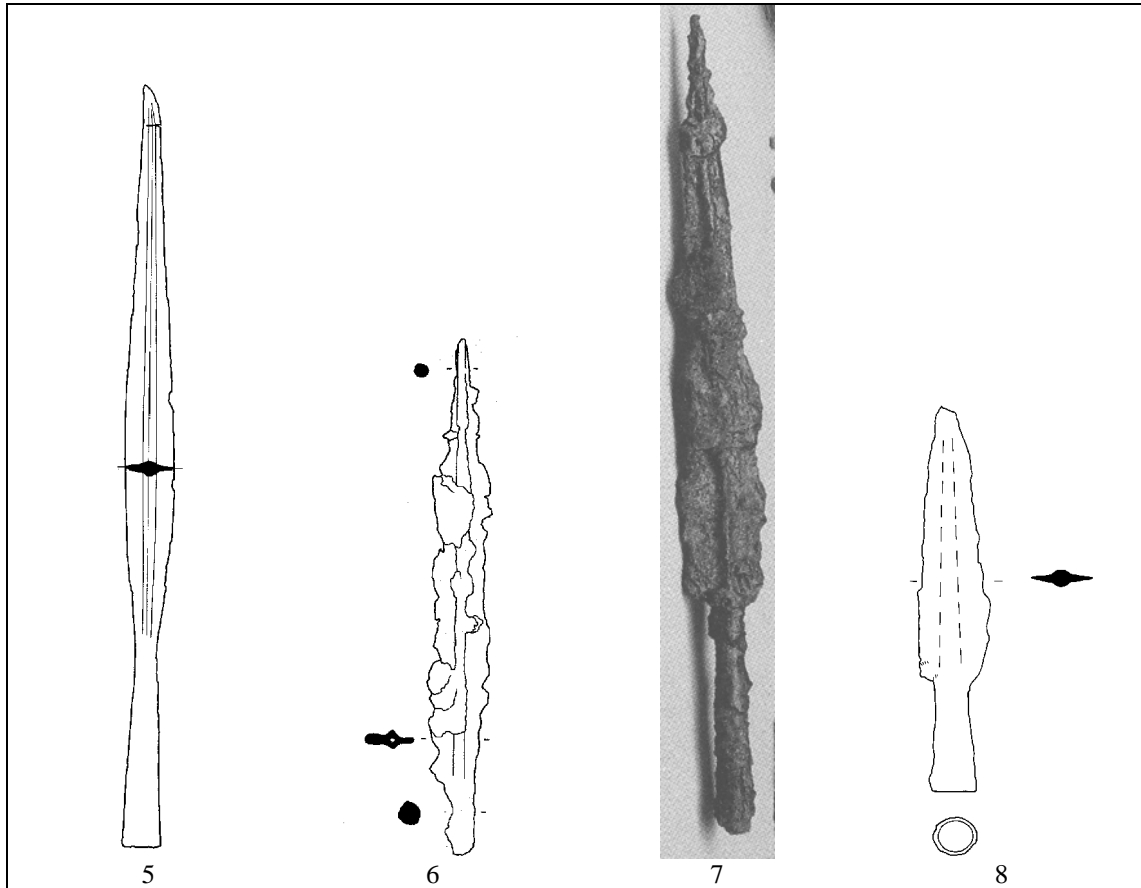
1. Oliveto Citra Tomb 27 - Type 7.1
2. Pontecagnano Tomb 4048 - Type 7.1
3. Sala Consilina S. Rocco Tomb 382 - Type 7.1
4. Sala Consilina S. Rocco Tomb 393 - Type 7.1





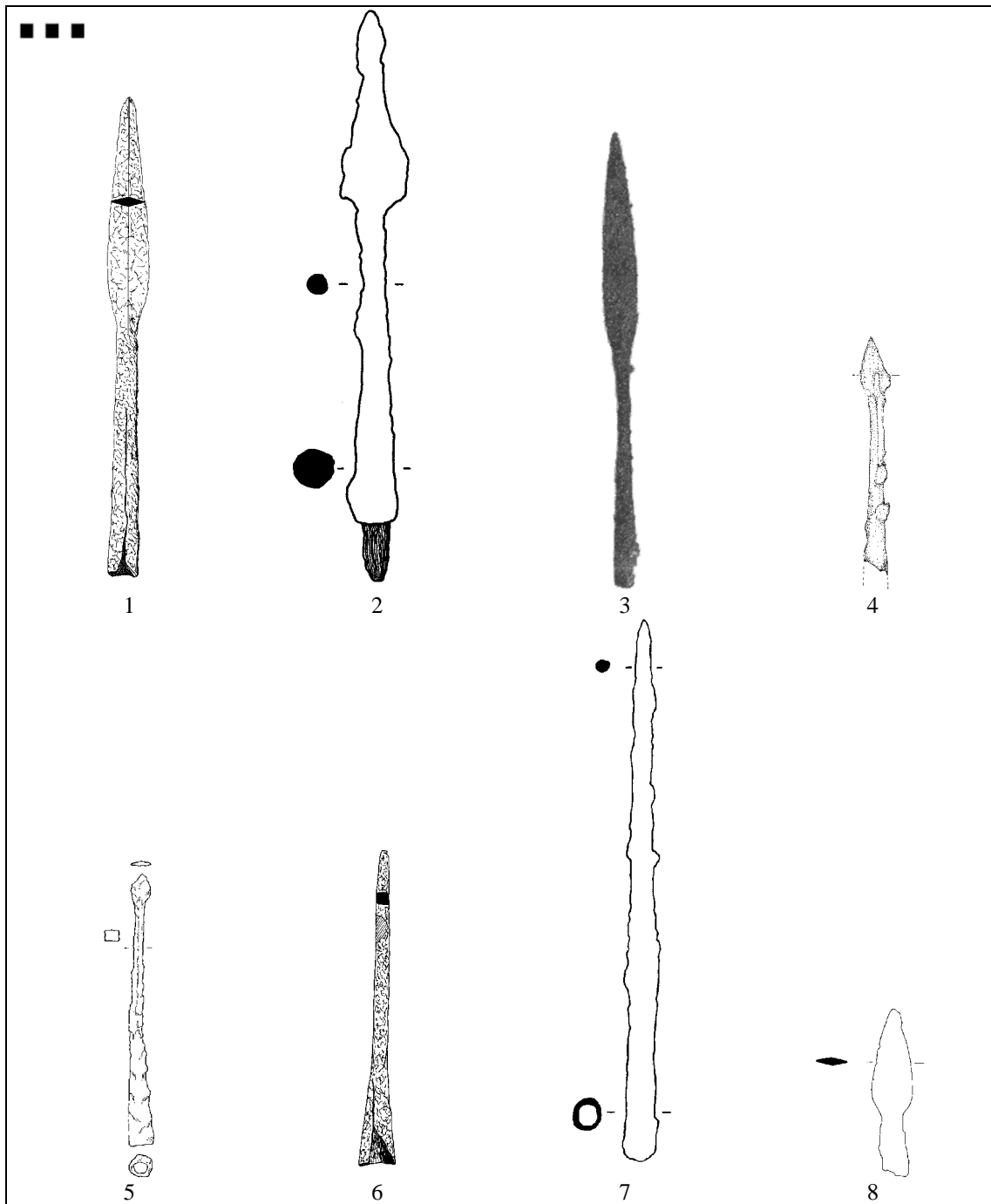
**Figure 29: Type 8 Spearheads (to scale).**

1. Cairano Tomb V - Type 8.1
2. Paestum Tomb Gaudo 254 - Type 8.1
3. Pontecagnano Tomb 5760 - Type 8.1
4. Paestum Tomb Andriuolo 51 - Type 8.1



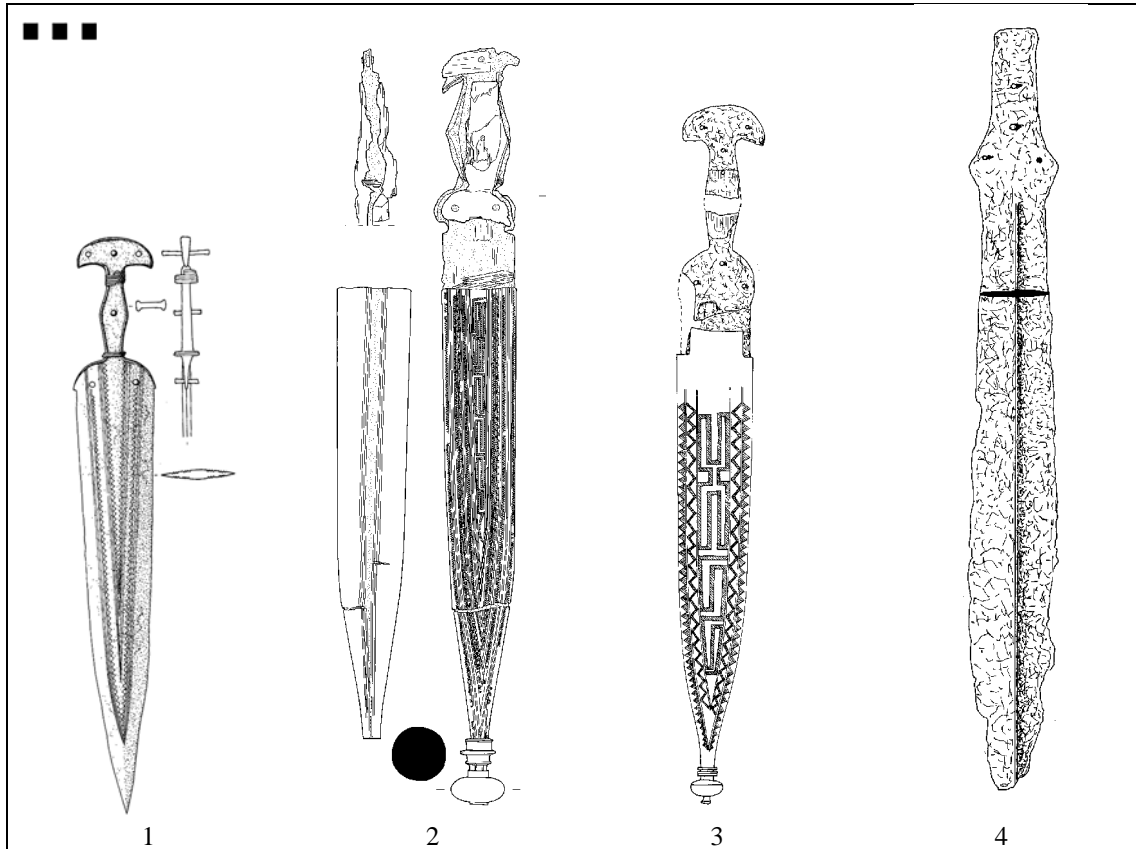
**Figure 30: Type 8 Spearheads cont. (to scale).**

