A LAMP FRAGMENT EXCAVATED AT ACRAE UNVEILING A NEW MEMBER OF THE AGYRIOS FAMILY, THE ONLY WELL-KNOWN FAMILY OF SICILIAN LAMP-MAKERS?

Roksana Chowaniec*, Laurent Chrzanovski**

Abstract: The Catania-Based lamp-maker Proklos Agyrios, together with three members of his family (Gaios, Pouplios, Severos) are well-known in literature, but their capacity of production and the range of diffusion of their lamps seems to have been widely underestimated. The archaeological mission at Acrae, whose regional and local framework, aims and results are largely described in the first part of the text, unearthed a base fragment of a lamp. The surviving part bears on the second line of the incised signature, the Agyrios family acronym, while the first line corresponds to a previously unknown lamp-maker, bearing one of the common Greek first names linked to the divine world: Theo[?]. This find allowed us to come back to all the investigations led on the productions and finding spots of the whole family and to propose a series of hypothesis on a workshop which seems, discovery after discovery, to have been rather a huge industry with diverse workshops in Eastern Sicily that a simple "officina urbana". A complete map of the finding spots allows hence to start taking into account the existence of local branches as well as to consider the impact the lamp-type created and massively produced by the Argyrii had on local workshops in Eastern Sicily.

Rezumat: Producătorul de opaițe din Catania, Proklos Agyrios, împreună cu trei membri ai familiei sale (Gaios, Pouplios, Severos) sunt bine cunoscuți în literatura de specialitate, dar capacitatea lor de producție și arealul de răspândire a lămpilor lor pare să fi fost subestimate. Misiunea Arheologică de la Acrae, al cărei cadru regional și local, obiective și rezultate sunt descrise pe larg în prima parte a textului, a scos la iveală un fragment de opaiț care poartă, pe al doilea rând al semnăturii incizate, acronimul familiei Agyrios, în timp ce primul rând corespunde unui fabricant de lămpi necunoscut până acum, purtând unul dintre prenumele grecești comune legate de lumea divină: Theo[?]. Această descoperire ne-a permis să revenim asupra tuturor investigațiilor conduse asupra producțiilor și locurilor în care au fost descoperite opaițe produse de familia Agyrii și să propunem o serie de ipoteze asupra unui atelier care pare să fi fost mult mai mult o industrie uriașă compusă din mai multe ateliere în diferite părți din Estul Siciliei, decât o simplă "officina urbana". O hartă completă a locurilor de descoperire permite, așadar, să începem să ne gândim la existența unor sucursale locale, precum și să luăm în considerare impactul pe care tipul de lampă creat și produs masiv de către Agyrii l-a avut asupra atelierelor locale din estul Siciliei.

Keywords: Akrai / Acrae, Sicily, New excavations, AGYRII lamp-makers' family, Roman Imperial Lamps, Epigraphy, Production, Diffusion.

Cuvinte cheie: Akrai / Acrae, Sicilia, săpături noi, AGYRII - familia de producători de opaițe, opaițe imperiale romane, epigrafie, producție, difuzare.

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A BRIEF INTRODUCTION TO THE HISTORY AND ARCHAEOGY OF AKRAI / ACRAE, AND TO THE NEW EXCAVATION CAMPAIGNS LED IN THE CITY CENTER (R.C.)

When Syracuse began to develop and its population grew, new areas for housing, farming, and breeding were sought.¹ Therefore, the town directed its attention to the west and started to explore the interior – a difficult and hitherto uncharted territory inhabited by the Sicels, who had been displaced into the mountains from their seaside settlements. When the next stage of colonisation included establishing new colonies² – Akrai (Greek: Ἄκραι; Latin: Acrae, Agris, Acrenses) was among them. As accounted by Thucydides in his "History of the Peloponnesian War", Akrai was founded by Dorian settlers from Syracuse circa 664/663 BC: 'Acrae and Casmenae were founded by the Syracusans; Acrae seventy years after Syracuse, Casmenae nearly twenty after Acrae'³ (Fig. 1).



Fig. 1. Mapping of the ancient roads, reconstructed based on ancient sources with location of Akrai/Acrae (imagine source: Uggeri 2004, redrawn: Chowaniec 2017).

Domínguez 2006, 274.

² Fischer-Hansen 1996, 335-336.

³ Thucydides VI.5.2.

