

# Wild bees in agroecosystems and semi-natural landscapes. 1997-2000 collection period in Italy

In memory of Franco Marletto

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## Abstract

The diversity of the Italian bee fauna was investigated over a four-year period at 52 sites in 8 Italian regions of Italy (Piedmont, Friuli-Venezia Giulia, Emilia-Romagna, Tuscany, Umbria, Molise, Sicily, and Sardinia). A previously agreed sampling methodology was used, and the bee collection protocol was based upon the transept method. The sampling sites were chosen within an agricultural landscape. An account on data processing concerning 8,674 captured specimens is presented. Over one third of the known Italian fauna, i. e. 355 species, were recorded. Three species, *Hylaeus kahri* Förster, 1871, *Lasioglossum subaenescens* (Pérez, 1896) and *Osmia niveibarbis* Pérez, 1902, are new records, and 45 species showed an enlarged distribution area. Seventyone percent of the bee species collected in the Italian agroecosystems and semi-natural landscapes are distributed in the Palearctic ecozone. The remaining 29% of the bee species are present in Europe: some species mostly occur in Central Europe, whereas others occur also in the Mediterranean countries. The 74.6% (total No. 265) of the 355 censused species was present in agroecosystems, and 81.4% (total No. 289) in semi-natural landscapes. The bee fauna composition varies along the North-South direction of the peninsula, with Halictidae being more abundant in Northern Italy and Anthophoridae more abundant in the South.

**Key words:** bee fauna, pollinators, census, agroecosystem, semi-natural landscape, biodiversity, Italy.

## Introduction

During the 6<sup>th</sup> Conference of the Parts of the countries adhering to the Convention on Biological Biodiversity, a specific International Pollinator Initiative, IPI (UNEP, 2002) was approved. The IPI favours world-wide actions that aim to increase the knowledge on pollinators and to protect them, and acknowledges the irreplaceable role of pollinators in guaranteeing the conservation of the biological diversity in every terrestrial environment. After decades of studies and surveys on the biology, ecology, behaviour and taxonomy of pollinators, a specific regulation was issued, which is integrated in an International agreement and emphasises the risks to which this group of arthropods is exposed. At present many researchers think that pollinator populations are exposed to strong unfavourable pressure because of human activities (Celli, 1974, 1990; Vidano, 1985; Osborne *et al.*, 1991). Several factors, such as the progressive reduction of suitable habitats, the use of harmful or

toxic products (e.g. plant protection products) in agriculture, land-use patterns and the consequent lack of trophic resources in crucial stages of the pollinators' life cycle (Radeghieri *et al.*, 1998), and environmental fragmentation (Opdam *et al.*, 1993) contribute to the worrisome decline of pollinator populations. This decline may culminate in the local extinction of species. In fact, local species extinction has already been recorded in various areas of the European Community and in other parts of the world (Rasmont, 1995; Kevan and Phillips, 2001). The pollinating insects, mostly honeybees (*Apis mellifera* L.) and wild bees (Hymenoptera Apoidea), are a group of organisms of extraordinary importance for the conservation of the ecosystems (Corbet *et al.*, 1991; Banaszak, 1992; Barbattini, 1994; Porrini, 2004). Moreover, pollinators contribute to agricultural production: honeybees have been used profitably for a long time for the commercial pollination of cultivated crops, such as fruit tree and seed crops (Giordani, 1978; Accorti, 1986, 2000; Accorti and Cerretelli,

1991). *Bombus terrestris* L., another commercially managed social bee species, is used in Italy too for the pollination of tomatoes in greenhouses (Maccagnani, 2000). Some solitary bee species are used as commercial crop pollinators. For example, *Megachile rotundata* (F.), is managed for alfalfa pollination (Bohart, 1962; Kronic *et al.*, 1995) and several *Osmia* species, had been developed as fruit tree pollinators in the USA, Europe and Japan (Pinzauti, 2000; Bosch and Kemp, 2002). Pollinators can also be used for estimating the degree of environmental complexity (plant diversity and biotope structure, Porrini *et al.*, 1999), as well as for characterising areas throughout an entomological-faunistic profile. Knowing wild bees is thus extremely important in order to improve the pollination of our cultivated crops, to preserve natural vegetation, and to evaluate the degree of deterioration of certain areas. One of the main objectives of the Project AMA - Ape Miele Ambiente (BHE - Bee Honey Environment) supported by the Italian Ministry for Agricultural and Forestry Policies, was the census of the pollinators present on the national territory.

A general shortage of resources and staff for bee taxonomy research has been acclaimed in Europe (Rasmont *et al.*, 1995; O'Toole, 1996). Faunistic and ecological analyses on the Apoidea have been carried out in Europe by Pesenko (1971, 1972), Banaszak (1983), Ebmer (1988), Li Enkulu (1988) and Rasmont (1988). On a national scale, the catalogues of Pagliano (1988, 1992, 1994), Intoppa *et al.* (1995) and Nobile and Campadelli (1998) provide a survey on the Italian Hymenoptera Apoidea. In the Checklist of the Italian Fauna (Pagliano, 1995) 944 species are recorded. On a restricted scale, the Italian bee fauna is known because of many publications (Comba, 1960, 1972; Ricciardelli D'Albore, 1986; Nobile, 1988, 1989, 1990, 1991, 1992, 1994; Comba and Comba, 1991, 2001; Nobile and Turrisi, 1997, 1999; Rasmont and Quaranta, 1997; Nobile and Tomarchio, 1998a, 1998b), which sometimes provide useful biogeographic elements.

With this contribution, following a preliminary report on the same topic (Quaranta *et al.*, 2002), we would like to provide the scientific community with a list of the specimens that have been collected mainly within cultivated areas in 8 Italian regions during a 4-year sampling period (1997-2000) according to a previously agreed-upon protocol.

## Materials and methods

### Collection of specimens: a common sampling protocol

The protocol on the methodology of specimen collection (table 1) has been developed during the first study year in many meetings among the researchers of the eight Research Institutions (table 2) that participated in the "Census of wild pollinators of agroecosystems and semi-natural landscapes" within the AMA Project. Scientists from other European countries were invited to take part in the development of the protocol. The protocol, was based on the transept method (Banaszak,

1980). The collection method needed to be unified in order to be suitable for a comparison data and to be used to calculate biodiversity indices expressed in number of species and number of specimens (Burgio, 1999; Porrini *et al.*, 1999).

In order to determine the number of species, the specimens were collected during four times of the day (table 1). Wild bees were caught by hand-net. We decided not to use other methods for sampling pollinators (Dafni, 1992), because hand-net was an easy handling method and allowed to assess the frequency of specific flowers visited (see Protocol table 1).

### The collection environment

During the four-year sampling period, the collaborating institutions covered eight Italian regions, which included 30 municipal districts and 52 collection sites (table 2) according to the criteria listed in the common protocol (table 1). Because every collection site was situated in an agricultural environment, the mean height above sea level of the sites was rather low: i. e. 233 m on average, and the altitude of 48 out of the 52 collection sites did not exceed 470 m. The terrestrial coordinates of the sites were recorded, and, using ESRI Arc/Info version 9, an ecological outline of each site was provided according to the "Carta delle unità fisio-grafiche dei paesaggi italiani" (APAT, 2003).

### Taxonomy

Our main objective was to share with the scientific community a list of the collected bee material. We did not address taxonomic issues, involving the classification of bees. For our purposes, we used the existing classification of Rasmont *et al.* (1995). We maintained the division between Apidae and Anthophoridae, because it is helpful to separate the genus *Bombus* and the honeybees, which are social bee species released into the agricultural environment for commercial crop pollination, from wild, not commercially managed bee species. The same effect could be obtained by addressing the Anthophoridae as "noncorbiculate" Apidae (Michener, 2000). However, this term is not yet commonly used among people not directly involved in bee systematics.

We address the group that assembles the species *Halictus carinthiacus* Blüthgen 1936, *H. eurygnathus* Blüthgen 1931, *H. gruenwaldti* Ebmer 1975, *H. langobardicus* Blüthgen 1944, *H. pseudotetrazonius* Strand 1921, *H. sajoii* Blüthgen 1923, *H. simplex* Blüthgen 1923, and *H. tetrazonius* Klug 1817, as "*Halictus simplex* group" (Ebmer 1969, 1987, 1988). The males of these species can be diagnosed, but the females of several species do not present stable characters in the entire distribution area. We therefore decided not to determine the captured females and to assign them to the *simplex* group.

Once the collected specimens had been determined, for every species and every region, we had to verify whether the species had been previously recorded in Italy and in that particular region. For practical reasons, we decided to rely on the Checklist of the Italian Fauna (Pagliano, 1995). This Checklist is the only work so far

**Table 1.** Sampling Protocol for the Census of Pollinators within the AMA - Ape Miele Ambiente (BHE - Bee Honey Environment) project.

### Main objectives of the Research "Census of pollinators"

- a) Acquire knowledge on the degree of pollinator richness and density over time;
- b) Calculate the values of the most commonly used biodiversity indices available in literature;
- c) Identify and characterize those pollinator species that can be developed and managed as commercial pollinators of cultivated crops, forests and spontaneous plants.

### Criteria for the selection of the sampling areas and methodologies

Within each study area, one or more sites (sites may be unified) defined "agroecosystem" and "semi-natural landscape", shall be selected. In these sites, every month of the year, on two consecutive days (on day 1 in site 1, and on day 2 in site 2) or on two days that are not more than one week apart, during light hours (9 a.m., 12 a.m., 3 p.m., 6 p.m.), observations on the pollinators present in the territory shall be carried out, using three different methodologies:

#### "S P E C I F I C" m e t h o d o l o g y

A cultivated crop that should be present in both sites, the "agroecosystem" and "semi-natural landscape", shall be selected. On this crop, along a transect of 200 meters in length and 1 meter in width, in each observation turn, pollinator counts and captures shall be conducted using the hand-net. This methodology shall be applied in the months, in which the cultivated crop is present in at least one of the sites.

- The observation turns are four (at 9 a.m., 12 a.m., 3 p.m., 6 p.m., respectively)
- During the bloom of the target crop, observations shall be made on at least three days, evenly distributed over the blooming period of the target crop.
- At least 10-15 specimens per species (or presumed species) shall be captured.
- According to the environment, this methodology shall be applied on as many cultivated crops as possible (if possible, one cultivated crop per month during the growing season).
- If more than one surveyor is available, more transects shall be covered at the same time.
- Whenever possible, the specific methodology shall be applied to both sites, the "agroecosystem" and "semi-natural landscape", at least for one same crop.

#### "G E N E R I C" m e t h o d o l o g y

Pollinators shall be counted and captured while walking along a permanent transect, which shall be representative of the territory under investigation, and a temporary transect, which shall be selected in proximity of the "specific" crop.

- The permanent transect, 200 meters long and 1 meter wide, shall be covered at least once a month in four observations turns (at 9 a.m., 12 a.m., 3 p.m., 6 p.m., respectively). The temporary transect, 200 meters long and 1 meter wide, too, shall be covered only and immediately after the specific transect has been covered (for observation turns see above). In this way, the influence of the "specific" cultivated crop on the surrounding territory and/or of the surrounding territory on the cultivated crop can be investigated.
- The permanent transect shall be covered every month in both sites, the "agroecosystem" and the "semi-natural landscape", whereas the temporary transect shall be covered only when also the "specific" transect can be covered (in both sites).

### Herbarium

For the "GENERIC" methodology, the plant species visited by the pollinators shall be recorded, and, when in doubt, a herbarium shall be made.

### Preparation of the captured specimens

The collected specimens shall be preserved in appropriate entomological boxes, and shall be labelled according to month, day, hour and site of collection ("agroecosystem" or "semi-natural landscape"). If a species is present in high numbers, as it may occur for some species, such as *Apis mellifera* or *Bombus terrestris*, it is sufficient to capture one specimen. This is necessary particularly for those species that are present in high numbers because of artificial introduction, such as the honeybee, and especially for bumblebee queens still in their solitary phase. In this way, the amount of preparation work is reduced, and, at the same time, the killing of queens, which are potential colony founders, can be avoided.

### Surveying of meteorological data

On every sampling day, the meteorological data (temperature, rainfall, wind, etc.), which are usually provided by the Regional Meteorological Services, shall be recorded.

### Description of the environment

For a more detailed and objective description of the two environments ("agroecosystem" and "semi-natural landscape"), in addition to the information already mentioned, also information on the land use of each square kilometer may be provided (in %): land used for house settlements; land used for productive settlements (industries); land used for major communication lines; land used for agricultural production (fruit orchards); land used for agricultural production (annual herbaceous crops); land used for agricultural production (pluriannual herbaceous crops); land used for waterways (natural and artificial); land used for hedgerows and bushes; uncultivated and ecological compensation areas; ruderal or abandoned land.

Information on agricultural management practices, pest management practices, amount of applied plant protection product etc. may be useful, too.

**Table 2.** Research Institutions of the 8 Italian regions, and municipal districts and sites covered by the census. The territory has been divided into geographic areas according to the Checklist of the Italian Fauna.

The reported UTM-WGS84 co-ordinates are approximate values, because they refer to a single site within the whole area under investigation (AE = Agroecosystem; SN = Semi-natural landscape).

Environment	Municipal district	Locality	Province	UTM – WGS84		Time zone	Description of soil and climate	Altitudinal range	
				E	N				
<b>Macroregion: N; Region: Piedmont</b>									
Università di Torino, Di.Va.P.R.A Entomologia e Zoologia Applicata all’Ambiente “Carlo Vidano” via Leonardo da Vinci, 44 – I 10095 Grugliasco TO									
SN	Avigliana	Villa Sant’Agostino	TO	375	374568.0	4992632.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Sloping land in glacial deposits (moraines)	200-800
AE	Cherasco	Bricco di Faule	CN	298	405560.4	4945576.6	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High ancient valley, with not calcareous and gravel deposits	111-500
AE	Cherasco	Cà Bianca	CN	304	403261.6	4945867.1	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low ancient valley, with not calcareous and gravel deposits	150-450
AE	Cherasco	Cappellazzo	CN	305	449120.2	4946483.0	32	Sloping land with parent material represented by heterogeneous sedimentary rocks, and warm-temperate-subcontinental climate. Pelitic-arenaceous and arenaceous-pelitic sloping surfaces	200-1200
AE	Cherasco	Cascina Palazzino	CN	290	402113.2	4948004.0	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Ancient incised upper plain, with not calcareous and gravel deposits	111-500
AE	Cherasco	Costa Lamberti	CN	336	402568.2	4944776.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Slightly undulated Pedalpine terraced surfaces	150-600
AE	Cherasco	Roreto	CN	290	407546.6	4946140.3	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High ancient plain, with not calcareous and gravel deposits	111-500
AE	Cherasco	Tetti Lelli	CN	300	404262.2	4945396.0	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low ancient plain, with not calcareous and gravel deposits	150-450
AE	Cherasco	Veglia	CN	293	404057.4	4947589.7	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High ancient plain, with not calcareous and gravel deposits	111-500
AE	Cherasco	Veglia, Case Nuove	CN	296	403617.1	4946969.3	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low ancient plain, with not calcareous and gravel deposits	150-450
AE	Cherasco	Veglia, Cimitero	CN	293	404043.8	4948249.3	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High ancient plain, with not calcareous and gravel deposits	111-500
AE	Cherasco	Veglia, Pilone	CN	294	405394.9	4946898.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High ancient plain, with not calcareous and gravel deposits.	111-500

AE	Grugliasco	Università	TO	293	389072.2	4991659.0	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. High quaternary plain, with not calcareous and gravel deposits, mostly Cambisols	59-300
AE	Matrene	Cascina Pisagno	CN	304	401146.0	4946921.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low ancient plain, with not calcareous and gravel deposits	150-450
SN	Reano	Cimitero	TO	470	376413.8	4990050.1	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Sloping land in glacial deposits (moraines)	200-800
<b>Macroregion: N; Region: Friuli-Venezia Giulia</b>									
Università di Udine, Dipartimento di Biologia Applicata alla Difesa delle Pianta via delle Scienze, 208 – I 33100 Località Rizzi, Udine UD									
SN	Pagnacco	Villa Rizzani	UD	160	359223.2	5109609.0	33	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Slightly to strongly undulated landform with glacial unconsolidated deposits (moraines)	58-363
AE	Udine	Sant’Osvaldo	UD	90	365085.2	5122898.0	33	Sloping prealpine land with parent material represented by heterogeneous Tertiary sedimentary rocks, and temperate-mountainous climate. Sloping to steep land and hills of the Eastern Alps (Prealpi Giulie), with woods and crops in the lower lands	100-700
<b>Macroregion: N; Region: Emilia-Romagna</b>									
Università di Bologna, Dipartimento di Scienze e Tecnologie Agroambientali (DiSTA) viale Giuseppe Fanin, 42 – I 40127 Bologna BO									
AE	Bertinoro	Capocolle	FC	29	753862.6	4895563.9	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Sloping land of the high Olocenic plain of the Appennines, mostly with Calcisols and calcareous rocks	20-110
SN	Castrocaro Terme	Pieve Salutare	FC	121	733923.2	4892768.5	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Sloping land of the high Olocenic plain of the Appennines, mostly with Calcisols and calcareous rocks	20-110
SN	Civitella di Romagna	Civitella di Romagna	FC	229	735926.1	4876752.7	32	Sloping land with parent material represented by heterogeneous sedimentary rocks and warm-temperate-subcontinental climate. Pelitic-arenaceous and arenaceous-pelitic sloping surfaces	200-1200
SN	Civitella di Romagna	Genizzo	FC	200	737200.8	4877538.6	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Recent incised drainage network. Recent Appenninic terraced surfaces	25-150
SN	Civitella di Romagna	Nespoli	FC	200	738650.2	4879000.1	32	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks and warm-temperate-subcontinental climate. Pelitic-arenaceous and arenaceous-pelitic sloping surfaces	200-1200
AE	Forlì	Carpinello	FC	21	749084.7	4903250.9	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low Quaternary plain. Calcareous alluvial gravel deposits	1-30
AE	Forlì	Pievequinta	FC	17	751368.5	4904494.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low Quaternary plain. Well drained transitional zone between morphological highs and lows	1-25
SN	Forlì	San Martino in Strada	FC	73	742664.8	4897262.3	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Sloping land of the high Olocenic plain of the Appennines, mostly with Calcisols and calcareous rocks	20-110
AE	Forlì	San Pietro ai Prati	FC	23	750263.8	4898453.1	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Level land of the high Olocenic plain of the Appennines	3-75

AE	Forlimpopoli	Sant' Andrea	FC	23	750742.3	4899655.9	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low Quaternary plain. Calcareous alluvial gravel deposits	1-30
SN	Meldola	Castelnuovo	FC	260	723172.8	4915622.2	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Recently incised drainage network. Recent Apenninic terraced surfaces	25-150
SN	Meldola	Meldola	FC	53	745085.4	4890634.3	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Level land of the high Olocene plain of the Apennines	3-75
SN	Meldola	Ricò	FC	101	742913.1	4885175.1	32	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and warm-temperate-subcontinental climate. Sloping land with marlstones, claystones and calcareous rocks	100-900
SN	Predappio	Rocca delle Caminate	FC	323	740185.8	4889700.9	32	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and warm-temperate-subcontinental climate. Sloping land with marlstones, claystones and calcareous rocks	100-900
SN	Premilcuore	Molino Fulgenzio	FC	403	723891.1	4874615.9	32	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and warm-temperate-subcontinental climate. Pelitic-arenaceous and arenaceous-pelitic sloping surfaces	200-1200
AE	Ravenna	Massa Castello	RA	14	751042.7	4906618.4	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low Quaternary plain. Calcareous alluvial gravel deposits	1-30
AE	Cervia	Pisignano	RA	10	761420.3	4904059.1	32	Po river valley with parent material represented by alluvial deposits and temperate-suboceanic climate. Low Quaternary plain. Well drained transitional zone between morphological highs and lows	1-25
SN	Rocca San Casciano	Tavernelle Vecchie	FC	234	728171.6	4884212.8	32	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and warm-temperate-subcontinental climate. Pelitic-arenaceous and arenaceous-pelitic sloping surfaces	200-1200
AE	Russi	Russi	RA	10	741794.0	4917927.5	32	Po river valley with parent material represented by alluvial deposits, and temperate-suboceanic climate. Low Quaternary plain. Calcareous alluvial gravel deposits	1-30
<b>Macroregion: S; Region: Tuscany</b>									
Università di Pisa, Dipartimento di Coltivazione e Difesa delle Specie Legnose. - sez. di Entomologia Agraria via San Michele degli Scalzi, 2 – I 56124 Pisa PI									
AE	Rosignano Marittimo	Polveroni	LI	2	618608.8	4803011.2	32	Alluvial and coastal sandy plain with parent material represented by alluvial deposits and mediterranean oceanic to mediterranean-suboceanic climate, partly mountainous climate. Ancient and recent alluvial terraced surfaces	0-600
SN	Rosignano Marittimo	Serragrande	LI	150	616815.0	4808002.4	32	Sloping Apenninic land with parent material represented by heterogeneous Tertiary sedimentary rocks and mediterranean mountainous climate. Sloping land mostly calcareous-marlstones	100-1000
<b>Macroregion: S; Region: Umbria</b>									
Università di Perugia, Dipartimento di Arboricoltura e Protezione delle Piante Borgo XX Giugno – I 06121 Perugia PG									
SN	Marsciano	Mercatello	PG	300	277211.5	4761122.9	33	Alluvial plain with parent material represented by alluvial deposits and mediterranean oceanic to mediterranean suboceanic climate, partly mountainous climate. Ancient alluvial terraced surfaces	10-600
AE	Marsciano	Mercatello	PG	300	277211.5	4761122.9	33	Alluvial plain with parent material represented by alluvial deposits, and mediterranean oceanic to mediterranean suboceanic climate, partly mountainous climate. Ancient alluvial terraced surfaces	10-600

<b>Macroregion: S; Region: Molise</b>									
Istituto Sperimentale per la Zoologia Agraria.- sez. di Apicoltura via Leonida Rech, 36/42 – I 00156 Roma RM									
AE	San Biase	Lago del Corvo	CB	800	467296.0	4619543.2	33	Sloping Apenninic land with parent material represented by heterogeneous Tertiary sedimentary rocks, and mediterranean mountainous climate. Sloping land with marlstones, claystones and calcareous rocks	150-1200
SN	San Biase	Sigliature	CB	800	466729.0	4620084.2	33	Sloping Apenninic land with parent material represented by heterogeneous Tertiary sedimentary rocks, and mediterranean mountainous climate. Sloping land with marlstones, claystones and calcareous rocks	150-1200
<b>Macroregion: Si; Region: Sicily</b>									
Università di Catania, Dipartimento di Scienze e Tecnologie Fitosanitarie via S. Sofia, 100 – I 95123 Catania CT									
SN	Ragalna	Monte San Leo Contrada Milia	CT	1100	497994.8	4160107.7	33	Composite land with parent material represented by igneous and metamorphic rocks, and mediterranean mountainous climate. Sloping land of Mt. Etna with volcanic rocks	25-1200
AE	Bronte	Bronte	CT	380	485302.6	4182295.7	33	Urban Area	
AE	Catania	Contrada Spina Santa	CT	70	379218.2	4144829.4	33	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and temperate climate, mediterranean subcontinental to mediterranean continental climate. Sloping land with marlstones, limestones and claystones of Sicily	50-1200
SN	Catania	Riserva orientata “Oasi del Simeto”	CT	0	505757.2	4139221.4	33	Coast plain with parent material represented by Quaternary sandy deposits, and mediterranean to subtropical climate, partly mountainous climate. Dune sands and level coastal land	0-10
AE	Giarre	Contrada Nespole	CT	100	516591.8	4176008.8	33	Alluvial plain with parent material represented by alluvial deposits and mediterranean to subtropical climate. Ancient alluvial terraced surfaces	10-600
AE	Motta Sant’Anastasia	Motta Sant’Anastasia	CT	70	497437.6	4152088.9	33	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and temperate climate, mediterranean subcontinental to mediterranean continental climate. Sloping land with marlstones, limestones and claystones of Sicily	50-1200
AE	Paternò	Paternò	CT	256	491535.3	4157920.0	33	Composite land with parent material represented by igneous and metamorphic rocks, and mediterranean mountainous climate. Sloping land of Mt. Etna with volcanic rocks	25-1200
AE	Ramacca	Ramacca	CT	200	472895.3	4137796.7	33	Sloping land with parent material represented by heterogeneous Tertiary sedimentary rocks, and temperate climate, mediterranean subcontinental to mediterranean continental climate. Sloping land with marlstones, limestones and claystones of Sicily	50-1200
<b>Macroregion: Sa; Region: Sardinia</b>									
Università di Sassari, Dipartimento di Protezione delle Piante, Sez. di Entomologia Agraria via Enrico De Nicola – I 07100 Sassari SS									
AE	Sassari	Ottava	SS	100	456241.0	4514127.0	32	Sloping land with parent material represented by sedimentary calcareous rocks, and mediterranean to subtropical climate. Sloping carbanatic land.	0-600
SN	Sassari	Palmadula	SS	160	431725.0	4511002.7	32	Composite volcanic land with parent material represented by igneous and metamorphic rocks, and mediterranean mountainous climate. Sloping land with metamorphic rocks (schists and phyllites)	100-1200

published in Italy that tries to take inventory of the species on a national scale. It is supported by the Ministry for Environment and Protection of the Territory, and subject to the supervision of the Scientific Committee for the Italian Fauna, which also provides the rules on how to update the Checklist.

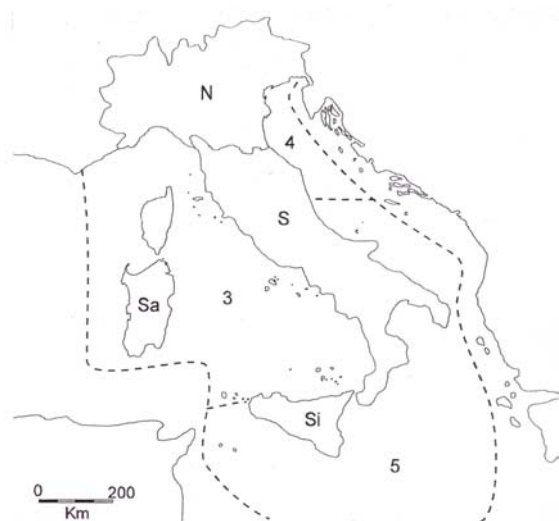
The Apoidea Checklist was published ten years ago. Even though since this time sufficient material was collected that could be used to update the list, it has not yet been updated. We therefore report the new records that were either found during this investigation or that are known from literature in order to contribute to possible future updating.

We distinguish between species that were recorded in Italy for the first time and species that are not on the list, but are known from the literature to be present in Italy. We then provide a list of taxa that are indicated in the Checklist with a synonym. Finally, we list taxa of different meaning compared to that reported in the Checklist. We provide a list of all the species found and of their distribution in the Italian 4 macroregions (figure 1), as reported in the Checklist.

We indicate new records of a taxon in a macroregion, and we refer to these new records in the text with “enlarged distribution with respect to the Checklist”. Possible records of enlarged distribution, already signalled by other authors, are not considered. Some species have already been reported as new species for a certain region (Mazzeo and Longo, 2002; Satta *et al.*, 2002), but the related findings are cited herein for the first time.

### Chorology

Unless indicated otherwise, we assigned each species to one of the chorotypes suggested by Vigna Taglianti *et al.* (1992), and based on the geographical distribution reported in Pagliano (1988, 1992, 1994). Based on the work of La Greca (1964), the expertise of various authors specialised in different taxa, Vigna Taglianti *et al.* (1992) aimed at obtaining general chorotypes and facilitating data processing.



**Figure 1.** Italian Faunistic Macroregions, according to the Checklist of the Italian Fauna.

## Results

### Collected Fauna and richness of species

Overall, 8,674 specimens, which belong to the 7 Apoidea Families present in Italy, were collected. The specimens account for a total of 355 species (38% of the species listed in the Checklist of the Italian Fauna). The 74.6% (total No. 265) of these was found in the agroecosystems, and the 81.4% (total No. 289) in the semi-natural landscapes. In five of the eight regions considered, the number of Apoidea species in the agroecosystem was less than in semi-natural landscape and in three was the opposite (table 3).

A detailed list of the species found in the four-year collecting period and their distribution is reported in table 4. In addition to the 355 species, also the *Halictus simplex* group is indicated.

**Table 3.** Wild bees species found in the two investigated environments.

Region	Agroecosystem	Semi-natural landscape	Total No.
	No. and (%)	No. and (%)	
Piedmont	69 (94.5)	19 (26.0)	73
Friuli-Venezia Giulia	92 (76.0)	79 (65.3)	121
Emilia-Romagna	88 (55.0)	136 (85.0)	160
Tuscany	82 (73.9)	65 (58.6)	111
Umbria	88 (56.4)	122 (78.2)	156
Molise	102 (70.3)	103 (71.0)	145
Sicily	60 (62.5)	67 (69.8)	96
Sardinia	47 (61.0)	58 (75.3)	77
<b>Total species</b>	<b>265 (74.6)</b>	<b>289 (81.4)</b>	<b>355</b>

### New taxa in Italy, synonyms and updating of the Checklist

A list of 21 taxa is reported. Within this list, 3 species are new records for Italy, 5 species are not reported in the Checklist of the Italian Fauna, but are known to be present in Italy from literature, 7 are updates of synonyms of the Checklist, and 5 taxa are reported in the Checklist, but were indicated with a different meaning. Finally, with our census we confirmed the presence of 1 taxon, whose presence in Italy had previously been defined as uncertain.

### New Taxa with respect to the Checklist of the Italian Fauna

New species in Italy:

*Hylaeus kahri* Förster, 1871

FRIULI-VENEZIA GIULIA: Udine, Sant'Osvaldo, 20.VIII.1997, 1♀; leg. P. Cogol; det. 1999 H.H. Dathe;

*Lasioglossum subaenescens* (Pérez, 1896)

MOLISE: San Biase, Lago del Corvo, 24.VII.1998, 1♀; leg. M.G. Piazza; det. 2001 A.W. Ebmer;

MOLISE: San Biase, Lago del Corvo, 07.VII.2000, 1♀; leg. M.G. Piazza; det. 2001 M. Quaranta;

*Osmia niveibarbis* Pérez, 1902

MOLISE: San Biase, Lago del Corvo, 02.VII.1997,



1♀; leg. F. Intoppa; det. 2001 M. Schwarz;  
SARDINIA: Sassari, Ottava, 20.V.1997, 1♀; leg. A.  
Satta; det. 2001 M. Quaranta.