5. Cairano Tomb XVII - Type 8.2
6. Paestum Arc. Porta Aurea Tomb 2 - Type 8.2
7. Paestum Tomb Andriuolo 84 - Type 8.3
8. Pontecagnano Tomb 4856 - Type 8.4



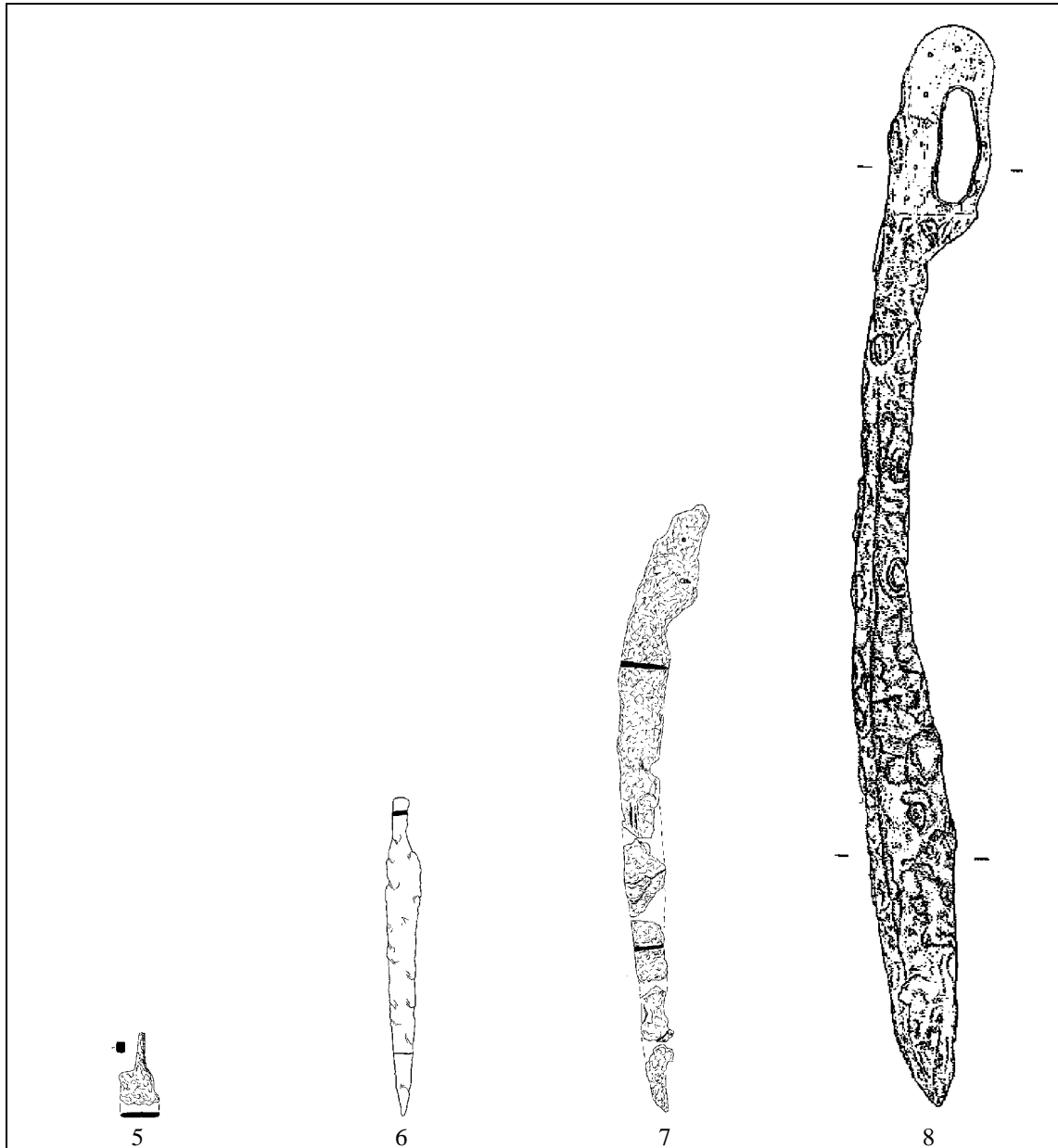
**Figure 31: Type 9 and 10 Spearheads (to scale).**

1. Sala Consilina S. Rocco Tomb A152 - Type 9.1
2. Paestum S. Venera Tomb 109 - Type 9.2
3. Oliveto Citra Tomb 23 - Type 9.3
4. Paestum Tomb Gaudo 269 - Type 9.4
5. Pontecagnano Tomb 5755 - Type 9.4
6. Sala Consilina S. Rocco Tomb J21 - Type 9.5
7. Paestum Vannullo Tomb 4 - Type 9.6
8. Cairano Tomb II - Type 10.1



**Figure 32: Campania, Swords and Daggers (to scale).**

1. Pontecagnano Tomb 180 - Type 1.2
2. Pontecagnano Tomb 2150 - Type 1.2
3. Sala Consilina S. Antonio Tomb 29 - Type 1.2
4. Sala Consilina S. Rocco Tomb A343 - Type 3.1



**Figure 33: Campania Swords and Daggers cont. (to scale).**

5. Sala Consilina S. Rocco Tomb D50 - Type 4.2
6. Pontecagnano Tomb 3205 - Type 4.2
7. Sala Consilina S. Rocco Tomb G33 - Type 5.2
8. Paestum Gaudo Tomb 174 - Type 5.3

## **Chapter 7 - Conclusions**

The typological assessment of weapons undertaken in the three regional chapters has revealed some patterns in the chronological and geographical distribution of weaponry in the Iron Age of South Italy. The typology of spearheads, in particular, facilitates the recognition of several distinct patterns in the distribution of specific spearhead forms. These patterns also illuminate the cultural exchanges between the indigenous populations of South Italy and Villanovan and Greek immigrants to the region through both the spearhead and sword assemblages.

### *Spearheads*

It is clear that throughout the Iron Age in South Italy spearheads are predominantly local productions and that there is no adoption of Greek or Phoenician spearhead forms. The greatest cultural influence on spearhead forms comes from the Villanovan settlements of Southern Campania and even this influence was not widespread. Villanovan spearhead forms (type 3 and type 4 groups) appear frequently in the Southern Villanovan sites, with several examples reported from non-Villanovan sites in Southern Campania and Basilicata (but no examples have been published from Daunia). Contemporary with these Villanovan forms were the type 1 and type 2 bronze spearhead groups, Bronze Age forms which were widely produced throughout the Italian peninsula, the Mediterranean and Central Europe by the end of the Bronze Age.

At Pontecagnano, Villanovan spearhead forms dominated the spearhead assemblage in the 9<sup>th</sup> and 8<sup>th</sup> C, accounting for 67% of bronze spearheads, with only 33% allocated to types 1 and 2. At Sala Consilina, where there is believed to have been a greater degree of integration with the indigenous *Fossakultur*, type 1 and 2 spearheads

form 62% of the bronze spearhead assemblage whilst Villanovan type 3 and type 4 spearheads make up just 38%. Thus it seems that Sala Consilina's much-discussed cultural integration with the local population extended to the spearhead assemblage.

At Incoronata during the 9<sup>th</sup> and 8<sup>th</sup> C the widely-distributed type 1 and 2 spearhead forms make up 79% of bronze spearheads (type 1.1 accounting for 71% of bronze spearheads). In contrast, Villanovan spearhead forms accounted for only 18% of bronze spearheads of identifiable type.<sup>1</sup>

Throughout the 9<sup>th</sup> and 8<sup>th</sup> C there is also a distinct preference for broad-bladed bronze spearheads at all sites where material of this period is published. Following the introduction of iron spearhead forms in the 8<sup>th</sup> C the preference rapidly changes with longer, narrow-bladed spearheads increasing in frequency. By the beginning of the 6<sup>th</sup> C narrow-bladed spearheads of the type 6 and type 8 groups dominate the spearhead assemblages of most South Italian sites. Chiaromonte, in the culturally distinct southwestern part of Basilicata, is the only site at which broad-bladed spearhead forms appear to outnumber narrow-bladed forms.<sup>2</sup>

It is clear from the evidence at Pontecagnano and Sala Consilina that spearheads lag behind swords in the transition from bronze to iron as a material of manufacture. Future studies clarifying the chronological sequence at Incoronata may further illuminate this transition. While the appearance of the first iron spearhead coincides with the establishment of Pithekoussai these events appear to be coincidental. While the possibility that exchange between the indigenous population and Greek and

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<sup>1</sup> The remaining 3% is accounted for by a type 3.4 spearhead, which is allocated to the type 3 group on the basis of its polygonal socket section but which appears to be a Central European form with a parallel in Albania: see Prendi 1982 fig. 12.