Nowadays, the town is located on the south-western outskirts of the modern-day town of Palazzolo Acreide, Syracuse province. Since its foundation and apparently until its very end, Akrai remained tightly connected with Syracuse. This Greek colony remained linked to its metropolis – first politically and administratively, while later mainly economically and culturally. The relationship between the metropolis and Akrai between 663/664 and 212 BC, despite vast historical and archaeological unknowns, is relatively well researched.

An inland localisation of the new colony was hardly surprising, as Syracuse pursued an expansive policy realised through annexation of new territories not only, as it seems, by force but also by interacting with the local population⁴. Thanks to the foundation of the sub-colonies of Akrai and Casmenae, Camarina and Akrillai, Syracuse started to control the south-eastern corner of the island with the Hyblaean Mountains⁵ (Fig. 2).

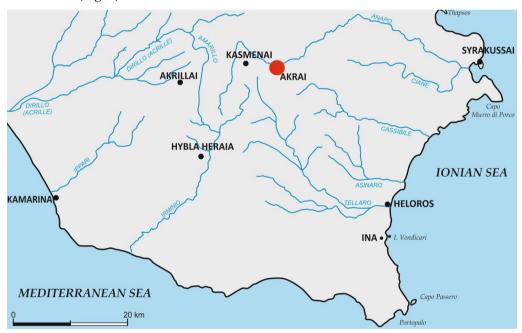


Fig. 2. Location of Akrai/Acrae, Casmenae, Camarina, Akrillai and Syracuse (after: Chowaniec 2017).

It should be stressed that the urban layout of the town was determined by the local topography. It had to develop in a way defined and restricted by its localisation on one of the flat hills of the Hyblaean Mountains, called Acremonte (or Serra Palazzo), at

Domínguez 2006; De Angelis 2010.

⁵ Erdas 2006, 45.

the height of 770 metres above the sea level and between the valleys of the Anapo River to the north and the Tellaro River to the south-west (Fig. 3).



Fig. 3. Localisation of archaeological site in south–western side of modern town Palazzolo Acreide (imagine source: GoogleEarth).

Certainly, it was far from being accidental. The hill overlooked the whole area and enabled detecting any potential threats and controlling the surrounding fertile lands, fresh water sources supplying Syracuse, and the local water traffic. The slopes of the hill are very steep, almost vertical, practically from each side.

The history of research and tradition of scholarly studies and excavations in this ancient urban centre is exceptionally long and rich. As a result of all the research performed within the town, several antique buildings were discovered (Fig. 4).

They included: a theatre and a bouleuterion open toward remains of an agora, an acropolis with a temple from the Archaic Period dedicated to Aphrodite, a thesmophorion from the 3rd century BC, plateia/decumanus, and quarries known as the Intagliata and the Intagliatella, with Christian necropoleis dated to the Late Antiquity⁶.

⁶ For more on the early antiquarian and scholarly works or studies at the site, *cf.* Chowaniec 2017. For a review of results of all previous excavations in the antique town, *cf.* Chowaniec, Misiewicz 2008-2011.

In 2009, a new stage of excavations began in the ancient town. Its main goal has been comprehensive reconstruction of the history of the town after the fall of the Syracusan kingdom and incorporation into the Roman sphere of influence after 212 BC. Advanced and multidisciplinary studies employing an array of methods derived from humanities and exact sciences provided valuable insights into particular aspects of material culture, stages of functioning of residential architecture, relations between the town and other urban centres, including Syracuse⁷. A broad-based reflection upon archaeological material enriched our knowledge about daily life of the inhabitants, their culinary preferences, and changes in the local natural environment. To allow for better understanding of these phenomena, state-of-the-art measuring methods were used, such as 3D localisation or photogrammetry⁸.



Fig. 4. Orthophotomap of archaeological site with excavated structures (photo: Bogacki M., drawing: Chowaniec, R.).

⁷ About Akrai and see the multidisciplinary studies published in Chowaniec (ed.) 2015, 2018 as well as in the just printed Chovaniec, Fitula 2022.

⁸ Chowaniec (ed.) 2015; Chowaniec 2017.

The results obtained so far through archival and modern research enabled distinguishing several settlement phases: the Initial Period – from when the colony was established in 664/663 BC to the mid-5th century BC, the town playing the role of a guardhouse of Syracuse; the period of gradual development – from the 5th to the mid-3rd century BC⁹; thriving of the town since the mid-3rd century to circa 212 BC or to the fall of Syracuse; continued settlement – from circa 212 BC to the 350s or 370s AD – with various phases of functioning under the Roman administration until a part of the town was destroyed by environmental factors; a period of secondary exploitation – from the end of the 4th to the early 8th century AD – an inflow of new population (?) and decline of the settlement.