Species already known from literature:

*Amegilla magnilabris* (Morawitz, 1875)  
*Andrena aberrans* Eversmann, 1852  
*Coelioxys echinata* Förster, 1853  
*Eucera nigrilabris* Lepeletier, 1841  
*Hylaeus taeniolatus* Förster, 1871

Valid species names that differ from those reported in  
the Checklist of Italian Fauna:

*Andrena similis croceiventris* Morawitz, 1871  
*Andrena carantonica* Pérez, 1902  
*Dasygaster hirtipes* (F., 1793)  
*Eucera proxima* Morawitz, 1875

*Eucera nigrescens* Pérez, 1879  
*Megachile albohirta* (Kirby, 1802)  
*Tetralonia malvae* (Rossi, 1790)

Species that have a different meaning in the Checklist of  
the Italian Fauna:

*Anthophora aestivalis* Panzer, 1801  
*Anthophora retusa* (L., 1758)  
*Anthophora mucida* Gribodo, 1873  
*Bombus campestris* (Panzer, 1801)  
*Metallinella brevicornis* (F., 1798)

Further updates:

*Lasioglossum clypeare* (Scenck, 1853)  
We confirm the presence in Italy of this species and re-  
port its distribution (table 4).

**Table 4.** List of the collected species and their distribution in the 4 Italian Macroregions according to the Checklist of the Italian Fauna. In bold: Macroregions in which the species is recorded for the first time. Data concerning 8,674 specimens.

Species	Macroregions
<i>Amegilla albigena</i> (Lepeletier, 1841)	N S Si Sa
<i>Amegilla garrula</i> (Rossi, 1790)	N S Si Sa
<i>Amegilla magnilabris</i> (Morawitz, 1875)	<b>S</b>
<i>Amegilla quadrifasciata</i> (Villers, 1789)	N S Si Sa
<i>Andrena aberrans</i> Eversmann, 1852	<b>S</b>
<i>Andrena aeneiventris</i> Morawitz, 1872	N S Si
<i>Andrena aerinifrons</i> Dours, 1873	Si
<i>Andrena agilissima</i> (Scopoli, 1770)	N S Si Sa
<i>Andrena agnata</i> Warncke, 1968	S Si
<i>Andrena albopunctata</i> (Rossi, 1792)	N S Si Sa
<i>Andrena bicolor</i> F., 1775	N S Si
<i>Andrena bicolorata</i> (Rossi, 1790)	N S Si Sa
<i>Andrena carantonica</i> Pérez, 1902	N <b>Si</b>
<i>Andrena carbonaria</i> (L., 1767)	N S Si Sa
<i>Andrena cineraria</i> (L., 1758)	N S
<i>Andrena chypeata</i> Brullé, 1832	N S <b>Si</b>
<i>Andrena combinata</i> (Christ, 1791)	N S Si Sa
<i>Andrena compta</i> Lepeletier, 1841	Sa
<i>Andrena decipiens</i> Schenck, 1859	N S Si
<i>Andrena distinguenda</i> Schenck, 1871	N S <b>Si</b>
<i>Andrena dorsalis</i> Brullé, 1832	N S
<i>Andrena dorsata</i> (Kirby, 1802)	N S Si
<i>Andrena ferrugineicrus</i> Dours, 1872	S Si Sa
<i>Andrena flavipes</i> Panzer, 1799	N S Si Sa
<i>Andrena florea</i> F., 1793	N S Si
<i>Andrena floricola</i> Eversmann, 1852	N S
<i>Andrena fulva</i> (Müller, 1766)	N S
<i>Andrena fulvago</i> (Christ, 1791)	N S Si
<i>Andrena granulosa</i> Pérez, 1902	N <b>S</b>
<i>Andrena gravida</i> Imhoff, 1832	N S Si
<i>Andrena haemorrhoea</i> (F., 1781)	N S
<i>Andrena hattorfiana</i> (F., 1775)	N S Si
<i>Andrena hesperia</i> Smith, 1853	N S Si Sa
<i>Andrena humilis</i> Imhoff, 1832	N S Si
<i>Andrena impunctata</i> Pérez, 1895	N S Si <b>Sa</b>
<i>Andrena labialis</i> (Kirby, 1802)	N S Si <b>Sa</b>
<i>Andrena labiata</i> F., 1781	N S Si
<i>Andrena lagopus</i> Latreille, 1809	N S Si
<i>Andrena lathyri</i> Alfken, 1899	N S Si
<i>Andrena lepida</i> Schenck, 1859	S Si Sa
<i>Andrena limata</i> Smith, 1853	N S Si

Species	Macroregions
<i>Andrena livens</i> Pérez, 1895	N S Si <b>Sa</b>
<i>Andrena marginata</i> F., 1776	N S Si
<i>Andrena miegiella</i> Dours, 1873	S Si Sa
<i>Andrena minutula</i> (Kirby, 1802)	N S Sa
<i>Andrena minutuloides</i> Perkins, 1914	N S Sa
<i>Andrena morio</i> Brullé, 1832	N S Si Sa
<i>Andrena nana</i> (Kirby, 1802)	N S Si Sa
<i>Andrena nigroaenea</i> (Kirby, 1802)	N S Si Sa
<i>Andrena nigroolivacea</i> Dours, 1873	N S <b>Si</b> Sa
<i>Andrena nitida</i> (Müller, 1776)	N S Si Sa
<i>Andrena nitidiuscula</i> Schenck, 1853	N S
<i>Andrena ovatula</i> (Kirby, 1802)	N S Si Sa
<i>Andrena pandellei</i> Pérez, 1895	N <b>S</b>
<i>Andrena polita</i> Smith, 1847	S
<i>Andrena proxima</i> (Kirby, 1802)	N S Si
<i>Andrena pusilla</i> Pérez, 1903	N S <b>Si</b>
<i>Andrena ranunculi</i> Schmiedeknecht, 1884	N S
<i>Andrena schencki</i> Morawitz, 1866	N S Si
<i>Andrena semilaevis</i> Pérez, 1903	N <b>S</b>
<i>Andrena senecionis</i> Pérez, 1895	N S Si
<i>Andrena similis</i> Smith, 1849	N S Si <b>Sa</b>
<i>Andrena simontornyella</i> Noskiewicz, 1930	N S <b>Sa</b>
<i>Andrena subopaca</i> Nylander, 1848	N S
<i>Andrena symphyti</i> Schmiedeknecht, 1883	N S
<i>Andrena taraxaci</i> Giraud, 1861	N S Si <b>Sa</b>
<i>Andrena tenuistriata</i> Pérez, 1895	N S Si
<i>Andrena thoracica</i> (F., 1775)	N S Si Sa
<i>Andrena trimmerana</i> (Kirby, 1802)	N S Si
<i>Andrena truncatilabris</i> Morawitz, 1878	N S Si
<i>Andrena variabilis</i> Smith, 1853	N S Si Sa
<i>Andrena ventricosa</i> Dours, 1873	N S Si
<i>Andrena verticalis</i> Pérez, 1895	N Si
<i>Andrena vetula</i> Lepeletier, 1841	S Si Sa
<i>Andrena viridescens</i> Viereck, 1916	N
<i>Andrena vulpecula</i> Kriechbaumer, 1873	N S Sa
<i>Andrena wilkella</i> (Kirby, 1802)	N S Si
<i>Anthidiellum strigatum</i> (Panzer, 1805)	N S Si <b>Sa</b>
<i>Anthidium cingulatum</i> Latreille, 1809	N S Si Sa
<i>Anthidium florentinum</i> (F., 1775)	N S Si
<i>Anthidium manicatum</i> (L., 1758)	N S Si Sa
<i>Anthidium oblongatum</i> (Illiger, 1806)	N S Si

<i>Anthidium punctatum</i> Latreille, 1809	N	S	Si
<i>Anthidium septemspinosum</i> Lepeletier, 1841	N	S	
<i>Anthocopa andrenoides</i> (Spinola, 1808)	N	S	Si Sa
<i>Anthocopa bidentata</i> (Morawitz, 1876)	N	S	
<i>Anthocopa bisulca</i> (Gerstaecker, 1869)	N	S	Si
<i>Anthocopa cristatula</i> Zanden, 1990	N	S	Si
<i>Anthocopa erythrogastra</i> (Ferton, 1905)	N	S	Sa
<i>Anthocopa ligurica</i> (Morawitz, 1868)	N	S	Si Sa
<i>Anthocopa rugidorsis</i> (Pérez, 1895)		S	Sa
<i>Anthocopa scutellaris</i> (Morawitz, 1868)	N	S	
<i>Anthocopa spinulosa</i> (Kirby, 1802)	N	S	Si
<i>Anthocopa tergestensis</i> (Ducke, 1897)	N	S	
<i>Anthophora aestivalis</i> Panzer, 1801		S	Si
<i>Anthophora atroalba</i> Lepeletier, 1841	N	S	Si
<i>Anthophora dispar</i> Lepeletier, 1841	N	S	Si Sa
<i>Anthophora mucida</i> Gribodo, 1873		S	
<i>Anthophora plumipes</i> (Pallas, 1772)	N	S	Si Sa
<i>Anthophora pubescens</i> (F., 1781)	N	S	
<i>Anthophora retusa</i> (L., 1758)		S	Si
<i>Anthophora salviae</i> (Panzer, 1804)	N	S	Si Sa
<i>Anthophora subterranea</i> Germar, 1826	N	S	Si Sa
<i>Bombus argillaceus</i> (Scopoli, 1763)	N		
<i>Bombus campestris</i> (Panzer, 1801)	N	S	Si
<i>Bombus hortorum</i> (L., 1761)	N	S	Si Sa
<i>Bombus humilis</i> Illiger 1806	N	S	Si
<i>Bombus hypnorum</i> (L., 1758)	N		
<i>Bombus lapidarius</i> (L., 1758)	N	S	Si
<i>Bombus pascuorum</i> (Scopoli, 1763)	N	S	Si
<i>Bombus pratorum</i> (L., 1761)	N	S	Si
<i>Bombus ruderatus</i> (F., 1775)	N	S	Si Sa
<i>Bombus subterraneus</i> (L., 1758)	N	S	
<i>Bombus sylvarum</i> (L., 1761)	N	S	Si
<i>Bombus terrestris</i> (L., 1758)	N	S	Si Sa
<i>Bombus vestalis</i> (Fourcroy, 1785)	N	S	Si Sa
<i>Ceratina chalcites</i> Latreille, 1809	N	S	Si
<i>Ceratina chalybea</i> Chevrier, 1872	N	S	Si
<i>Ceratina cucurbitina</i> (Rossi, 1792)	N	S	Si Sa
<i>Ceratina cyanea</i> (Kirby, 1802)	N	S	Si Sa
<i>Ceratina dallatorreana</i> Friese, 1896	N	S	Sa
<i>Ceratina dentiventris</i> Gerstaecker, 1869	N	S	Si Sa
<i>Ceratina gravidula</i> Gerstaecker, 1869	N	S	
<i>Chalicodoma ericetorum</i> (Lepeletier, 1841)	N	S	Si
<i>Chalicodoma parietina</i> (Geoffroy, 1785)	N	S	Si Sa
<i>Chelostoma campanularum</i> (Kirby, 1802)	N	S	Si
<i>Chelostoma distinctum</i> (Stoeckert, 1929)	N	S	
<i>Chelostoma emarginatum</i> (Nylander, 1856)	N	S	
<i>Chelostoma florisomme</i> (L., 1758)	N	S	
<i>Chelostoma mocsaryi</i> Schletterer, 1889	N	S	
<i>Chelostoma rapunculi</i> (Lepeletier, 1841)	N	S	Si
<i>Coelioxys afra</i> Lepeletier, 1841	N	S	Si Sa
<i>Coelioxys echinata</i> Förster, 1853		Si	
<i>Coelioxys haemorrhoea</i> Förster, 1853	N	S	Si
<i>Colletes albomaculatus</i> (Lucas, 1849)		S	Si
<i>Colletes caspicus</i> Morawitz, 1874	N	S	Si Sa
<i>Colletes cucularius</i> (L., 1761)	N	S	
<i>Colletes daviesanus</i> Smith, 1846	N	S	Si
<i>Colletes marginatus</i> Smith, 1846	N	S	Sa
<i>Colletes succinctus</i> (L., 1758)	N	S	Si
<i>Creightonella albisecta</i> (Klug, 1817)	N	S	Si Sa
<i>Dasygaster cingulata</i> Erichson, 1835	N	S	
<i>Dasygaster hirtipes</i> (F., 1793)	N	S	Si Sa
<i>Eucera cinerea</i> Lepeletier, 1841	N	S	
<i>Eucera clypeata</i> Erichson, 1835	N	S	
<i>Eucera eucnemidea</i> Dours, 1873	N	S	Si Sa
<i>Eucera grisea</i> F., 1793		S	Si Sa
<i>Eucera interrupta</i> Baer, 1850	N	S	Si
<i>Eucera longicornis</i> (L., 1758)	N	S	Si Sa
<i>Eucera nigrescens</i> Pérez, 1879	N	S	Si Sa
<i>Eucera nigrifacies</i> Lepeletier, 1841	N	S	Si Sa

<i>Eucera nigrilabris</i> Lepeletier, 1841				<b>Sa</b>
<i>Eucera notata</i> Lepeletier, 1841			Si	Sa
<i>Eucera numida</i> Lepeletier, 1841	N	S	Si	Sa
<i>Eucera oraniensis</i> Lepeletier, 1841		S	Si	Sa
<i>Eucera proxima</i> Radoszkowski, 1875	N	S	Si	
<i>Eucera seminuda</i> Brullé, 1832	N	S	Si	
<i>Habropoda tarsata</i> (Spinola, 1838)	N	S	Si	
<i>Halictus asperulus</i> Pérez, 1895	N	S	Si	
<i>Halictus brunnescens</i> (Eversmann, 1852)	N	S	Si	Sa
<i>Halictus cochlearitarsis</i> (Dours, 1872)	N	S	Si	
<i>Halictus confusus</i> Smith, 1853	N	S		
<i>Halictus eurygnathus</i> Blüthgen, 1931	N	S	Si	
<i>Halictus fulvipes</i> (Klug, 1817)	N	S	Si	Sa
<i>Halictus gemmeus</i> Dours, 1872	N	S	Si	Sa
<i>Halictus gr. simplex</i> Blüthgen, 1923	N	S	Si	Sa
<i>Halictus gruenwaldti</i> Ebmer, 1975	N	S	Si	
<i>Halictus kessleri</i> Bramson, 1879	N	S		Sa
<i>Halictus langobardicus</i> Blüthgen, 1944	N	S	Si	
<i>Halictus maculatus</i> Smith, 1848	N	S	Si	
<i>Halictus patellatus</i> Morawitz, 1873	N	S	Si	
<i>Halictus pollinosus</i> Sichel, 1860	N	S	Si	Sa
<i>Halictus quadricinctus</i> (F., 1776)	N	S	Si	Sa
<i>Halictus sajoii</i> Blüthgen, 1923	N	S		
<i>Halictus scabiosae</i> (Rossi, 1790)	N	S	Si	Sa
<i>Halictus seladonius</i> (F., 1794)	N	S	Si	
<i>Halictus sexcinctus</i> (F., 1775)	N	S	Si	Sa
<i>Halictus simplex</i> Blüthgen, 1923	N	S		
<i>Halictus smaragdulus</i> Vachal, 1895	N	S	Si	Sa
<i>Halictus subauratus</i> (Rossi, 1792)	N	S	Si	Sa
<i>Halictus tectus</i> Radoszkowski, 1875	N	S	Si	
<i>Halictus tumulorum</i> (L., 1758)	N	S	Si	Sa
<i>Halictus vestitus</i> Lepeletier, 1841	N	S	Si	Sa
<i>Heriades crenulatus</i> Nylander, 1856	N	S	Si	Sa
<i>Heriades rubicola</i> Pérez, 1890	N	S	Si	Sa
<i>Heriades truncorum</i> (L., 1758)	N	S	Si	Sa
<i>Hoplitis acuticornis</i> (Dufour et Perris, 1840)	N	S	Si	Sa
<i>Hoplitis adunca</i> (Panzer, 1798)	N	S	Si	Sa
<i>Hoplitis anthocopoides</i> (Schenck, 1853)	N	S	Si	
<i>Hoplitis benoisti</i> (Alfken, 1935)	N	S	Si	Sa
<i>Hoplitis leucomelana</i> (Kirby, 1802)	N	S	Si	Sa
<i>Hoplitis rufohirta</i> (Latreille, 1811)	N	S	Si	Sa
<i>Hoplitis tenuispina</i> (Alfken, 1937)	N	S		
<i>Hylaeus angustatus</i> (Schenck, 1859)	N	S	Si	
<i>Hylaeus annularis</i> (Kirby, 1802)	N	S	Si	
<i>Hylaeus brevicornis</i> Nylander, 1853	N	S	Si	Sa
<i>Hylaeus clypearis</i> (Schenck, 1853)	N	S	Si	Sa
<i>Hylaeus communis</i> Nylander, 1852	N	S	Si	Sa
<i>Hylaeus confusus</i> Nylander, 1852	N	S		
<i>Hylaeus duckei</i> (Alfken, 1904)	N	S		
<i>Hylaeus gibbus</i> Saunders, 1850	N	S	Si	
<i>Hylaeus hyalinatus</i> Smith, 1842	N	S		Sa
<i>Hylaeus imparilis</i> Förster, 1871	N	S	Si	Sa
<i>Hylaeus kahri</i> Förster, 1871	N	S		
<i>Hylaeus lineolatus</i> (Schenck, 1859)	N	S		
<i>Hylaeus pictus</i> (Smith, 1853)	N	S	Si	
<i>Hylaeus punctatus</i> (Brullé, 1832)	N	S	Si	Sa
<i>Hylaeus signatus</i> (Panzer, 1798)	N	S		Sa
<i>Hylaeus sinuatus</i> (Schenck, 1853)	N	S	Si	
<i>Hylaeus taeniolatus</i> Förster, 1871		S		
<i>Hylaeus trinotatus</i> (Pérez, 1895)		S	Si	
<i>Hylaeus variegatus</i> (F., 1798)	N	S	Si	Sa
<i>Icteranthidium grohmanni</i> (Spinola, 1838)	N	S	Si	
<i>Lasioglossum aegyptiellum</i> (Strand, 1909)		S	Si	Sa
<i>Lasioglossum aeratum</i> (Kirby, 1802)	N	S		Sa
<i>Lasioglossum albipes</i> (F., 1781)	N	S	Si	
<i>Lasioglossum albocinctum</i> (Lucas, 1846)	N	S	Si	Sa
<i>Lasioglossum angusticeps</i> (Perkins, 1895)	N	S		
<i>Lasioglossum bimaculatum</i> (Dours, 1872)	N	S	Si	Sa
<i>Lasioglossum brevicorne</i> (Schenck, 1868)	N	S		Sa

<i>Lasioglossum calceatum</i> (Scopoli,1763)	N	S	Si	Sa	<i>Melecta leucorhyncha</i> Gribodo, 1893	N	S	Si	Sa
<i>Lasioglossum callizonium</i> (Pérez,1895)	N		Si	Sa	<i>Melecta luctuosa</i> (Scopoli, 1770)	N	S	Si	
<i>Lasioglossum clypeare</i> (Schenck, 1853)	N				<i>Melitta leporina</i> (Panzer,1799)	N	S		
<i>Lasioglossum corvinum</i> (Morawitz,1878)	N	S	Si	Sa	<i>Melitta nigricans</i> Alfken,1905	N			
<i>Lasioglossum costulatum</i> (Kriechbaumer,1873)	N	S			<i>Melitta tricineta</i> Kirby,1802	N	S		
<i>Lasioglossum crassepunctatum</i> (Blüthgen,1923)	N	S	Si		<i>Melitturga clavicornis</i> (Latreille, 1806)	N	S		
<i>Lasioglossum discum</i> (Smith,1853)	N	S	Si	Sa	<i>Metallinella brevicornis</i> (F., 1798)	N	S		
<i>Lasioglossum fulvicorne</i> (Itirby,1802)	N	S	Si		<i>Nomada basalis</i> Herrich-Schaeffer, 1839	N	S	Si	
<i>Lasioglossum glabriusculum</i> (Morawitz,1872)	N	S	Si		<i>Nomada carnifex</i> Mocsáry, 1883	N	S	Si	
<i>Lasioglossum griseolum</i> (Morawitz,1872)	N	S	Si	Sa	<i>Nomada castellana</i> Dusmet, 1913	N	S	Si	
<i>Lasioglossum intermedium</i> (Schenck,1868)	N	S	Si	Sa	<i>Nomada concolor</i> Schmiedeknecht, 1882	N	S	Si	
<i>Lasioglossum interruptum</i> (Panzer,1798)	N	S	Si	Sa	<i>Nomada discrepans</i> Schmiedeknecht, 1882	N	S	Si	
<i>Lasioglossum laeve</i> (Kirby,1802)	N	S	Si		<i>Nomada distinguenda</i> Morawitz, 1874	N	S	Si	Sa
<i>Lasioglossum laevigatum</i> (Kirby,1802)	N	S	Si		<i>Nomada facilis</i> Schwarz, 1967	N	S		
<i>Lasioglossum laticeps</i> (Schenck,1868)	N	S	Si		<i>Nomada femoralis</i> Morawitz, 1869	N	S	Si	Sa
<i>Lasioglossum lativentre</i> (Schenck,1853)	N	S	Si	Sa	<i>Nomada flavoguttata</i> (Kirby, 1802)	N	S	Si	
<i>Lasioglossum leucopus</i> (Kirby, 1802)	N	S			<i>Nomada fucata</i> Panzer, 1798	N	S	Si	Sa
<i>Lasioglossum leucozonium</i> (Schränk,1781)	N	S	Si	Sa	<i>Nomada fulvicornis</i> F., 1793	N	S	Si	Sa
<i>Lasioglossum limbellum</i> (Morawitz,1876)	N	S	Si	Sa	<i>Nomada kohli</i> Schmiedeknecht, 1882	N	S	Si	Sa
<i>Lasioglossum lineare</i> (Schenck,1868)	N	S			<i>Nomada melathoracica</i> Imhoff, 1834	N	S		
<i>Lasioglossum lucidulum</i> (Schenck,1861)	N	S	Si		<i>Nomada mutica</i> Morawitz, 1872	N	S		
<i>Lasioglossum malachurum</i> (Kirby,1802)	N	S	Si	Sa	<i>Nomada sexfasciata</i> Panzer, 1799	N	S	Si	Sa
<i>Lasioglossum marginatum</i> (Brullé,1832)	N	S			<i>Nomada sheppardana</i> (Kirby, 1802)	N	S	Si	
<i>Lasioglossum mesosclerum</i> (Pérez,1903)	N	S			<i>Nomada verna</i> Schmiedeknecht, 1882	N	S	Si	
<i>Lasioglossum minutissimum</i> (Kirby,1802)	N	S	Si	Sa	<i>Nomada zonata</i> Panzer, 1798	N	S		
<i>Lasioglossum minutulum</i> (Schenck,1853)	N	S			<i>Osmia aurulenta</i> (Panzer,1799)	N	S	Si	Sa
<i>Lasioglossum morio</i> (F.,1793)	N	S	Si		<i>Osmia caerulescens</i> (L.,1758)	N	S	Si	Sa
<i>Lasioglossum nigripes</i> (Lepeletier,1841)	N	S	Si	Sa	<i>Osmia cephalotes</i> Morawitz,1871	N	S	Si	
<i>Lasioglossum nitidiusculum</i> (Kirby,1802)	N	S	Si	Sa	<i>Osmia cornuta</i> (Latreille,1805)	N	S	Si	
<i>Lasioglossum nitidulum</i> (F.,1804)	N	S	Si	Sa	<i>Osmia dimidiata</i> Morawitz,1871			Si	Sa
<i>Lasioglossum parvulum</i> (Schenck,1853)	N	S	Si	Sa	<i>Osmia emarginata</i> Lepeletier,1841	N	S		Sa
<i>Lasioglossum pauperatum</i> (Brullé,1832)	N	S	Si	Sa	<i>Osmia fulviventris</i> (Panzer,1798)	N	S	Si	Sa
<i>Lasioglossum pauxillum</i> (Schenck,1853)	N	S	Si	Sa	<i>Osmia gallarum</i> Spinola,1808	N	S	Si	
<i>Lasioglossum perclavipes</i> (Blüthgen,1934)		S	Si	Sa	<i>Osmia kohli</i> Ducke, 1900)			Si	
<i>Lasioglossum peregrinum</i> (Blüthgen,1923)	N				<i>Osmia melanogaster</i> Spinola,1808	N	S	Si	
<i>Lasioglossum politum</i> (Schenck,1853)	N	S	Si		<i>Osmia nana</i> Morawitz,1873	N	S	Si	
<i>Lasioglossum punctatissimum</i> (Schenck,1853)	N	S	Si		<i>Osmia niveibarbis</i> Pérez, 1902		S		Sa
<i>Lasioglossum puncticolle</i> (Morawitz,1872)	N	S	Si	Sa	<i>Osmia rufa</i> (L.,1758)	N	S	Si	Sa
<i>Lasioglossum pygmaeum</i> (Schenck,1853)	N	S			<i>Osmia signata</i> Erichson,1835	N	S	Si	Sa
<i>Lasioglossum quadrinotatum</i> (Schenck,1861)	N	S			<i>Osmia viridana</i> Morawitz,1873	N	S		
<i>Lasioglossum rufitarse</i> (Zetterstedt,1838)	N	S			<i>Panurgus calcaratus</i> (Scopoli,1763)	N	S	Si	Sa
<i>Lasioglossum sexnotatum</i> (Kirby,1802)	N	S	Si	Sa	<i>Panurgus dentipes</i> Latreille,1811	N	S	Si	Sa
<i>Lasioglossum subaenescens</i> (Pérez, 1896)	S				<i>Pasites maculatus</i> Jurine, 1807	N	S	Si	
<i>Lasioglossum subfasciatum</i> (Imhoff,1832)	N	S			<i>Pseudapis diversipes</i> (Latreille,1806)	N	S	Si	Sa
<i>Lasioglossum transitorium</i> (Schenck,1868)	N	S	Si	Sa	<i>Pseudoanthidium lituratum</i> (Panzer,1801)	N	S	Si	Sa
<i>Lasioglossum tricinatum</i> (Schenck,1874)	N	S	Si		<i>Rhodanthidium septemdentatum</i> (Latreille,1809)	N	S	Si	Sa
<i>Lasioglossum truncaticolle</i> (Morawitz,1878)	N	S	Si		<i>Sphecodes albilabris</i> (F.,1793)	N	S	Si	Sa
<i>Lasioglossum villosulum</i> (Kirby,1802)	N	S	Si	Sa	<i>Sphecodes gibbus</i> (L.,1758)	N	S	Si	Sa
<i>Lasioglossum xanthopus</i> (Kirby,1802)	N	S	Si		<i>Sphecodes monilicornis</i> (Kirby,1802)	N	S	Si	Sa
<i>Lasioglossum zonulum</i> (Smith,1848)	N	S			<i>Sphecodes puncticeps</i> Thomson,1870	N	S	Si	Sa
<i>Lithurgus chrysurus</i> Fonscolombe,1834	N	S	Si	Sa	<i>Sphecodes reticulatus</i> Thomson,1870	N	S	Si	
<i>Lithurgus cornutus</i> (F.,1787)	N	S		Sa	<i>Sphecodes rufiventris</i> (Panzer,1798)	N	S		
<i>Macropis europaea</i> Warncke,1973	N	S			<i>Sphecodes schenckii</i> Hagens,1882	N	S	Si	
<i>Megachile albohirta</i> (Kirby,1802)	N	S		Sa	<i>Stelis breviscula</i> (Nylander,1848)	N	S	Si	Sa
<i>Megachile apicalis</i> Spinola,1808	N	S	Si	Sa	<i>Stelis nasuta</i> (Latreille,1809)	N	S	Si	Sa
<i>Megachile centuncularis</i> (L.,1758)	N	S	Si	Sa	<i>Stelis punctulatissima</i> (Kirby,1802)	N	S		
<i>Megachile lagopoda</i> (L.,1761)	N	S	Si	Sa	<i>Systropha curvicornis</i> (Scopoli,1770)	N	S		
<i>Megachile maritima</i> (Kirby,1802)	N	S	Si	Sa	<i>Tetralonia alticineta</i> (Lepeletier, 1841)	N	S		
<i>Megachile melanopyga</i> A.Costa,1863	N	S	Si	Sa	<i>Tetralonia hungarica</i> (Friese, 1895)	N			
<i>Megachile octosignata</i> Nylander,1852	N	S			<i>Tetralonia julliani</i> (Pérez, 1879)	N		Si	
<i>Megachile pilicrus</i> Morawitz,1878	N	S		Sa	<i>Tetralonia malvae</i> (Rossi, 1790)	N	S	Si	
<i>Megachile pilidens</i> Alfken,1923	N	S	Si	Sa	<i>Tetralonia salicariae</i> (Lepeletier, 1841)	N	S		
<i>Megachile rotundata</i> (F.,1787)	N	S	Si	Sa	<i>Thyreus ramosus</i> (Lepeletier, 1841)	N	S	Si	Sa
<i>Megachile schmiedeknechti</i> A. Costa,1884	S			Sa	<i>Trachusa interrupta</i> (F., 1781)	N	S	Si	Sa
<i>Megachile willughbiella</i> (Kirby,1802)	N	S			<i>Triepeolus tristis</i> (Smith, 1854)	N	S		
<i>Melecta aegyptiaca</i> Radoszkowski, 1876		S	Si		<i>Xylocopa iris</i> (Christ, 1791)	N	S	Si	Sa
<i>Melecta albifrons</i> (Förster, 1771)	N	S	Si	Sa	<i>Xylocopa valga</i> Gerstaecker, 1872	N	S	Si	
<i>Melecta italica</i> Radoszkowski, 1876	N	S	Si	Sa	<i>Xylocopa violacea</i> (L., 1758)	N	S	Si	Sa

**Table 5.** Number of specimens and their relative abundance in each Apoidea Family, according to their geographic distribution.