<sup>2</sup> Given the small sample of spearheads published from this site, further research is required to confirm this phenomenon is not merely an accident of discovery.

Phoenician traders and colonists may have included advances in metal-working technology, it is certain from iron swords dated to the 9<sup>th</sup> C that Italian peoples possessed a sophisticated understanding of iron working techniques already by that time. The lag in transition from bronze to iron for spearheads may be best explained by their more 'disposable' nature, in comparison to swords, which were high-status items. This is partially supported by the evidence of arrowheads, which continue to be manufactured in bronze and occasionally flaked stone throughout the Iron Age in South Italy and don't appear to have ever been made from iron.<sup>3</sup>

Application of the spearhead typology to the South Italian material revealed some significant patterning in the distribution of iron spearheads. Of greatest importance is the preference for members of the type 9 group of spearheads in Daunia (54% of iron spearheads). The preference for type 9 spearheads in Daunia is consistent from the 6<sup>th</sup> C through to the 4<sup>th</sup> C.<sup>4</sup> This group of spearheads, with its very narrow or non-existent blade form and long socket is particularly suited to being thrown. The preference for this type of spearhead in Daunia suggests that the practice of throwing spears was particularly important in the region.

The preference for type 9 spearheads was never as great in Basilicata or Southern Campania. However, there is an increase in the proportion of type 9 spearheads evident there in the 5<sup>th</sup> and 4<sup>th</sup> C. In Basilicata during the 7<sup>th</sup> C to 6<sup>th</sup> C type 9 spearheads form 19% of the spearhead assemblage. During the 5<sup>th</sup> C to 4<sup>th</sup> C the proportion of type 9 spearheads has increased to 42%. In Southern Campania type 9 spearheads make up just 13% of the 7<sup>th</sup> C to 6<sup>th</sup> C spearhead assemblage. During the

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<sup>3</sup> Robinson 1995, 148 and note 11 demonstrates that bronze arrowheads could be hardened by the addition of arsenic, thereby creating armour-piercing arrows.

<sup>4</sup> The small amount of 8<sup>th</sup> C and 7<sup>th</sup> C material published for Daunia makes preferences before this time difficult to identify.



5<sup>th</sup> C to 4<sup>th</sup> C this proportion has increased to 38% of all spearheads in Southern Campania.

The typological assessment also revealed a difference in the date of appearance of type 6 and type 8 spearheads at different sites throughout the region. Members of type 8 appear c.770 BC at Pontecagnano and Sala Consilina, prior to the appearance of type 6 (c.700-675 BC). At Cairano both types appear contemporaneously in the first half of the 7<sup>th</sup> C. Both groups also appear to be contemporary at Incoronata and are present in Chiaromonte by the early 6<sup>th</sup> C. However in north-western Basilicata and Daunia the date of arrival of these two types is different. Members of type 6 appear at Serra di Vaglio by the last quarter of the 7<sup>th</sup> C. However, members of type 8 are not observed until the late 6<sup>th</sup> C. At Lavello also type 6 appears in the 7<sup>th</sup> C while members of type 8 do not appear until the 5<sup>th</sup> C. By the end of the 4<sup>th</sup> C type 8 appears with greater frequency at Lavello than members of type 6, apparently replacing an inferior and outdated spearhead form.

Signs of wear are evident on several bronze spearheads, indicative of prolonged use.<sup>5</sup> It appears therefore that at least some of the weapons recovered from tombs were functional and were probably, in most cases, weapons used by the deceased in life.

Throughout the period under examination spearhead sockets measure c.2cm on average, demonstrating that this was the optimum diameter of spear shafts. While a number of spearheads throughout South Italy are reported to retain traces of wood in their sockets, no studies (as far as I am aware) have been undertaken to determine wood species. It would be interesting to conduct such an analysis to see whether any association could be identified between spearhead type and wood species.

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<sup>5</sup> The high levels of corrosion common in iron spearheads renders evidence of wear largely undetectable.

When multiple spearheads were included in a tomb there appeared to be a discrete relationship between spearhead form and length. In instances where multiple spearheads from the same type group were included together, their length was frequently similar (within 10cm), while assemblages of differently-typed spears tended to have a greater difference in their comparative length (greater than 10cm). Further research would be required to validate whether this phenomenon is real or merely a consequence of the process of type-allocation.

### *Swords*

The typological assessment of swords also revealed patterns in their distribution. Like spearheads, it is clear that most swords were locally manufactured and were of Italian design. Only the longsword (type 2) and the *machaira* (type 5) were obviously imported concepts.

The earliest sword type identifiable in Iron Age South Italy is the Italic sword (type 1), which had appeared at the end of the Bronze Age, with a distribution that included sites in Central Italy, Campania, Basilicata and Calabria. The Italic sword was evidently the first class of weapon to make the transition to iron as a preferred material of manufacture. The earliest iron examples imitated their bronze predecessors, several featuring iron blades with bronze hilts cast on to them. These examples would have been lighter than their bronze counterparts, due to the lesser density of iron. The greater manoeuvrability of these blades would have provided an obvious advantage to their bearers and, wielding their reduced weight, warriors would not have tired as quickly. The elite connotations of iron as a metal at this time would also have had significant appeal during the Early Iron Age, the combination of technology and wealth making iron swords into potent statements of rank and power.

There is evidence to suggest that the longsword (type 2) was adapted to match South Italian preferences. The type 2.1 longsword was a true longsword with examples measuring in excess of 85cm in length, comparable to examples known from Greece. The type 2.2 longswords from Incoronata and Oppido Lucano are clearly differentiated from type 2.1 by their much shorter length (less than 65cm), very close to the length of Italic (type 1) and cross-bar (type 3) swords, which averaged c.50cm throughout South Italy during the Iron Age. Sword length remained fairly consistent throughout the period examined in this thesis with a slight trend toward increasing length over time. Cross-bar (type 3) swords in particular are remarkably consistent in length. When the first cross-bar swords appeared (late 8<sup>th</sup>/7<sup>th</sup> C) they measured c.45cm, in the 6<sup>th</sup> C average length increased to c.50cm, and then to c.52cm for the two 4<sup>th</sup> C examples, thus showing an average increase in length of 7cm over the course of three centuries.<sup>6</sup>

The *machaira* (type 5), first appeared in South Italy after its adoption in Greece, its appearance in South Italy contemporary with the advent of Greek colonisation. Its adoption at sites on the Tyrrhenian and Ionian coasts and along their closest trade routes—coupled with their absence in Daunia and north western Basilicata—suggests that the two events were related. In the *machaira* we have an apparent adoption of a Greek sword form by the indigenous peoples.

However, there appears to have been an interesting reverse-exchange of weapon technology between the Greek and indigenous population. The cross-bar sword (type 3) was the most prominent sword form in South Italy between the 7<sup>th</sup> C and 5<sup>th</sup> C. In

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<sup>6</sup> Calculating average length for all swords, regardless of type, changes the figure slightly from an average of c.40cm in the 8<sup>th</sup> C to 60cm in the 4<sup>th</sup> C. The 4<sup>th</sup> C data is skewed by the 77cm *machaira* from Paestum. If the Paestan *machaira* is excluded the average becomes 52cm, giving an increase of 12cm over three centuries.

Daunia there was a complete absence of swords of any other identifiable type during this period. In north-western Basilicata too, swords were overwhelmingly members of the type 3 group (only one sword was not allocated to type 3). The intense concentration of this sword type in the Daunian and north western Basilicata zone suggests this region was the epicentre of the cross-bar sword and that the type disseminated from there to the Greek colonies with which they had contact. It appears that the cross-bar sword was already being adopted by Greek hoplites during the 6<sup>th</sup> C, becoming the preferred sword type.<sup>7</sup>

It is clear both from the small number of swords recovered by archaeologists, and from iconographic representations, that swords functioned as an auxiliary weapon in the South Italian context and that their primary function was as a symbol of elite warrior status. Other functions too were fulfilled by the sword. There is evidence that swords served as tools of sacrifice, and, while suggestions have been made that the *machaira* was favoured here (their frequently shorter length supporting this interpretation) iconographic evidence suggests that cross-bar swords also functioned in this manner.

#### *Other weapons*

Axes had the potential for multiple functions. They were frequently found in association with other weapons (particularly spearheads) and could readily have served as weapons in their own right. However, they were also often associated with tools such as chisels, pincers or sickles and could just as easily have functioned as wood or metal working tools or as agricultural implements. Representation of an axe in a sacrificial context in a Paestan tomb painting also raises the possibility that axes

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<sup>7</sup> Snodgrass 1967, 84-5 and fig.52.

served a sacrificial function. Ultimately, their extreme versatility renders the explicit function of most examples elusive.