New excavations unearthed the houses, whose basic plans were prepared in the Late Hellenistic period¹⁰ (Fig. 5).

It seems to have taken place during the construction boom in Akrai in the times of Hiero II – in the second half of the 3rd century BC¹¹. The residential complex underwent numerous reconstructions, adaptations, and might have changed owners during its exploitation. It seems that it fulfilled its residential function until the mid-4th century BC, when it was drastically damaged by environmental factors. These events may be related to a series of volcanic eruptions, which happened in the 350s through 370s AD, and which must have affected Akrai as well, similarly to many other towns of the Mediterranean.

At the end of the 4th century AD, after a few decades of stagnation, evident for instance because of an inflow of new coins, the rubble was used for commercial activities and production. This phase was characterised by a shoddy construction, a random choice of secondarily adapted architectural elements, including not only architectural details but also olive presses, stone decorations, and building material. Admittedly, some adjustments were made to level the area (e.g. by bringing in some soil) and although the newly-established structures and secondary divisions of rooms more or less followed the original walls of the house, as a whole, the complex does not seem coherent and logical.

The complex, most probably as early as the late 3rd century BC, went under rearrangement and new divisions were introduced as well as new and statelier rooms, and in consequence there were changes in painted decoration and rearrangement of the existing parts. The next rearrangement took place at the end of the 1st century BC or the beginning of the 1st century AD, when a new group of Roman settlers might have arrived in Akrai, and found the local living conditions and the local material culture less than satisfactory.

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⁹ Bernabò Brea 1956.

The current state of research does not allow for determining whether the house had any earlier construction phases.

¹¹ It was attested by the architectural layout as well as by coins sealed in the walls.

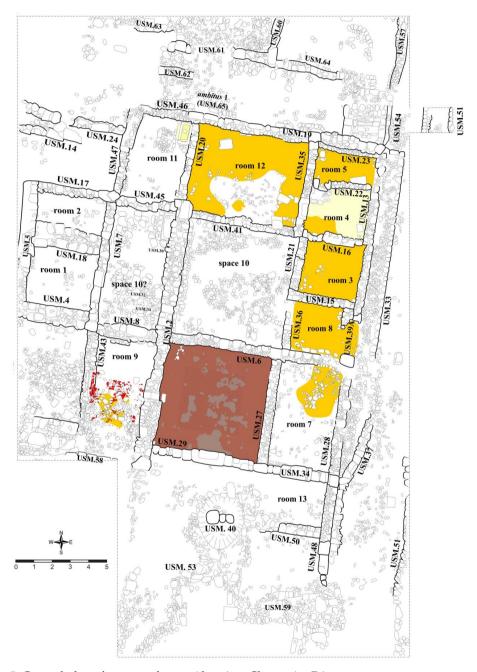


Fig. 5. General plan of excavated areas (drawing: Chowaniec R.).

Dynamic functioning of Akrai in the Late Republican and the Early and Middle Roman periods is confirmed by presence of an abundant number of artefacts. According to the current state of research, the inhabitation in Akrai continued without major upheaval until the 350s or 370s AD, when a large part of its architecture was destroyed by earthquakes and, possibly, even a minor eruption of its local volcano of Monte Lauro. The period was characterised by intensive seismic activity in the Mediterranean region, which culminated in a cataclysm circa 365 AD¹².

For more than the two last decades of the 4th century AD, no activity was registered within the residential complex, fact confirmed by the lack of appearance of new coins. It remained inactive until the end of the century¹³ and the last phase of exploitation of that area of the town until the beginning of the 8th century AD.

The recent excavations represent a multidisciplinary research, including the classical studies on the ancient town with its material culture, but also examination of plants and animals (along with information on husbandry, fishing, hunting), quarries, and water usage, etc., based on geological, archaeobotanical, archaeozoological, stable isotope and mineralogical and chemical analysis. The interdisciplinary research enabled the observation of degradation of the local environment and changes in land usage due to breeding, farming, building, manufacturing, etc. which begun in the period of the Greek occupation and have intensified during the Roman and Byzantine periods.

Intensive exploitation of natural resources resulted in deforestation and depletion of hydrological resources in the region, which became particularly visible in the Late Roman and Byzantine age. These changes also affected the diet, the local economy and crops, investment, and productivity. The presented research provides insight into the historical degradation of the landscape and human impact on the Mediterranean environment¹⁴.