Macroregions Regions	Families														Specimens
	Colletidae	Melitidae	Halictidae	Andrenidae	Megachilidae	Anthophoridae	Apidae								
<b>North</b>	42	1%	37	1%	1754	42%	562	13%	419	10%	356	9%	1071	25%	<b>4241</b>
Piedmont	0	0%	13	2%	283	48%	132	23%	49	9%	41	7%	66	11%	584
Fruli-Venezia Giulia	23	1%	15	1%	819	42%	193	10%	123	6%	43	2%	725	38%	1941
Emilia-Romagna	19	1%	9	1%	652	38%	237	14%	247	14%	272	16%	280	16%	1716
<b>South</b>	37	1%	2	0%	1227	40%	542	18%	478	16%	511	17%	252	8%	<b>3049</b>
Tuscany	0	0%	1	0%	250	30%	124	15%	140	17%	199	24%	116	14%	830
Umbria	23	2%	0	0%	737	52%	198	14%	238	17%	152	11%	57	4%	1405
Molise	14	2%	1	0%	240	29%	220	27%	100	12%	160	20%	79	10%	814
Sicily - Sicily	17	3%	1	0%	117	23%	41	8%	69	14%	121	24%	135	28%	501
Sardinia - Sardinia	1	0%	0	0%	113	13%	204	23%	161	18%	228	26%	176	20%	883
Specimens per Family	97	1%	40	1%	3211	37%	1349	16%	1127	13%	1216	14%	1634	19%	<b>8674</b>

**Table 6.** Species composition according to chorologic types.

Chorologic type	%
Species widely distributed beyond the Palearctic	
OLA Olarctic	5
COS Cosmopolitan	1
Total number of species 23	6
Species widely distributed in the Palearctic	
PAL Palearctic	15
EUM European-Mediterranean	15
WPA W-Palearctic	17
SIE Siberian-European	5
TEM Turanic-European-Mediterranean	5
ASE Asiatic-European	3
TUE Turanic-European	3
CEM Central-Asiatic-European-Mediterranean	2
CAE Central Asiatic European	1
PALINM Palearctic and Indian-Mediterranean	0
Total number of species 233	66
Species widespread in Europe	
Mostly occurring in Central Europe	
EUR European	9
EURANA European extended to Anatolia	4
EURCAU European extended to Caucasus	2
EURCAUANA European extended to Caucasus and Anatolia	1
Mostly occurring in the Mediterranean Basin	
SEU S-European	4
EURMAGANA European extended to Maghreb and Anatolia	1
EURMAG European extended to Maghreb	1
EURMAGCAU European extended to Maghreb and Caucasus	1
EURMACANA European ext. to Macaronesia and Anatolia	1
EURINM European and Indian-Mediterranean	0
EURMAC European extended to Macaronesia	0
Total number of species 86	24
Species widespread in the Mediterranean Basin	
MED Mediterranean	4
WME W-Mediterranean	0
Total number of species 13	4
<b>Total number of species 355</b>	<b>100</b>

The taxonomic Family composition of the specimens and their distribution in the four different Italian geographic areas (Macroregions) (Pagliano, 1995) is summarised in table 5.

### Chorology

The chorotypes of the collected fauna are shown in table 6. The fauna of the Italian agricultural ecosystems is mainly characterised by specimens that are widespread all over or even beyond the Palearctic ecozone (71%); the remaining 29% of the specimens are widely distributed in Europe, some occurring mostly in Central Europe and others also in the Mediterranean countries.

### Diffusion of species in Italy, faunistic characterisation of a territory and monitoring of variations

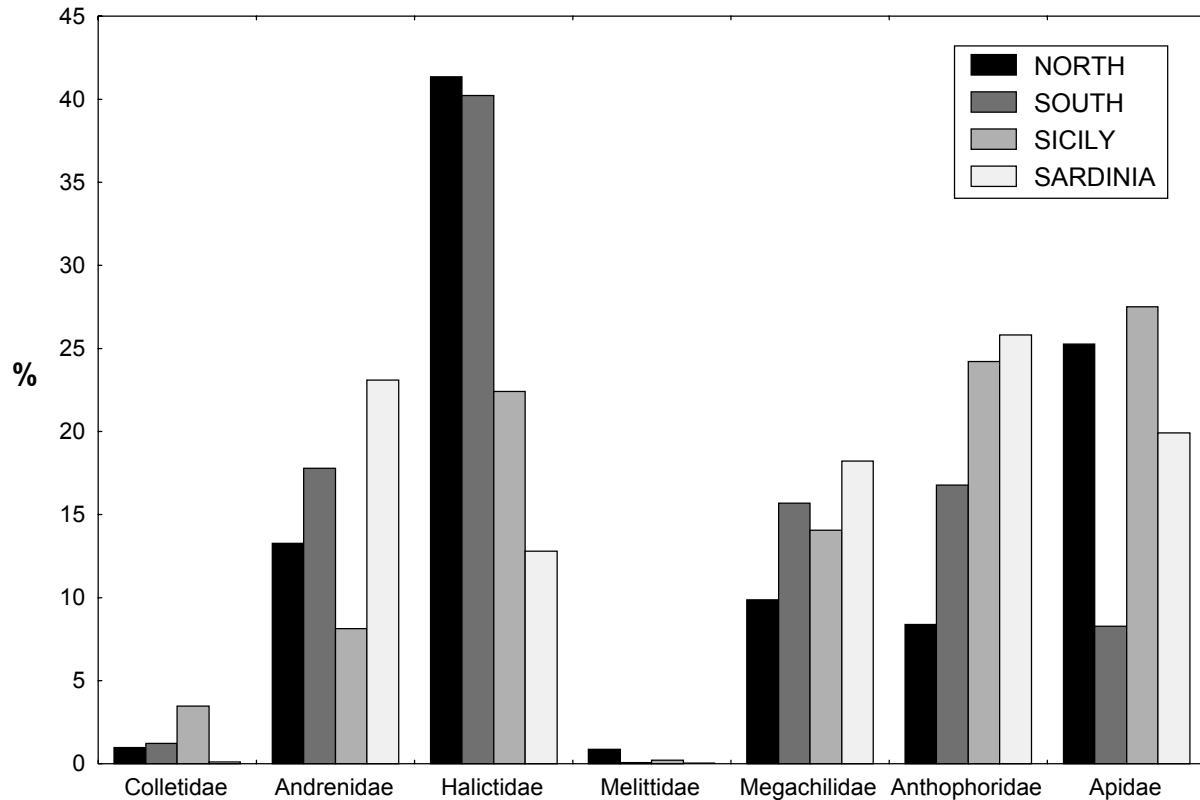
At a macroregional level (figure 1), 45 out of the 348 species that were already known to be present in Italy, showed an enlarged distribution area: 9 species spread North, 14 South, 10 species had never been observed before in Sicily, and 12 are new for Sardinia.

### Local Composition of bee faunas

Figure 2 shows the bee fauna composition (based on the number of captured specimens) of the 4 Italian macroregions. The specimens were grouped by Family.

More than one third of the identified species (table 7) are distributed over the entire national territory (also the new distribution areas resulting from this study are considered).

If the species were grouped according to the number of regions in which they have been collected (table 8), it can be observed that a high proportion (around 50%) was collected in one single region. Only around 5% of all the species are widespread and easy to find, captures in 8 (all the regions investigated), 7 or 6 regions (table 8), and only for 19 of these species, the number of collected specimens was high (more than 70 specimens).



**Figure 2.** Specimens, grouped by Families, captured in the Italian faunistic Macroregions.

**Table 7.** Species grouped according to their distribution in the Italian geographic Macroregions.

Distribution	No. of Species	%	Distribution pattern
Species distributed in the peninsula and the islands	133	37	(N, S, Si, Sa)
Species distributed in the peninsula and in Sicily, but not in Sardinia	99	28	(N, S, Si)
Species restricted to the peninsula	65	18	(N, S)
Species distributed in the peninsula and in Sardinia, but not in Sicily	17	5	(N, S, Sa)
Species restricted to Sicily	3		(Si)
Species restricted to Sardinia	2		(Sa)
Other Southern distributions	24		(S)(S, Si, Sa)(S, Si)(S, Sa)(Si, Sa)
Total species restricted to the South	29	9	
Species restricted to the North	8	2	(N)
Other distributions	4	1	(N, Si)
<b>Total</b>	<b>355</b>		

**Table 8.** Species grouped according to the number of Italian regions in which they were collected.

No. of Regions in which Species were collected	No. of Species	%
8 Regions	9	3
7 Regions	18	5
6 Regions	17	5
5 Regions	24	7
4 Regions	24	7
3 Regions	44	12
2 Regions	72	19
1 Region	147	42
<b>Total number of species</b>	<b>355</b>	<b>100</b>

#### List of collected specimens

*Amegilla albigena* (Lepelletier, 1841)  
 Central-Asiatic-European-Mediterranean  
 PIEMONTE: Cherasco, Costa Lambertini, 23.VI.1999, 1♂ 1♀;  
 EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♀; Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 1♂; 17.VI.1999, 1♂; 02.VIII.1999, 1♂ 1♀; 04.IX.1999, 3♂♂ 3♀♀; 22.IX.1999, 1♀; 17.VI.2000, 1♂ 2♀♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 2♀♀; 22.VIII.1998, 1♂; 31.VII.2000, 1♂;

- MOLISE: San Biase, Lago del Corvo, 08.IX.1998, 1♀; 08.VII.2000, 1♀;  
 SICILY: Catania, Riserva orientata "Oasi del Simeto", 28.VII.1998, 1♂; 23.VII.1999, 1♂;
- Amegilla garrula* (Rossi, 1790)  
 Turanic-European-Mediterranean  
 EMILIA-ROMAGNA: Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♂; Meldola, Castelnuovo, 17.VII.1998, 2♂♂; Rocca San Casciano, Tavernelle Vecchie, 22.IX.1999, 1♂;
- Amegilla magnilabris* (Morawitz, 1875)  
 Turanic-European-Mediterranean  
 MOLISE: San Biase, Sigliature, 08.IX.1998, 1♀;
- Amegilla quadrifasciata* (Villers, 1789)  
 Palearctic  
 EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 22.IX.1999, 1♂ 1♀;  
 SICILY: Ramacca, Ramacca, 23.VI.1999, 1♀; 02.VII.1999, 2♀♀; 12.VII.1999, 1♂;  
 SARDEGNA: Sassari, Ottava, 20.VI.1997, 2♀♀; Sassari, Palmadula, 22.VII.1997, 8♀♀; 21.VIII.1997, 2♂♂ 16♀♀;
- Andrena aberrans* Eversmann, 1852  
 Turanic-European  
 MOLISE: San Biase, Sigliature, 12.V.1997, 1♀;
- Andrena aeneiventris* Morawitz, 1872  
 Central-Asiatic-European-Mediterranean  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 22.VI.1997, 1♀; 21.VII.1997, 1♀; 12.V.1998, 4♀♀; 18.V.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 11.V.1997, 2♀♀; 24.V.1997, 1♀;
- Andrena aerinifrons* Dours, 1873  
 W-Mediterranean  
 SICILY: Catania, Contrada Spina Santa, 28.XI.1997, 1♂; 23.III.1998, 1♀;
- Andrena agilissima* (Scopoli, 1770)  
 European-Mediterranean  
 PIEMONTE: Cherasco, Costa Lamberti, 22.IV.1997, 1♀;  
 EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 24.III.1999, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 11.V.1999, 1♂; 16.V.2000, 1♀; San Biase, Sigliature, 13.VI.1997, 1♀; 04.V.2000, 1♀; 31.V.2000, 1♀;  
 SICILY: Catania, Riserva orientata "Oasi del Simeto", 04.V.1999, 1♀;  
 SARDEGNA: Sassari, Ottava, 21.IV.1998, 1♀; Sassari, Palmadula, 22.V.1997, 2♂♂; 28.VI.1999, 1♀; 22.III.2000, 1♀;
- Andrena agnata* Warncke, 1968  
 Mediterranean  
 UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♂;
- Andrena albopunctata* (Rossi, 1792)  
 Central-Asiatic-European-Mediterranean  
 MOLISE: San Biase, Lago del Corvo, 10.VII.1997, 1♂; 06.VIII.1997, 1♂; 04.VI.1998, 1♂; 11.V.1999, 1♀; 16.V.2000, 1♂; San Biase, Sigliature, 12.V.1997, 1♂; 27.V.1997, 1♀; 22.VII.1997, 1♀; 04.VI.1998, 1♂;
- Andrena bicolor* F., 1775  
 W-Palearctic  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 22.VI.1997, 1♀; 25.VI.1997, 1♀; 31.III.2000, 2♀♀;  
 EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 30.V.1998, 1♀;
- Andrena bicolorata* (Rossi, 1790)  
 Turanic-European-Mediterranean  
 SICILY: Catania, Contrada Spina Santa, 25.IV.1998, 1♀; Catania, Riserva orientata "Oasi del Simeto", 01.IV.1999, 1♀;
- Andrena carantonica*, Pérez 1902  
 European extended to Caucasus  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♂;  
 SICILY: Bronte, Bronte, 13.IV.2000, 1♀; Ragalna, Monte San Leo Contrada Milia, 29.III.2000, 1♀;
- Andrena carbonaria* (L., 1767)  
 Palearctic  
 EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 14.IV.1997, 1♂; 30.III.1998, 1♂;  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♀; 22.VI.1998, 2♀♀; 18.VI.1999, 2♀♀; 27.IV.2000, 1♀; 27.VI.2000, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 22.VII.1997, 1♀; San Biase, Sigliature, 25.VI.1997, 1♀;  
 SICILY: Catania, Contrada Spina Santa, 06.III.1999, 1♀; Catania, Riserva orientata "Oasi del Simeto", 26.V.1999, 1♀;  
 SARDEGNA: Sassari, Palmadula, 24.VI.1997, 1♀; 26.IV.2000, 1♀;
- Andrena cineraria* (L., 1758)  
 Palearctic and Indian-Mediterranean  
 TUSCANY: Rosignano Marittimo, Polveroni, 26.II.1999, 1♂;
- Andrena clypeata* Brullé, 1832  
 S-European  
 EMILIA-ROMAGNA: Ravenna, Massa Castello, 01.V.1999, 4♀♀; 23.V.1999, 1♀; 22.IV.2000, 3♀♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 29.IV.1999, 1♀; Rosignano Marittimo, Serragrande, 23.V.2000, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 07.VII.2000, 3♀♀;  
 UMBRIA: Marsciano, Mercatello, 19.VI.2000, 1♀;  
 SICILY: Bronte, Bronte, 30.VI.2000, 1♀; Catania, Riserva orientata "Oasi del Simeto", 26.V.1999, 1♀;

*Andrena combinata* (Christ, 1791)

Siberian-European

MOLISE: San Biase, Lago del Corvo, 12.V.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 11.V.1997, 3♂♂  
3♀♀; 02.V.1998, 1♀;  
SICILY: Ragalna, Monte San Leo Contrada Milia,  
27.VI.2000, 3♀♀;

*Andrena compta* Lepeletier, 1841

European-Mediterranean

SARDINIA: Sassari, Ottava, 21.IV.1998, 1♂;  
28.IV.1998, 1♀;

*Andrena decipiens* Schenck, 1859

European-Mediterranean

PIEDMONT: Cherasco, Veglia Case Nuove,  
02.VII.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Serragrande,  
23.V.2000, 1♀;  
MOLISE: San Biase, Lago del Corvo, 07.VII.1998,  
2♀♀; 31.V.2000, 2♀♀; 21.VI.2000, 1♀;  
07.VII.2000, 5♀♀; San Biase, Sigliature,  
22.VII.1997, 1♂; 06.VII.1999, 2♀♀; 31.V.2000,  
2♀♀; 21.VI.2000, 3♀♀;  
UMBRIA: Marsciano, Mercatello, 12.X.1999, 2♂♂;

*Andrena distinguenda* Schenck, 1871

European-Mediterranean

EMILIA-ROMAGNA: Forlì, Pievequinta, 07.V.1999,  
3♀♀;  
UMBRIA: Marsciano, Mercatello, 15.IV.1999, 1♂  
3♀♀; 16.V.2000, 1♀;  
SICILY: Catania, Contrada Spina Santa, 23.III.1998,  
1♀; Catania, Riserva orientata "Oasi del Simeto",  
18.II.1998, 1♀; 01.IV.1999, 2♀♀; 04.V.1999, 1♀;

*Andrena dorsalis* Brullé, 1832

European-Mediterranean

EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 22.IV.1998, 1♀;

*Andrena dorsata* (Kirby, 1802)

Palaearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 20.IV.1998, 1♂;  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 21.IV.2000, 1♂ 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VII.1998, 1♀;  
MOLISE: San Biase, Lago del Corvo, 13.VI.1997,  
1♀; 25.VI.1997, 1♀;

*Andrena ferrugineicrus* Dours, 1872

Mediterranean

TUSCANY: Rosignano Marittimo, Polveroni,  
24.IV.1998, 3♂♂; 26.II.1999, 1♂; 31.III.1999, 1♂;  
29.IV.1999, 3♂♂ 2♀♀;  
UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀;  
SICILY: Catania, Contrada Spina Santa, 16.IV.1998,  
1♀; 25.IV.1998, 2♀♀;

*Andrena flavipes* Panzer, 1799

W-Palaearctic

PIEDMONT: Avigliana, Villa Sant'Agostino,  
10.VII.1998, 1♀; Cherasco, Costa Lamberti,  
01.VII.1997, 1♂; 09.IV.1998, 1♀; 22.IV.1998,  
2♂♂; 06.V.1998, 1♂; 19.V.1998, 4♂♂ 1♀;  
02.VI.1998, 2♂♂; 02.VII.1998, 10♂♂; 09.VII.1998,  
2♂♂; 22.VII.1998, 1♂ 2♀♀; 07.VIII.1998, 7♀♀;  
31.V.1999, 1♀; 05.IV.2000, 1♂; Cherasco, Roreto,  
02.VII.1999, 1♀; Cherasco, Veglia Case Nuove,  
02.V.1997, 1♀; 22.IV.1998, 1♀; 06.V.1998, 1♀;  
19.V.1998, 1♀; 24.VI.1998, 1♀; 02.VII.1998, 6♀♀;  
09.VII.1998, 2♀♀; 02.VII.1999, 1♂; 06.VII.1999,  
1♂; Cherasco, Veglia Cimitero, 09.IV.1998, 1♀;  
Cherasco, Veglia Pilone, 16.IV.1997, 1♀;  
09.VII.1998, 2♀♀; 22.VII.1998, 3♀♀;  
07.VIII.1998, 1♀; Reano, Cimitero, 23.VII.1998,  
1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa  
Rizzani, 23.IV.1997, 1♀; 22.V.1997, 1♂;  
20.VII.1997, 2♀♀; 18.III.1998, 6♂♂; 20.IV.1998,  
3♂♂ 1♀; 19.V.1998, 2♂♂; 21.VII.1998, 2♀♀;  
23.IV.1999, 1♀; 25.V.2000, 1♀; 31.VII.2000, 6♀♀;  
Udine, Sant'Osvaldo, 22.IV.1997, 1♂ 2♀♀;  
24.VI.1997, 1♂; 15.VII.1997, 4♀♀; 29.VII.1997,  
2♀♀; 17.III.1998, 1♂ 1♀; 19.IV.1998, 3♂♂ 1♀;  
11.V.1998, 3♂♂ 6♀♀; 18.V.1998, 6♀♀;  
17.VI.1998, 1♂ 1♀; 16.III.1999, 1♀; 20.IV.1999,  
1♂; 21.VII.1999, 2♀♀; 12.VIII.1999, 1♂;  
31.III.2000, 1♂; 26.IV.2000, 1♂; 26.V.2000, 1♂  
2♀♀; 23.VI.2000, 1♂ 2♀♀; 01.VIII.2000, 1♂ 1♀;  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve  
Salutare, 25.VI.1999, 3♀♀; 09.VII.1999, 1♀;  
Civitella di Romagna, Civitella di Romagna,  
23.VII.1998, 1♂ 3♀♀; Civitella di Romagna,  
Genizzo, 14.IV.1997, 1♂; Forlì, Carpinello,  
26.VI.1999, 1♀; 10.VII.1999, 1♀; Forlì,  
Pievequinta, 07.V.1999, 3♀♀; Forlimpopoli,  
Sant'Andrea, 16.VII.1998, 4♀♀; Meldola,  
Castelnuovo, 17.VII.1998, 1♀; Meldola, Ricò,  
05.VI.1998, 2♀♀; 15.VI.1998, 6♀♀; Ravenna,  
Massa Castello, 07.V.1998, 1♂ 3♀♀; 11.V.1998,  
1♀; 29.VII.1998, 2♀♀; 25.VIII.1998, 1♀;  
01.V.1999, 1♂; 22.IV.2000, 1♂; Rocca San  
Casciano, Tavernelle Vecchie, 22.IV.1998, 3♂♂  
1♀; 30.VI.1998, 3♂♂; 02.V.1999, 2♂♂; 14.V.1999,  
2♀♀; 22.III.2000, 1♂; 21.IV.2000, 1♀; 17.VI.2000,  
1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
21.II.1998, 1♂; 24.IV.1998, 2♂♂ 1♀; 27.V.1998,  
1♀; 22.VI.1998, 10♂♂ 2♀♀; 05.VII.1999, 2♂♂  
1♀; Rosignano Marittimo, Serragrande, 30.IV.1999,  
1♀;  
MOLISE: San Biase, Lago del Corvo, 25.VI.1997,  
3♀♀; 22.VII.1997, 1♀; 06.VIII.1997, 2♀♀;  
04.VI.1998, 1♂ 1♀; 24.VII.1998, 2♂♂ 1♀;  
11.V.1999, 3♂♂; 29.VI.1999, 7♀♀; 06.VII.1999,  
3♀♀; 22.VII.1999, 1♀; 04.V.2000, 1♂ 1♀;  
16.V.2000, 1♂ 1♀; 31.V.2000, 1♂; 21.VI.2000,  
4♀♀; 07.VII.2000, 2♂♂; 21.VII.2000, 1♂ 1♀; San  
Biase, Sigliature, 25.VI.1997, 5♀♀; 07.VII.1998,  
4♂♂ 5♀♀; 29.VI.1999, 2♀♀; 04.V.2000, 1♀;

21.VI.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂ 1♀;  
 11.V.1997, 2♂♂ 13♀♀; 20.V.1997, 1♂; 24.V.1997,  
 1♂ 6♀♀; 08.VI.1997, 1♂ 1♀; 25.VI.1997, 2♀♀;  
 23.VII.1997, 2♂♂ 1♀; 17.III.1998, 1♀; 02.IV.1998,  
 1♀; 02.V.1998, 4♀♀; 15.V.1998, 1♂ 8♀♀;  
 15.IV.1999, 1♂; 11.V.1999, 1♂; 01.VII.1999, 1♂  
 3♀♀; 12.VII.1999, 9♂♂ 5♀♀; 19.VII.1999, 1♂ 1♀;  
 30.VII.1999, 3♂♂ 1♀; 19.VI.2000, 1♀;  
 05.VII.2000, 2♀♀; 05.VII.2000, 2♀♀;  
 SICILY: Bronte, Bronte, 31.V.2000, 1♂; Ramacca,  
 Ramacca, 02.VII.1999, 1♀; Catania, Riserva orien-  
 tata "Oasi del Simeto", 05.III.1999, 1♂; 26.V.1999,  
 1♂ 2♀♀;  
 SARDINIA: Sassari, Ottava, 24.IV.1997, 20♀♀;  
 20.V.1997, 3♀♀; 20.VI.1997, 2♂♂ 5♀♀;  
 23.III.1998, 1♀; 07.IV.1998, 1♀; 21.IV.1998, 2♀♀;  
 28.IV.1998, 1♀; 19.V.1998, 1♀; 30.IV.1999, 1♀;  
 11.VI.1999, 2♀♀; 15.VI.1999, 8♀♀; Sassari, Pal-  
 madula, 22.V.1997, 4♀♀; 24.VI.1997, 17♀♀;  
 25.II.1998, 4♂♂; 16.VI.1998, 1♀; 22.VI.1998,  
 2♀♀; 21.VII.1998, 2♀♀; 09.III.1999, 1♂;  
 11.V.1999, 1♀; 14.VI.1999, 2♀♀; 25.VI.1999, 1♀;  
 28.VI.1999, 2♀♀; 26.X.1999, 2♂♂; 22.III.2000, 1♂  
 3♀♀; 23.V.2000, 1♀; 21.VI.2000, 8♀♀;

*Andrena florea* F., 1793

European extended to Maghreb and Caucasus  
 PIEDMONT: Cherasco, Costa Lamberti, 11.VI.1997,  
 1♀; 02.VI.1998, 2♀♀; 15.VI.1998, 2♀♀;  
 08.VI.2000, 1♀;  
 EMILIA-ROMAGNA: Ravenna, Massa Castello,  
 14.V.1998, 2♂♂;

*Andrena floricola* Eversmann, 1852

European  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.VI.1997, 1♂;

*Andrena fulva* (Müller, 1766)

European  
 EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
 nelle Vecchie, 21.IV.2000, 2♀♀;  
 MOLISE: San Biase, Lago del Corvo, 11.V.1999, 1♀;

*Andrena fulvago* (Christ, 1791)

European extended to Maghreb and Caucasus  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
 26.V.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♂ 1♀;  
 08.VI.1997, 1♂;

*Andrena granulosa* Pérez, 1902

European-Mediterranean  
 MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♀;  
 San Biase, Sigliature, 16.V.2000, 1♀; 31.V.2000,  
 2♀♀;

*Andrena gravida* Imhoff, 1832

European extended to Anatolia  
 EMILIA-ROMAGNA: Civitella di Romagna, Geniz-  
 zo, 14.IV.1997, 1♀; Ravenna, Massa Castello,

02.VII.1997, 1♀;

*Andrena haemorrhoa* (F., 1781)

Palaearctic  
 PIEDMONT: Cherasco, Costa Lamberti, 09.IV.1998,  
 1♀; Cherasco, Veglia Pilone, 09.IV.1997, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 27.IV.2000, 1♀; Udine, Sant'Osvaldo,  
 26.III.1998, 2♂♂; 31.III.2000, 1♂;

*Andrena hattorfiana* (F., 1775)

W-Palaearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 22.V.1997, 1♀; 22.VI.2000, 1♀; Udine, San-  
 t'Osvaldo, 22.VI.1997, 1♀;

*Andrena hesperia* Smith, 1853

European extended to Maghreb and Anatolia  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.IV.1997, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 29.IV.1999, 2♀♀;  
 SARDINIA: Sassari, Ottava, 07.IV.1998, 2♀♀;  
 21.IV.1999, 4♀♀; 30.IV.1999, 8♀♀; Sassari, Pal-  
 madula, 23.IV.1999, 1♀; 11.V.1999, 2♀♀;  
 28.V.1999, 1♀;

*Andrena humilis* Imhoff, 1832

Palaearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.IV.1997, 3♂♂ 1♀; 21.V.1997, 1♀; Udine,  
 Sant'Osvaldo, 22.IV.1997, 1♀; 19.IV.1998, 1♂;  
 EMILIA-ROMAGNA: Meldola, Ricò, 05.VI.1998,  
 1♀; Ravenna, Massa Castello, 07.V.1998, 4♀♀;  
 01.V.1999, 2♀♀; Rocca San Casciano, Tavernelle  
 Vecchie, 02.V.1999, 2♀♀; 14.V.1999, 2♀♀;  
 21.IV.2000, 1♂;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 29.IV.1999, 1♀; 27.IV.2000, 2♀♀;  
 MOLISE: San Biase, Lago del Corvo, 25.V.1999, 1♂;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♂♂;  
 20.V.1997, 1♀; 12.X.1999, 1♂;  
 SICILY: Bronte, Bronte, 26.IV.2000, 1♀;

*Andrena impunctata* Pérez, 1895

European-Mediterranean  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
 17.III.1998, 1♀;  
 EMILIA-ROMAGNA: Meldola, Ricò, 05.VI.1998,  
 1♂ 1♀; 15.VI.1998, 5♂♂ 7♀♀; Ravenna, Massa  
 Castello, 07.V.1998, 5♀♀;  
 TUSCANY: Rosignano Marittimo, Serragrande,  
 25.VI.1998, 2♂♂;  
 MOLISE: San Biase, Sigliature, 25.VI.1997, 1♀;  
 08.VI.1999, 2♀♀;  
 UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♀;  
 24.V.1997, 6♀♀; 10.VI.1997, 1♀; 16.V.2000, 1♂  
 4♀♀; 19.VI.2000, 1♀;  
 SICILY: Bronte, Bronte, 31.V.2000, 1♂; Catania, Ri-  
 serva orientata "Oasi del Simeto", 05.III.1999, 1♀;  
 SARDINIA: Sassari, Palmadula, 22.V.1997, 1♀;



*Andrena labialis* (Kirby, 1802)

Palaearctic

PIEDMONT: Cherasco, Costa Lamberti, 02.VII.1998, 2♀♀; Cherasco, Tetti Lelli, 09.VII.1998, 3♀♀; Cherasco, Veglia, 24.VI.1998, 1♂♂; Cherasco, Veglia Case Nuove, 24.VI.1998, 1♂♂; 02.VII.1998, 1♂♂; Marene, Cascina Pisagno, 31.V.1999, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 25.V.2000, 1♂♂;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 1♂♂; Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♂♂; Meldola, Ricò, 05.VI.1998, 1♀; Ravenna, Massa Castello, 16.VI.2000, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.V.1998, 1♂♂; 30.VI.1998, 1♀; 26.V.2000, 1♀;

MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 1♀; 24.VI.1998, 6♀♀; 16.V.2000, 1♂♂; 21.VI.2000, 4♀♀; 07.VII.2000, 1♂♂; San Biase, Sigliature, 25.VI.1997, 2♀♀; 04.VI.1998, 1♀; 24.VI.1998, 4♀♀; 11.V.1999, 1♂♂; 04.V.2000, 1♂♂; 31.V.2000, 1♂♂ 1♀; 21.VI.2000, 2♀♀;

UMBRIA: Marsciano, Mercatello, 20.V.1997, 7♂♂; 08.VI.1997, 2♂♂ 3♀♀; 25.VI.1997, 9♂♂ 3♀♀; 13.VII.1997, 1♀; 23.VII.1997, 1♀; 03.VI.1998, 1♂♂ 2♀♀; 25.V.1999, 2♀♀; 03.VI.1999, 4♀♀; 01.VII.1999, 3♂♂ 2♀♀; 12.VII.1999, 1♀; 19.VI.2000, 1♀; 05.VII.2000, 1♂♂; 05.VII.2000, 1♂♂;

SICILY: Catania, Contrada Spina Santa, 12.VII.1998, 1♀;

SARDINIA: Sassari, Palmadula, 21.VI.2000, 1♂♂;

*Andrena labiata* F., 1781

European extended to Anatolia

UMBRIA: Marsciano, Mercatello, 11.V.1999, 1♀; 25.V.1999, 1♀;

*Andrena lagopus* Latreille, 1809

European-Mediterranean

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 18.III.1998, 1♂♂;

TUSCANY: Rosignano Marittimo, Polveroni, 31.III.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 02.V.1998, 1♀; 15.IV.1999, 1♂♂ 1♀;

*Andrena lathyri* Alfken, 1899

European

MOLISE: San Biase, Sigliature, 04.VI.1998, 1♀;

*Andrena lepida* Schenck, 1859

European-Mediterranean

SARDINIA: Sassari, Ottava, 19.II.1998, 1♀; Sassari, Palmadula, 11.V.1999, 1♀; 21.VI.2000, 1♀;

*Andrena limata* Smith, 1853

European-Mediterranean

EMILIA-ROMAGNA: Ravenna, Pisignano, 11.IV.1997, 1♀;

MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 1♀; 22.VII.1997, 1♀; 06.VIII.1997, 1♀; 21.VII.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♂♂;

SICILY: Catania, Riserva orientata "Oasi del Simeto", 01.IV.1999, 1♀;