A small number of arrowheads recovered from burial contexts demonstrate that archery was practiced. The arrowheads appear to be local productions, their form different from contemporary Greek and Near Eastern forms.<sup>8</sup> As in contemporary Greece, archery does not appear to have been associated with high status and was rarely represented in the funerary record. How widely archery was practiced cannot be determined on the basis of current evidence.

*Sauroter* is a problematic class of artefact; identification of a *sauroter* is not always certain. While some (featuring a flat base, or no base) clearly could not have served in an offensive capacity, other examples appear indistinguishable from type 9 throwing spearheads. Thus the interpretation of points as *sauroteres* should always be considered critically and the determination is particularly suspect in instances where no other weapons were found in association.

#### *Associated Paraphernalia*

The practice of wearing bronze belts was widespread throughout South Italy in the 5<sup>th</sup> and 4<sup>th</sup> C. Suano's typological study identified several distinct geographic clusters in the distribution of bronze belts (based on their clasps). My assessment of tombs across the regions of Daunia, Basilicata and Southern Campania has revealed that there were also variations in the correlation between bronze belts and weapons. These variations come into stark relief especially in Daunia where some sites revealed a very close correlation between bronze belts and weapons in tombs (Lavello, Canosa and Arpi), whilst at other sites bronze belts were rarely found in association with weapons

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<sup>8</sup> See Appendix, 449.

(Ortona, Ascoli Satriano and Minervino Murge). These sites are geographically, and culturally close yet it would appear that there were subtle cultural nuances, expressed through the wearing of bronze belts (and depositing them in tombs), which remain poorly understood.

Armour has not been a focus of this study. However, it is in armour that the greatest number of external influences can be seen. Greek, Central European and Celtic influences are all observed in armour forms. There appears to have been no standardised panoply of armour, with introduced forms coexisting with a range of locally produced armour. There is some evidence for the presence of helmets constructed of perishable materials but negligible evidence for cuirasses constructed of leather or linen.

Firedogs and iron spits appear in a number of elite tombs between the 8<sup>th</sup> and 4<sup>th</sup> C. These items appear to have had multiple functions, serving as markers of personal wealth as well as of social influence and power, symbolically represented in the distribution of meat to dependents. The association of these items with weaponry is indirect, both classes of artefact being markers of elite social status.

### *Fighting Style*

What has this assessment been able to reveal about the style of fighting engaged in during the Iron Age in South Italy? Generally, throughout the period under examination, swords were predominantly moderate length cut-and-thrust swords and—for much of the period—spearheads were mostly versatile forms. All indications from the weapons assemblage favour a loose fighting style in which personal preference and versatility were valued. However, it is possible to identify some specific relationships between weapon forms and fighting technique.

The functional typology of spearheads has identified three specific functional spear forms: broad-bladed thrusting spears which were ill-suited to throwing, very narrow-bladed throwing spears which were equally ill-suited to the delivery of thrusting blows, and a range of versatile narrow-bladed spearhead forms which could be effectively deployed in the delivery of thrusting or throwing actions. The prevalence of type 9 throwing spears in Daunia demonstrates an emphasis on throwing in the martial practices of that region. The increasing popularity of this type group throughout Basilicata and Campania during the 5<sup>th</sup> C and 4<sup>th</sup> C implies a change in fighting techniques in those regions with an increasing role for spear-throwing during this period.

Throughout Basilicata and Southern Campania the increase in popularity of type 9 throwing spears in the 5<sup>th</sup> C and 4<sup>th</sup> C coincides precisely with the rise of cavalry forces in the region. Though Xenophon explicitly recommended the use of the *machaira* for cavalymen it is clear that the sword remained an auxiliary weapon, subordinate to the spear.<sup>9</sup> Depictions of swords are conspicuously absent from the returning horse-borne warriors of Paestan tomb paintings. Indeed, they were consistently represented bearing one or more spears, revealing that the embodiment of the warrior ideal was manifested in the spear.

Deploying spears from horseback would have been preferable to engaging in cavalry action with the sword. The employment of swords in close combat on horseback required a high level of control over the horse. It was one thing to ride close to an enemy and throw a spear at him; it was another matter entirely to ride close to an enemy and engage in direct sword combat. The horse would have needed to be well trained and unafraid of the melee of battle. Xenophon's *How to be a Good Cavalry*

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<sup>9</sup> Xenophon On Horsemanship, 12.11.

*Commander* expounds in great detail the level of training required of both horse and rider to perfect mounted combat, and in the absence of a standing army, mounted warriors with throwing spears would have been highly effective in battle and would have required far less training.

Osteological studies could shed further light on our understanding of Iron Age warfare in South Italy. Lewis has demonstrated that it is possible to identify cut marks on bone which have been made by swords in the delivery of slashing blows, and that these can be differentiated from marks made by stab wounds with certainty.<sup>10</sup> While it is understood that the sword functioned as an auxiliary weapon, the application of this kind of osteological study could elucidate the extent to which swords were actually used, and in what capacity.

Occasional mention is made of trauma in South Italian site reports, for example Cipriani mentions that the individual in Gaudo Tomb 174 at Paestum showed evidence of a healed fracture to the thorax.<sup>11</sup> However, there is no discussion of what kind of injury could have caused his fracture and whether it was likely to have been sustained in combat, despite the presence of a sword, spear and extensive defensive panoply in his tomb. Similarly, an examination of the skeletal remains of the individual from Tomb 10, Gravina di Puglia (on display in the Museo Archeologico di Gravina) showed evidence that he sustained multiple injuries.<sup>12</sup> His injuries included cranial trauma, a broken nose and several broken ribs. There were also stress fractures to his feet, shoulders and hands. While the stress fractures are clearly evidence of

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<sup>10</sup> Lewis 2008 compares slashing blows made by swords on pig carcasses and compares them against stabbing knife-blows. It is unfortunate that he did not perform a comparison between slashing and stabbing blows from the same swords.

<sup>11</sup> Cipriani and Longo 1996, 149-52 and figs. 58.10-15.

<sup>12</sup> Information obtained on a visit to Museo Nazionale di Gravina. The individual was a mature male whose grave goods included two iron spearheads, both of which could be allocated to the type 9 group.



prolonged physical stress it is not clear how his other injuries may have been sustained or whether they contributed to his death. The arrow lodged in the femur of the individual from Tomb 4141 at Pontecagnano confirms that archery was practiced, and while it is tempting to say that his injury is proof of martial practice this cannot be stated with certainty. These reports are evocative and hint at a wealth of information that remains untapped.

The practice of hunting also contributed to the construct of a warrior's identity in Iron Age South Italy. Boars and deer frequently decorated functional armour and hunting scenes also appear in Paestan tomb paintings. Hunting spears were clearly differentiated from martial spears in the ancient mind. Polybius makes this clear, and Xenophon is helpful in identifying the belief that broad-bladed spears were particularly well-suited to boar-hunting.<sup>13</sup> The fierce physical contest of the boar hunt held a special significance for its requisite skill and bravery. While broad-bladed spears are less common in South Italy, they persist throughout the period under examination, often appearing in the most elite tombs, for example Braida di Vaglio Tomb 101 which included a member of the broad-bladed type 7 along with members of the versatile type 8 and a type 9 throwing spear, thereby providing the full spectrum of functional spear types.

The typological approach to the South Italian material has revealed a number of patterns in the distribution of weaponry during the Iron Age. The functional spearhead typology forms an effective tool in mapping functional differences, preferences and changes and could be more widely applied in future studies.

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<sup>13</sup> Polybius *Histories*, 6.23.

## Appendix – Other Weapons and Associated Paraphernalia

Axes and arrowheads are weapon classes that appear in Iron Age tombs in South Italy. They appear with much less frequency than spearheads or swords, but still warrant discussion. *Saurotères* too, appear in tombs and their role in ancient military practice must be assessed. In addition, I will explore problems with the identification of *saurotères* in the archaeological record. In this section I shall also give a brief overview of armour and horse equipment which often appear in association with weaponry in the most elite tombs.