THEO/AGOU: A FIFTH MEMBER OF THE AGYRIOS FAMILY? WHEN A LAMP BASE FOUND AT ACRAE OPENS NEW PERSPECTIVES ON THE PRODUCTIONS OF THE ONLY WELL-KNOWN FAMILY OF SICILIAN LAMP-MAKERS (L.C.)

As our complete catalogue of the 1st to 3rd century AD lighting devices found at Acrae has just been published¹⁵ within the monograph dedicated to the excavations led at Akrai / Acrae (Palazzolo Acreide, Siracusa)¹⁶ by the mission led by Ass. Prof. Roksana Chowaniec,

Chowaniec 2017.

¹³ Visible traces of the local cataclysm have been registered mainly in the northern and western parts of the town, as supported by scattered volcanic rocks of various sizes.

¹⁴ Chowaniec et alii 2021.

Chrzanovski 2022.

Chowaniec, Fitula 2022.

we found that the present volume and its precise topic were perfectly fit to propose to other scholars a Sicilian-made "enigma" among the very rich information gathered by studying the corpus of 126 lamps and fragments belonging to the framed period¹⁷.

As a matter of fact, at Acrae, the mission unearthed during the years a small group of ten fragments of the typical Eastern Sicilian *monolychnis* variant of the standard Loeschcke III Roman lamps. This lamp type is large-sized, quite massive and – often – characterised by a special emphasis on the upper volutes of the nozzle, rendered in high relief. Its decorative patterns are rather geometric, both on the rather small to very small (and then concave) discus and on the broad shoulder, with some exceptions, like the oak crown adorning a shoulder fragment found at Acrae, which finds parallels at the British museum and in the necropolis of Sofiana, near Gela (Fig. 6).



Fig. 6. From left to right: the intact lamp (handle-ornament excepted) found at Centuripe - Bailey 1988, n. Q1865 © British Museum, the Acrae fragment (AK 14/I/21–303) and the fragmentary lamp found at Sofiana © Lauricella 2002, fig. 11a, p. 179. Graphic composition: L. Chrzanovski.

Handles are generally of triangular shape, more frequently with small incised lines intended to render the nervures of a leaf; some rare productions bear a handle in the form

For a complete bibliography of the lamps found in Sicily or relevant to South-Eastern Sicily, see mainly Chrzanovski 2015, and for time-framed periods, Chrzanovski 2018; Chrzanovski 2022.

of an eagle or of a human head, rendered in bi-dimensional or even, very rarely, in tridimensional shape. We also find the traditional lunar-crescent as well as the "open-fruit" oval handle ornaments, which constitute – with the triangular-shaped ornaments – two further imitations and adaptations of the most classical classic "reflector" shapes adorning the handles of the Italian- and African-made lamps of Loeschcke type III.

This Sicilian type, object of two specific studies¹⁸, is commonly recognised by all scholars as being the invention and the production of the workshop(s) of the lamp-maker Proklos Agyrios and of other members of his family, active during three generations.¹⁹

According to Donald Bailey²⁰, followed by Sicilian researchers the Agyrios family workshop, founded by Proklos Agyrios, proved to have been very prolific from the second half of the 1st to the first half of the 2nd century AD. An extinction date could be set slightly after, i.e, the early second half of the 2nd century AD, as a lamp found at Alaesa came from a context which delivered also a coin of Faustina Minor (125/130-175 AD).²¹ The (main?) workshop was located at Catina (Catania), maybe in Via Purità²². Lamps produced by this workshop are very well attested not only within the territory of Catania but are known to us in consistent groups found in sites located in the neighbouring provinces of Syracuse and Caltanissetta, as well as at Gela and in many sites in the city's hinterland.

The new signature found at Acrae: Θ(?)ΕΟ/ΑΓΥ

Agyrios' products really reached all the South-Eastern Sicilian micro-regions, as it is witnessed by two monographic studies dedicated to his workshop and to the family of ceramists founded by Proklos Agyrios, based in Catania. Besides being the creator of the workshop, and the head of a prolific family of lamp-makers, lamps signed by Proklos are the most attested within all the lamps produced by his family members. As a matter of fact, for most Sicilan scholars, the lamps where the marks $\mathbf{A}\Gamma\mathbf{Y}$ or $\mathbf{A}\Gamma\mathbf{Y}\mathbf{\Theta}[\mathbf{I}\mathbf{O}]\mathbf{Y}$ appear (and maybe also the few lamps marked \mathbf{A} , found at Sofiana necropolis) have all to be considered as being the products of the very Proklos Agyrios, in addition to the lamps bearing his complete name, from $\mathbf{\Pi}\mathbf{\Theta}\mathbf{O}\mathbf{K}/\mathbf{A}\Gamma\mathbf{Y}\mathbf{\Theta}$ to $\mathbf{\Pi}\mathbf{\Theta}\mathbf{O}\mathbf{K}/\mathbf{A}\Gamma\mathbf{Y}\mathbf{O}$.