*Andrena livens* Pérez, 1895

European-Mediterranean

EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 30.III.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.IV.1998, 1♂♂ 3♀♀; 22.IV.1998, 2♂♂ 3♀♀; 02.V.1999, 2♂♂ 3♀♀; 14.V.1999, 2♀♀; 21.IV.2000, 3♀♀; Russi, Russi, 01.IV.1999, 1♀;

MOLISE: San Biase, Lago del Corvo, 25.V.1999, 2♂♂ 1♀; 04.V.2000, 6♂♂; 16.V.2000, 4♀♀; San Biase, Sigliature, 04.V.2000, 2♂♂ 1♀;

SARDINIA: Sassari, Palmadula, 23.IV.1999, 2♀♀;

*Andrena marginata* F., 1776

Siberian-European

MOLISE: San Biase, Sigliature, 06.X.1998, 1♀;

*Andrena miegiella* Dours, 1873

Mediterranean

SICILY: Catania, Riserva orientata "Oasi del Simeto", 04.V.1999, 1♀;

SARDINIA: Sassari, Ottava, 15.VI.1999, 3♀♀;

*Andrena minutula* (Kirby, 1802)

W-Palaearctic

PIEDMONT: Cherasco, Veglia Case Nuove, 15.VI.1998, 1♂♂;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 18.III.1998, 1♀; 20.IV.1998, 3♀♀; Udine, Sant'Osvaldo, 12.V.1998, 1♀;

EMILIA-ROMAGNA: Forlì, San Martino in Strada, 11.VI.1997, 1♀; Rocca San Casciano, Tavernelle Vecchie, 17.VI.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 21.II.1998, 1♀; 20.III.1998, 1♀;

MOLISE: San Biase, Sigliature, 25.VI.1997, 3♀♀; 10.VII.1997, 2♀♀;

SARDINIA: Sassari, Ottava, 24.IV.1997, 3♀♀;

*Andrena minutuloides* Perkins, 1914

W-Palaearctic

PIEDMONT: Cherasco, Costa Lamberti, 11.VI.1997, 3♀♀; 09.IV.1998, 1♀; Cherasco, Veglia Case Nuove, 09.IV.1997, 1♀; Cherasco, Veglia Pilone, 09.IV.1997, 2♀♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 22.V.1997, 1♀; 20.IV.1998, 1♀; 19.V.1998, 1♀; 31.VII.2000, 1♀; Udine, Sant'Osvaldo, 21.VII.1997, 1♀; 20.VIII.1997, 1♀; 17.III.1998, 1♀; 11.V.1998, 2♀♀; 12.V.1998, 1♀; 26.IV.2000, 4♀♀; 26.V.2000, 1♀; 23.VI.2000, 2♀♀;

MOLISE: San Biase, Lago del Corvo, 11.V.1999, 2♀♀; San Biase, Sigliature, 29.VI.1999, 2♀♀;

*Andrena morio* Brullé, 1832

European extended to Maghreb and Anatolia

MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♀;

SARDINIA: Sassari, Ottava, 18.VI.1999, 1♀; Sassari, Palmadula, 29.IV.1997, 1♀; 24.VI.1997, 1♀;

*Andrena nana* (Kirby, 1802)

European and Indian-Mediterranean

MOLISE: San Biase, Lago del Corvo, 04.V.2000, 1♂;  
San Biase, Sigliature, 26.VI.1997, 1♀;  
SARDINIA: Sassari, Ottava, 24.IV.1997, 7♀♀;  
17.VI.1998, 1♀; 15.VI.1999, 1♀; Sassari, Palmadula,  
22.V.1997, 1♀; 22.III.2000, 2♀♀;

*Andrena nigroaenea* (Kirby, 1802)

W-Palearctic

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 3♀♀;  
TUSCANY: Rosignano Marittimo, Serragrande, 25.V.1999, 1♀; 27.IV.2000, 2♀♀;  
MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 1♀; 11.V.1999, 1♀; San Biase, Sigliature, 25.V.1999, 1♀;  
UMBRIA: Marsciano, Mercatello, 15.IV.1999, 1♀;  
SARDINIA: Sassari, Ottava, 14.IV.1998, 1♀; Sassari, Palmadula, 29.IV.1997, 5♀♀; 22.V.1997, 13♀♀; 28.V.1999, 1♀;

*Andrena nigroolivacea* Dours, 1873

S-European

EMILIA-ROMAGNA: Ravenna, Massa Castello, 01.V.1999, 2♀♀; Russi, Russi, 01.IV.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 21.II.1998, 6♂♂ 2♀♀; 20.III.1998, 10♂♂ 4♀♀; 24.IV.1998, 2♀♀; 26.II.1999, 2♂♂; 31.III.1999, 6♂♂; 29.IV.1999, 1♂ 1♀; 27.IV.2000, 1♂; Rosignano Marittimo, Serragrande, 23.IV.1998, 1♂; 30.IV.1999, 2♂♂; 25.V.1999, 1♂; 27.IV.2000, 2♂♂;  
UMBRIA: Marsciano, Mercatello, 02.V.1998, 1♀; 15.IV.1999, 2♂♂; 11.V.1999, 1♂;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 05.III.1999, 1♂;  
SARDINIA: Sassari, Ottava, 23.III.1998, 1♂; 03.IV.1998, 2♀♀; 07.IV.1998, 1♀; Sassari, Palmadula, 22.III.2000, 2♀♀;

*Andrena nitida* (Müller, 1776)

W-Palearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 22.V.1997, 1♀; Udine, Sant'Oswaldo, 22.IV.1997, 1♂;  
EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 14.IV.1997, 1♀; 30.III.1998, 1♀;

*Andrena nitidiuscula* Schenck, 1853

Palearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 21.VII.1997, 1♀; 12.V.1998, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♀; 19.VII.2000, 3♀♀;

*Andrena ovatula* (Kirby, 1802)

Palearctic

PIEDMONT: Avigliana, Villa Sant'Agostino, 10.VII.1998, 3♀♀; 12.VII.1998, 1♀; 15.VII.1998, 1♀; Cherasco, Costa Lamberti, 19.V.1998, 2♀♀; Cherasco, Roreto, 02.VII.1999, 1♀; Cherasco, Tetti

Lelli, 07.VII.1997, 1♂ 1♀; Cherasco, Veglia, 07.VII.1997, 1♂; Cherasco, Veglia Case Nuove, 09.IV.1997, 1♀; 16.IV.1997, 2♀♀; 07.VII.1997, 3♂♂; 19.V.1998, 1♂ 2♀♀; 12.V.2000, 3♂♂; Cherasco, Veglia Cimitero, 09.IV.1997, 1♂; Cherasco, Veglia Pilone, 26.III.1997, 1♀; Marene, Cascina Pisagno, 31.V.1999, 1♂; Reano, Cimitero, 23.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 29.VI.1997, 1♀; 20.VII.1997, 1♂; 20.IV.1998, 1♀; 21.VII.1998, 2♀♀; 25.V.2000, 4♀♀; Udine, Sant'Oswaldo, 20.V.1997, 1♂; 11.V.1998, 1♂ 6♀♀; 18.V.1998, 4♂♂ 1♀; 17.VI.1998, 1♂ 2♀♀; 20.VII.1998, 6♀♀; 26.IV.2000, 2♂♂; 26.V.2000, 2♀♀;

EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♂; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♂; Civitella di Romagna, Nespoli, 20.IV.1998, 1♂; Forlì, Pievequinta, 07.V.1999, 1♂; Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♀; Meldola, Castelnuovo, 17.VII.1998, 1♀; Ravenna, Massa Castello, 23.V.1999, 4♀♀; Rocca San Casciano, Tavernelle Vecchie, 30.V.1998, 1♀; 02.V.1999, 1♀; 14.V.1999, 3♂♂;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 2♀♀;

MOLISE: San Biase, Lago del Corvo, 11.V.1999, 1♂; San Biase, Sigliature, 25.VI.1997, 1♀; 04.VI.1998, 1♂; 11.V.1999, 5♂♂; 25.V.1999, 1♂;

UMBRIA: Marsciano, Mercatello, 03.V.1997, 3♂♂; 20.V.1997, 1♀; 25.V.1999, 1♂; 03.VI.1999, 4♀♀; 01.VII.1999, 1♂;

*Andrena pandellei* Pérez, 1895

W-Palearctic

UMBRIA: Marsciano, Mercatello, 17.V.2000, 1♂;

*Andrena polita* Smith, 1847

European extended to Anatolia

MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♂; 22.VII.1997, 1♀; 29.VI.1999, 1♂; San Biase, Sigliature, 10.VII.1997, 1♂; 29.VI.1999, 1♂; 07.VII.2000, 2♂♂;

*Andrena proxima* (Kirby, 1802)

Palearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.V.1997, 1♂; 22.V.1997, 1♂ 1♀; 19.V.1998, 2♀♀;

*Andrena pusilla* Pérez, 1903

W-Palearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 17.III.1998, 5♂♂;

SICILY: Paternò, Paternò, 07.V.1998, 1♂;

*Andrena ranunculi* Schmiedeknecht, 1884

W-Palearctic

EMILIA-ROMAGNA: Ravenna, Massa Castello, 24.IV.1998, 1♂;

*Andrena schencki* Morawitz, 1866

Palaearctic

UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♂;  
20.V.1997, 1♂; 24.V.1997, 1♂; 03.VI.1998, 1♀;

*Andrena semilaevis* Pérez, 1903

European

PIEDMONT: Cherasco, Veglia Case Nuove,  
09.IV.1997, 1♀;

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
26.IV.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni,  
26.II.1999, 2♀♀; 29.IV.1999, 1♀; 27.IV.2000, 1♀;  
Rosignano Marittimo, Serragrande, 23.V.2000, 1♀;

*Andrena senecionis* Pérez, 1895

S-European

EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 02.V.1999, 1♀;

*Andrena similis similis* Smith, 1849

Palaearctic

PIEDMONT: Cherasco, Costa Lamberti, 02.VII.1998,  
2♀♀; 09.VII.1998, 1♀; Cherasco, Veglia,  
19.V.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 29.VI.1997, 1♀; 20.VII.1997, 1♀; Udine, San-  
t'Osvaldo, 15.VII.1997, 1♀; 26.IV.2000, 1♀;

EMILIA-ROMAGNA: Forlì, Pievequinta, 07.V.1999,  
1♀; Ravenna, Massa Castello, 22.IV.2000, 3♀♀;  
24.V.2000, 1♀; Rocca San Casciano, Tavernelle  
Vecchie, 21.IV.2000, 1♀; 17.VI.2000, 1♀;

TUSCANY: Rosignano Marittimo, Serragrande,  
23.V.2000, 1♀;

MOLISE: San Biase, Lago del Corvo, 07.VII.2000,  
1♀; San Biase, Sigliature, 11.V.1999, 3♂♂;

UMBRIA: Marsciano, Mercatello, 25.V.1999, 1♀;

SARDINIA: Sassari, Palmadula, 22.III.2000, 2♀♀;  
23.V.2000, 1♂;

*Andrena similis croceiventris* Morawitz, 1871

European

MOLISE: San Biase, Sigliature, 24.VI.1998, 1♀;

*Andrena simontornyella* Noskiewicz, 1930

Turanic-European-Mediterranean

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 21.V.1997, 1♀; 22.V.1997, 1♀; 27.IV.2000, 1♀;

EMILIA-ROMAGNA: Meldola, Ricò, 05.VI.1998,  
1♀; Ravenna, Massa Castello, 20.III.1998, 1♂;  
31.III.1999, 5♂♂; 17.III.2000, 4♂♂; Rocca San Cas-  
ciano, Tavernelle Vecchie, 22.IV.1998, 1♂;  
02.V.1999, 1♂;

TUSCANY: Rosignano Marittimo, Polveroni,  
24.IV.1998, 1♀; 31.III.1999, 2♂♂;

SARDINIA: Sassari, Palmadula, 29.IV.1997, 1♀;

*Andrena subopaca* Nylander, 1848

Asiatic-European

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 22.V.1997, 1♀;

EMILIA-ROMAGNA: Meldola, Ricò, 05.VI.1998,  
2♀♀;

*Andrena symphyti* Schmiedeknecht, 1883

European extended to Caucasus

EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 02.IV.1998, 2♀♀; 22.IV.1998, 5♀♀;

*Andrena taraxaci* Giraud, 1861

Palaearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 17.III.1999, 1♂;

EMILIA-ROMAGNA: Civitella di Romagna, Geniz-  
zo, 30.III.1998, 1♂; Ravenna, Massa Castello,  
20.III.1998, 1♂; 31.III.1999, 1♂; 01.V.1999, 1♀;  
Rocca San Casciano, Tavernelle Vecchie,  
02.IV.1998, 6♂♂; 22.IV.1998, 2♂♂; 24.III.1999,  
13♂♂ 2♀♀; 02.V.1999, 2♀♀; 18.III.2000, 4♂♂;  
21.IV.2000, 1♀;

TUSCANY: Rosignano Marittimo, Serragrande,  
23.IV.1998, 1♀;

MOLISE: San Biase, Sigliature, 18.IV.2000, 3♀♀;

SARDINIA: Sassari, Ottava, 24.IV.1997, 3♀♀;

*Andrena tenuistriata* Pérez, 1895

European-Mediterranean

PIEDMONT: Cherasco, Veglia Case Nuove,  
02.VI.1998, 1♀;

*Andrena thoracica* (F., 1775)

Palaearctic

PIEDMONT: Cherasco, Veglia Case Nuove,  
22.VII.1998, 1♀;

EMILIA-ROMAGNA: Meldola, Ricò, 15.VI.1998,  
2♀♀;

TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 1♂;

MOLISE: San Biase, Sigliature, 06.VII.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 23.VI.1999, 2♂♂;  
12.VII.1999, 1♀;

SARDINIA: Sassari, Palmadula, 24.VI.1997, 1♀;  
25.II.1998, 1♂; 16.VI.1998, 1♀; 23.V.2000, 1♀;

*Andrena trimmerana* (Kirby, 1802)

European

EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 24.III.1999, 1♀; 18.III.2000, 4♀♀;

21.IV.2000, 1♀;

MOLISE: San Biase, Lago del Corvo, 11.V.1999, 1♀;  
04.V.2000, 1♀;

*Andrena truncatilabris* Morawitz, 1878

Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
11.V.1998, 2♀♀;

MOLISE: San Biase, Sigliature, 11.V.1999, 1♂;

*Andrena variabilis* Smith, 1853

Palaearctic

MOLISE: San Biase, Lago del Corvo, 22.VII.1997,  
2♀♀; 24.VII.1998, 2♂♂ 2♀♀; 21.VI.2000, 1♀;

07.VII.2000, 1♂; 21.VII.2000, 1♂; San Biase, Si-

- gliature, 10.VII.1997, 2♀♀; 24.VI.1998, 1♀;  
07.VII.1998, 1♂; 21.VI.2000, 3♀♀;  
UMBRIA: Marsciano, Mercatello, 19.VII.2000, 1♀;
- Andrena ventricosa* Dours, 1873  
Turanic-European  
MOLISE: San Biase, Sigliature, 11.V.1999, 1♂;
- Andrena verticalis* Pérez, 1895  
S-European  
EMILIA-ROMAGNA: Forlì, Carpinello, 03.VII.1999,  
1♀;  
SICILY: Catania, Contrada Spina Santa, 06.III.1999,  
2♀♀; 30.III.1999, 2♀♀;
- Andrena vetula* Lepeletier, 1841  
European-Mediterranean  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 4♂♂ 2♀♀; 25.V.1999, 3♂♂;  
SARDINIA: Sassari, Ottava, 28.IV.1998, 1♀; Sassari,  
Palmadula, 29.IV.1997, 1♀; 22.V.1997, 4♀♀;  
13.V.1998, 1♂; 11.V.1999, 1♂ 1♀;
- Andrena viridescens* Viereck, 1916  
European  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 20.IV.1998, 1♂ 1♀;
- Andrena vulpecula* Kriechbaumer, 1873  
W-Palearctic  
TUSCANY: Rosignano Marittimo, Polveroni,  
18.VI.1999, 1♀; Rosignano Marittimo, Serragrande,  
30.IV.1999, 2♀♀; 27.IV.2000, 2♀♀;  
UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀;  
08.VI.1997, 2♀♀;  
SARDINIA: Sassari, Palmadula, 29.IV.1997, 1♀;
- Andrena wilkella* (Kirby, 1802)  
Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 24.VI.1998,  
1♀; Cherasco, Tetti Lelli, 07.VII.1997, 1♀; Chera-  
sco, Veglia, 24.VI.1998, 1♀; Cherasco, Veglia Case  
Nuove, 02.VII.1999, 1♀;  
MOLISE: San Biase, Sigliature, 11.V.1999, 1♂;
- Anthidiellum strigatum* (Panzer, 1805)  
Olarctic  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 21.VII.1998, 1♂;  
EMILIA-ROMAGNA: Meldola, Castelnuovo,  
17.VII.1998, 1♀; Ravenna, Massa Castello,  
16.VI.1999, 1♂; 06.VIII.1999, 3♂♂; 16.VI.2000,  
4♂♂; Rocca San Casciano, Tavernelle Vecchie,  
17.VI.1999, 1♀; 04.IX.1999, 1♀; 22.IX.1999, 1♂;  
TUSCANY: Rosignano Marittimo, Serragrande,  
31.VIII.1997, 2♂♂ 1♀; 30.V.1998, 1♂;  
26.VIII.1998, 3♂♂ 2♀♀; 29.IX.1998, 1♂;  
UMBRIA: Marsciano, Mercatello, 18.VII.2000, 1♂;  
29.VIII.2000, 1♂;  
SICILY: Catania, Contrada Spina Santa, 30.IX.1997,  
2♂♂; Catania, Riserva orientata "Oasi del Simeto",  
28.VII.1998, 1♀; 23.VII.1999, 3♂♂ 1♀;
- 23.IX.1999, 1♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 4♂♂;  
23.VII.1997, 17♂♂; Sassari, Palmadula,  
24.VI.1997, 1♂; 22.VII.1997, 2♀♀;
- Anthidium cingulatum* Latreille, 1809  
European-Mediterranean  
SARDINIA: Sassari, Palmadula, 21.VII.1998, 2♀♀;
- Anthidium florentinum* (F., 1775)  
Olarctic  
PIEDMONT: Avigliana, Villa Sant'Agostino,  
10.VII.1998, 1♀; Cherasco, Costa Lamberti,  
09.VII.1998, 1♀; 22.VII.1998, 1♂ 1♀; Cherasco,  
Tetti Lelli, 07.VII.1997, 1♂; Cherasco, Veglia Case  
Nuove, 07.VIII.1998, 1♂ 1♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
15.VII.1997, 3♀♀; 29.VII.1997, 1♂ 3♀♀;  
20.VII.1998, 1♂ 1♀; 28.VII.1998, 3♂♂ 3♀♀;  
17.VIII.1998, 1♀; 21.VII.1999, 1♂;
- Anthidium manicatum* (L., 1758)  
Olarctic  
PIEDMONT: Cherasco, Costa Lamberti, 23.VI.1999,  
2♂♂;  
EMILIA-ROMAGNA: Bertinoro, Capocolle,  
20.VI.2000, 6♂♂ 3♀♀; Castrocaro Terme, Pieve  
Salutare, 25.VI.1999, 5♂♂ 2♀♀; Ravenna, Massa  
Castello, 01.VII.1998, 2♂♂ 1♀; 29.VII.1998, 3♂♂  
5♀♀; 25.VIII.1998, 2♀♀; 23.V.1999, 1♂; Rocca  
San Casciano, Tavernelle Vecchie, 31.VII.1998,  
4♀♀; 26.VIII.1998, 3♂♂; 17.VI.1999, 2♂♂ 2♀♀;  
02.VIII.1999, 1♀; 04.IX.1999, 1♀; 22.IX.1999,  
4♂♂ 5♀♀; 17.VI.2000, 3♂♂ 5♀♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 1♂ 1♀; 22.VIII.1998, 2♂♂; Rosignano  
Marittimo, Serragrande, 29.VII.1997, 1♀;  
30.IX.1997, 1♀;  
MOLISE: San Biase, Lago del Corvo, 18.IX.1998,  
1♂; 08.VII.2000, 1♂ 1♀; San Biase, Sigliature,  
06.VII.1999, 1♀;  
UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♂ 1♀;  
08.VI.1997, 4♂♂ 2♀♀; 13.VII.1997, 1♂ 1♀;  
08.VIII.1997, 1♂ 2♀♀; 18.VI.1998, 1♂;  
26.VI.1998, 1♂; 19.VI.2000, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
28.VIII.1997, 1♂ 1♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 1♀;  
23.VII.1997, 2♀♀;
- Anthidium oblongatum* (Illiger, 1806)  
European  
PIEDMONT: Cherasco, Costa Lamberti, 24.VI.1998,  
2♂♂ 1♀; Grugliasco, Università, 14.VII.2000, 1♂;  
Reano, Cimitero, 23.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 18.VI.1998, 2♀♀; Udine, Sant'Osvaldo,  
22.VI.1997, 1♂ 1♀; 23.VI.2000, 1♂;  
EMILIA-ROMAGNA: Forlimpopoli, Sant'Andrea,  
16.VII.1998, 1♂; Ravenna, Massa Castello,  
16.VI.1999, 1♀; 16.VI.2000, 1♀;  
MOLISE: San Biase, Sigliature, 11.V.1999, 1♂;

*Anthidium punctatum* Latreille, 1809

Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 22.VI.1997, 1♂; 24.VI.1997, 1♂; 20.VII.1998, 1♂ 1♀;

*Anthidium septemspinosum* Lepeletier, 1841

Siberian-European

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 31.VII.2000, 2♀♀; Udine, Sant'Osvaldo, 15.VII.1997, 1♂; 20.VII.1998, 1♂; 21.VII.1999, 2♀♀; 12.VIII.1999, 1♂ 1♀; 23.VI.2000, 2♂♂ 1♀; 21.VII.2000, 3♀♀; 01.VIII.2000, 2♂♂ 3♀♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 1♂;

*Anthocopa andrenoides* (Spinola, 1808)

European-Mediterranean

EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♀; Ravenna, Massa Castello, 01.V.1999, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.VIII.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 03.VI.1998, 1♂; 31.VII.1999, 1♀; 19.VI.2000, 2♀♀;

*Anthocopa bidentata* (Morawitz, 1876)

Turanic-European-Mediterranean

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 17.VI.1998, 1♂; 23.VI.2000, 1♂;

*Anthocopa bisulca* (Gerstaecker, 1869)

European-Mediterranean

MOLISE: San Biase, Sigliature, 21.VI.2000, 1♂;

*Anthocopa cristatula* Zanden, 1990

European-Mediterranean

TUSCANY: Rosignano Marittimo, Serragrande, 25.VI.1998, 1♀;

*Anthocopa erythrogastra* (Ferton, 1905)

European-Mediterranean

EMILIA-ROMAGNA: Ravenna, Massa Castello, 02.VII.1997, 1♀;

UMBRIA: Marsciano, Mercatello, 18.VI.1998, 1♀;

*Anthocopa ligurica* (Morawitz, 1868)

S-European

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 01.VI.1998, 1♂;

MOLISE: San Biase, Lago del Corvo, 10.VII.1997, 1♀; 06.VII.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♂; 25.VI.1997, 1♀; 13.VII.1997, 3♀♀; 03.VII.1998, 2♀♀;

SICILY: Catania, Riserva orientata "Oasi del Simeto", 04.V.1999, 1♂;

*Anthocopa rugidorsis* (Pérez, 1895)

Mediterranean

SARDINIA: Sassari, Ottava, 20.VI.1997, 2♀♀;

*Anthocopa scutellaris* (Morawitz, 1868)

S-European

TUSCANY: Rosignano Marittimo, Serragrande, 25.VI.1998, 1♀;

MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 2♂♂; 25.VI.1997, 1♂; San Biase, Sigliature, 24.VI.1998, 1♀;

UMBRIA: Marsciano, Mercatello, 20.V.1997, 7♂♂ 1♀; 08.VI.1997, 7♂♂ 10♀♀; 25.VI.1997, 1♂ 2♀♀; 29.VI.1997, 1♀; 13.VII.1997, 1♀; 23.VII.1997, 1♀; 03.VI.1998, 2♂♂ 2♀♀; 01.VII.1999, 1♂ 2♀♀; 31.VII.1999, 1♀; 17.V.2000, 1♂;

*Anthocopa spinulosa* (Kirby, 1802)

European extended to Caucasus

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 01.VIII.2000, 1♂;

EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Forlì, Carpinello, 26.VI.1999, 1♂; 03.VII.1999, 1♂ 1♀; Ravenna, Massa Castello, 06.VIII.1999, 1♂;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 2♂♂; Rosignano Marittimo, Serragrande, 20.VI.1997, 1♂; 30.VI.1999, 1♂;

MOLISE: San Biase, Lago del Corvo, 16.IX.1997, 1♀; 26.IX.1997, 1♀; 22.VII.1999, 1♀; 22.IX.1999, 1♀; San Biase, Sigliature, 22.IX.1999, 1♀; 13.IX.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 09.IX.1997, 1♀; 24.VII.1998, 1♀; 12.VIII.1998, 1♂ 1♀; 10.IX.1998, 1♀; 30.VII.1999, 1♀; 31.VII.1999, 1♀; 01.IX.1999, 1♀; 18.VII.2000, 2♂♂ 2♀♀; 19.VII.2000, 1♀;

*Anthocopa tergestensis* (Ducke, 1897)

European

UMBRIA: Marsciano, Mercatello, 03.VI.1998, 1♀;

*Anthophora aestivalis* Panzer, 1801

European

EMILIA-ROMAGNA: Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀;

TUSCANY: Rosignano Marittimo, Serragrande, 23.IV.1998, 2♀♀; 30.V.1998, 3♀♀; 30.IV.1999, 1♀; 23.V.2000, 1♀;

MOLISE: San Biase, Lago del Corvo, 24.VI.1998, 2♀♀; 11.V.1999, 1♀; 29.VI.1999, 1♀; San Biase, Sigliature, 04.VI.1998, 2♀♀; 24.VI.1998, 1♀; 11.V.1999, 1♂ 1♀; 25.V.1999, 1♀; 08.VI.1999, 1♀;

SICILY: Catania, Riserva orientata "Oasi del Simeto", 26.V.1999, 1♀;

*Anthophora atroalba* Lepeletier, 1841

W-Palaearctic

TUSCANY: Rosignano Marittimo, Serragrande, 27.IV.2000, 2♂♂;

MOLISE: San Biase, Lago del Corvo, 04.V.2000, 2♂♂; 16.V.2000, 1♂; San Biase, Sigliature, 31.V.2000, 2♀♀;

*Anthophora dispar* Lepeletier, 1841

W-Palaearctic

TUSCANY: Rosignano Marittimo, Serragrande,

- 23.IV.1998, 3♀♀; 31.III.1999, 2♂♂; 30.IV.1999, 1♀; 27.IV.2000, 1♂;
- MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♀; San Biase, Sigliature, 12.V.1997, 3♀♀; 27.V.1997, 1♀; 13.VI.1997, 1♀;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 17.III.1998, 1♂; 21.IV.2000, 1♀;
- SARDINIA: Sassari, Palmadula, 22.III.2000, 2♂♂; 26.IV.2000, 1♀;
- Anthophora mucida* Gribodo, 1873  
European extended to Caucasus  
MOLISE: San Biase, Sigliature, 12.V.1997, 1♂; 04.VI.1998, 1♀; 18.IV.2000, 1♀; 04.V.2000, 1♂ 1♀;
- Anthophora plumipes* (Pallas, 1772)  
W-Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 22.IV.1997, 2♂♂; 02.V.1997, 1♂ 1♀; 22.IV.1998, 2♂♂;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♂ 1♀; 18.III.1998, 1♂; 23.IV.1999, 2♀♀; 27.IV.2000, 2♂♂; Udine, Sant'Oswaldo, 31.III.2000, 1♂; 26.IV.2000, 1♂;
- EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 14.IV.1997, 1♂ 2♀♀; Civitella di Romagna, Nespole, 20.IV.1998, 1♂ 2♀♀; Meldola, Castelnuovo, 30.III.1999, 3♂♂; Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀; Ravenna, Massa Castello, 20.III.1998, 1♂; 01.V.1999, 1♂; Rocca San Casciano, Tavernelle Vecchie, 02.IV.1998, 1♂ 2♀♀; 22.IV.1998, 2♂♂ 5♀♀; 30.V.1998, 1♀; 24.III.1999, 6♂♂; 02.V.1999, 7♂♂ 5♀♀; 18.III.2000, 5♂♂ 1♀; 21.IV.2000, 4♂♂ 6♀♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 30.IV.1997, 2♀♀; 27.V.1998, 2♀♀; 25.V.1999, 2♀♀; Rosignano Marittimo, Serragrande, 30.IV.1997, 1♂; 15.V.1997, 2♀♀; 23.IV.1998, 2♂♂; 30.IV.1999, 3♂♂ 2♀♀; 25.V.1999, 1♀; 27.IV.2000, 2♂♂;
- MOLISE: San Biase, Sigliature, 22.IV.1998, 1♂; 04.VI.1998, 1♀; 11.V.1999, 2♂♂;
- UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♀; 20.IV.1998, 1♂; 11.V.1999, 3♂♂;
- SICILY: Ragalna, Monte San Leo Contrada Milia, 24.III.2000, 2♂♂; Catania, Riserva orientata "Oasi del Simeto", 14.IV.1998, 6♀♀; 22.IV.1998, 6♀♀; 06.V.1998, 5♀♀; 04.V.1999, 1♀;
- Anthophora pubescens* (F., 1781)  
W-Palearctic  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♂; Meldola, Ricò, 15.VI.1998, 1♀; Ravenna, Massa Castello, 17.VI.1998, 1♂;
- UMBRIA: Marsciano, Mercatello, 03.VII.1998, 1♀;
- Anthophora retusa* (L., 1758)  
Palearctic  
TUSCANY: Rosignano Marittimo, Serragrande, 30.IV.1999, 1♀; 27.IV.2000, 2♀♀;
- MOLISE: San Biase, Lago del Corvo, 04.VI.1998, 2♂♂; 11.V.1999, 1♂; San Biase, Sigliature, 04.VI.1998, 3♂♂; 11.V.1999, 4♂♂; 25.V.1999, 1♂;
- SICILY: Bronte, Bronte, 13.IV.2000, 2♂♂;
- Anthophora salviae* (Panzer, 1804)  
Asiatic-European  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1999, 1♂;
- EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 02.V.1999, 1♂; 21.IV.2000, 1♂;
- MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♂; 13.VI.1997, 1♂; San Biase, Sigliature, 08.VI.1999, 1♀;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♂♂; 11.V.1999, 1♂;
- Anthophora subterranea* Germar, 1826  
European-Mediterranean  
SARDINIA: Sassari, Ottava, 21.IV.1999, 3♀♀; 07.V.1999, 1♀;
- Bombus argillaceus* (Scopoli, 1763)  
European extended to Anatolia  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 17.III.1999, 2♀♀; 18.VI.1999, 1♀; 27.IV.2000, 1♀;
- Bombus campestris* (Panzer, 1801)  
Asiatic-European  
MOLISE: San Biase, Sigliature, 22.VII.1997, 1♂;
- Bombus hortorum* (L., 1761)  
Siberian-European  
PIEDMONT: Marene, Cascina Pisagno, 31.V.1999, 1♀; Reano, Cimitero, 23.VII.1998, 1♀;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♀; 21.V.1997, 1♂ 4♀♀; 19.V.1998, 1♂; 18.VI.1998, 2♂♂; 23.IV.1999, 1♀ 2♀♀; 19.V.1999, 3♀♀; 17.VI.1999, 1♂ 1♀; 18.VI.1999, 1♀; 25.V.2000, 1♀; 22.VI.2000, 1♀; Udine, Sant'Oswaldo, 18.V.1998, 1♀; 17.VI.1998, 2♀♀; 18.V.1999, 1♀; 21.VII.1999, 1♀; 26.V.2000, 2♀♀;
- EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 3♀♀; Castrocaro Terme, Pieve Salutare, 02.VII.1999, 2♂♂ 1♀; Civitella di Romagna, Civitella di Romagna, Nespole, 20.IV.1998, 1♀; Meldola, Castelnuovo, 02.VI.1999, 1♀; Meldola, Ricò, 15.VI.1998, 5♀♀; Ravenna, Massa Castello, 24.IV.1998, 1♀; 07.V.1998, 1♀; 17.VI.1998, 1♂ 1♀; 16.VI.2000, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.V.1998, 1♀; 02.V.1999, 1♀; 17.VI.1999, 2♀♀; 17.VI.2000, 3♀♀;
- TUSCANY: Rosignano Marittimo, Serragrande, 30.IV.1999, 1♀; 25.V.1999, 1♀;
- MOLISE: San Biase, Lago del Corvo, 18.IX.1998, 1♀; 23.VII.1999, 1♀; 24.VIII.1999, 2♀♀;
- UMBRIA: Marsciano, Mercatello, 02.V.1998, 1♀; 03.VI.1998, 1♀;
- SICILY: Bronte, Bronte, 31.V.2000, 1♀; Ramacca, Ramacca, 23.VI.1999, 1♀; 02.VII.1999, 2♂♂; Catania, Riserva orientata "Oasi del Simeto", 01.IV.1999, 1♀ 1♂; 04.V.1999, 2♀♀; 26.V.1999, 1♀;