### **Axes**

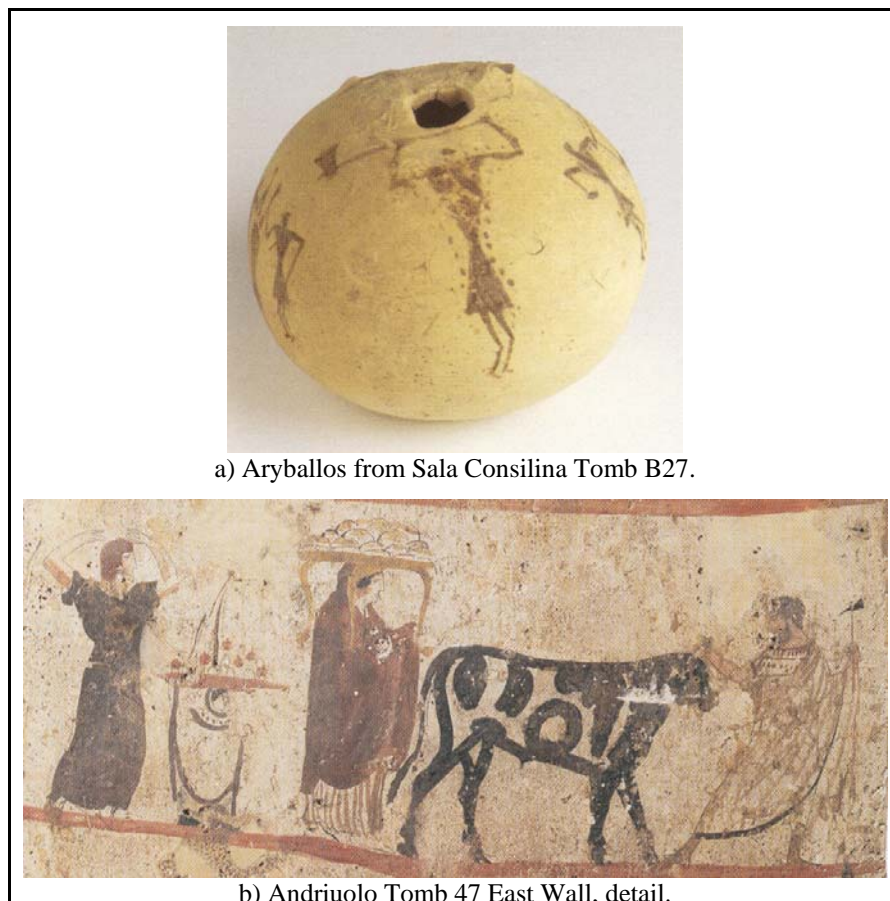
Axes are rare in South Italian tombs of the Iron Age and iconographic representations of axes are also rare. The types of axes observed in South Italy are derived from Northern Italian and Central European axe forms of the preceding Bronze Age.<sup>1</sup> There are two principal forms: hafted axes, mounted by a square tang, and shaft-hole (*ad occhio*) axes in which the handle is set into a round or oval hole at the base of the axe blade. Variations appear; for example, a variation of the hafted axe appears in which a socket is used to mount the axe head rather than a tang (Figure 2f). A variation on the shaft-hole axe can also be observed in which the profile of the shaft-hole axe is maintained though no hole exists for mounting the head to a handle (Figure 3c). A single example of a double-bladed axe appears in the tombs assessed in this thesis (Figure 3e).

The precise function of axes is elusive: they may have been weapons, tools or instruments of ritual sacrifice. Axes frequently appear in association with weapons; however, many of those assemblages also included tools such as chisels, suggesting

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<sup>1</sup> Outlined in Carancini and Peroni 1999.

that the axes may have functioned as tools associated wood or metal working. Occasionally they appear associated with sickles, suggesting an agricultural function. However, their potential role as weapons is also supported, particularly in Etruscan contexts, with the discovery of axes in association with weapons and armour in tombs and sanctuaries, and by the Auele Feluske stele from Vetulonia which depicts a warrior bearing a *hoplon* shield and an axe.<sup>2</sup> Cerchiai has offered a sacrificial interpretation for the depiction of a figure wielding an axe on an ‘aryballos’ recovered from a 6<sup>th</sup> C tomb at Sala Consilina (Figure 1a), and the depiction of an axe in a sacrificial procession on the wall of Andriuolo Tomb 47 at Paestum (Figure 1b) shows clearly that axes could be used in sacrificial contexts in South Italy.<sup>3</sup>



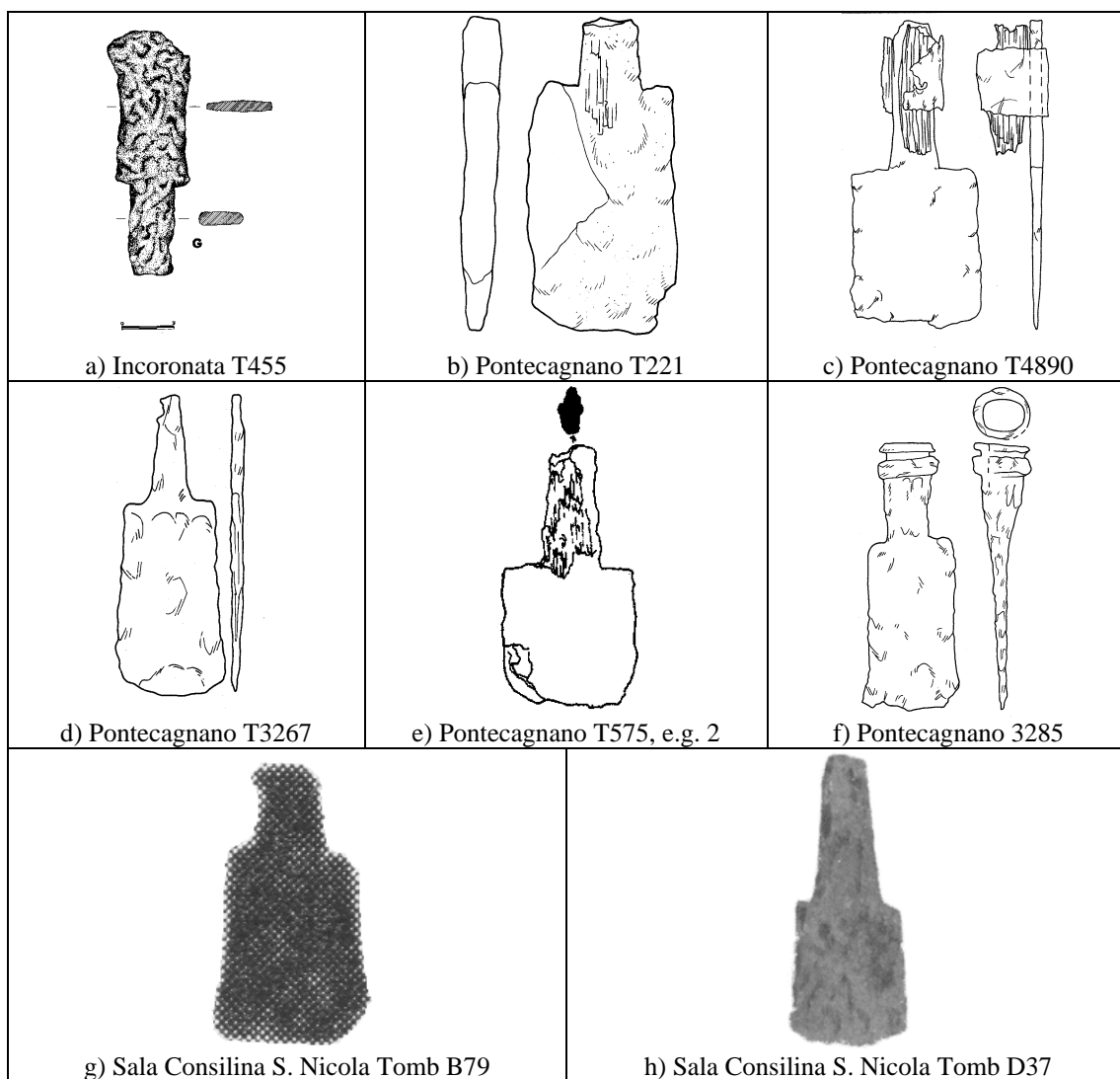
a) Aryballos from Sala Consilina Tomb B27.

b) Andriuolo Tomb 47 East Wall, detail.

**Figure 1: Images of axes in sacrificial contexts.**

<sup>2</sup> Tomb 1036 from Casale del Fosso and sanctuary of Civita di Tarquinia, along with the stele they are discussed in: Torelli 2007..

<sup>3</sup> Sala Consilina Tomb B27, Cerchiai 1997; Pontrandolfo and Rouveret 1992, 125.



**Figure 2: Hafted axes from South Italian Iron Age tombs (iron – not to scale).**

Examples of Hafted Axes:

Incoronata: Tomb 455<sup>4</sup>

Ruvo del Monte: Tomb 29 (600-550)<sup>5</sup>

Chiaromonte: Tombs 26 and 34<sup>6</sup>

Pontecagnano: Tombs 221 (770-730), 575 (730-710), 738 (625-600), 3267 (750-730),  
3285 (750-730), 4890 (late 8<sup>th</sup> C)<sup>7</sup>

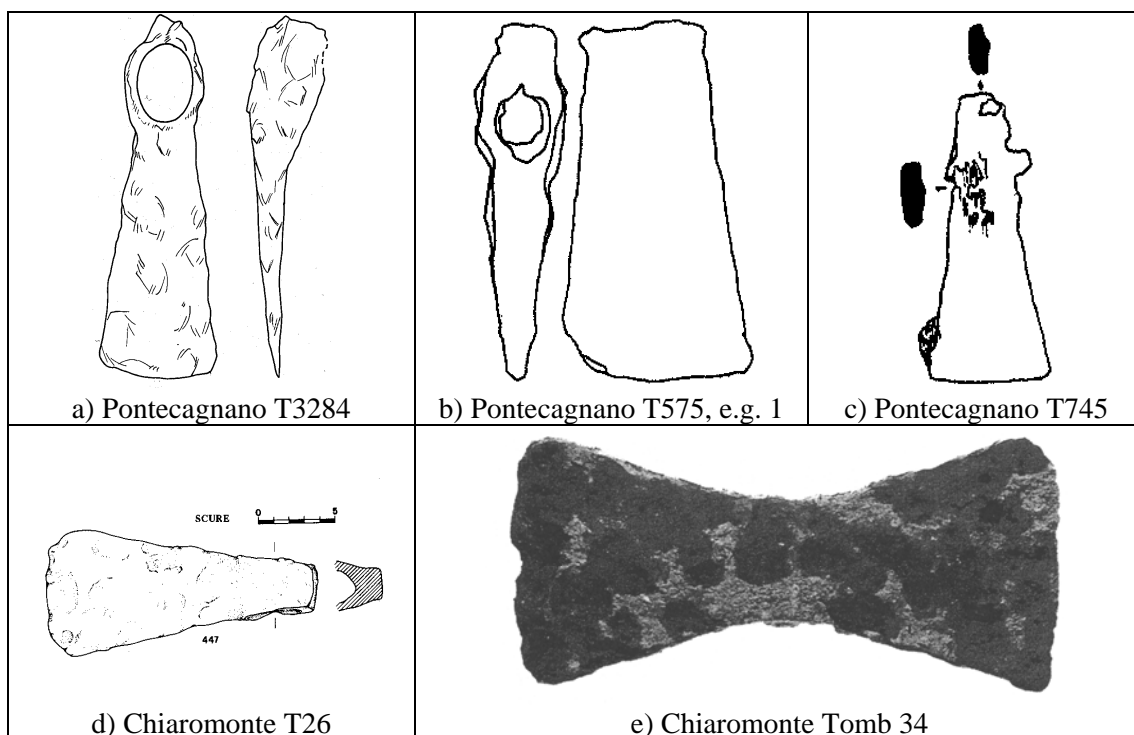
<sup>4</sup> Chiartano 1994, 223 and plates XXV, 114 and 115.