Our base seems an absolute novelty, as it has been almost certainly made by a yet unknown member of the Agyrios' family, not attested so far on any lamp known to us.

¹⁸ Branciforti 1992; Manganaro 2003.

¹⁹ Manganaro 2003, 136.

²⁰ Bailey 1988, 104.

²¹ Manganaro 2003, 137.

²² Manganaro 2003, 137.

As already mentioned, the founder of the workshop is $\Pi \rho \kappa \lambda \sigma \zeta$, who was followed by three known lamp-makers, direct family members or newly freed *liberti*, named $\Gamma \alpha \iota \sigma \zeta$, $\Pi \sigma \iota \tau \zeta$ (which is believed to have himself a son with the same name), and $\Sigma \epsilon \beta \epsilon \rho \sigma \zeta$. All these Hellenized versions of Roman names (Proclus, Caius, Publius, Severus) are typical in Sicily, where they find their roots in a deeply Hellenized culture.

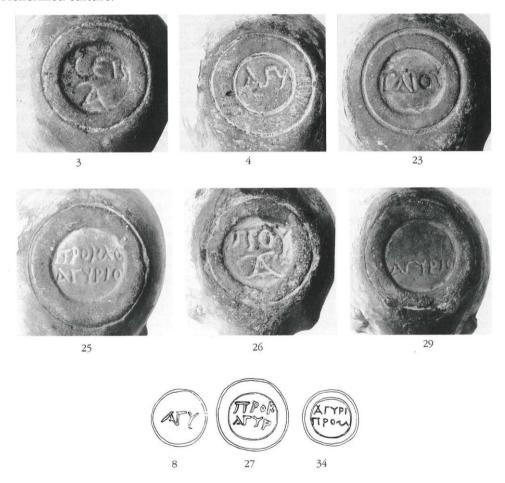


Fig. 7. Some of the signatures on the bases of the lamps preserved in the Museum of Syracuse (© Branciforti 1996, fig. 5).

²³ Manganaro 2003, 136.

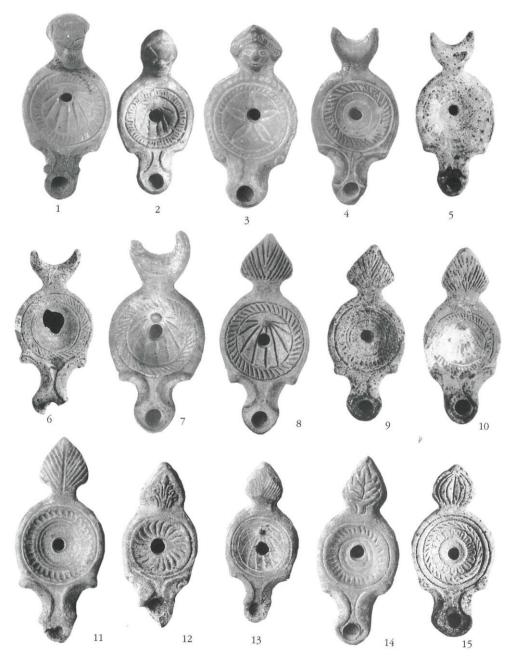


Fig. 8. Lamps signed by the Agyrii preserved in the Museum of Syracuse (© Branciforti 1996, fig. 1).