*Bombus humilis* Illiger 1806

Siberian-European

PIEDMONT: Marene, Cascina Pisagno, 31.V.1999, 2♀♀; Reano, Cimitero, 23.VII.1998, 1♀; 26.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 19.VIII.1998, 1♀; 23.IV.1999, 1♀; 22.VI.2000, 1♀; Udine, Sant'Osvaldo, 20.VII.1998, 1♀; 21.VII.1999, 1♀;

EMILIA-ROMAGNA: Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀; Ravenna, Massa Castello, 08.X.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 2♀♀; 02.V.1999, 1♀; 14.V.1999, 1♀; 17.VI.1999, 1♀; 17.VI.2000, 4♀♀;

MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♀; 10.VII.1997, 1♀; 16.IX.1997, 1♀; 26.IX.1997, 1♀; 24.VII.1998, 1♀; 22.VII.1999, 3♀♀; 08.VII.2000, 2♀♀; San Biase, Sigliature, 25.VI.1997, 1♀ 3♀♀; 22.VII.1997, 3♀♀; 27.VIII.1997, 1♂; 16.IX.1997, 2♀♀; 26.IX.1997, 1♂; 04.VI.1998, 1♀; 24.VI.1998, 1♀; 07.VII.1998, 1♀; 31.V.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 03.VI.1998, 1♀; 17.V.2000, 1♀;

*Bombus hypnorum* (L., 1758)

Siberian-European

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 15.VII.1997, 2♂♂; 23.VI.2000, 1♂; 01.VIII.2000, 1♂;

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 26.V.2000, 1♀;

*Bombus lapidarius* (L., 1758)

W-Paleartic

PIEDMONT: Cherasco, Bricco di Faule, 23.VI.1999, 1♀ 10♀♀; Cherasco, Cappellazzo, 23.VI.1999, 3♀♀; Cherasco, Costa Lamberti, 02.VII.1998, 1♀; 21.IV.2000, 1♀; 08.VI.2000, 1♀; Cherasco, Tetti Lelli, 09.IX.1998, 1♀; Cherasco, Veglia Case Nuove, 09.IV.1997, 1♀; 22.IV.1997, 1♀; 07.VII.1997, 2♀♀; 24.VI.1998, 5♀♀; 29.VI.2000, 1♀; Reano, Cimitero, 23.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 29.VI.1997, 2♀♀; 20.VII.1997, 2♂♂ 2♀♀; 21.VII.1997, 2♂♂; 21.VIII.1997, 2♂♂; 22.IX.1997, 1♂; 20.IV.1998, 1♀; 16.VI.1998, 1♀; 18.VI.1998, 4♀♀; 21.VII.1998, 2♂♂ 8♀♀; 19.VIII.1998, 8♂♂ 2♀♀; 22.IX.1998, 1♂; 23.IV.1999, 2♀♀; 17.VI.1999, 1♀; 18.VI.1999, 1♀; 23.VII.1999, 8♂♂ 4♀♀; 16.VIII.1999, 12♂♂ 1♀; 14.IX.1999, 1♂; 27.IV.2000, 1♀; 25.V.2000, 1♀; 31.VII.2000, 2♂♂ 17♀♀; 29.VIII.2000, 6♂♂; 30.VIII.2000, 3♂♂; Udine, Sant'Osvaldo, 25.VI.1997, 1♀; 21.VII.1997, 1♀; 24.VII.1997, 2♂♂ 5♀♀; 20.VII.1998, 5♀♀; 28.VII.1998, 1♀; 21.VII.1999, 9♀♀; 30.VII.1999, 2♀♀; 26.V.2000, 1♀; 01.VIII.2000, 1♀;

EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 7♀♀; 02.VII.1999, 2♀♀; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 5♀♀; Civitella di Romagna, Nespoli, 20.IV.1998, 1♀; Meldola, Castelnuovo,

17.VII.1998, 3♂♂; 02.VI.1999, 2♀♀; Meldola, Ricò, 05.VI.1998, 2♀♀; 15.VI.1998, 2♀♀; Predappio, Rocca della Caminate, 25.VII.1997, 3♀♀; Rocca San Casciano, Tavernelle Vecchie, 17.VI.1999, 1♀; TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 1♀;

MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 3♀♀; 10.VII.1997, 1♀ 1♀; 22.VII.1997, 1♀; 24.VI.1998, 1♀; 08.VII.2000, 1♀; San Biase, Sigliature, 12.V.1997, 1♀; 27.V.1997, 1♀; 25.VI.1997, 1♀; 22.VII.1997, 1♀; 06.VIII.1997, 1♂; 07.VII.1998, 1♂;

SICILY: Ragalna, Monte San Leo Contrada Milia, 17.IV.2000, 1♀; 27.VI.2000, 2♀♀; 18.VII.2000, 2♀♀;

*Bombus pascuorum* (Scopoli, 1763)

Siberian-European

PIEDMONT: Avigliana, Villa Sant'Agostino, 10.VII.1998, 1♀; Cherasco, Costa Lamberti, 09.VII.1998, 1♂; 09.IX.1998, 1♀; 21.IV.2000, 1♀; Cherasco, Tetti Lelli, 07.VII.1997, 1♀; Cherasco, Veglia Case Nuove, 15.VI.1998, 1♀; Marene, Cascina Pisagno, 31.V.1999, 1♀; Reano, Cimitero, 23.VII.1998, 1♀; 25.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 3♀♀; 21.V.1997, 2♀♀ 1♀; 22.V.1997, 2♀♀; 23.VI.1997, 3♀♀; 29.VI.1997, 1♀; 21.VIII.1997, 1♂ 6♀♀; 22.IX.1997, 3♂♂ 5♀♀; 20.IV.1998, 2♀♀; 19.V.1998, 2♀♀ 3♀♀; 18.VI.1998, 10♀♀; 21.VII.1998, 14♀♀; 19.VIII.1998, 6♀♀; 22.IX.1998, 11♂♂ 4♀♀; 17.III.1999, 4♀♀; 23.IV.1999, 5♀♀ 2♀♀; 19.V.1999, 2♀♀; 17.VI.1999, 1♂ 6♀♀; 23.VII.1999, 2♀♀ 7♀♀; 16.VIII.1999, 2♂♂ 7♀♀; 14.IX.1999, 6♂♂ 5♀♀; 27.IV.2000, 1♀; 22.V.2000, 1♀; 25.V.2000, 6♀♀; 22.VI.2000, 3♂♂ 6♀♀; 31.VII.2000, 6♀♀; 29.VIII.2000, 3♀♀; Udine, Sant'Osvaldo, 25.VI.1997, 1♀; 29.VII.1997, 3♀♀; 20.IV.1999, 1♀; 21.VII.1999, 2♀♀; 12.VIII.1999, 6♂♂ 1♀; 26.V.2000, 1♀; 01.VIII.2000, 2♀♀; 30.VIII.2000, 7♂♂ 1♀;

EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 5♀♀; 02.VII.1999, 3♀♀; 09.VII.1999, 1♀; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♂ 6♀♀; Civitella di Romagna, Nespoli, 20.IV.1998, 1♀; Forlì, Pievequinta, 13.IX.1998, 1♀; Meldola, Castelnuovo, 17.VII.1998, 6♀♀; 13.IX.1998, 2♀♀; 02.VI.1999, 4♀♀; Meldola, Meldola, 18.IX.1998, 1♀; Ravenna, Massa Castello, 01.VII.1998, 1♀; 11.IX.1998, 6♂♂ 3♀♀; 16.VI.1999, 2♀♀; 18.IX.1999, 5♀♀; 22.IV.2000, 1♀; 24.V.2000, 2♀♀; 16.VI.2000, 4♀♀; Rocca San Casciano, Tavernelle Vecchie, 22.IV.1998, 1♀; 30.V.1998, 1♀; 31.VII.1998, 4♀♀; 17.VI.1999, 1♂; 04.IX.1999, 1♂ 3♀♀; 22.IX.1999, 3♂♂ 5♀♀; 21.IV.2000, 2♀♀; 26.V.2000, 2♀♀; 17.VI.2000, 5♀♀; Russi, Russi, 07.VIII.1999, 1♂ 5♀♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 1♂ 1♀; 15.X.1998, 1♀; 18.VI.1999, 1♀; Rosignano Marittimo, Serragrande, 29.VII.1997, 2♀♀; 31.VIII.1997, 5♀♀; 30.IX.1997,

2♀♀; 30.V.1998, 7♀♀; 21.VII.1998, 1♂;  
 26.VIII.1998, 1♀; 30.IV.1999, 1♀; 25.V.1999, 3♀♀;  
 30.VI.1999, 1♀; 29.VII.1999, 1♀; 19.VIII.1999, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♀;  
 25.VI.1997, 1♀; 26.IX.1997, 1♂; 06.X.1998, 2♂♂  
 2♀♀; 23.X.1998, 1♂ 1♀; San Biase, Sigliature,  
 25.VI.1997, 2♀♀; 16.IX.1997, 2♂♂; 24.VI.1998,  
 4♀♀; 31.V.2000, 2♀♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀;  
 11.V.1997, 1♀; 20.V.1997, 1♀; 22.IX.1997, 1♀;  
 20.IV.1998, 1♀; 02.V.1998, 3♀♀; 03.VI.1998, 4♀♀;  
 26.VI.1998, 1♀; 03.VII.1998, 1♀; 22.IX.1998, 2♂♂;  
 23.VI.1999, 4♂♂; 31.VII.1999, 2♂♂; 17.V.2000,  
 1♀;  
 SICILY: Ragalna, Monte San Leo Contrada Milia,  
 22.XI.2000, 1♀; Catania, Riserva orientata "Oasi del  
 Simeto", 04.VIII.1997, 3♀♀; 28.VIII.1997, 5♀♀;  
 27.IX.1997, 1♂ 1♀; 28.XI.1997, 1♂; 29.VIII.1998,  
 2♀♀ 1♀; 28.VI.1999, 2♀♀;

*Bombus pratorum* (L., 1761)

Siberian-European  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 17.III.1999, 1♀; 18.VI.1999, 1♀; 23.VII.1999,  
 1♂; 22.VI.2000, 3♂♂; Udine, Sant'Osvaldo,  
 23.VI.2000, 2♂♂;  
 EMILIA-ROMAGNA: Civitella di Romagna, Geniz-  
 zo, 14.IV.1997, 2♀♀; Rocca San Casciano, Taver-  
 nelle Vecchie, 02.IV.1998, 3♀♀; 22.IV.1998, 6♀♀;  
 30.V.1998, 3♂♂ 1♀; 24.III.1999, 2♀♀; 14.V.1999,  
 6♂♂ 6♀♀; 18.III.2000, 3♀♀; 21.IV.2000, 2♀♀;  
 26.V.2000, 1♂ 4♀♀;  
 UMBRIA: Marsciano, Mercatello, 22.IX.1999, 1♀;  
 17.V.2000, 1♀;

*Bombus ruderatus* (F., 1775)

W-Palearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 18.VI.1998, 3♂♂ 3♀♀; 21.VII.1998, 1♀;  
 18.VI.1999, 2♂♂; 25.V.2000, 10♀♀; 22.VI.2000,  
 4♂♂ 3♀♀; Udine, Sant'Osvaldo, 17.VI.1998, 2♂♂  
 2♀♀; 18.V.1999, 4♀♀; 15.VI.1999, 7♂♂ 4♀♀;  
 17.VI.1999, 1♀; 21.VI.1999, 1♂; 21.VII.1999, 3♂♂;  
 12.VIII.1999, 1♀; 26.V.2000, 5♀♀; 23.VI.2000,  
 2♀♀; 01.VIII.2000, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 24.IV.1998, 1♀; 27.V.1998, 1♀; 22.VII.1998, 5♂♂  
 5♀♀; 31.VII.2000, 1♀; Rosignano Marittimo, Serra-  
 grande, 27.IV.2000, 1♀; 23.V.2000, 1♀;  
 29.VI.2000, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 24.VI.1998,  
 1♀; San Biase, Sigliature, 27.V.1997, 1♀;  
 22.VII.1997, 1♀; 24.VI.1998, 1♀; 06.X.1998, 1♀;  
 04.V.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 01.VII.1999, 3♂♂;  
 05.VII.2000, 1♂; 12.VII.2000, 1♂; 19.VII.2000, 1♂;  
 05.VII.2000, 1♂;  
 SICILY: Catania, Contrada Spina Santa, 25.IV.1998,  
 1♀; Paternò, Paternò, 27.IV.1998, 1♂; 07.V.1998,  
 1♂ 3♀♀; Catania, Riserva orientata "Oasi del Sime-  
 to", 14.IV.1998, 1♀; 06.V.1998, 2♀♀; 26.V.1999,  
 1♂;

SARDINIA: Sassari, Ottava, 24.IV.1997, 5♀♀;  
 20.V.1997, 2♀♀ 17♀♀; 20.VI.1997, 1♂ 8♀♀;  
 24.IV.1998, 1♀; 28.IV.1998, 1♀; 21.IV.1999, 2♀♀;  
 30.IV.1999, 2♀♀; 12.V.1999, 1♀; 25.V.1999, 1♀;  
 15.VI.1999, 1♀; 18.VI.1999, 2♀♀; Sassari, Pal-  
 madula, 22.VII.1997, 4♂♂; 02.VII.1998, 1♀;  
 28.V.1999, 2♀♀; 14.VI.1999, 4♀♀; 25.VI.1999,  
 3♀♀; 28.VI.1999, 1♀; 21.VI.2000, 1♂;

*Bombus subterraneus* (L., 1758)

Siberian-European  
 MOLISE: San Biase, Sigliature, 10.VII.1997, 1♀;

*Bombus sylvarum* (L., 1761)

Siberian-European  
 PIEDMONT: Cherasco, Veglia Case Nuove,  
 02.VI.1998, 1♀; 31.V.1999, 1♀; Cherasco, Veglia  
 Pilone, 14.IX.1999, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 16.VI.1998, 1♀; 18.VI.1998, 2♀♀; 21.VII.1998,  
 4♀♀; 19.VIII.1998, 5♀♀; 19.V.1999, 1♀ 1♀;  
 17.VI.1999, 1♀; 18.VI.1999, 1♀; 23.VII.1999, 3♀♀;  
 16.VIII.1999, 1♂; 27.IV.2000, 1♀; 31.VII.2000, 1♀;  
 Udine, Sant'Osvaldo, 24.VII.1997, 2♀♀;  
 29.VII.1997, 1♀; 13.VIII.1997, 4♀♀; 20.VIII.1997,  
 5♂♂ 15♀♀; 17.VI.1998, 6♀♀; 20.VII.1998, 3♂♂  
 9♀♀; 28.VII.1998, 3♀♀; 17.VIII.1998, 6♂♂ 1♀;  
 21.IX.1998, 5♂♂; 15.VI.1999, 5♀♀; 17.VI.1999,  
 1♀; 21.VII.1999, 2♂♂ 17♀♀; 30.VII.1999, 2♀♀;  
 12.VIII.1999, 6♂♂ 2♀♀; 13.IX.1999, 5♂♂;  
 23.VI.2000, 1♀; 30.VIII.2000, 1♀;  
 EMILIA-ROMAGNA: Bertinoro, Capocolle,  
 20.VI.2000, 2♀♀; Forlì, San Pietro ai Prati,  
 01.X.1997, 1♀; Forlimpopoli, Sant'Andrea,  
 16.VII.1998, 4♀♀; Meldola, Castelnuovo,  
 13.IX.1998, 1♂; Meldola, Meldola, 18.IX.1998, 1♀;  
 Meldola, Ricò, 15.VI.1998, 2♀♀; Ravenna, Massa  
 Castello, 24.IV.1998, 1♀; 14.V.1998, 1♀;  
 01.VII.1998, 2♀♀; 17.IX.1998, 1♂ 1♀; 01.V.1999,  
 1♀; Rocca San Casciano, Tavernelle Vecchie,  
 31.VII.1998, 1♀; 26.VIII.1998, 1♂ 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 22.VII.1998, 6♀♀; 21.IX.1998, 3♀♀; 15.X.1998, 1♂  
 1♀ 1♀; Rosignano Marittimo, Serragrande,  
 20.VI.1997, 1♀; 29.VII.1997, 2♀♀; 31.VIII.1997,  
 6♀♀; 30.IX.1997, 3♂♂ 3♀♀; 17.X.1997, 3♂♂ 1♀;  
 26.VIII.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♀;  
 22.IX.1997, 2♂♂; 03.VI.1998, 1♀; 22.IX.1998, 1♀;  
 04.VI.1999, 1♀;

*Bombus terrestris* (L., 1758)

W-Palearctic  
 PIEDMONT: Cherasco, Bricco di Faule, 23.VI.1999,  
 1♂ 6♀♀; 05.VIII.1999, 1♀; Cherasco, Cappellazzo,  
 23.VI.1999, 3♀♀; Cherasco, Cascina Palazzino,  
 15.IX.2000, 1♂; Cherasco, Roreto, 11.VI.1997, 1♀;  
 Cherasco, Veglia Case Nuove, 07.VII.1997, 1♀;  
 24.VI.1998, 3♀♀; 02.VII.1998, 1♀; 23.VI.1999, 1♀;  
 29.VI.2000, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.IV.1997, 1♀; 23.VI.1997, 1♀; 29.VI.1997,



1♀; 20.VII.1997, 3♂♂ 1♀; 21.VIII.1997, 1♂ 1♀; 22.IX.1997, 1♂ 2♀♀; 18.III.1998, 1♀; 20.IV.1998, 2♀♀; 18.VI.1998, 1♂ 1♀; 21.VII.1998, 1♂; 19.VIII.1998, 2♀♀; 17.III.1999, 3♀♀; 23.IV.1999, 7♀♀; 18.VI.1999, 3♀♀; 23.VII.1999, 2♀♀; 16.VIII.1999, 2♂♂; 14.IX.1999, 3♂♂; 27.IV.2000, 3♀♀; 22.VI.2000, 1♂; 31.VII.2000, 1♂ 3♀♀; 29.VIII.2000, 1♂; 30.VIII.2000, 3♂♂ 1♀; Udine, Sant'Osvaldo, 20.V.1997, 2♀♀; 22.VI.1997, 2♀♀; 29.VI.1997, 1♂ 3♀♀; 15.VII.1997, 1♂; 21.VII.1997, 3♂♂ 2♀♀; 24.VII.1997, 11♂♂ 2♀♀ 4♀♀; 29.VII.1997, 2♂♂ 4♀♀; 07.VIII.1997, 2♂♂ 1♀; 13.VIII.1997, 4♀♀; 20.VIII.1997, 1♂; 21.IX.1997, 1♂ 4♀♀; 17.III.1998, 3♀♀; 12.V.1998, 1♀; 18.V.1998, 1♀; 17.VI.1998, 1♀; 20.VII.1998, 8♂♂ 4♀♀; 28.VII.1998, 1♂; 17.VIII.1998, 4♂♂; 16.III.1999, 2♀♀ 4♀♀; 15.VI.1999, 1♀; 17.VI.1999, 2♀♀; 21.VII.1999, 15♂♂ 1♀ 7♀♀; 30.VII.1999, 3♂♂ 1♀; 12.VIII.1999, 4♂♂; 26.V.2000, 1♀; 23.VI.2000, 1♂ 8♀♀; 21.VII.2000, 1♂; 01.VIII.2000, 7♂♂ 4♀♀; 30.VIII.2000, 1♂;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 2♀♀; Castrocaro Terme, Pieve Salutare, 25.VI.1999, 12♀♀; 09.VII.1999, 1♀; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 7♀♀; Civitella di Romagna, Genizzo, 14.IV.1997, 1♀; Forlì, Carpinello, 10.VII.1999, 1♀; 26.VII.1999, 1♀; Meldola, Castelnuovo, 17.VII.1998, 1♂ 2♀♀; 13.IX.1998, 1♂; 30.III.1999, 1♀; 02.VI.1999, 1♀; Meldola, Ricò, 05.VI.1998, 2♀♀; 15.VI.1998, 4♀♀; Predappio, Rocca della Caminate, 25.VII.1997, 1♂; Rocca San Casciano, Tavernelle Vecchie, 22.IV.1998, 2; 30.V.1998, 5♀♀; 01.VI.1998, 1♀; 30.VI.1998, 2♂♂; 31.VII.1998, 1♀; 14.V.1999, 8♀♀; 17.VI.1999, 1♀; 18.III.2000, 2♀♀; 21.IV.2000, 1♀; 26.V.2000, 2♀♀; 17.VI.2000, 1♀; Russi, Russi, 07.VIII.1999, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 20.III.1998, 1♀; 22.VI.1998, 1♂; 22.VII.1998, 6♂♂ 11♀♀; 21.IX.1998, 1♀; 15.X.1998, 5♀♀; 05.VII.1999, 1♂ 2♀♀; 06.VII.2000, 1♀; Rosignano Marittimo, Serragrande, 18.III.1998, 2♀♀; 30.V.1998, 1♀ 1♀; 21.XI.1998, 1♀; 31.III.1999, 1♂; 29.VII.1999, 1♂;

MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♀; 13.VI.1997, 1♀; 24.VI.1998, 1♂; 21.VI.2000, 1♀; San Biase, Sigliature, 13.VI.1997, 1♂; 06.VIII.1997, 1♀; 16.IX.1997, 1♂; 13.IX.2000, 1♂;

UMBRIA: Marsciano, Mercatello, 08.VI.1997, 2♀♀; 02.III.1998, 1♂ 2♀♀; 17.III.1998, 1♀; 18.III.1998, 2♀♀; 02.IV.1998, 1♂; 15.V.1998, 1♀; 23.VI.1999, 1♂; 12.VII.1999, 1♂; 30.VII.1999, 2♂♂; 19.VII.2000, 1♀; 06.IX.2000, 1♀;

SICILY: Bronte, Bronte, 16.III.2000, 1♀; 31.III.2000, 1♀; 13.IV.2000, 1♀; 31.V.2000, 1♀; Catania, Contrada Spina Santa, 12.VII.1998, 2♂♂ 6♀♀; Giarre, Contrada Nespole, 14.XI.2000, 1♀; 24.XI.2000, 1♀; 30.XI.2000, 1♀; Ragalna, Monte San Leo Contrada Milia, 24.III.2000, 2♀♀; 29.III.2000, 1♀; 22.IV.2000, 1♀; 30.V.2000, 1♀; 27.VI.2000, 4♀♀; 18.VII.2000, 2♂♂; 26.I.2001, 1♀; 06.II.2001, 1♀ 1♀; 22.II.2001, 1♀; Motta Sant'Anastasia, Motta

Sant'Anastasia, 29.V.2000, 1♂; Paternò, Paternò, 07.V.1998, 3♂♂ 2♀♀; Ramacca, Ramacca, 02.VII.1999, 2♂♂; Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 4♂♂ 1♀ 1♀; 28.VIII.1997, 1♂ 2♀♀; 27.IX.1997, 2♂♂ 2♀♀; 26.X.1997, 1♀; 17.XII.1997, 1♀; 14.IV.1998, 2♀♀; 22.IV.1998, 7♀♀; 06.V.1998, 5♂♂ 9♀♀; 28.VII.1998, 5♂♂ 1♀; 29.VIII.1998, 3♂♂; 29.IX.1998, 2♂♂ 1♀; 05.III.1999, 1♀; 01.IV.1999, 1♀; 23.VII.1999, 2♂♂ 1♀;

SARDINIA: Sassari, Ottava, 24.IV.1997, 3♀♀; 20.VI.1997, 2♀♀; 07.IV.1998, 2♀♀; 14.IV.1998, 1♀; 21.IV.1998, 1♀ 3♀♀; 08.V.1998, 1♀ 1♀; 12.V.1998, 1♀; 23.V.1998, 1♀; 30.IV.1999, 1♀; Sassari, Palmadula, 29.IV.1997, 1♀; 22.V.1997, 1♂ 2♀♀; 24.VI.1997, 2♀♀; 21.VIII.1997, 1♂ 10♀♀; 25.II.1998, 2♀♀; 17.III.1998, 1♀ 9♀♀; 16.IV.1998, 1♀ 3♀♀; 13.V.1998, 4♀♀; 16.VI.1998, 17♀♀; 22.VI.1998, 8♀♀; 02.VII.1998, 7♀♀; 10.VII.1998, 6♀♀; 14.VII.1998, 6♀♀; 17.VII.1998, 4♀♀; 21.VII.1998, 2♀♀; 11.V.1999, 1♀; 28.V.1999, 1♀; 25.VI.1999, 4♀♀; 28.VI.1999, 5♀♀; 21.VI.2000, 1♀;

*Bombus vestalis* (Fourcroy, 1785)

W-Palearctic  
MOLISE: San Biase, Lago del Corvo, 24.VI.1998, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 14.IV.1998, 1♀;

*Ceratina chalcites* Latreille, 1809

Central-Asiatic-European  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 22.VI.1997, 1♀;  
EMILIA-ROMAGNA: Meldola, Castelnuovo, 17.VII.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 1♂;  
MOLISE: San Biase, Lago del Corvo, 06.VIII.1997, 1♀; 24.VII.1998, 1♂; 08.VII.2000, 1♀; San Biase, Sigliature, 25.V.1999, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♀; 08.VIII.1997, 1♀; 03.VI.1998, 1♀; 12.VIII.1998, 1♀; 19.VI.2000, 2♂♂;

*Ceratina chalybea* Chevrier, 1872

W-Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 15.VI.1998, 1♂;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 17.VI.1998, 3♀♀; 15.VI.1999, 1♀;  
EMILIA-ROMAGNA: Meldola, Castelnuovo, 02.VI.1999, 1♀;  
MOLISE: San Biase, Lago del Corvo, 22.VII.1999, 3♀♀;  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 3♂♂; 08.VIII.1997, 1♂; 22.IX.1997, 1♂; 03.VII.1998, 1♀; 12.VIII.1998, 1♀;

*Ceratina cucurbitina* (Rossi, 1792)