<sup>5</sup> Bottini 1981, 270 (not illustrated).

<sup>6</sup> Russo Tagliente and Berlingò 1992, 382-6 and 393 and figs 61-2, 123 and 135.

<sup>7</sup> Tomb 221: d'Agostino and Gastaldi 1988, 153 and fig. 67; Tomb 575: d'Agostino 1968, 131-2 and figs. 7 Nos. III.1, III.3, III.5 and III.6 and 32; Tomb 738: d'Agostino 1968, 186-7 – not illustrated; Tomb 3267: De Natale 1992, 101 and figs. 40 and 119; Tomb 3285: De Natale 1992, 111 and fig. 124; Tomb 4890: Cinquantaquattro 2001, 25 and plate 19.

Sala Consilina: Tombs B79 (575-550), D37 (575-550)<sup>8</sup>



**Figure 3: Shaft-hole axes and double-headed axe from South Italian Iron Age tombs (iron – not to scale).**

Examples of Shaft-hole Axes:

Pontecagnano: 575 (730-710), 745 (730-710), 3267 (750-730), 3284 (750-730)<sup>9</sup>

Chiaromonte: Tomb 26 (575-525)<sup>10</sup>

Double-headed Axe:

Chiaromonte: Tomb 34 (525-475)<sup>11</sup>

### Arrowheads

Though archery was clearly practiced in South Italy evidence for it is rarely found amongst grave offerings. Few arrowheads are to be found in Iron Age South Italy, and there are very few representations of archers. The arrowhead forms observed from Iron Age South Italy feature small, barbed points, measuring 1cm-3cm in length.

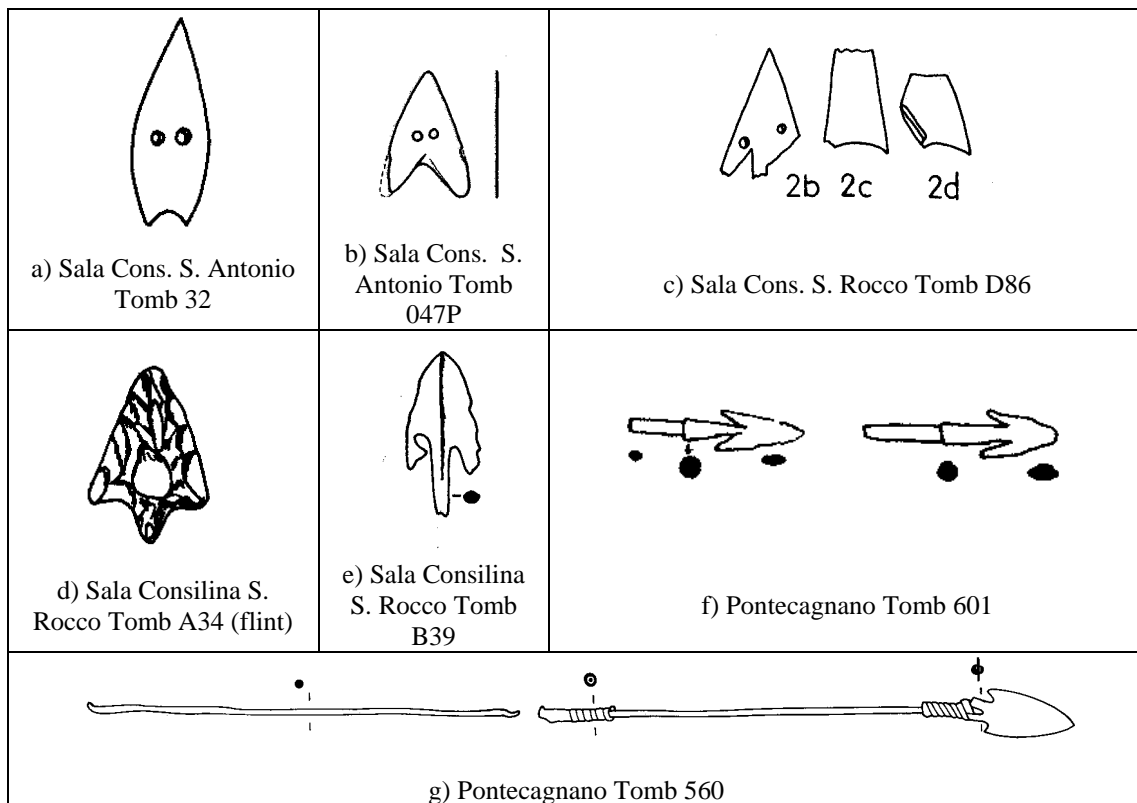
<sup>8</sup> De La Genière 1968, 282 and 289 and plates 13 and 16.

<sup>9</sup> Tomb 575: d'Agostino 1968, 131-2 and figs. 7 Nos. III.1, III.3, III.5 and III.6 and 32; Tomb 745: d'Agostino 1968, 148-50 and fig. 7 No XV.6; Tomb 3267: De Natale 1992, 101 and figs. 40 and 119; Tomb 3284: De Natale 1992, 109 and figs. 36 and 123.

<sup>10</sup> Russo Tagliente and Berlingò 1992, 382-6, and figs 61 and 123.

<sup>11</sup> Ibid., 393 and figs. 62 and 135.

Some examples included holes for binding to the arrow-shaft, while others feature a tang (Figure 4). The arrowhead forms appear to be local productions rather than derivations or direct imitations of Greek or Phoenician arrowhead forms.<sup>12</sup> They were almost exclusively manufactured from bronze and were never made from iron. Occasional flaked-stone examples such as the example from Sala Consilina (Figure 4d) would have been quick and inexpensive alternatives for those who lacked either the time or resources needed to acquire bronze arrowheads. Some metallurgical studies suggest that bronze arrowheads could be hardened by the addition of arsenic to the metal during the smelting process, thereby creating armour-piercing arrowheads.<sup>13</sup>



**Figure 4: Arrowheads recovered from South Italian Iron Age tombs (bronze, unless indicated otherwise – not to scale).**

<sup>12</sup> Snodgrass 1964, 141-3; Anglim *et al.* 2002, 51.

<sup>13</sup> Robinson 1995, 148 and note 11.

Examples:

Incoronata – (prehistoric period)<sup>14</sup> flaked stone

Sala Consilina: Tombs S. Antonio 32 (900-800), S. Antonio 047P (800-770), S. Rocco D86 (900-850), S. Rocco A34 (flaked flint - 770-750), S. Rocco B39 (650-600)<sup>15</sup>

Pontecagnano: Tombs 560 (850-770), 601(630-620), 4141 (lodged in the right femur of the skeletal remains - 4<sup>th</sup> C)<sup>16</sup>

### *Sauroter*

The *sauroter* is often noted from Iron Age tombs in South Italy and its function is understood. The *sauroter* itself could be a useful weapon; in instances when a warrior's spearhead had broken off the bearer could still defend himself, and attack his enemies, with the sharp counterpoint. The practice of placing spears 'at rest',<sup>17</sup> allowing a warrior to conserve energy and leave him free to use his hands for other tasks is well-documented in Apulian and Campanian red-figure vases and is recorded in the *Iliad*.<sup>18</sup>

Several distinct forms of *sauroter* are observed during the South Italian Iron Age (Figure 5). The most common form is a simple iron point with a conical socket (Figure 5d). The identification of this form of *sauroter* is not always certain and many examples can be readily allocated to my spearhead types 9.5 or 9.6. In several

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<sup>14</sup> Chiartano 1994, 150 and plate 96. Chiartano interprets the arrowhead as prehistoric. However, flaked stone tools are known in the historical period, like the example from Sala Consilina listed here. See also Runnels 1982.

<sup>15</sup> S. Antonio Tomb 32: Kilian 1970, 387 and plate 244; S. Antonio Tomb 047P: Ruby 1995, 284 and plate 34; S. Rocco A34: Kilian 1970, 334 and plate 19; S. Rocco B39: Kilian 1970, 357 and plate 118.