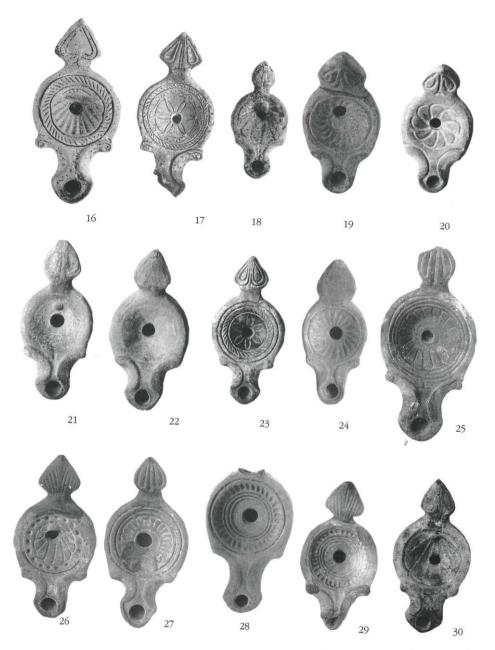


Fig. 9. Lamps signed by the Agyrii preserved in the Museum of Catania (Branciforti 1992, fig. 2).



Fig. 10. Sicilian-made handle ornaments found at Acrae, most of them being identical to those adorning the Agyrii productions known (© Laurent Chrzanovski).



Fig. 11. The base of the fragment AK17/I/19-8.

Seeing the well-witnessed names and the distinctive second raw, clearly indicating the lamp has been crafted by the Agyrios' family workshop(s), the incised signature on our base fragment has two possible clues of interpretation.

The "easy" but not so convincing one is to consider the inscription as being made by a very tired or poorly literate worker, unable to write correctly the abbreviation used by Severos' manufacture, ΣEB , with an unreadable /unconventional sigma, a nice epsilon and an unreadable /unconventional beta.

The "tempting" one, would be to see there the first witness of a new member of the family, with a divinity-linked original Greek name, by reading the first rank letters as **QEO**. We would hence obtain, as examples, Theodotou, Theologou or Theodorou the last being very used by several mid 1st and 2nd century lamp-makers based in Cyprus, Antioch on the Orontes, Alexandria, Palmyra and many other cities of the Levant. In those areas, we witnessed lots of thetas rendered this way, while decomposed/badly made alpha or omicron have different renderings.

Furthermore, this very name, $\Theta \varepsilon \delta \delta \omega \varphi \circ \zeta$, whose Latin version became popular only during Late antiquity, was attested already in Sicily, at the highest level, before and during the Roman rule: the very *procurator* of the island under Augustus was a Tarsus-born member of the Roman élite, as we know thanks to an anecdote mentioned by of Plutarch in his "Sayings of Kings and Commanders", a booklet within the Moralia (III, 207, 5):

"Έν δὲ Σικελίᾳ Ἄρειον ἀντὶ Θεοδώρου κατέστησε διοικητήν · ἐπιδόντος δέ τινος αὐτῷ βιβλίον, ἐν ῷ γεγραμμένον ἦν, φαλακρὸς ἢ κλέπτης Θεόδωρος Ταρσεύς τί σοι δοκεῖ; ἀναγνοὺς C Ὑαῖσαρ ὑπέγραψε, "δοκεῖ."

"In Sicily he appointed Areius procurator in place of Theodorus; and when someone handed him a paper on which was written, "Theodorus of Tarsus is a bald-pate or a thief; what opinion do you have?" Caesar, having read it, wrote underneath, "It is my opinion." (Plutarch 1931, Moralia III, 207:5 - Caesar Augustus, 5).

Anyway, not being – and by far – a specialist of epigraphy, we do hope to receive constructive critics on this interpretation, and to gather specialists' suggestion of the possible name of which only the first three letters are preserved, shall our lecture of them be accepted.

CONCLUSIONS

Coming back to our lifetime real speciality, lychnology, the ever-growing quantity of Argyrii signed lamps found in Sicily is a proof of the intensity of the use of the dense road network as well as of the well-known coastal sea routes. These were used not only for the redistribution of Italian and African imported products, but also to allow many productions made in the Eastern seaside centres (Catania, Siracusa) to conquer a share of the markets located in or near the harbours of the Northern coast of the island.

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²⁴ Oziol 1977, 184-185.

The impressive list of known finding spots, with a particularly high density finding areas in central and southern Eastern Sicily as well as isolated finding spots in northern and western Sicily (Fig. 12), to which two lamps found in North Africa have to be added, constitutes a proof of this situation.