W-Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 19.V.1998,

- 1♂; 02.VI.1998, 1♂; 02.VII.1998, 2♀♀; 09.VII.1998, 1♀; 07.VIII.1998, 1♀; 06.VII.1999, 1♀; 05.IV.2000, 1♀; 21.IV.2000, 1♂;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 17.VI.1999, 1♂; 14.IX.1999, 2♀♀;
- EMILIA-ROMAGNA: Forlì, Carpinello, 26.VI.1999, 1♀; Meldola, Castelnuovo, 17.VII.1998, 1♀; Meldola, Meldola, 18.IX.1998, 1♀; Ravenna, Massa Castello, 24.IV.1998, 1♂; 11.IX.1998, 2♂♂ 3♀♀; 23.V.1999, 1♂; 18.IX.1999, 1♀; Rocca San Casciano, Tavernelle Vecchie, 22.IV.1998, 2♂♂; 30.V.1998, 3♀♀; 30.VI.1998, 1♀; 31.VII.1998, 4♀♀; 26.VIII.1998, 5♀♀; 02.V.1999, 6♂♂ 1♀; 14.V.1999, 5♂♂ 2♀♀; 02.VIII.1999, 3♀♀; 22.IX.1999, 1♂ 2♀♀; 21.IV.2000, 1♀; 26.V.2000, 2♂♂ 1♀; 17.VI.2000, 1♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 2♂♂; 27.V.1998, 3♂♂; 22.VI.1998, 3♀♀; 22.VII.1998, 7♀♀; 22.VIII.1998, 1♂ 2♀♀; 21.IX.1998, 1♂; 15.X.1998, 1♂; 29.IV.1999, 8♂♂ 1♀; 25.V.1999, 4♂♂; 18.VI.1999, 6♀♀; 05.VII.1999, 8♀♀; 19.VIII.1999, 3♀♀; 24.V.2000, 2♂♂ 4♀♀; 27.VI.2000, 3♀♀; 31.VII.2000, 1♀; Rosignano Marittimo, Serragrande, 20.VI.1997, 2♀♀; 29.VII.1997, 1♂ 4♀♀; 23.IV.1998, 1♀; 30.V.1998, 3♂♂; 21.VII.1998, 1♂ 4♀♀; 26.VIII.1998, 1♂ 3♀♀; 30.IV.1999, 1♂ 1♀; 25.V.1999, 1♂ 1♀; 30.VI.1999, 2♀♀; 29.VII.1999, 2♀♀; 19.VIII.1999, 1♂ 1♀; 23.V.2000, 2♀♀; 29.VI.2000, 3♀♀; 28.VII.2000, 3♀♀;
- MOLISE: San Biase, Lago del Corvo, 12.V.1997, 4♂♂; 22.VII.1997, 1♀; 06.VIII.1997, 1♀; 27.VIII.1997, 1♀; 08.VII.2000, 2♀♀; San Biase, Sigliature, 22.VII.1997, 1♀; 06.VIII.1997, 1♀; 27.VIII.1997, 1♀; 11.V.1999, 1♂ 1♀; 16.V.2000, 2♂♂ 1♀; 21.VI.2000, 1♀; 21.VII.2000, 2♀♀; 22.IX.2000, 1♂;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 4♂♂ 1♀; 11.V.1997, 1♂; 20.V.1997, 2♀♀; 24.V.1997, 1♂; 10.VI.1997, 2♂♂; 29.VI.1997, 3♀♀; 08.VIII.1997, 6♀♀; 09.IX.1997, 1♀; 22.IX.1997, 1♀; 20.IV.1998, 1♂ 1♀; 02.V.1998, 1♂ 3♀♀; 27.V.1998, 1♂; 03.VI.1998, 2♀♀; 12.VIII.1998, 6♀♀; 12.V.1999, 1♀; 31.VII.1999, 1♀; 17.V.2000, 1♀; 19.VI.2000, 1♀;
- SICILY: Bronte, Bronte, 30.VI.2000, 1♀; Ragalna, Monte San Leo Contrada Milia, 30.V.2000, 1♀; Catania, Riserva orientata "Oasi del Simeto", 28.VIII.1997, 1♀; 04.V.1999, 1♀; 28.VI.1999, 2♀♀;
- SARDINIA: Sassari, Ottava, 20.VI.1997, 4♀♀; 17.VI.1998, 2♀♀; 21.IV.1999, 2♀♀; 25.V.1999, 1♂ 1♀; 11.VI.1999, 3♀♀; 15.VI.1999, 2♀♀; 14.VII.1999, 3♀♀; 22.IX.1999, 1♀; Sassari, Palmadula, 29.IV.1997, 1♂; 22.V.1997, 3♀♀; 24.VI.1997, 1♀; 10.VII.1998, 6♀♀; 17.VII.1998, 4♀♀; 21.VII.1998, 3♀♀; 28.VI.1999, 3♀♀; 29.IX.1999, 2♀♀; 26.X.1999, 2♀♀; 26.IV.2000, 1♀; 23.V.2000, 3♀♀; 21.VI.2000, 2♀♀;
- Ceratina cyanea* (Kirby, 1802)  
European
- PIEDMONT: Cherasco, Costa Lamberti, 19.V.1998, 2♂♂ 1♀; Marene, Cascina Pisagno, 31.V.1999, 1♀;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 19.V.1998, 1♀; Udine, Sant'Osvaldo, 20.V.1997, 1♀; 15.VII.1997, 1♀; 21.IX.1998, 1♀;
- EMILIA-ROMAGNA: Ravenna, Massa Castello, 29.VII.1998, 1♀; 08.X.1998, 1♂; 23.V.1999, 1♂; Rocca San Casciano, Tavernelle Vecchie, 26.VIII.1998, 1♀; 02.V.1999, 1♂ 1♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 05.VII.1999, 1♀; Rosignano Marittimo, Serragrande, 26.VIII.1998, 1♂ 1♀; 29.IX.1998, 1♂;
- MOLISE: San Biase, Sigliature, 22.IX.1999, 1♀;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂ 2♀♀; 20.V.1997, 1♀; 24.V.1997, 1♀; 09.IX.1997, 2♂♂ 1♀; 22.IX.1997, 1♀; 20.IV.1998, 1♂ 1♀; 10.IX.1998, 1♀; 11.V.1999, 1♀; 31.VII.1999, 1♀; 17.V.2000, 1♂; 05.VII.2000, 3♀♀; 19.VII.2000, 2♀♀; 05.VII.2000, 3♀♀;
- SICILY: Catania, Contrada Spina Santa, 27.X.1998, 1♂; Catania, Riserva orientata "Oasi del Simeto", 28.VI.1999, 1♂; 23.VII.1999, 2♂♂;
- Ceratina dallatorreana* Friese, 1896  
Olarctic  
TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 1♀;
- Ceratina dentiventris* Gerstaecker, 1869  
S-European  
TUSCANY: Rosignano Marittimo, Polveroni, 22.VIII.1998, 2♂♂; Rosignano Marittimo, Serragrande, 25.VI.1998, 1♂ 1♀; 21.VII.1998, 2♀♀;
- SICILY: Bronte, Bronte, 30.VI.2000, 1♂;
- SARDINIA: Sassari, Palmadula, 21.VIII.1997, 2♀♀;
- Ceratina gravidula* Gerstaecker, 1869  
Turanic-European  
UMBRIA: Marsciano, Mercatello, 02.V.1998, 1♂; 12.VIII.1998, 1♂; 11.V.1999, 1♂; 19.VII.2000, 1♂;
- Chalicodoma ericetorum* (Lepelletier, 1841)  
W-Palaearctic  
PIEDMONT: Cherasco, Costa Lamberti, 24.VI.1998, 1♂; 02.VII.1998, 1♂;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 18.VI.1998, 1♂; 21.VII.1998, 1♂; 22.VI.2000, 1♂; Udine, Sant'Osvaldo, 17.VI.1998, 2♂♂; 23.VI.2000, 2♂♂ 2♀♀;
- EMILIA-ROMAGNA: Meldola, Castelnuovo, 02.VI.1999, 1♂; Meldola, Ricò, 15.VI.1998, 2♂♂ 1♀; Ravenna, Massa Castello, 01.VII.1998, 1♀;
- MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 2♂♂;
- UMBRIA: Marsciano, Mercatello, 08.VI.1997, 3♂♂ 1♀; 03.VII.1998, 1♂; 19.VI.2000, 1♂;
- Chalicodoma parietina* (Geoffroy, 1785)  
Cosmopolitan  
TUSCANY: Rosignano Marittimo, Serragrande, 30.IV.1997, 1♂; 15.V.1997, 2♀♀; 20.VI.1997, 1♀; 23.IV.1998, 1♀; 30.V.1998, 1♂ 2♀♀; 30.IV.1999,

- 2♂♂ 3♀♀; 25.V.1999, 1♀;  
MOLISE: San Biase, Lago del Corvo, 31.V.2000, 1♂;  
San Biase, Sigliature, 12.V.1997, 1♂; 24.VI.1998,  
1♂; 11.V.1999, 1♂; 25.V.1999, 5♂♂; 04.V.2000,  
1♂; 16.V.2000, 4♂♂; 31.V.2000, 1♂ 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
14.IV.1998, 1♀;  
SARDINIA: Sassari, Ottava, 20.V.1997, 1♀;  
20.VI.1997, 1♀; 28.IV.1998, 1♀; 17.VI.1998, 1♀;  
21.IV.1999, 3♂♂; 30.IV.1999, 2♀♀; 07.V.1999, 1♂  
3♀♀; 12.V.1999, 1♀; Sassari, Palmadula,  
22.V.1997, 1♀; 16.IV.1998, 1♂;
- Chelostoma campanularum* (Kirby, 1802)  
European  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♀;
- Chelostoma distinctum* (Stoeckhert, 1929)  
European  
TUSCANY: Rosignano Marittimo, Serragrande,  
30.V.1998, 1♂;
- Chelostoma emarginatum* (Nylander, 1856)  
W-Palearctic  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 3♀♀;  
20.V.1997, 2♂♂ 3♀♀; 11.V.1999, 1♀;
- Chelostoma florissomne* (L., 1758)  
W-Palearctic  
PIEDMONT: Cherasco, Cascina Palazzino,  
09.IV.1997, 1♀; Cherasco, Costa Lamberti,  
21.IV.2000, 1♂;  
MOLISE: San Biase, Lago del Corvo, 04.V.2000, 1♂;  
San Biase, Sigliature, 04.V.2000, 1♂;  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 5♂♂;  
20.V.1997, 2♂♂ 3♀♀; 11.V.1999, 1♂; 17.V.2000,  
1♀;
- Chelostoma mocsaryi* Schletterer, 1889  
European extended to Anatolia  
MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♂;
- Chelostoma rapunculi* (Lepeletier, 1841)  
European  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 16.VIII.1999, 1♂;  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 1♂;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♀;
- Coelioxys afra* Lepeletier, 1841  
Cosmopolitan  
TUSCANY: Rosignano Marittimo, Serragrande,  
25.VI.1998, 1♂;
- Coelioxys echinata* Förster, 1853  
W-Palearctic  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
28.VIII.1997, 1♂;
- Coelioxys haemorrhhoa* Förster, 1853  
Palearctic
- SICILY: Catania, Riserva orientata "Oasi del Simeto",  
28.VII.1998, 1♀;
- Colletes albomaculatus* (Lucas, 1849)  
Turanic-European-Mediterranean  
MOLISE: San Biase, Sigliature, 25.VI.1997, 1♂ 1♀;
- Colletes caspicus* Morawitz, 1874  
European  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
15.VII.1997, 1♀; 20.VIII.1997, 1♂;  
SARDINIA: Sassari, Palmadula, 22.V.1997, 1♀;
- Colletes cunicularius* (L., 1761)  
Palearctic  
MOLISE: San Biase, Lago del Corvo, 12.V.1997,  
2♀♀;
- Colletes daviesanus* Smith, 1846  
Siberian-European  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀;
- Colletes marginatus* Smith, 1846  
Palearctic  
EMILIA-ROMAGNA: Ravenna, Massa Castello,  
25.VIII.1998, 1♀; 17.IX.1998, 1♀;  
UMBRIA: Marsciano, Mercatello, 10.VI.1997, 1♀;
- Colletes succinctus* (L., 1758)  
Cosmopolitan  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 22.IX.1997, 1♀;
- Creightonella albisecta* (Klug, 1817)  
Turanic-European-Mediterranean  
EMILIA-ROMAGNA: Meldola, Castelnuovo,  
17.VII.1998, 2♀♀; Rocca San Casciano, Tavernelle  
Vecchie, 26.VIII.1998, 1♂ 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
23.VII.1999, 2♂♂;  
SARDINIA: Sassari, Palmadula, 22.VII.1997, 3♀♀;  
21.VIII.1997, 1♂ 2♀♀;
- Dasypoda cingulata* Erichson, 1835  
W-Palearctic  
TUSCANY: Rosignano Marittimo, Serragrande,  
30.IX.1997, 1♀;
- Dasypoda hirtipes* (F., 1793)  
Palearctic  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
28.VIII.1997, 1♂;
- Eucera cinerea* Lepeletier, 1841  
Turanic-European  
PIEDMONT: Cherasco, Costa Lamberti, 06.V.1998,  
1♂;
- Eucera clypeata* Erichson, 1835  
Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 15.VI.1998,  
1♂; 24.VI.1998, 2♂♂;

- EMILIA-ROMAGNA: Forlimpopoli, Sant'Andrea, 16.VII.1998, 2♀♀; Ravenna, Massa Castello, 02.VII.1997, 1♀; 01.VII.1998, 1♀; 23.V.1999, 4♂♂; 16.VI.1999, 1♂; Rocca San Casciano, Tavernelle Vecchie, 30.VI.1998, 1♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 25.V.1999, 3♂♂;
- MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 1♂; 04.VI.1998, 1♂; 25.V.1999, 1♂; 16.V.2000, 1♂; 31.V.2000, 1♂; 21.VII.2000, 1♀; San Biase, Sigliature, 11.V.1999, 1♂; 25.V.1999, 1♂; 16.V.2000, 3♂♂;
- Eucera eucnemidea* Dours, 1873  
Palearctic
- EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 02.VII.1999, 1♂; Forli, Carpinello, 26.VI.1999, 3♂♂; 03.VII.1999, 1♂; 10.VII.1999, 1♂; Forli, San Martino in Strada, 11.VI.1997, 1♂; Meldola, Castelnuovo, 02.VI.1999, 1♀; Ravenna, Massa Castello, 17.VI.1998, 1♂; 16.VI.1999, 1♂ 3♀♀; Rocca San Casciano, Tavernelle Vecchie, 17.VI.1999, 3♂♂; Russi, Russi, 01.V.1999, 1♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 27.V.1998, 4♂♂; 22.VI.1998, 2♂♂; 25.V.1999, 1♂; 24.V.2000, 1♂; 27.VI.2000, 1♂;
- MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♀; 06.VII.1999, 1♂; San Biase, Sigliature, 25.VI.1997, 1♀; 04.VI.1998, 1♂; 29.VI.1999, 2♀♀; 04.V.2000, 2♀♀; 21.VI.2000, 1♀;
- UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀; 03.VI.1998, 1♀;
- SICILY: Bronte, Bronte, 31.V.2000, 1♂; Catania, Contrada Spina Santa, 16.IV.1998, 8♂♂; 25.IV.1998, 15♂♂; 30.III.1999, 1♂; 26.IV.1999, 2♂♂; 28.V.1999, 1♂; Catania, Riserva orientata "Oasi del Simeto", 06.V.1998, 11♂♂; 04.V.1999, 1♂;
- SARDINIA: Sassari, Ottava, 20.V.1997, 4♀♀; 07.V.1999, 1♀; 12.V.1999, 1♀; 15.VI.1999, 1♂;
- Eucera grisea* F., 1793  
Mediterranean
- SICILY: Catania, Contrada Spina Santa, 30.III.1999, 1♂;
- Eucera interrupta* Baer, 1850  
W-Palearctic
- PIEDMONT: Cherasco, Costa Lamberti, 15.VI.1998, 1♂; 09.VII.1998, 1♂ 4♀♀;
- MOLISE: San Biase, Lago del Corvo, 24.VI.1998, 1♀;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♂♂;
- Eucera longicornis* (L., 1758)  
W-Palearctic
- PIEDMONT: Cherasco, Costa Lamberti, 24.VI.1998, 1♂; 09.VII.1998, 2♂♂;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 25.V.2000, 2♀♀; Udine, Sant'Osvaldo, 26.V.2000, 4♀♀;
- TUSCANY: Rosignano Marittimo, Serragrande, 30.V.1998, 1♀;
- UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♂; 25.V.1999, 2♂♂;
- SARDINIA: Sassari, Ottava, 31.III.1998, 1♂;
- Eucera nigrescens* Pérez, 1879  
European
- PIEDMONT: Cherasco, Costa Lamberti, 31.V.1999, 1♂;
- FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♂; 27.IV.2000, 1♀; 25.V.2000, 1♀; Udine, Sant'Osvaldo, 20.V.1997, 3♀♀; 19.IV.1998, 1♂; 11.V.1998, 1♀; 26.V.2000, 2♀♀;
- EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 14.IV.1997, 1♂; Civitella di Romagna, Nespoli, 20.IV.1998, 1♂; Premilcuore, Molino Fulgenzio, 31.V.1997, 1♂; Ravenna, Massa Castello, 24.IV.1998, 1♂; 14.V.1998, 1♂ 2♀♀; 01.V.1999, 3♂♂; 23.V.1999, 1♀; 22.IV.2000, 3♂♂ 5♀♀; Rocca San Casciano, Tavernelle Vecchie, 02.IV.1998, 2♂♂; 22.IV.1998, 4♂♂; 02.V.1999, 5♂♂ 6♀♀; 14.V.1999, 1♀; 21.IV.2000, 10♂♂ 3♀♀; Russi, Russi, 01.V.1999, 6♂♂; 07.V.1999, 1♀; 24.V.1999, 1♀;
- TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♂; Rosignano Marittimo, Serragrande, 15.V.1997, 2♂♂ 6♀♀; 30.V.1998, 1♀; 27.IV.2000, 3♂♂; 23.V.2000, 3♀♀;
- MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♀; 22.IV.1998, 1♂; 11.V.1999, 1♂; San Biase, Sigliature, 12.V.1997, 4♂♂; 27.V.1997, 2♀♀; 22.IV.1998, 1♂; 04.VI.1998, 1♀; 11.V.1999, 9♂♂; 25.V.1999, 1♂; 18.IV.2000, 4♂♂ 1♀; 04.V.2000, 1♂ 3♀♀; 16.V.2000, 1♀;
- UMBRIA: Marsciano, Mercatello, 03.V.1997, 7♂♂; 20.V.1997, 2♀♀; 02.V.1998, 1♂; 03.VI.1998, 1♂; 11.V.1999, 5♂♂ 1♀; 25.V.1999, 1♂; 17.V.2000, 2♀♀;
- SICILY: Bronte, Bronte, 13.IV.2000, 1♂; 26.IV.2000, 1♂ 1♀; Catania, Riserva orientata "Oasi del Simeto", 14.IV.1998, 1♀; 01.IV.1999, 1♂;
- SARDINIA: Sassari, Ottava, 24.IV.1997, 1♂ 1♀; 20.V.1997, 2♀♀; 03.IV.1998, 1♂; 21.IV.1998, 1♀; 21.IV.1999, 2♂♂; Sassari, Palmadula, 16.IV.1998, 1♂; 11.V.1999, 1♀; 26.IV.2000, 3♀♀;
- Eucera nigrifacies* Lepeletier, 1841  
W-Palearctic
- PIEDMONT: Cherasco, Costa Lamberti, 02.VII.1998, 1♀; 09.VII.1998, 1♀; 23.VI.1999, 1♂; 06.VII.1999, 1♂; 05.VIII.1999, 1♀;
- Eucera nigrilabris* Lepeletier, 1841  
Mediterranean
- SARDINIA: Sassari, Ottava, 03.IV.1998, 1♀; 07.IV.1998, 1♀; 21.IV.1998, 2♀♀; 21.IV.1999, 1♀; 30.IV.1999, 1♀; Sassari, Palmadula, 22.III.2000, 3♀♀;
- Eucera notata* Lepeletier, 1841  
Mediterranean
- SICILY: Ragalna, Monte San Leo Contrada Milia,

- 29.III.2000, 1♂; Paternò, Paternò, 27.IV.1998, 1♀;
- Eucera numida* Lepeletier, 1841  
European-Mediterranean  
TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 2♀♀;  
MOLISE: San Biase, Sigliature, 04.V.2000, 1♂;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 06.V.1998, 2♀♀; 01.IV.1999, 1♂;  
SARDINIA: Sassari, Ottava, 24.IV.1997, 1♀; 31.III.1998, 7♀♀; 03.IV.1998, 2♂♂ 9♀♀; 07.IV.1998, 2♂♂ 4♀♀; 21.IV.1998, 1♂ 4♀♀; 08.V.1998, 1♀; 12.V.1998, 2♀♀; 21.IV.1999, 4♀♀; 30.IV.1999, 1♀; 07.V.1999, 1♀; Sassari, Palmadula, 26.IV.2000, 1♀;
- Eucera oraniensis* Lepeletier, 1841  
European  
SICILY: Catania, Contrada Spina Santa, 23.III.1998, 1♀; 16.IV.1998, 1♀; Catania, Riserva orientata "Oasi del Simeto", 14.IV.1998, 1♀;  
SARDINIA: Sassari, Ottava, 24.IV.1997, 5♂♂ 2♀♀; 20.V.1997, 1♂ 8♀♀; 03.IV.1998, 2♂♂; 07.IV.1998, 1♀; 12.V.1998, 4♀♀; 21.IV.1999, 1♀; 30.IV.1999, 3♀♀; 17.V.1999, 4♀♀; 25.V.1999, 1♀; 08.VI.1999, 3♀♀; 11.VI.1999, 3♀♀; 15.VI.1999, 4♀♀; 18.VI.1999, 2♀♀; Sassari, Palmadula, 16.VI.1998, 2♀♀; 11.V.1999, 1♀; 25.VI.1999, 1♀; 22.III.2000, 1♀; 26.IV.2000, 1♀; 23.V.2000, 1♀; 21.VI.2000, 1♀;
- Eucera proxima* Radoszkowski, 1875  
S-European  
SICILY: Catania, Contrada Spina Santa, 16.IV.1998, 1♂;
- Eucera seminuda* Brullé, 1832  
European extended to Anatolia  
EMILIA-ROMAGNA: Forlì, Carpinello, 26.VI.1999, 8♀♀; 10.VII.1999, 3♀♀; Predappio, Rocca della Caminate, 25.VII.1997, 1♀; Ravenna, Massa Castello, 16.VI.1999, 2♀♀; 28.VIII.1999, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.VIII.1999, 2♀♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 27.V.1998, 1♀; 05.VII.1999, 2♀♀;  
MOLISE: San Biase, Lago del Corvo, 21.VII.2000, 2♀♀; San Biase, Sigliature, 21.VII.2000, 1♀;  
UMBRIA: Marsciano, Mercatello, 13.VII.1997, 1♀; 30.VII.1999, 1♀;  
SICILY: Catania, Contrada Spina Santa, 25.IV.1998, 2♀♀; Motta Sant'Anastasia, Motta Sant'Anastasia, 10.V.2000, 2♀♀; Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 1♀;
- Habropoda tarsata* (Spinola, 1838)  
European extended to Anatolia  
EMILIA-ROMAGNA: Meldola, Castelnuovo, 27.III.1999, 1♂; 30.III.1999, 3♂♂;  
MOLISE: San Biase, Sigliature, 12.V.1997, 1♂; 22.IV.1998, 1♂; 04.VI.1998, 2♀♀; 11.V.1999, 1♂; 18.IV.2000, 6♂♂; 04.V.2000, 1♂; 31.V.2000, 1♀;
- SICILY: Ragalna, Monte San Leo Contrada Milia, 17.IV.2000, 1♂; 22.IV.2000, 1♂;
- Halictus asperulus* Pérez, 1895  
Palearctic  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀; 03.VI.1998, 1♀;
- Halictus brunnescens* (Eversmann, 1852)  
Central-Asiatic-European-Mediterranean  
SARDINIA: Sassari, Palmadula, 22.VII.1997, 1♀; 21.VIII.1997, 8♂♂;
- Halictus cochlearitarsis* (Dours, 1872)  
European extended to Anatolia  
MOLISE: San Biase, Lago del Corvo, 16.IX.1997, 1♂;
- Halictus confusus* Smith, 1853  
Olarctic  
EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 2♀♀;
- Halictus eurygnathus* Blüthgen, 1931  
European  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 17.VIII.1998, 2♂♂; 21.IX.1998, 1♂; 12.VIII.1999, 3♂♂;  
EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 02.VIII.1999, 2♂♂; 04.IX.1999, 1♂;
- Halictus fulvipes* (Klug, 1817)  
Olarctic  
PIEDMONT: Cherasco, Roreto, 24.VI.1998, 1♀;  
EMILIA-ROMAGNA: Forlì, Carpinello, 03.VII.1999, 1♀; Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♂; Meldola, Castelnuovo, 17.VII.1998, 2♂♂; Ravenna, Massa Castello, 14.V.1998, 1♀; 21.V.1998, 1♀; 29.VII.1998, 2♂♂ 1♀; 25.VIII.1998, 3♂♂ 2♀♀; 08.X.1998, 2♂♂; 23.V.1999, 1♀; 06.VIII.1999, 2♀♀; 28.VIII.1999, 2♀♀; 18.IX.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 18.VI.1999, 1♀;  
MOLISE: San Biase, Lago del Corvo, 22.IV.1998, 1♀; 11.V.1999, 1♀; San Biase, Sigliature, 25.V.1999, 1♀;  
UMBRIA: Marsciano, Mercatello, 12.VIII.1998, 1♂;  
SICILY: Paternò, Paternò, 27.IV.1998, 1♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 2♀♀; 11.VI.1999, 1♀; Sassari, Palmadula, 24.VI.1997, 2♂♂ 7♀♀; 22.VII.1997, 2♂♂ 5♀♀; 21.VIII.1997, 4♂♂ 4♀♀;
- Halictus gemmeus* Dours, 1872  
European-Mediterranean  
TUSCANY: Rosignano Marittimo, Serragrande, 30.IV.1997, 1♀; 29.VII.1997, 1♀; 25.VI.1998, 1♂ 2♀♀; 21.VII.1998, 3♂♂ 9♀♀; 26.VIII.1998, 3♂♂ 1♀; 30.VI.1999, 1♂ 1♀; 29.VII.1999, 1♀; 29.VI.2000, 2♀♀; 28.VII.2000, 1♀;  
SICILY: Ramacca, Ramacca, 02.VII.1999, 1♀;

*Halictus gr. simplex* Blutghen, 1923

Olarctic

PIEDMONT: Avigliana, Villa Sant'Agostino, 10.VII.1998, 1♀; 12.VII.1998, 2♀♀; 15.VII.1998, 1♀; Cherasco, Cascina Palazzino, 11.VI.1997, 1♀; Cherasco, Costa Lamberti, 06.V.1998, 1♀; 19.V.1998, 1♀; 02.VI.1998, 1♀; 22.VII.1998, 3♀♀; 23.VI.1999, 1♀; 02.VII.1999, 1♀; 05.VIII.1999, 3♀♀; Cherasco, Roreto, 15.VI.1998, 1♀; 02.VII.1999, 2♀♀; 06.VII.1999, 2♀♀; Cherasco, Tetti Lelli, 09.VII.1998, 1♀; 07.VIII.1998, 1♀; Cherasco, Veglia Case Nuove, 11.VI.1997, 3♀♀; 02.VI.1998, 2♀♀; 15.VI.1998, 4♀♀; 24.VI.1998, 4♀♀; 02.VII.1998, 2♀♀; 09.VII.1998, 1♀; 22.VII.1998, 3♀♀; 09.IX.1998, 1♀; 31.V.1999, 1♀; 02.VII.1999, 1♀; 06.VII.1999, 3♀♀; 05.VIII.1999, 1♀; 29.VI.2000, 1♀; Cherasco, Veglia Pilone, 22.VII.1998, 1♀; 31.V.1999, 3♀♀; Reano, Cimite-ro, 26.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.V.1997, 1♀; 20.VII.1997, 1♀; 21.VIII.1997, 1♀; 21.VII.1998, 3♀♀; 22.IX.1998, 1♀; 19.V.1999, 1♀; 17.VI.1999, 3♀♀; 14.IX.1999, 2♀♀; 25.V.2000, 3♀♀; 29.VIII.2000, 1♀; Udine, Sant'Osvaldo, 22.IV.1997, 1♀; 20.V.1997, 4♀♀; 22.V.1997, 2♀♀; 22.VI.1997, 1♀; 24.VI.1997, 2♀♀; 15.VII.1997, 3♀♀; 21.VII.1997, 1♀; 29.VII.1997, 4♀♀; 20.VIII.1997, 1♀; 21.IX.1997, 2♀♀; 18.V.1998, 3♀♀; 17.VI.1998, 1♀; 20.VII.1998, 9♀♀; 17.VIII.1998, 1♀; 21.IX.1998, 1♀; 20.IV.1999, 1♀; 18.V.1999, 4♀♀; 15.VI.1999, 1♀; 21.VII.1999, 14♀♀; 12.VIII.1999, 4♀♀; 13.IX.1999, 3♀♀; 26.IV.2000, 1♀; 23.VI.2000, 8♀♀; 01.VIII.2000, 4♀♀; 30.VIII.2000, 1♀;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 2♀♀; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Forlì, Carpinello, 03.VII.1999, 1♀; Forlì, Pievequinta, 07.V.1999, 1♀; Forlì, San Pietro ai Prati, 01.X.1997, 2♀♀; Forlimpopoli, Sant'Andrea, 16.VII.1998, 2♀♀; Meldola, Castelnuovo, 02.VI.1999, 2♀♀; 17.VII.1998, 6♀♀; Meldola, Meldola, 18.IX.1998, 2♀♀; Meldola, Ricò, 15.VI.1998, 1♀; Predappio, Rocca della Caminate, 25.VII.1997, 1♀; Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀; Ravenna, Massa Castello, 11.V.1998, 2♀♀; 14.V.1998, 3♀♀; 21.V.1998, 3♀♀; 01.VII.1998, 2♀♀; 29.VII.1998, 7♀♀; 25.VIII.1998, 7♀♀; 17.IX.1998, 3♀♀; 08.X.1998, 1♀; 23.V.1999, 5♀♀; 16.VI.1999, 1♀; 28.VIII.1999, 1♀; 18.IX.1999, 3♀♀; 28.VIII.1999, 1♀; 16.VI.2000, 1♀; Rocca San Casciano, Taver-nelle Vecchie, 30.V.1998, 1♀; 30.VI.1998, 1♀; 14.V.1999, 8♀♀; 17.VI.1999, 1♀; 02.VIII.1999, 2♀♀; 04.IX.1999, 3♀♀; 26.V.2000, 2♀♀; 17.VI.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 4♀♀; 25.V.1999, 2♀♀; 05.VII.1999, 1♀; 06.VII.2000, 1♀; Rosignano Marittimo, Serra-grande, 29.VII.1997, 1♀; 30.IV.1999, 1♀;

MOLISE: San Biase, Lago del Corvo, 27.VIII.1997, 1♀; 18.IX.1998, 1♀; 29.VI.1999, 1♀; 21.VII.2000, 1♀; San Biase, Sigliature, 25.V.1999, 1♀;

07.VII.2000, 2♀♀; 21.VII.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 11.V.1997, 2♀♀; 29.VI.1997, 2♀♀; 13.VII.1997, 10♀♀; 23.VII.1997, 1♀; 08.VIII.1997, 3♀♀; 12.VIII.1997, 2♀♀; 09.IX.1997, 2♀♀; 15.V.1998, 1♀; 01.IX.1998, 1♀; 09.IX.1998, 1♀; 11.V.1999, 2♀♀; 04.VI.1999, 1♀; 01.VII.1999, 1♀; 12.VII.1999, 3♀♀; 19.VII.1999, 5♀♀; 30.VII.1999, 3♀♀; 27.VIII.1999, 9♀♀; 01.IX.1999, 1♀; 23.IX.1999, 1♀; 12.X.1999, 1♀; 17.V.2000, 1♀; 05.VII.2000, 3♀♀; 19.VII.2000, 1♀; 06.IX.2000, 8♀♀; 05.VII.2000, 3♀♀;

SICILY: Ragalna, Monte San Leo Contrada Milia, 27.VI.2000, 1♀; Catania, Riserva orientata "Oasi del Simeto", 06.V.1998, 1♀;

SARDINIA: Sassari, Ottava, 30.IV.1999, 1♀;

*Halictus gruenwaldti* Ebmer, 1975

S-European

MOLISE: San Biase, Lago del Corvo, 07.VII.2000, 1♂; San Biase, Sigliature, 22.IX.1999, 1♂;

UMBRIA: Marsciano, Mercatello, 09.IX.1997, 1♂; 12.VIII.1998, 1♂; 12.VII.1999, 2♂♂; 05.VII.2000, 2♂♂; 19.VII.2000, 2♂♂; 28.VIII.2000, 1♂; 21.IX.2000, 1♂; 05.VII.2000, 2♂♂;

*Halictus kessleri* Bramson, 1879

European extended to Anatolia

EMILIA-ROMAGNA: Rocca San Casciano, Taver-nelle Vecchie, 14.V.1999, 1♀;

*Halictus langobardicus* Blüthgen, 1944

European

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.VIII.1997, 2♂♂;