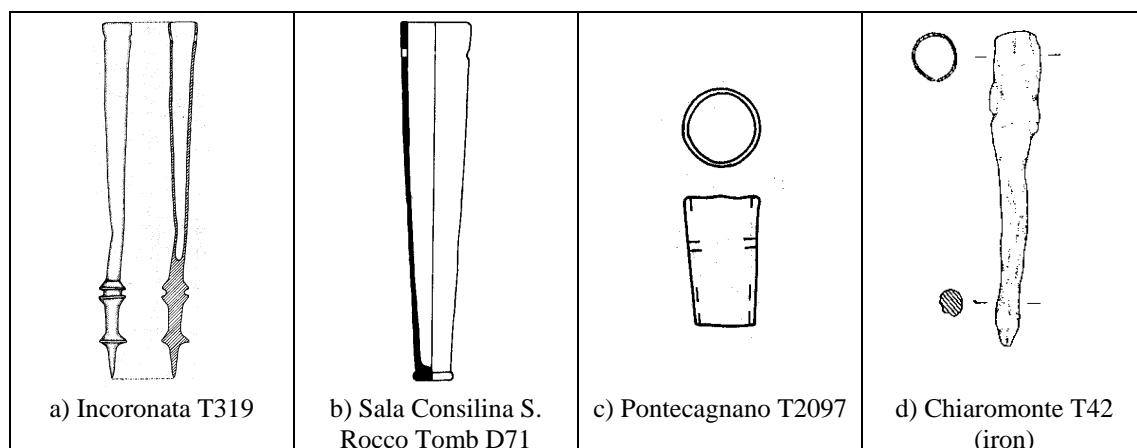
<sup>16</sup> Tomb 560: d'Agostino and Gastaldi 1988, 62, 79 and plates 24; Tomb 601: d'Agostino 1968, 182-3 and figs. 7 Nos. XXIV.1.2, XXIV.4 and 67; Tomb 4141: Capasso *et al.* 1994 and Robb, personal communication.

<sup>17</sup> The spear left free-standing upright by lodging the *sauroter* into the ground.

<sup>18</sup> *RvAP* 1/13-1, 1/35; Homer *Iliad*, X, 153

instances points of these types have been identified as *sauroteres* even in the absence of an accompanying spearhead.<sup>19</sup> When such a point appears in association with one or more other spearheads, some excavators have chosen to identify one of the points as a *sauroter*, without explanation.<sup>20</sup> Bottini, in particular, appeared to make his determination based on the length of the point. When two or more points assignable to spearhead type 9.5 or 9.6 together, the shorter point was routinely identified by Bottini as a *sauroter*, and the longer point (or points) described as a ‘giavellotto’.<sup>21</sup> Particularly when there are no other spearheads in the tomb, the assignation *sauroter* must be considered speculative.

The *sauroter* forms depicted in Figure 5a-c cannot be confused with type 9 spearheads, and were indubitably counterpoints.



**Figure 5: Iron Age *sauroteres* from South Italian Tombs (bronze unless indicated otherwise - not to scale).**

<sup>19</sup> For example, Lavello Tomb 260: Bottini *et al.* 1988, 121; Ipogeo dei vimini - Cella B Left deposition: de Juliis 1990; Ortona Tomb 114 (66.OR.184): Van Wouterghem-Maes 1971, 82-141; Tomb 149 (64.OR.106): Iker 1986, 615-21 and figs. 343 and 345; Chiaromonte Tomb 42: Russo Tagliente and Berlingò 1992, 359-62 and figs. 58 and 90.

<sup>20</sup> For example, *Canosa II* Tomb 4 Cella A, a type 10.1 spearhead was recovered in association with a spearhead which can be tentatively allocated to the 9.5 or 9.6 sub-type, identified by Rossi as a *sauroter*: Rossi and van der Wielen - van Ommeren 1983 26-39; Ortona Tomb 32, a type 6.3 spearhead was associated with a point which could be allocated to type 9.5 or 9.6, interpreted by De Juliis as a *sauroter*: de Juliis 1973, 337-40.

<sup>21</sup> Lavello Tomb 97: Bottini *et al.* 1988, 88-9; Tomb 258-I: Bottini *et al.* 1988, 120; Tomb 223: Bottini *et al.* 1988, 108-9; Tomb 56: Bottini *et al.* 1988, 70-1 and plate 37; Tomb 214: Bottini *et al.* 1988, 104-5 and plate 40 No. 3; Tomb 234-I: Bottini *et al.* 1988, 113-4; Tomb 51: Bottini *et al.* 1988, 66-7.



## Knives

Knives have been excluded from this study as they were apparently utilitarian objects, rather than weapons, in Iron Age South Italy. They are not gender specific and do not appear to have a direct association with weapons or associated paraphernalia.

## Armour

Armour of the Iron Age period in South Italy is well known and many examples have been published since the 19<sup>th</sup> C AD. A detailed assessment of armour forms and function is beyond the scope of this thesis.<sup>22</sup> However, I offer a very brief overview of armour during the period under examination.

Prior to the 7<sup>th</sup> C helmets and armour appear only rarely in South Italian tombs.<sup>23</sup> The attire represented on Daunian Stelai suggests that perhaps a pointed felt or leather cap was commonly worn.<sup>24</sup> In the 7<sup>th</sup> C the first helmet form to appear with frequency is the Corinthian helmet, clearly of Greek origin,<sup>25</sup> though helmets of perishable materials continue to appear.<sup>26</sup> In the 6<sup>th</sup> C local derivations of Greek helmets appear, the most popular of which was the Apulo-Corinthian helmet.<sup>27</sup> During the 4<sup>th</sup> C we

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<sup>22</sup> See for example: Bottini 1993; Nava and Santi 2001; Naue 1895; Robinson 1995; Bottini 1988; Stary 1986; Connolly 1986; Suano 1996

<sup>23</sup> Emanuele 1982, 163.

<sup>24</sup> Nava 1980.

<sup>25</sup> Sala Consilina Tomb S. Antonio A248, dated c.675-600, included a bronze Corinthian helmet: De La Genière 1968, 270 and plate 8 fig. 2.; the contemporary Tomb S. Antonio A410 also included a Corinthian helmet: De La Genière 1968, 268 and plate 7 fig. 2; Lavello Tomb 796, dated to the mid 6<sup>th</sup> C also included a Corinthian helmet: Tagliente *et al.* 1992, 113-7; Tomb 11 (early 5<sup>th</sup> C) at Satrianum included a Corinthian helmet which showed evidence of damage Holloway interpreted as sustained in combat: Holloway 1968, 120 and fig. 7; Holloway 1970, 63-5 and plates 116-9. For a summary of helmet forms identified in Iron Age Central and South Italy see Stary 1986; also Waurick 1988.

<sup>26</sup> Ruvo del Monte Tomb 29 (dated to the first half of the 6<sup>th</sup> C) for example, included a crest mount for a helmet presumably constructed of leather: Bottini 1981, 211, 270 and figs. 84-5; Braida di Vaglio Tomb 101 (late 6<sup>th</sup> C to early 5<sup>th</sup> C) also included a helmet crest that may have been associated with a leather helmet: Bottini and Setari 2003, 13-32.

<sup>27</sup> Tomb 107 featured two bronze Apulo-Corinthian helmets, two anatomical bronze greaves—both for the right leg—and offensive panoply of five iron spearheads and an iron sword. Tomb 108 included a bronze Apulo-Corinthian helmet, two bronze belts, two iron spearheads and an iron sword: Bottini and Setari 2003, 66-80; Tomb 56 at Lavello (c.450-375) included an Apulo-Corinthian helmet: Bottini *et al.* 1988, 70.

see further examples of bronze helmets—with an even greater range of forms—as well as fixtures for helmets of perishable materials, guards and shield elements.<sup>28</sup>

From the 7<sup>th</sup> C some limited evidence appears for the possession of shields, such as Lavello Tomb 279 and Chiaromonte Tomb 3, each of which yielded metal fragments thought to pertain to shields constructed of perishable materials.<sup>29</sup> From the 6<sup>th</sup> C Ruvo del Monte Tomb 29 included several bronze fragments thought to be associated with a shield, presumably constructed primarily of perishable materials.<sup>30</sup> By the 5<sup>th</sup> C *hoplon* shields were appearing in the most elite tombs, evidenced especially in the elaborate defensive panoplies of Braida di Vaglio.<sup>31</sup> While it is possible that these shields were imported, other ‘Greek’ forms appearing in South Italy by this time were locally produced derivatives such as the Apulo-Corinthian helmet or imitations like the anatomical greaves, also from Braida di Vaglio, which feature repoussé serpents, a motif which appears to be indigenous.<sup>32</sup>

*Kardiophylakes* are also recorded in South Italy, with several famous examples such as the 6<sup>th</sup> C *kardiophylax* from the necropolis of Alfedena, and the representations on

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<sup>28</sup> Bottini 1999, Banzi Tomb 421 included an ornate bronze shield laminate, elements pertaining to a leather helmet, two bronze belts, horse equipment, four iron spearheads and an iron cross-bar sword with a highly ornate scabbard.

<sup>29</sup> Tomb 3 at Chiaromonte included amongst the burial assemblage—in association with an iron sword and an iron spearhead—an iron fragment believed to be the rim of a circular or elliptical shield, the core of which was probably constructed of wood or leather. The contemporary Tomb 279 at Lavello included a fragmentary bronze handle, interpreted by the excavator as the handle of a shield, also presumably made from perishable materials. Tomb 279 also included rich offensive panoply including eight iron spearheads and two iron swords: Russo Tagliente and Berlingò 1992, 320, 349-53 and fig. 52; Bottini 1982, 44-6 and fig. 6; Bottini *et al.* 1988, 127-9.