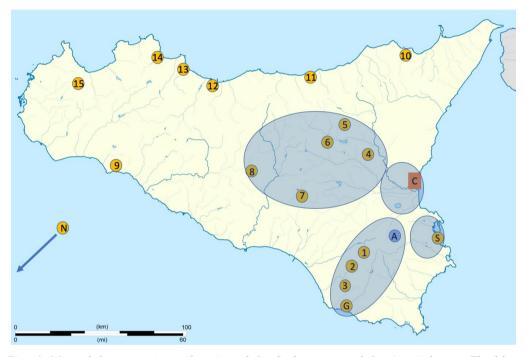


Fig. 12. Map of the approximate location of the finding spots of the Agyrii lamps. The blue areas and the alphabetic-sequenced sites comprehend find-spots with multiple lamps each (© Laurent Chrzanovski): A. Acrae; C. Catania; G. Gela and Bitalemi; S. Siracusa; 1. Chiaramonte Gulfi; 2. Butera; 3. Sofiana; 4. Centuripe; 5. Engyon (Troina); 6. Assoro; 7. Contrada Lannari; 8. Sabucina; 9. Sciacca; 10. Tindari; 11. Halaesa; 12. Termini Imerese; 13. Solunto; 14. Palermo; 15. Segesta; N. North Africa.

This list has been elaborated with the sites quoted by Bailey and Manganaro²⁵ as well as the findings from Gela-Bitalemi²⁶, Sofiana²⁷ and Contrada Lannari.²⁸ For North Africa, the lamp discovered at Carthage is part of the Corpus of the Lamps of the Site²⁹ and the

²⁷ Lauricella 2002, n. 59-61, pp. 133-135.

²⁵ Bailey 1988, 208; Manganaro 2003, 137 and note 23.

²⁶ Panvini 2002a, n. 27, p. 70.

²⁸ Panvini 2002b, n. 3, pp. 241-242; n. 28, pp. 247-248; n. 56, p. 256.

²⁹ Deneauve 1969, n. 644, p. 169 and LXV.

second one, preserved at Besançon, is certainly from the same area³⁰, and not from Central Gaul as proposed as an hypothesis by the author of the Museum corpus as deduced by Donald Bailey and confirmed by our knowledge on the origins of the artefacts from private collections bought or received by the museum before World War 2.

As a conclusion, should our proposal of Theo(?) Agyrios for the Acrae-found fragment be accepted by the specialists in epigraphy of small finds (or *instrumentum*), the adding of a new "member" to the Agyrios family, associated with the other known names and the list of the finding spots abovementioned, unveils the possibility to consider the Agyrii were running a real industry, possibly with branches (Syracuse and Gela territory?) and not just a single prolific *officina urbana* located at Catania.

Furthermore, in South-Eastern Sicily, the anepigraphic bases could lead to the hypothesis of an adoption by local manufactures of the "canonical Argyrios-made shape", showing the impact of the creations of the Agyrii workshop on local ecosystems.

Finally, not only all the abovementioned sites were quoted thanks to published intact lamps, reflecting certainly a much huger quantity of the reality unearthed and lying in the archaeological deposits of excavations and museums. We face the same case with the unique finding of Carthage, as it is known that Jean Deneauve considered only the intact lamps preserved and catalogued at the Museum of the site, letting asides thousands of intact, uncatalogued lamps as well as all the fragments.

All those elements, added to all what is still to be published, not to mention to be discovered, are a proof that the quantity of lamps produced by this family, which succeeded to exceed the local needs (even if only during a very short period) hence exporting to Carthage some of its productions through ships leaving Catania or Syracuse to North Africa, as an added-value to their cargo.

Nevertheless, we can not go further than hypothesis, and even only to a new possibility, a "pre-hypothesis" on our question about the existence of local branches as well as local workshops producing the same types, to be located in Caltanissetta and Gela provinces. The last will naturally not be solved until chemical analysis will be performed on the clays of samples coming from at least one or two sites of each of the actual administrative provinces which delivered significant quantities of signed and unsigned lamps.

³⁰ Lerat 1954, n. 32, 5-6 and pl. 4.