EMILIA-ROMAGNA: Forlì, San Pietro ai Prati, 01.X.1997, 1♂; Meldola, Castelnuovo, 13.IX.1998, 1♂;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VIII.1998, 5♂♂; Rosignano Marittimo, Serra-grande, 29.VII.1997, 1♂;

MOLISE: San Biase, Lago del Corvo, 06.VIII.1997, 1♂;

UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♂;

SICILY: Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 1♂;

*Halictus maculatus* Smith, 1848

Turanic-European

PIEDMONT: Cherasco, Costa Lamberti, 23.VI.1999, 1♀; 05.VIII.1999, 1♀; Cherasco, Roreto, 23.VI.1999, 1♀; 02.VII.1999, 2♀♀; Cherasco, Veglia Case Nuove, 19.V.1998, 1♀; 24.VI.1998, 2♀♀; 02.VII.1999, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 29.VI.1997, 1♀; 21.VII.1998, 1♀; 17.VI.1999, 1♀; Udine, Sant'Osvaldo, 11.V.1998, 1♀; 12.V.1998, 3♀♀; 17.VI.1998, 1♀; 20.VII.1998, 1♀; 17.VIII.1998, 2♂♂ 1♀; 18.V.1999, 1♀; 21.VII.1999, 1♀; 12.VIII.1999, 1♀;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 3♀♀; Civitella di Romagna, Civitella di

Romagna, 23.VII.1998, 8♂♂ 8♀♀; Forlì, Carpinello, 10.VII.1999, 1♀; Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.VI.1998, 3♀♀; 31.VII.1998, 3♂♂; 14.V.1999, 5♀♀; 17.VI.1999, 1♀; 02.VIII.1999, 1♀; Russi, Russi, 01.V.1999, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 04.VI.1998, 2♀♀; 07.VII.1998, 2♀♀; 24.VIII.1999, 1♀; 16.V.2000, 1♀; San Biase, Sigliature, 27.V.1997, 1♀; 11.V.1999, 1♀; 25.V.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀; 02.V.1998, 1♀; 15.V.1998, 1♀; 31.VII.1999, 1♀; 18.VII.2000, 1♀; 19.VII.2000, 1♀;

*Halictus patellatus* Morawitz, 1873

W-Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 28.VII.1998, 1♂; 01.VIII.2000, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 18.IX.1998, 1♀;

*Halictus pollinosus* Sichel, 1860

Palaearctic

SICILY: Bronte, Bronte, 31.V.2000, 1♀; Catania, Riserva orientata "Oasi del Simeto", 23.VII.1999, 1♂;  
 SARDINIA: Sassari, Palmadula, 24.VI.1997, 1♀; 22.VII.1997, 1♀; 25.VI.1999, 1♂;

*Halictus quadricinctus* (F., 1776)

Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 20.V.1997, 1♀; 15.VII.1997, 1♀; 26.V.2000, 1♀;  
 EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 3♀♀;  
 MOLISE: San Biase, Lago del Corvo, 24.VII.1998, 1♀; 22.VII.1999, 2♀♀; 08.VII.2000, 1♂ 2♀♀;  
 UMBRIA: Marsciano, Mercatello, 09.IX.1997, 1♂; 22.IX.1997, 1♀; 15.V.1998, 1♀; 30.VII.1999, 1♀; 12.VII.2000, 1♂; 19.VII.2000, 1♀;  
 SICILY: Catania, Contrada Spina Santa, 12.VII.1998, 1♂; Paternò, Paternò, 27.IV.1998, 1♀; Catania, Riserva orientata "Oasi del Simeto", 06.V.1998, 1♀;  
 SARDINIA: Sassari, Palmadula, 21.VIII.1997, 2♂♂ 1♀; 25.VI.1999, 4♀♀; 28.VI.1999, 1♀;

*Halictus sajoi* Blüthgen, 1923

Turanic-European

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 22.IX.1999, 1♂;

*Halictus scabiosae* (Rossi, 1790)

Cosmopolitan

PIEDMONT: Cherasco, Bricco di Faule, 23.VI.1999, 3♀♀; 02.VII.1999, 2♀♀; Cherasco, Cappellazzo, 23.VI.1999, 3♀♀; Cherasco, Costa Lamberti, 15.VI.1998, 1♀; 07.VIII.1998, 2♀♀; 05.VIII.1999, 5♀♀; Cherasco, Roreto, 24.VI.1998, 1♀; 02.VII.1999, 3♀♀; 06.VII.1999, 2♀♀; 05.VIII.1999, 3♀♀; Cherasco, Veglia Case Nuove, 11.VI.1997, 3♀♀; 15.VI.1998, 1♀; 02.VII.1998,

2♀♀; 22.VII.1998, 2♀♀; 31.V.1999, 1♀; 23.VI.1999, 1♀; 02.VII.1999, 1♀; 06.VII.1999, 1♂; Cherasco, Veglia Pilone, 14.IX.1999, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♀; 21.V.1997, 1♀; 23.VI.1997, 1♀; 29.VI.1997, 4♀♀; 21.VIII.1997, 2♂♂; 18.III.1998, 1♀; 18.VI.1998, 3♀♀; 21.VII.1998, 5♀♀; 19.VIII.1998, 2♀♀; 22.IX.1998, 1♂; 19.V.1999, 1♀; 17.VI.1999, 2♀♀; 18.VI.1999, 1♀; 23.VII.1999, 5♀♀; 16.VIII.1999, 5♂♂ 1♀; 14.IX.1999, 4♂♂ 2♀♀; 31.VII.2000, 1♀; 29.VIII.2000, 3♂♂ 3♀♀; 30.VIII.2000, 4♂♂ 1♀; 13.IX.2000, 1♂; Udine, Sant'Osvaldo, 22.V.1997, 3♀♀; 22.VI.1997, 2♀♀; 15.VII.1997, 1♀; 21.VII.1997, 4♀♀; 24.VII.1997, 9♀♀; 29.VII.1997, 1♂ 12♀♀; 20.VIII.1997, 12♂♂ 8♀♀; 20.IX.1997, 1♀; 21.IX.1997, 9♂♂ 1♀; 18.V.1998, 3♀♀; 17.VI.1998, 1♂ 3♀♀; 20.VII.1998, 3♂♂ 11♀♀; 28.VII.1998, 2♂♂ 6♀♀; 17.VIII.1998, 6♂♂ 2♀♀; 21.IX.1998, 3♂♂ 2♀♀; 18.V.1999, 2♀♀; 21.VII.1999, 8♂♂ 14♀♀; 30.VII.1999, 12♀♀; 12.VIII.1999, 8♂♂ 7♀♀; 13.IX.1999, 5♂♂ 1♀; 26.IV.2000, 2♀♀; 23.VI.2000, 7♀♀; 01.VIII.2000, 6♂♂ 5♀♀; 30.VIII.2000, 2♀♀;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 1♀; Castrocaro Terme, Pieve Salutare, 25.VI.1999, 3♀♀; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♂ 8♀♀; Forlì, Carpinello, 26.VI.1999, 1♀; 10.VII.1999, 1♂; Forlì, Pievequinta, 07.V.1999, 1♀; Meldola, Castelnuovo, 17.VII.1998, 1♀; Meldola, Ricò, 15.VI.1998, 1♂ 2♀♀; Predappio, Rocca della Caminate, 25.VII.1997, 3♀♀; Ravenna, Massa Castello, 21.V.1998, 1♀; 29.VII.1998, 2♀♀; 11.IX.1998, 1♂; 08.X.1998, 1♀; 23.V.1999, 2♀♀; 28.VIII.1999, 1♂ 1♀; Rocca San Casciano, Tavernelle Vecchie, 22.IV.1998, 1♀; 30.VI.1998, 2♀♀; 31.VII.1998, 1♀; 26.VIII.1998, 1♂; 14.V.1999, 3♀♀; 17.VI.1999, 1♀; 02.VIII.1999, 1♂ 3♀♀; 04.IX.1999, 4♂♂; 18.IX.1999, 1♂; 21.IV.2000, 4♀♀; 26.V.2000, 2♀♀; 17.VI.2000, 2♀♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 8♀♀; 27.V.1998, 5♀♀; 22.VII.1998, 8♂♂ 13♀♀; 22.VIII.1998, 3♂♂; 29.IV.1999, 5♀♀; 25.V.1999, 3♀♀; 05.VII.1999, 2♂♂ 1♀; 24.V.2000, 5♀♀; 06.VII.2000, 1♀; Rosignano Marittimo, Seragrande, 23.IV.1998, 1♀; 21.VII.1998, 1♂; 29.VII.1999, 1♀;

MOLISE: San Biase, Lago del Corvo, 12.V.1997, 1♀; 27.V.1997, 2♀♀; 22.VII.1997, 1♂ 4♀♀; 06.VIII.1997, 2♀♀; 27.VIII.1997, 3♂♂ 1♀; 16.IX.1997, 3♂♂; 07.VII.1998, 2♀♀; 24.VII.1998, 1♀; 06.X.1998, 1♀; 11.V.1999, 4♀♀; 25.V.1999, 1♀; 06.VII.1999, 1♀; 24.VIII.1999, 2♂♂; 22.IX.1999, 1♂ 1♀; 04.V.2000, 1♀; 16.V.2000, 1♀; 07.VII.2000, 1♀; 08.VII.2000, 2♀♀; 13.IX.2000, 1♀; San Biase, Sigliature, 24.VI.1998, 1♀; 06.X.1998, 1♂; 11.V.1999, 5♀♀; 29.VI.1999, 1♀; 22.IX.1999, 3♂♂ 1♀; 04.V.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 08.VI.1997, 2♀♀; 29.VI.1997, 1♀; 13.VII.1997, 1♂ 2♀♀; 08.VIII.1997, 10♂♂ 8♀♀; 12.VIII.1997, 2♂♂

1♀; 09.IX.1997, 3♂♂; 22.IX.1997, 6♂♂ 1♀;  
02.V.1998, 2♀♀; 15.V.1998, 1♀; 03.VI.1998, 1♀;  
24.VII.1998, 1♀; 12.VIII.1998, 4♂♂ 1♀;  
01.IX.1998, 1♂; 22.IX.1998, 1♂; 11.V.1999, 1♀;  
04.VI.1999, 2♀♀; 23.VI.1999, 1♂; 12.VII.1999,  
3♀♀; 19.VII.1999, 1♀; 30.VII.1999, 6♀♀;  
27.VIII.1999, 2♂♂; 01.IX.1999, 1♂; 12.X.1999,  
2♂♂ 1♀; 18.VII.2000, 1♀; 19.VII.2000, 4♀♀;  
28.VIII.2000, 1♀; 06.IX.2000, 4♂♂; 21.IX.2000,  
3♂♂;

SICILY: Catania, Contrada Spina Santa, 12.VII.1998,  
16♂♂ 6♀♀; Ragalna, Monte San Leo Contrada Mil-  
lia, 29.III.2000, 1♀; 27.VI.2000, 2♀♀; 18.VII.2000,  
1♀; Motta Sant'Anastasia, Motta Sant'Anastasia,  
29.V.2000, 1♀; Ramacca, Ramacca, 02.VII.1999,  
2♂♂; Catania, Riserva orientata "Oasi del Simeto",  
04.VIII.1997, 7♂♂; 14.IV.1998, 1♀; 06.V.1998,  
2♀♀; 28.VII.1998, 10♂♂ 1♀; 29.VIII.1998, 1♂;  
29.IX.1998, 1♂; 26.V.1999, 1♀; 28.VI.1999, 1♂  
1♀; 23.VII.1999, 1♂;  
SARDINIA: Sassari, Palmadula, 29.IV.1997, 1♀;  
22.V.1997, 1♀; 22.VII.1997, 1♂ 1♀; 14.VI.1999,  
1♀;

#### *Halictus seladonius* (F., 1794)

Central-Asiatic-European-Mediterranean  
PIEDMONT: Cherasco, Bricco di Faule, 02.VII.1999,  
1♀; Cherasco, Costa Lamberti, 07.VIII.1998, 1♀;  
31.V.1999, 1♀; 06.VII.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 2♀♀; Rosignano Marittimo, Serragran-  
de, 25.VI.1998, 2♂♂;  
UMBRIA: Marsciano, Mercatello, 12.VIII.1997, 1♂;

#### *Halictus sexinctus* (F., 1775)

Palaearctic  
PIEDMONT: Cherasco, Costa Lamberti, 23.VI.1999,  
1♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo,  
18.V.1998, 1♀; 21.VII.1999, 1♀;  
MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♀;

#### *Halictus simplex* Blütghen, 1923

European extended to Anatolia  
PIEDMONT: Cherasco, Roreto, 05.VIII.1999, 1♂;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 23.VII.1999, 1♂; 14.IX.1999, 1♂; 29.VIII.2000,  
1♂; Udine, Sant'Oswaldo, 20.VIII.1997, 1♂;  
17.VIII.1998, 5♂♂; 21.IX.1998, 2♂♂;  
12.VIII.1999, 1♂;  
EMILIA-ROMAGNA: Bertinoro, Capocolle,  
20.VI.2000, 1♂; Civitella di Romagna, Civitella di  
Romagna, 23.VII.1998, 2♂♂; Forlimpopoli, San-  
t'Andrea, 16.VII.1998, 1♂; Meldola, Meldola,  
18.IX.1998, 1♂; Ravenna, Massa Castello,  
01.VII.1998, 1♂; 29.VII.1998, 1♂; 28.VIII.1999,  
3♂♂; 18.IX.1999, 3♂♂; 08.X.1998, 1♂; Russi,  
Russi, 01.IX.1999, 2♂♂;

#### *Halictus smaragdulus* Vachal, 1895

Palaearctic  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo,

20.V.1997, 1♀; 26.V.2000, 1♀; 01.VIII.2000, 1♀;  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve Sa-  
lutare, 02.VII.1999, 1♀; Civitella di Romagna, Ci-  
vitella di Romagna, 23.VII.1998, 1♂ 3♀♀; Forlim-  
popoli, Sant'Andrea, 16.VII.1998, 3♀♀; Meldola,  
Castelnuovo, 17.VII.1998, 1♀; Meldola, Ricò,  
15.VI.1998, 1♀; Ravenna, Massa Castello,  
29.VII.1998, 1♀; 25.VIII.1998, 2♀♀; 17.IX.1998,  
1♂; Rocca San Casciano, Tavernelle Vecchie,  
30.VI.1998, 3♀♀; 31.VII.1998, 1♂ 3♀♀;  
26.VIII.1998, 1♂ 1♀; 02.VIII.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
05.VII.1999, 1♂ 1♀;  
UMBRIA: Marsciano, Mercatello, 06.IX.2000, 1♀;  
SICILY: Ramacca, Ramacca, 02.VII.1999, 1♀;

#### *Halictus subauratus* (Rossi, 1792)

Central-Asiatic-European-Mediterranean  
PIEDMONT: Avigliana, Villa Sant'Agostino,  
12.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 21.VIII.1997, 2♂♂; 19.VIII.1998, 1♀; Udine,  
Sant'Oswaldo, 11.V.1998, 1♀;  
EMILIA-ROMAGNA: Bertinoro, Capocolle,  
20.VI.2000, 1♀; Civitella di Romagna, Civitella di  
Romagna, 23.VII.1998, 2♀♀; Meldola, Meldola,  
18.IX.1998, 1♂; Meldola, Ricò, 15.VI.1998, 1♀;  
Ravenna, Massa Castello, 02.VII.1997, 1♀;  
29.VII.1998, 1♀; 25.VIII.1998, 3♀♀; 17.IX.1998,  
1♀; 06.VIII.1999, 2♀♀; 28.VIII.1999, 1♀;  
18.IX.1999, 1♀; Rocca San Casciano, Tavernelle  
Vecchie, 30.V.1998, 3♀♀; 26.VIII.1998, 1♂;  
14.V.1999, 1♀; 17.VI.1999, 1♀; 17.VI.2000, 1♀;  
Russi, Russi, 01.IV.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 1♀; 22.VII.1998, 1♀;  
MOLISE: San Biase, Lago del Corvo, 08.VII.2000,  
1♀;  
UMBRIA: Marsciano, Mercatello, 24.V.1997, 6♀♀;  
10.VI.1997, 2♀♀; 23.VII.1997, 2♀♀; 12.VIII.1997,  
1♂ 3♀♀; 16.VII.1998, 1♀; 01.IX.1998, 1♀;  
09.IX.1998, 3♂♂ 1♀; 12.VII.1999, 2♂♂;  
19.VII.1999, 1♀; 27.VIII.1999, 1♀; 28.VIII.2000,  
1♀; 29.VIII.2000, 2♀♀;

#### *Halictus tectus* Radoszkowski, 1875

Central-Asiatic-European  
SICILY: Catania, Contrada Spina Santa, 27.X.1998,  
1♂;

#### *Halictus tumulorum* (L., 1758)

Asiatic-European  
PIEDMONT: Avigliana, Villa Sant'Agostino,  
15.VII.1998, 1♀; Cherasco, Veglia Case Nuove,  
07.VII.1997, 1♀; 19.V.1998, 1♀; Cherasco, Veglia  
Cimitero, 09.IV.1997, 2♀♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 21.VII.1998, 5♀♀; 19.VIII.1998, 1♀;  
22.IX.1998, 2♂♂; Udine, Sant'Oswaldo,  
15.VII.1997, 4♀♀; 17.III.1998, 1♀; 20.V.1998, 1♀;  
17.VI.1998, 1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Civi-



tella di Romagna, 23.VII.1998, 3♂♂;  
UMBRIA: Marsciano, Mercatello, 12.VIII.1997, 1♀;  
09.IX.1997, 1♀;  
SARDINIA: Sassari, Palmadula, 29.IV.1997, 1♀;  
21.VIII.1997, 1♀;

*Halictus vestitus* Lepeletier, 1841

European-Mediterranean  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
23.VII.1999, 1♂;

*Heriades crenulatus* Nylander, 1856

European-Mediterranean  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
12.VIII.1999, 1♂; 30.VIII.2000, 1♀;  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve Sa-  
lutare, 25.VI.1999, 1♂; Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 1♀; Meldola, Ca-  
stelnuovo, 17.VII.1998, 1♂; Meldola, Meldola,  
18.IX.1998, 1♀; Ravenna, Massa Castello,  
25.VIII.1998, 1♂; 11.IX.1998, 1♀; Rocca San Ca-  
sciano, Tavernelle Vecchie, 26.VIII.1998, 2♀♀;  
02.VIII.1999, 1♂; 22.IX.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 1♂ 1♀; 22.VII.1998, 1♂ 1♀; Rosigna-  
no Marittimo, Serragrande, 21.VII.1998, 1♀;  
29.IX.1998, 1♀;  
MOLISE: San Biase, Lago del Corvo, 06.VIII.1997,  
1♀; 16.IX.1997, 1♂; 21.VI.2000, 1♂; 07.VII.2000,  
2♂♂ 1♀;  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♂;  
23.VII.1997, 2♂♂ 3♀♀; 12.VIII.1997, 2♀♀;  
09.IX.1998, 1♂; 28.VIII.2000, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
04.VIII.1997, 1♂; 28.VIII.1997, 2♀♀; 29.VIII.1998,  
1♂; 26.V.1999, 1♂; 28.VI.1999, 1♂; 23.VII.1999,  
1♂;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 1♂;

*Heriades rubicola* Pérez, 1890

European-Mediterranean  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve Sa-  
lutare, 25.VI.1999, 1♂; Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 2♂♂; Forlì, Carpi-  
nello, 26.VI.1999, 1♂; Meldola, Meldola,  
18.IX.1998, 3♀♀; Ravenna, Massa Castello,  
28.V.1997, 1♂; 25.VIII.1998, 2♀♀; 06.VIII.1999,  
1♀; 18.IX.1999, 1♀; Rocca San Casciano, Taver-  
nelle Vecchie, 02.VIII.1999, 2♀♀; 22.IX.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VIII.1998, 1♂; 21.IX.1998, 1♀; Rosignano Ma-  
rittimo, Serragrande, 20.VI.1997, 2♂♂; 30.V.1998,  
1♀; 25.VI.1998, 7♂♂ 3♀♀; 26.VIII.1998, 2♂♂;  
29.IX.1998, 2♀♀;  
MOLISE: San Biase, Lago del Corvo, 08.VII.2000,  
1♀; San Biase, Sigliature, 29.VI.1999, 1♀;  
13.IX.2000, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♀;  
10.VI.1997, 1♀; 25.VI.1997, 2♀♀; 23.VII.1997,  
1♀; 01.IX.1998, 1♂ 1♀; 09.IX.1998, 2♂♂ 4♀♀;  
22.IX.1998, 1♀; 01.IX.1999, 2♀♀; 19.VI.2000,  
2♀♀; 29.VIII.2000, 1♀; 06.IX.2000, 1♀;

SICILY: Catania, Contrada Spina Santa, 30.IX.1997,  
10♀♀; 31.X.1997, 1♀; 22.IX.1999, 1♂ 1♀;  
30.X.1999, 2♀♀; Catania, Riserva orientata "Oasi  
del Simeto", 26.V.1999, 2♀♀; 01.IX.1999, 2♀♀;

*Heriades truncorum* (L., 1758)

Palaearctic  
PIEDMONT: Cherasco, Veglia Case Nuove,  
23.VI.1999, 1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 20.VII.1997, 2♂♂ 3♀♀; 18.VI.1998, 1♂;  
21.VII.1998, 1♂; 17.VI.1999, 1♂; 23.VII.1999, 1♀;  
14.IX.1999, 1♀; 31.VII.2000, 1♂ 3♀♀;  
29.VIII.2000, 1♀; Udine, Sant'Osvaldo,  
15.VII.1997, 2♀♀; 17.VI.1998, 1♀; 21.VII.1999,  
1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 1♂ 2♀♀; Forlì, Car-  
pinello, 26.VI.1999, 1♀; 03.VII.1999, 1♀; Meldola,  
Ricò, 15.VI.1998, 1♂; Ravenna, Massa Castello,  
17.VI.1998, 1♂; 29.VII.1998, 1♂ 9♀♀;  
25.VIII.1998, 8♀♀; 06.VIII.1999, 1♀; Rocca San  
Casciano, Tavernelle Vecchie, 22.IX.1999, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 4♂♂ 2♀♀; Rosignano Marittimo, Ser-  
ragrande, 30.VI.1999, 1♂;  
MOLISE: San Biase, Lago del Corvo, 22.VII.1999,  
2♀♀; 07.VII.2000, 2♂♂ 2♀♀;  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 3♀♀;  
23.VII.1997, 5♀♀; 12.VIII.1997, 1♂ 4♀♀;  
24.VII.1998, 1♂; 12.VII.1999, 1♀; 19.VII.1999, 1♀;  
30.VII.1999, 1♀; 18.VII.2000, 1♀;

*Hoplitis acuticornis* (Dufour et Perris, 1840)

European extended to Macaronesia and Anatolia  
MOLISE: San Biase, Lago del Corvo, 24.VII.1998,  
3♀♀;

*Hoplitis adunca* (Panzer, 1798)

European-Mediterranean  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 2♀♀; 22.VI.1998, 1♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 1♀;

*Hoplitis anthocopoides* (Schenck, 1853)

Olarctic  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 4♂♂; 22.VI.1998, 1♂;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 2♂♂;

*Hoplitis benoisti* (Alfken, 1935)

European-Mediterranean  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀;

*Hoplitis leucomelana* (Kirby, 1802)

European  
PIEDMONT: Cherasco, Costa Lamberti, 02.VII.1998,  
1♂ 1♀; 06.VII.1999, 1♂; Reano, Cimitero,  
25.VII.1998, 1♀;

*Hoplitis rufohirta* (Latreille, 1811)

Asiatic-European

- EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♀; Russi, Russi, 01.V.1999, 1♀;
- TUSCANY: Rosignano Marittimo, Serragrande, 30.V.1998, 1♀;
- MOLISE: San Biase, Lago del Corvo, 12.V.1997, 1♀; San Biase, Sigliature, 12.V.1997, 1♀; 11.V.1999, 3♂♂; 29.VI.1999, 1♀;
- UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♀; 13.VII.1997, 3♀♀; 03.VI.1998, 1♀; 11.V.1999, 1♂; 31.VII.1999, 1♀; 17.V.2000, 1♂; 05.VII.2000, 1♀; 05.VII.2000, 1♀;
- SARDINIA: Sassari, Ottava, 24.IV.1997, 1♀; 20.VI.1997, 1♀; 03.IV.1998, 1♂; 12.V.1998, 1♀; 30.IV.1999, 5♀♀; 07.V.1999, 1♀; 17.V.1999, 1♂;
- Hoplitis tenuispina* (Alfken, 1937)  
European extended to Anatolia  
PIEDMONT: Cherasco, Veglia Case Nuove, 24.VI.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 23.VI.2000, 1♀;  
UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀; 13.VII.1997, 1♀;
- Hylaeus angustatus* (Schenck, 1859)  
Palearctic  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 26.V.2000, 1♀;  
EMILIA-ROMAGNA: Meldola, Castelnuovo, 17.VII.1998, 1♂;  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♂;  
SICILY: Catania, Contrada Spina Santa, 01.IX.1999, 1♂; Catania, Riserva orientata "Oasi del Simeto", 23.IX.1999, 1♀;
- Hylaeus annularis* (Kirby, 1802)  
Asiatic-European  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.VII.1999, 1♂; Udine, Sant'Oswaldo, 29.VII.1997, 1♂; 20.VIII.1997, 1♂ 1♀; 17.VI.1998, 1♀; 15.VI.1999, 1♀;  
MOLISE: San Biase, Lago del Corvo, 18.IX.1998, 1♀; 13.IX.2000, 1♀; San Biase, Sigliature, 22.VII.1997, 1♀; 07.VII.1998, 1♀; 06.X.1998, 1♀;  
UMBRIA: Marsciano, Mercatello, 27.VIII.1999, 1♀;  
SICILY: Giarre, Contrada Nespole, 14.XI.2000, 1♀;
- Hylaeus brevicornis* Nylander, 1853  
W-Palearctic  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 18.V.1999, 1♂; 01.VIII.2000, 1♀;
- Hylaeus clypearis* (Schenck, 1853)  
European-Mediterranean  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 17.VI.1999, 1♂;  
EMILIA-ROMAGNA: Meldola, Meldola, 18.IX.1998, 1♂;  
MOLISE: San Biase, Sigliature, 29.VI.1999, 1♀;  
UMBRIA: Marsciano, Mercatello, 03.VII.1998, 1♀;  
SICILY: Bronte, Bronte, 31.V.2000, 1♀;
- Hylaeus communis* Nylander, 1852  
Palearctic  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.VIII.1997, 1♂; 22.VIII.1997, 1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♂ 1♀; Predappio, Rocca della Caminate, 25.VII.1997, 1♂; Ravenna, Massa Castello, 11.IX.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.V.1998, 2♂♂;
- Hylaeus confusus* Nylander, 1852  
Asiatic-European  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 22.VI.1997, 1♀;  
EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♂; 27.VIII.1999, 1♀;
- Hylaeus duckei* (Alfken, 1904)  
European  
UMBRIA: Marsciano, Mercatello, 30.VII.1999, 1♀;
- Hylaeus gibbus* Saunders, 1850  
W-Palearctic  
EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 2♂♂; Meldola, Castelnuovo, 17.VII.1998, 1♂;
- Hylaeus hyalinatus* Smith, 1842  
European extended to Caucasus and Anatolia  
EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 2♂♂;
- Hylaeus imparilis* Förster, 1871  
Turanic-European  
UMBRIA: Marsciano, Mercatello, 10.IX.1998, 1♂;
- Hylaeus kahri* Förster, 1871  
Mediterranean  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo, 20.VIII.1997, 1♀;
- Hylaeus lineolatus* (Schenck, 1859)  
Turanic-European  
MOLISE: San Biase, Sigliature, 29.VI.1999, 1♀;
- Hylaeus pictus* (Smith, 1853)  
European-Mediterranean  
MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 1♀; 22.VII.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♂; 02.V.1998, 1♂;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 28.VIII.1997, 1♂ 1♀; 26.X.1997, 1♂; 23.X.1998, 4♀♀; 01.IX.1999, 1♀;
- Hylaeus punctatus* (Brullè, 1832)  
W-Palearctic  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 20.VII.1997, 1♂; 21.VIII.1997, 1♀; 31.VII.2000, 1♂; Udine, Sant'Oswaldo, 22.VI.1997, 2♀♀;