<sup>30</sup> The assemblage of Ruvo Tomb 29 also included an iron spearhead and an iron sword. The tomb is dated by the excavator to the first or second quarter of the 6<sup>th</sup> C: Bottini 1981, 211.

<sup>31</sup> Tombs 101, 103 and 105: Bottini and Setari 2003, 13-32, 41-50, 57-63, figs. 14-18 and plates 20 and 28.

<sup>32</sup> The greaves from Braida Tombs 101 and 107 are similar to a number of contemporary anatomical greaves throughout Greece and South Italy, although the snake decorative motif is uncommon. A similar greave was recovered from Tomb XVII at Cairano in Campania dated to the 5<sup>th</sup> C: see Bailo Modesti 1980, 30173 and plate 102b. A contemporary helmet on display in the Museo Nazionale Siritide recovered from the western necropolis at Herakleia (Tomb 1188) includes a serpent crest and matching belt with serpentine hooks. However, these serpents are stylistically distinct from the repoussé serpents seen at Braida di Vaglio.

the contemporary Capestrano warrior and the menhir from Guardiagrele.<sup>33</sup> Examples of rectangular *kardiophylakes* are also known from Lavello,<sup>34</sup> though I have recorded no examples from any of the tomb assemblages I have examined in this thesis, despite their frequent depiction on Daunian Stele.<sup>35</sup> Examples of bronze cuirasses also appear during the 5<sup>th</sup> C and 4<sup>th</sup> C including both Greek style anatomical cuirasses and the South Italian triple-disc cuirass (which may have evolved from the *kardiophylax*).<sup>36</sup>

Overall, there does not appear to have been ‘standard’ defensive panoply employed in Iron Age South Italy, and this conclusion is supported by the scene on the north wall of Andriuolo Tomb 114 at Paestum which depicts two lines of hoplite phalanxes, clearly attired in an array of different helmet forms.<sup>37</sup> There is little in the way of heavy armour; evidence that leather or other perishable materials were used for the manufacture of armour in an environment where metal options were clearly available supports the employment of a loose, mobile and open fighting style.<sup>38</sup> The finds are a reflection of personal choice—something also found in the spear forms—and it should be considered that some items may have served principally as parade items rather than as purely military in function.

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<sup>33</sup> Connolly discusses several examples: Connolly 1986, 117 and fig. 1; Schneider Herrmann suggests a Near Eastern origin for the *kardiophylax*: Schneider-Herrmann 1996, 52-9 and plate 86.

<sup>34</sup> Bottini 1993, 43-6.

<sup>35</sup> Nava 1980.

<sup>36</sup> Lavello Tomb 669-I, dated to the mid 4<sup>th</sup> C, included an Argive shield and a pair of bronze guards while the much wealthier assemblage of Tomb 669-II (late 4<sup>th</sup> C) included a bronze Bell helmet, greaves, cuirass and horse equipment: Bottini *et al.* 1991, 49-61; Ipogeo Monterisi Rossignoli included an anatomical bronze cuirass, two bronze helmets said to be derived from the Attic/ Chalcidian type, a single bronze greave and horse equipment Mazzei 1992; Ipogeo Socchera A included amongst the assemblage an anatomical bronze cuirass, a Gallic helmet, an iron horse-bit, a bronze belt de Juliis 1992. For the evolution of the triple-disc cuirass see: Connolly 1986. A number of Paestan examples are published in Cipriani and Longo 1996.

<sup>37</sup> Pontrandolfo and Rouveret 1992, 175 shows excellent detail.

<sup>38</sup> A possible protective leather garment was noted from Oliveto Citra Tomb 18 dated to the first half of the 6<sup>th</sup> C: d'Agostino 1964, 73-4.

## **Bronze Belts**

From the 5<sup>th</sup> C bronze belts appear in tombs throughout South Italy, often associated with weaponry.<sup>39</sup> Suano published a typology of belt clasps in 1996 in which she identified several distinct patterns in their distribution indicating that the belts were locally produced.<sup>40</sup> Evidence from Paestum also suggests that bronze belts were taken as trophies in combat, a custom which does not appear to have been practiced in Daunia and for which there is no explicit evidence in north western Basilicata. In Daunia, particularly there was variation in the correlation between weapons and bronze belts in tombs. At some sites there was a very close correlation (Lavello, Canosa and Arpi), whilst at other sites bronze belts were rarely associated with weapons (Ordona, Ascoli Satriano and Minervino Murge). It appears that there were subtle cultural nuances, expressed through the wearing of bronze belts (and depositing them in tombs), which remain poorly understood.

## **Horse Equipment**

I have discussed the role of cavalry as it pertains to the employment of spears and swords in the preceding chapters 1 and 2.<sup>41</sup> However, a brief word can be said about horse equipment specifically. Examples of horse equipment from South Italian tombs are rare and certainly under-represent the prominence of horsemanship and cavalry service, especially for the 5<sup>th</sup> C and 4<sup>th</sup> C. Finds include horse-bits, spurs, and several examples of horse armour.

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<sup>39</sup> Incised bronze belts had appeared in tombs at Pontecagnano and Sala Consilina during the 8<sup>th</sup> C. These belts were Villanovan in design and cultural affinity, appearing in elite female tombs. They are unrelated to the South Italian belts which appeared during the 5<sup>th</sup> C.

<sup>40</sup> Suano 1996, 28-31.

<sup>41</sup> Chapter 2, 78ff and Chapter 3, 128f.

Horse bits appear from the beginning of the 6<sup>th</sup> C with examples appearing in both bronze and iron.<sup>42</sup> Occasionally horse bits are found in association with horse armour; however, in several instances horse armour appears without any associated bit.<sup>43</sup> The armour is invariably bronze laminate, sometimes with elaborate repoussé decoration with small holes around the edges for the attachment of a lining of perishable material, probably leather. Spurs also appear manufactured from both bronze and iron,<sup>44</sup> though it should be noted finds are of individual spurs: they are never found in pairs.

Wheeled vehicles were also included in tombs with elements of bronze or iron cart wheels surviving in the record. They are not directly associated with weaponry, appearing in the tombs of both male and female elite tombs of the Iron Age.<sup>45</sup> Paestan tomb paintings suggest that they could function as ceremonial modes of transport and as chariots in funerary games.<sup>46</sup>

Brouwers has recently presented a cogent argument that the *hoplon* shield was well suited to—perhaps even specifically designed for—use on horseback, the convex design of the shield allowing it to rest on the shoulder of the mounted warrior and providing protection to the torso and leg without causing discomfort or injury to the

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<sup>42</sup> Examples noted in this thesis: Minervino Murge Tombs OC-10, MS-4 and MS-7 (all 6<sup>th</sup> C) included bronze horse bits Lo Porto 1999, 63-9, 74-81 and figs.3, 8 and 10; Canosa, Ipogeo dei vimini - Cella A (400-375 BC) included 2 bronze horse bits: de Juliis 1990; Canosa, Ipogeo Scocchera A included an iron horse bit: de Juliis 1992, 228-30; Lavello Tomb 600: Bottini *et al.* 1991, 38-43 and plates 110-118.

<sup>43</sup> Lavello Tomb 669-II included an iron bit in association with a bronze face-plate: Bottini *et al.* 1991, 49-61 and plate 121. In contrast, Canosa, Ipogeo Monterisi Rossignoli included a face plate without any associated bit: Mazzei 1992, 174. Braida di Vaglio Tombs 101 and 103 included horse armour but no horse bits: Bottini and Setari 2003, 13-32, 41-50 and figs. 14-18.

<sup>44</sup> For example: Canosa, Vico San Martino Tomb 2, Cella A, deposition 4 dated to 4<sup>th</sup> C published in Cassano 1992, 457-67, No.145; Paestum, published in Pontrandolfo 1999; Metaponto, Western Necropolis, loc. Crucinia, propr Riccardi, Tomb 17/71 dated to the late 6<sup>th</sup> to early 5<sup>th</sup> C, published in Bottini 1993, 123-9.

<sup>45</sup> Braida Tomb 105 included a cart wheel: Bottini and Setari 2003, 57-63 and plates 20, 28 and 35-6. Ruvo del Monte Tomb 30 also yielded a cart wheel: Bottini 1981, 277-81 and fig. 94. For carts recovered from elite female tombs see: d'Agostino 1998, 52.

<sup>46</sup> Pontrandolfo and Rouveret 1992.

horse.<sup>47</sup> The double handle would also have allowed the bearer to grip both the *antilabe* and the reins, maintaining control of shield and beast while leaving the right hand free to cast a spear or wield a sword.

### **Firedogs and Iron Spits**

Firedogs and iron spits appear in elite Iron Age tombs in South Italy. As items often associated with weapons they deserve a brief mention. Their function appears to be associated with the distribution of meat by elite individuals to their dependents. However, as these items also appear in the tombs of women, there does not appear to be a direct association with hunting. Iron spits also have more complex meanings and were also indicators of wealth independent of their function in meat distribution, identified as *obeloi* or currency bars.<sup>48</sup>

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<sup>47</sup> Brouwers 2007, 310 and fig. 5.

<sup>48</sup> Pontrandolfo Greco 1982, 48-9. See also: Kostoglou 2003.

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