BIBLIOGRAPHY

- Bailey, D.M. 1988, A catalogue of the lamps in the British Museum, 3. Roman provincial lamps, London.
- Bernabò Brea, L. 1956, Akrai, Catania.
- Branciforti, M.G. 1992, Lucerne degli AΓΥΡΙΝΑΙΟΙ nei musei di Catania e Siracusa, Cronache di Archeologia 31, 83-96.
- Chowaniec, R. (ed.) 2018, On the Borders of Syracuse. Multidisciplinary Studies on the Ancient Town of Akrai/Acrae Sicily, Warsaw.
- Chowaniec, R. (ed.) 2015, Unveiling the past of an ancient town, Akrai/Acrea in South-Eastern Sicily, Warsaw.
- Chowaniec, R., Fitula, M. (eds.) 2022, *The Archaeology of Urban Life in the Ancient* Akrai/Akrae, *Sicily*, Wiesbaden.
- Chowaniec, R. 2017, The Coming of Rome. Cultural Landscape of South–Eastern Sicily, Warsaw.
- Chowaniec, R., Fetner, R., Fiorentino, G., Gręzak, A., Stella, M. 2021, Akrai, southeastern Sicily. Multidisciplinary study on ancient human impact on the natural landscape, in Prescott, Ch., Karivieri, A., Campbell, P., Goransson, K., Tusa, S. (eds.), Trinacria, 'an island outside time'. International archaeology in Sicily, Oxford-Philadelphia, 33-44.
- Chowaniec, R., Misiewicz, J. 2008-2011, *Non-invasive researches in Palazzolo Acreide* (ancient Akrai), Sicily, Archeologia 59, 173-186.
- Chrzanovski, L. 2015, The lamps of the 2011–2014 campaigns and their contribution towards a better understanding of the lychnological phenomenon in the Hyblaean highlands, in Chowaniec, R. (ed.) 2015, Unveiling the past of an ancient town, Akrai/Acrea in South-Eastern Sicily, Warsaw, 155-221.
- Chrzanovski, L. 2018, For a lychnological panopticon of Akrai before and during the Early Imperial period, in Chowaniec, R. (ed.) 2018, On the Borders of Syracuse.

 Multidisciplinary Studies on the Ancient Town of Akrai/Acrae Sicily, Warsaw, 231-251.
- Chrzanovski, L. 2022, Late Republican to 3rd century AD lamps found at Acrae: an amazing diversity partially unveiling the details of long-distance trade routes and confirming the boom of micro-regional productions, in Chowaniec R., Fitula M. (eds.), The Archaeology of Urban Life in the Ancient Akrai/Akrae, Sicily, Wiesbaden, 61-139.
- De Angelis, F. 2010, *Re-assessing the Earliest Social and Economic Developments in Greek Sicily*, Mitteilungen Des Deutschen Archäologischen Instituts Römische Abteilung 116, 21-53.
- Deneauve, J. 1969, Lampes de Carthage, Paris.

- Domínguez, A.J. 2006, *Greeks in Sicily*, in Tsetskhladze, G.R. (ed.), *Greek Colonisation*.

 An Account of Greek Colonies and other Settlements Overseas, Leiden–Boston, 253-357.
- Erdas, D. 2006, Forme di stanziamento militare e organizzazione del territorio nel mondo greco: i casi di Casmene e Brea, in Vaggioli, M.A. (ed.), Guerra e pace in Sicilia e nel Mediterraneo antico (VIII–III sec. a.C.). Arte, prassi e teoria della pace e della guerra. Atti delle quinte giornate internazionali di studi sull'area elima e la Sicilia occidentale nel contesto mediterraneo Erice, 12–15 ottobre 2003, Pisa, vol. I, 45-55.
- Fischer-Hansen, T. 1996, The Earliest Town–Planning of the Western Greek Colonies, with special regard to Sicily, in Hansen, M.H. (ed.), Introduction to an Inventory of Poleis, Symposium August, 23–26 1995, Acts of the Copenhagen Polis Centre, Copenhagen, vol. III, 335-336.
- Lauricella, M. 2002, I materiali, in Bonacasa Carra, R.M., Panvini R. (eds.), La Sicilia centro-meridionale tra il II ed il VI sec. d.C., Caltanissetta, 115-218.
- Lerat, L. 1954, Catalogue des collections archéologiques de Besançon, I : Les lampes antiques, Paris.
- Manganaro, G. 2003, Agyrios capostipite di una famiglia di lucernari nella Catania del II sec. d.C., in Epigraphica. Atti delle giornate di studio di Roma e di Atene in memoria di Margherita Guarducci, Roma, 135-140.
- Oziol, T. 1977, Les Lampes du Musée de Chypre, Salamine de Chypre 7, Paris.
- Panvini, R. 2002a, 'Gela e il suo territorio', in Bonacasa Carra, R.M., Panvini, R. (eds.), La Sicilia centro-meridionale tra il II ed il VI sec. d.C., Caltanissetta, 57-94.
- Panvini, R. 2002b, Il territorio di Caltanissetta, in Bonacasa Carra, R.M., Panvini, R. (eds.), *La Sicilia centro–meridionale tra il II ed il VI sec. d.C.*, Caltanissetta, 237-268.