- 21.VII.1997, 1♂; 20.VIII.1997, 1♀;  
 EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Meldola, Meldola, 18.IX.1998, 1♂; Ravenna, Massa Castello, 25.VIII.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂;
- Hylaeus signatus* (Panzer, 1798)  
 European-Mediterranean  
 UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♂; 24.V.1997, 2♀♀;
- Hylaeus sinuatus* (Schenck, 1853)  
 W-Palearctic  
 SICILY: Bronte, Bronte, 31.V.2000, 1♀;
- Hylaeus taeniolatus* Förster, 1871  
 Mediterranean  
 UMBRIA: Marsciano, Mercatello, 10.VI.1997, 1♀;
- Hylaeus trinotatus* (Pérez, 1895)  
 European-Mediterranean  
 SICILY: Catania, Riserva orientata "Oasi del Simeto", 29.IX.1998, 1♂; 23.IX.1999, 1♂;
- Hylaeus variegatus* (F., 1798)  
 W-Palearctic  
 MOLISE: San Biase, Sigliature, 29.VI.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♀; 27.VIII.1999, 1♀;  
 SICILY: Bronte, Bronte, 31.V.2000, 1♂; 30.VI.2000, 1♀;
- Icteranthidium grohmanni* (Spinola, 1838)  
 Turanic-European-Mediterranean  
 SICILY: Ramacca, Ramacca, 12.VII.1999, 1♀;
- Lasioglossum aegyptiellum* (Strand, 1909)  
 European-Mediterranean  
 SICILY: Ramacca, Ramacca, 23.VI.1999, 3♀♀; Catania, Riserva orientata "Oasi del Simeto", 29.IX.1998, 1♀;
- Lasioglossum aeratum* (Kirby, 1802)  
 Siberian-European  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 29.VI.1997, 1♀; Udine, Sant'Osvaldo, 22.VI.1997, 2♀♀; 13.VIII.1997, 2♀♀;  
 MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♀;
- Lasioglossum albipes* (F., 1781)  
 Palearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 22.IX.1997, 3♂♂; 18.VI.1998, 1♂; 19.VIII.1998, 2♂♂; 22.IX.1998, 1♂; 18.VI.1999, 1♂; 22.VI.2000, 2♀♀;  
 TUSCANY: Rosignano Marittimo, Serragrande, 30.IV.1997, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♀; San Biase, Sigliature, 16.IX.1997, 1♂; 16.V.2000, 2♀♀; 07.VII.2000, 1♀;
- UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♀; 08.VIII.1997, 1♂; 02.V.1998, 1♀; 18.VII.2000, 1♀;
- Lasioglossum albocinctum* (Lucas, 1846)  
 European-Mediterranean  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♀; 22.VII.1998, 2♂♂; 15.X.1998, 1♀; 31.III.1999, 1♀; 29.IV.1999, 3♀♀; 25.V.1999, 2♀♀; 31.VII.2000, 2♂♂;  
 MOLISE: San Biase, Sigliature, 07.VII.1998, 1♀; 24.VII.1998, 1♂;  
 UMBRIA: Marsciano, Mercatello, 01.IX.1998, 2♀♀; 09.IX.1998, 1♀;  
 SARDINIA: Sassari, Ottava, 20.V.1997, 1♀; 23.VII.1997, 1♂ 1♀; 30.IV.1999, 1♀; 11.VI.1999, 3♀♀; Sassari, Palmadula, 22.V.1997, 2♀♀; 22.VII.1997, 1♂ 2♀♀; 21.VIII.1997, 1♂ 1♀; 25.VI.1999, 4♀♀; 28.VI.1999, 4♀♀; 26.X.1999, 1♀; 21.VI.2000, 2♂♂;
- Lasioglossum angusticeps* (Perkins, 1895)  
 European-Mediterranean  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 19.V.1998, 1♀; 21.VII.1998, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 1♂;  
 UMBRIA: Marsciano, Mercatello, 03.VI.1998, 1♀; 17.V.2000, 1♀; 05.VII.2000, 1♀; 12.VII.2000, 1♀; 05.VII.2000, 1♀;
- Lasioglossum bimaculatum* (Dours, 1872)  
 European extended to Maghreb  
 MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♀; San Biase, Sigliature, 29.VI.1999, 1♀; 04.V.2000, 1♀; 16.V.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♀; 08.VI.1997, 1♀; 08.VIII.1997, 2♂♂;  
 SARDINIA: Sassari, Palmadula, 29.IV.1997, 2♀♀; 22.V.1997, 1♀;
- Lasioglossum brevicorne* (Schenck, 1868)  
 Palearctic  
 EMILIA-ROMAGNA: Rocca San Casciano, Taverne Vecchie, 01.VI.1998, 1♂ 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.V.2000, 1♀;
- Lasioglossum calceatum* (Scopoli, 1763)  
 Palearctic  
 PIEDMONT: Avigliana, Villa Sant'Agostino, 12.VII.1998, 1♀; 15.VII.1998, 1♀; Cherasco, Veglia Case Nuove, 07.VIII.1998, 1♀; Reano, Cimitero, 23.VII.1998, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 22.IX.1997, 3♂♂; 20.IV.1998, 1♀; 19.V.1998, 4♀♀; 21.VII.1998, 2♀♀; 23.IV.1999, 2♀♀; 19.V.1999, 2♀♀; 17.VI.1999, 1♀; 18.VI.1999, 1♀; 23.VII.1999, 1♀; 27.IV.2000, 1♀; Udine, Sant'Osvaldo, 29.VII.1997, 1♂; 20.VIII.1997, 1♂; 19.IV.1998, 1♀; 20.IV.1999, 2♀♀; 26.IV.2000, 3♀♀;  
 EMILIA-ROMAGNA: Ravenna, Massa Castello,

- 21.V.1998, 1♀; 25.VIII.1998, 2♀♀; 17.IX.1998, 1♀; 08.X.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.V.1999, 1♀; 26.V.2000, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 29.VIII.2000, 1♂;  
 UMBRIA: Marsciano, Mercatello, 11.V.1999, 1♀; 18.VII.2000, 3♂♂ 1♀;  
 SARDEGNA: Sassari, Ottava, 20.V.1997, 2♀♀; Sassari, Palmadula, 22.VII.1997, 2♀♀;
- Lasioglossum callizonium* (Pérez, 1895)  
 European-Mediterranean  
 EMILIA-ROMAGNA: Forlì, San Pietro ai Prati, 01.X.1997, 2♂♂;
- Lasioglossum clypeare* (Schenck, 1853)  
 W-Palearctic  
 EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 1♀; Meldola, Ricò, 15.VI.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 26.VIII.1998, 1♂; 02.VIII.1999, 1♀; 17.VI.2000, 1♀;
- Lasioglossum corvinum* (Morawitz, 1878)  
 European-Mediterranean  
 EMILIA-ROMAGNA: Predappio, Rocca della Caminate, 25.VII.1997, 2♀♀; Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 1♀; 17.VI.1999, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 2♀♀; 24.V.2000, 3♀♀; Rosignano Marittimo, Serragrande, 25.VI.1998, 8♀♀; 21.VII.1998, 2♀♀; 26.VIII.1998, 1♀; 30.IV.1999, 1♀; 30.VI.1999, 2♀♀; 29.VI.2000, 6♀♀; 28.VII.2000, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 22.VII.1997, 1♀; 26.IX.1997, 2♀♀; 08.VII.2000, 2♀♀; San Biase, Sigliature, 24.VII.1998, 1♀; 11.V.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 09.IX.1997, 1♀; 05.VII.2000, 1♀; 12.VII.2000, 1♀; 05.VII.2000, 1♀;
- Lasioglossum costulatum* (Kriechbaumer, 1873)  
 W-Palearctic  
 MOLISE: San Biase, Sigliature, 24.VII.1998, 1♂;
- Lasioglossum crassepunctatum* (Blüthgen, 1923)  
 Turanic-European-Mediterranean  
 MOLISE: San Biase, Sigliature, 10.VII.1997, 1♀;
- Lasioglossum discum* (Smith, 1853)  
 Asiatic-European  
 PIEDMONT: Cherasco, Cascina Palazzino, 22.VII.1998, 1♂; Cherasco, Costa Lamberti, 02.VII.1998, 1♀; 09.VII.1998, 2♀♀; Cherasco, Veglia Case Nuove, 22.VII.1998, 2♀♀; 05.VIII.1999, 1♀; Cherasco, Veglia Pilone, 08.VI.2000, 1♀; Reano, Cimitero, 25.VII.1998, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 18.VI.1998, 1♀; 22.IX.1998, 1♀; 16.VIII.1999, 1♀; Udine, Sant'Ossvaldo, 20.V.1997, 1♀; 21.IX.1997, 1♀; 12.VIII.1999, 1♀; 23.VI.2000, 1♀; 01.VIII.2000, 2♀♀;
- EMILIA-ROMAGNA: Meldola, Castelnuovo, 17.VII.1998, 3♀♀; Ravenna, Massa Castello, 17.IX.1998, 1♀; 23.V.1999, 3♀♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 2♂♂; 22.VIII.1998, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 10.VII.1997, 1♀; 06.VIII.1997, 1♀; 24.VII.1998, 1♂; 07.VII.2000, 1♀; 21.VII.2000, 1♂; San Biase, Sigliature, 29.VI.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 22.IX.1997, 1♂; 22.IX.1998, 1♀; 19.VII.1999, 1♀; 30.VII.1999, 1♂; 27.VIII.1999, 1♂; 19.VII.2000, 2♂♂; 28.VIII.2000, 1♂; 06.IX.2000, 2♂♂ 1♀; 21.IX.2000, 2♂♂;  
 SICILY: Catania, Contrada Spina Santa, 30.IX.1997, 1♀; Ramacca, Ramacca, 23.VI.1999, 1♂; 02.VII.1999, 1♀; 12.VII.1999, 2♂♂ 3♀♀; Catania, Riserva orientata "Oasi del Simeto", 26.V.1999, 1♀; 28.VI.1999, 3♂♂; 23.VII.1999, 1♂;  
 SARDEGNA: Sassari, Palmadula, 22.VII.1997, 1♀; 21.VIII.1997, 1♂;
- Lasioglossum fulvicorne* (Itirby, 1802)  
 Palearctic  
 EMILIA-ROMAGNA: Ravenna, Massa Castello, 14.V.1998, 1♀;
- Lasioglossum glabriusculum* (Morawitz, 1872)  
 European-Mediterranean  
 PIEDMONT: Cherasco, Costa Lamberti, 11.VI.1997, 1♀; 06.VII.1999, 1♀; Cherasco, Veglia Case Nuove, 19.V.1998, 1♀; 07.VIII.1998, 1♀; 06.VII.1999, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.V.1997, 2♀♀; 29.VI.1997, 1♀; 22.IX.1997, 1♂ 1♀; 19.V.1998, 4♀♀; 21.VII.1998, 1♀; 19.V.1999, 1♀; 14.IX.1999, 1♀; 25.V.2000, 2♀♀; 31.VII.2000, 1♀; Udine, Sant'Ossvaldo, 20.V.1997, 2♀♀; 22.V.1997, 2♀♀; 22.VI.1997, 4♀♀; 21.VII.1997, 1♀; 19.IV.1998, 1♀; 11.V.1998, 1♀; 17.VI.1998, 6♀♀; 20.VII.1998, 1♀; 17.VIII.1998, 3♀♀; 18.V.1999, 1♀; 12.VIII.1999, 1♀; 26.V.2000, 2♀♀; 30.VIII.2000, 1♀;  
 EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Forlì, Pievequinta, 07.V.1999, 1♀; Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♀; Ravenna, Massa Castello, 07.V.1998, 1♀; 21.V.1998, 2♀♀; 25.VIII.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.VI.1998, 1♀; 31.VII.1998, 1♀;  
 TUSCANY: Rosignano Marittimo, Serragrande, 28.VII.2000, 1♂;  
 UMBRIA: Marsciano, Mercatello, 15.V.1998, 1♀; 03.VI.1998, 1♂; 19.VI.2000, 1♀; 18.VII.2000, 1♀;
- Lasioglossum griseolum* (Morawitz, 1872)  
 Palearctic  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Ossvaldo, 20.V.1997, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 18.VI.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 1♀;

*Lasioglossum intermedium* (Schenck, 1868)

European extended to Anatolia

EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♀; Civitella di Romagna, Genzino, 14.IV.1997, 1♀; Rocca San Casciano, Tavernelle Vecchie, 17.VI.2000, 2♀♀;

UMBRIA: Marsciano, Mercatello, 15.V.1998, 1♀;

*Lasioglossum interruptum* (Panzer, 1798)

European-Mediterranean

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 19.V.1998, 2♀♀; Udine, Sant'Osvaldo, 22.VI.1997, 2♀♀; 20.IV.1999, 1♀;

EMILIA-ROMAGNA: Meldola, Ricò, 15.VI.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 6♀♀; 17.VI.1999, 1♀; 26.V.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 18.VI.1999, 1♀; 24.V.2000, 1♀; Rosignano Marittimo, Serragrande, 26.VIII.1998, 1♂;

MOLISE: San Biase, Lago del Corvo, 08.VII.2000, 1♀; San Biase, Sigliature, 06.VII.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 20.V.1997, 1♀; 08.VI.1997, 1♀; 08.VIII.1997, 2♂♂ 1♀; 05.VII.2000, 1♀; 05.VII.2000, 1♀;

SICILY: Catania, Contrada Spina Santa, 31.X.1997, 1♂; Catania, Riserva orientata "Oasi del Simeto", 26.V.1999, 1♀;

SARDINIA: Sassari, Ottava, 20.VI.1997, 1♂ 4♀♀; Sassari, Palmadula, 29.IV.1997, 1♀; 22.V.1997, 1♀; 10.VII.1998, 2♀♀; 17.VII.1998, 2♀♀; 21.VI.2000, 1♂;

*Lasioglossum laeve* (Kirby, 1802)

W-Palaearctic

MOLISE: San Biase, Lago del Corvo, 06.VII.1999, 1♂; 07.VII.2000, 4♂♂;

*Lasioglossum laevigatum* (Kirby, 1802)

Palaearctic

MOLISE: San Biase, Sigliature, 10.VII.1997, 1♀;

*Lasioglossum laticeps* (Schenck, 1868)

Palaearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 18.III.1998, 1♀; 20.IV.1998, 2♀♀; Udine, Sant'Osvaldo, 22.IV.1997, 6♀♀; 19.IV.1998, 1♀;

EMILIA-ROMAGNA: Civitella di Romagna, Nespoli, 20.IV.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.IV.1998, 1♀; 22.IV.1998, 1♀; 02.V.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 12.X.1999, 1♀;

*Lasioglossum lativentre* (Schenck, 1853)

Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 17.III.1998, 1♀; 11.V.1998, 1♀; 17.VI.1998, 1♀;

*Lasioglossum leucopus* (Kirby, 1802)

Palaearctic

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 22.IV.1998, 1♀; 26.VIII.1998, 1♀;

*Lasioglossum leucozonium* (Schrank, 1781)

Olarctic

PIEDMONT: Cherasco, Roreto, 24.VI.1998, 1♀; 02.VII.1998, 1♀; 02.VII.1999, 1♀; 06.VII.1999, 1♀; Cherasco, Veglia Case Nuove, 02.VI.1998, 1♀; 31.V.1999, 1♀; 02.VII.1999, 1♀; 06.VII.1999, 2♀♀; 10.VII.2000, 1♂; Cherasco, Veglia Pilone, 09.VII.1998, 1♀; 10.VII.2000, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.V.1997, 8♀♀; 29.VI.1997, 1♀; 18.VI.1998, 1♀; 21.VII.1998, 1♀; 19.V.1999, 2♀♀; 25.V.2000, 3♀♀; 29.VIII.2000, 1♀; Udine, Sant'Osvaldo, 22.V.1997, 5♀♀; 22.VI.1997, 1♀; 25.VI.1997, 1♀; 15.VII.1997, 2♂♂; 21.VII.1997, 1♂; 21.IX.1997, 1♀; 12.V.1998, 1♀; 18.V.1998, 7♀♀; 17.VI.1998, 1♀; 20.VII.1998, 1♂; 17.VIII.1998, 1♀; 21.IX.1998, 1♂; 20.IV.1999, 1♀; 15.VI.1999, 1♀; 21.VII.1999, 1♂; 12.VIII.1999, 1♀; 30.VIII.2000, 1♀;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 2♂♂; Castrocaro Terme, Pieve Salutare, 25.VI.1999, 1♂; Forlì, Carpinello, 26.VI.1999, 1♀; 03.VII.1999, 1♂; Forlì, Pievequinta, 07.V.1999, 1♀; Forlì, San Martino in Strada, 11.VI.1997, 1♀; Meldola, Meldola, 18.IX.1998, 1♂; Ravenna, Massa Castello, 07.V.1998, 2♀♀; 14.V.1998, 1♀; 17.VI.1998, 3♀♀; 29.VII.1998, 1♂; 25.VIII.1998, 1♂ 3♀♀; 08.X.1998, 1♂ 1♀; 31.III.1999, 1♀; 01.V.1999, 2♀♀; 23.V.1999, 1♀; 16.VI.1999, 1♀; 06.VIII.1999, 5♀♀; 28.VIII.1999, 9♂♂ 2♀♀; 18.IX.1999, 2♂♂ 2♀♀; Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 2♀♀; 26.V.2000, 1♀; 17.VI.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♀; 22.VI.1998, 1♀; 22.VII.1998, 1♂; 15.X.1998, 1♂; 25.V.1999, 4♀♀; 18.VI.1999, 1♂;

MOLISE: San Biase, Lago del Corvo, 12.V.1997, 1♀; 31.V.2000, 1♀; 21.VII.2000, 2♀♀; San Biase, Sigliature, 13.VI.1997, 1♀; 27.VIII.1997, 1♂; 16.V.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♀; 20.V.1997, 2♀♀; 24.V.1997, 2♀♀; 10.VI.1997, 1♀; 23.VII.1997, 2♀♀; 09.IX.1997, 1♂; 12.VIII.1998, 2♂♂; 10.IX.1998, 1♀; 15.IV.1999, 1♀; 19.VII.1999, 1♀; 30.VII.1999, 3♀♀; 27.VIII.1999, 1♀; 05.VII.2000, 2♂♂; 18.VII.2000, 1♀; 19.VII.2000, 1♀; 28.VIII.2000, 1♂ 1♀; 06.IX.2000, 1♂ 1♀; 21.IX.2000, 5♂♂; 05.VII.2000, 2♂♂;

SICILY: Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 1♂; 28.VIII.1997, 1♂; 27.IX.1997, 1♂;

*Lasioglossum limbellum* (Morawitz, 1876)

Palaearctic

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 21.IV.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 15.V.1998, 1♀;

*Lasioglossum lineare* (Schenck, 1868)

W-Palaearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-

ni, 20.VII.1997, 1♀; 25.V.2000, 1♀; Udine, Sant'Osvaldo, 22.VI.1997, 2♀♀; 17.VI.1998, 3♀♀; 26.V.2000, 1♀; 23.VI.2000, 1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Genizzo, 14.IV.1997, 1♀;

*Lasioglossum lucidulum* (Schenck, 1861)

Palaearctic

PIEDMONT: Cherasco, Veglia Case Nuove, 02.VII.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 20.IV.1998, 1♀;

EMILIA-ROMAGNA: Forlì, Carpinello, 26.VI.1999, 1♀;

*Lasioglossum malachurum* (Kirby, 1802)

W-Palaearctic

PIEDMONT: Avigliana, Villa Sant'Agostino, 10.VII.1998, 1♀; Cherasco, Costa Lamberti, 26.III.1997, 1♀; 25.III.1998, 3♀♀; 09.IV.1998, 5♀♀; 22.IV.1998, 1♀; 15.VI.1998, 6♀♀; 24.VI.1998, 5♀♀; 22.VII.1998, 2♀♀; 31.V.1999, 2♀♀; 23.VI.1999, 7♀♀; 06.VII.1999, 1♀; 05.VIII.1999, 1♀; 05.IV.2000, 1♀; Cherasco, Roreto, 02.VII.1998, 1♀; 06.VII.1999, 1♀; Cherasco, Veglia, 24.VI.1998, 1♀; Cherasco, Veglia Case Nuove, 11.VI.1997, 1♀; 22.IV.1998, 1♀; 02.VI.1998, 3♀♀; 15.VI.1998, 3♀♀; 24.VI.1998, 1♀; 02.VII.1998, 2♀♀; 09.VII.1998, 1♀; 22.VII.1998, 1♀; 02.VII.1999, 1♀; 05.VIII.1999, 1♀; Cherasco, Veglia Pilone, 26.III.1997, 1♀; 31.V.1999, 1♀; 08.VI.2000, 2♀♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 21.V.1997, 1♀; 23.VI.1997, 2♀♀; 29.VI.1997, 2♀♀; 20.VII.1997, 1♀; 22.IX.1997, 3♂♂; 18.III.1998, 1♀; 20.IV.1998, 4♀♀; 19.V.1998, 3♀♀; 21.VII.1998, 1♀; 19.V.1999, 1♀; 23.VII.1999, 2♂♂ 3♀♀; 25.V.2000, 4♀♀; 31.VII.2000, 1♂; 30.VIII.2000, 1♂; Udine, Sant'Osvaldo, 22.IV.1997, 5♀♀; 15.VII.1997, 1♀; 24.VII.1997, 1♀; 29.VII.1997, 3♂♂ 3♀♀; 17.III.1998, 2♀♀; 19.IV.1998, 13♀♀; 16.III.1999, 1♀; 20.IV.1999, 1♀; 21.VII.1999, 1♀; 30.VII.1999, 8♀♀; 12.VIII.1999, 3♂♂ 1♀; 31.III.2000, 4♀♀; 26.V.2000, 1♀; 23.VI.2000, 2♀♀; 21.VII.2000, 2♂♂; 30.VIII.2000, 1♂;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 1♀; Castrocaro Terme, Pieve Salutare, 09.VII.1999, 1♀; Civitella di Romagna, Nespoli, 20.IV.1998, 1♀; Forlì, Pievequinta, 07.V.1999, 2♀♀; Forlì, San Martino in Strada, 11.VI.1997, 1♀; Forlimpopoli, Sant'Andrea, 16.VII.1998, 13♀♀; Meldola, Meldola, 18.IX.1998, 2♂♂; Meldola, Ricò, 05.VI.1998, 5♀♀; 15.VI.1998, 5♀♀; Predappio, Rocca della Caminate, 25.VII.1997, 3♀♀; Ravenna, Massa Castello, 24.IV.1998, 2♀♀; 07.V.1998, 3♀♀; 14.V.1998, 1♀; 17.VI.1998, 2♀♀; 01.VII.1998, 2♀♀; 25.VIII.1998, 1♂; 31.III.1999, 3♀♀; 01.V.1999, 2♀♀; 23.V.1999, 1♀; 16.VI.1999, 2♀♀; 06.VIII.1999, 1♀; 28.VIII.1999, 3♂♂; 18.IX.1999, 1♂ 1♀; 24.V.2000, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.IV.1998, 2♀♀; 30.V.1998,

1♀; 30.VI.1998, 1♀; 31.VII.1998, 1♂; 02.V.1999, 1♀; 14.V.1999, 2♀♀; 02.VIII.1999, 1♀; 04.IX.1999, 1♀; 17.VI.2000, 1♀; Russi, Russi, 01.III.1999, 8♀♀; 01.IV.1999, 1♀; 01.VII.1999, 10♀♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VIII.1998, 1♂; Rosignano Marittimo, Serragrande, 25.V.1999, 2♀♀;

MOLISE: San Biase, Lago del Corvo, 08.IX.1998, 1♂; 22.VII.1999, 7♀♀; 22.IX.1999, 1♂; 21.VI.2000, 3♀♀; 08.VII.2000, 1♀; 21.VII.2000, 3♀♀; 13.IX.2000, 1♂; San Biase, Sigliature, 22.IX.1999, 1♂; 18.IV.2000, 3♀♀; 31.V.2000, 3♀♀; 21.VI.2000, 3♀♀; 07.VII.2000, 1♀; 21.VII.2000, 8♀♀; 13.IX.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♀♀; 11.V.1997, 6♀♀; 08.VI.1997, 1♀; 10.VI.1997, 2♀♀; 25.VI.1997, 2♀♀; 23.VII.1997, 1♀; 08.VIII.1997, 3♀♀; 09.IX.1997, 3♂♂; 24.VII.1998, 1♀; 01.IX.1998, 1♂; 10.IX.1998, 1♂; 12.VII.1999, 12♀♀; 19.VII.1999, 1♂ 4♀♀; 30.VII.1999, 1♀; 31.VII.1999, 11♀♀; 27.VIII.1999, 2♂♂ 1♀; 01.IX.1999, 7♂♂ 2♀♀; 23.IX.1999, 1♀; 16.V.2000, 1♀; 18.VI.2000, 5♀♀; 19.VI.2000, 1♀; 05.VII.2000, 1♀; 12.VII.2000, 16♀♀; 18.VII.2000, 2♂♂ 6♀♀; 19.VII.2000, 1♀; 28.VIII.2000, 1♀; 29.VIII.2000, 10♂♂ 3♀♀; 06.IX.2000, 3♂♂ 3♀♀; 21.IX.2000, 1♂; 05.VII.2000, 1♀;

SICILY: Catania, Contrada Spina Santa, 30.IX.1997, 1♂; Ragalna, Monte San Leo Contrada Milia, 24.III.2000, 1♀; 29.III.2000, 1♀; Motta Sant'Anastasia, Motta Sant'Anastasia, 29.V.2000, 4♀♀; Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 2♂♂; 23.IX.1999, 1♂;

SARDINIA: Sassari, Ottava, 24.IV.1997, 1♀; Sassari, Palmadula, 29.IV.1997, 1♀;

*Lasioglossum marginatum* (Brullé, 1832)

Palaearctic

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 02.V.1999, 5♀♀;

UMBRIA: Marsciano, Mercatello, 02.V.1998, 3♀♀;

*Lasioglossum mesosclerum* (Pérez, 1903)

Turanic-European-Mediterranean

EMILIA-ROMAGNA: Ravenna, Massa Castello, 24.V.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VII.1998, 1♂;

*Lasioglossum minutissimum* (Kirby, 1802)

W-Palaearctic

PIEDMONT: Cherasco, Veglia Case Nuove, 15.VI.1998, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 22.V.1997, 1♀; 21.VIII.1997, 3♂♂;

EMILIA-ROMAGNA: Ravenna, Massa Castello, 02.VII.1997, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 1♀;

UMBRIA: Marsciano, Mercatello, 11.V.1997, 2♀♀; 10.VI.1997, 1♀; 29.VI.1997, 1♀; 15.V.1998, 17♀♀;

- 27.V.1998, 1♀; 01.IX.1998, 1♀; 12.VII.1999, 1♂;  
19.VII.1999, 1♀; 30.VII.1999, 1♀; 31.VII.1999, 1♀;  
SICILY: Catania, Contrada Spina Santa, 23.VII.1999,  
1♂;
- Lasioglossum minutulum* (Schenck, 1853)  
European  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 17.VI.2000, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 2♀♀;
- Lasioglossum morio* (F., 1793)  
W-Palearctic  
PIEDMONT: Reano, Cimitero, 25.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 22.IX.1997, 8♂♂; 14.IX.1999, 1♂; 22.VI.2000,  
1♀;  
EMILIA-ROMAGNA: Bertinoro, Capocolle,  
20.VI.2000, 1♂; Castrocaro Terme, Pieve Salutare,  
25.VI.1999, 1♀; Predappio, Rocca della Caminate,  
25.VII.1997, 1♂; Rocca San Casciano, Tavernelle  
Vecchie, 04.IX.1999, 1♂;  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997,  
2♂♂;
- Lasioglossum nigripes* (Lepeletier, 1841)  
W-Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 02.V.1997,  
1♀; Cherasco, Roreto, 06.VII.1999, 1♂;  
05.VIII.1999, 2♀♀; Cherasco, Tetti Lelli,  
09.IV.1997, 1♀; Cherasco, Veglia Case Nuove,  
24.VI.1998, 1♀; 02.VII.1998, 4♀♀; 09.VII.1998,  
1♀; 07.VIII.1998, 1♀; Cherasco, Veglia Pilone,  
09.VII.1998, 3♀♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 18.VI.1998, 1♀; 19.VIII.1998, 1♀; 23.IV.1999,  
1♀; 19.V.1999, 1♀; Udine, Sant'Osvaldo,  
07.VIII.1997, 2♂♂; 21.IX.1997, 1♂; 18.V.1998,  
4♀♀; 20.VII.1998, 1♀; 17.VIII.1998, 4♂♂;  
18.V.1999, 4♀♀; 12.VIII.1999, 1♂; 26.IV.2000,  
3♀♀; 30.VIII.2000, 1♂;  
EMILIA-ROMAGNA: Ravenna, Massa Castello,  
17.IX.1998, 1♂; 01.V.1999, 5♀♀; 06.VIII.1999,  
2♀♀; 28.VIII.1999, 2♀♀; 18.IX.1999, 2♂♂ 1♀;  
Rocca San Casciano, Tavernelle Vecchie,  
04.IX.1999, 1♂; 22.IX.1999, 3♂♂;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 2♂♂; 21.IX.1998, 1♂; 05.VII.1999,  
1♀; Rosignano Marittimo, Serragrande, 29.IX.1998,  
1♀;  
MOLISE: San Biase, Sigliature, 22.IX.2000, 1♂;  
UMBRIA: Marsciano, Mercatello, 31.VII.1999, 1♀;  
27.VIII.1999, 2♂♂ 1♀; 29.VIII.2000, 1♂;  
SARDINIA: Sassari, Ottava, 12.V.1998, 1♀;
- Lasioglossum nitidiusculum* (Kirby, 1802)  
W-Palearctic  
EMILIA-ROMAGNA: Forlì, San Martino in Strada,  
11.VI.1997, 1♀;
- Lasioglossum nitidulum* (F., 1804)  
European-Mediterranean  
PIEDMONT: Cherasco, Costa Lamberti, 11.VI.1997,  
1♂;  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VII.1998, 1♀;
- Lasioglossum parvulum* (Schenck, 1853)  
Turanic-European-Mediterranean  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 17.VI.2000, 1♀;  
UMBRIA: Marsciano, Mercatello, 16.V.2000, 2♀♀;
- Lasioglossum pauperatum* (Brullé, 1832)  
European extended to Macaronesia and Anatolia  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VI.1998, 3♂♂; 29.IV.1999, 1♀; 25.V.1999,  
6♀♀; 18.VI.1999, 1♀; Rosignano Marittimo, Serra-  
grande, 26.VIII.1998, 1♂;  
UMBRIA: Marsciano, Mercatello, 15.V.1998, 1♀;  
05.VII.2000, 1♀; 05.VII.2000, 1♀;  
SICILY: Paternò, Paternò, 27.IV.1998, 1♀;  
SARDINIA: Sassari, Palmadula, 22.III.2000, 1♀;
- Lasioglossum pauxillum* (Schenck, 1853)  
W-Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 22.IV.1997,  
1♀; 23.VI.1999, 1♀; Cherasco, Veglia Case Nuove,  
11.VI.1997, 1♀; 07.VII.1997, 1♀; 19.V.1998, 1♀;  
02.VI.1998, 2♀♀; 15.VI.1998, 2♀♀; 02.VII.1998,  
5♀♀; 29.VI.2000, 1♀; Cherasco, Veglia Pilone,  
16.IV.1997, 1♀; Reano, Cimitero, 26.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa  
Rizzani, 21.V.1997, 7♀♀; 22.V.1997, 1♀;  
23.VI.1997, 1♀; 29.VI.1997, 5♀♀; 20.VII.1997,  
3♀♀; 21.VIII.1997, 1♂; 22.IX.1997, 1♂;  
18.III.1998, 1♀; 18.VI.1998, 3♀♀; 23.VII.1999,  
1♂; Udine, Sant'Osvaldo, 22.IV.1997, 7♀♀;  
20.V.1997, 4♀♀; 22.V.1997, 5♀♀; 22.VI.1997,  
3♀♀; 24.VI.1997, 1♀; 21.VII.1997, 2♀♀;  
24.VII.1997, 1♀; 29.VII.1997, 1♂ 4♀♀;  
07.VIII.1997, 1♀; 13.VIII.1997, 1♀; 20.VIII.1997,  
3♀♀; 19.IV.1998, 1♀; 12.V.1998, 1♀; 18.V.1998,  
2♀♀; 17.VI.1998, 6♀♀; 31.III.2000, 3♀♀;  
EMILIA-ROMAGNA: Castrocaro Terme, Pieve  
Salutare, 02.VII.1999, 2♀♀; Civitella di Romagna,  
Civitella di Romagna, 23.VII.1998, 1♂; Forlì,  
Carpinello, 26.VI.1999, 1♀; 10.VII.1999, 1♂; Forlì,  
Piequinta, 07.V.1999, 1♀; Meldola, Ricò,  
15.VI.1998, 1♀; Ravenna, Massa Castello,  
01.VII.1998, 1♀; 01.V.1999, 1♀; 16.VI.1999, 3♀♀;  
28.VIII.1999, 1♂; 22.IV.2000, 1♀; Rocca San  
Casciano, Tavernelle Vecchie, 24.III.1999, 1♀;  
02.V.1999, 3♀♀; 14.V.1999, 4♀♀; 17.VI.1999,  
3♀♀; 21.IV.2000, 1♀; 17.VI.2000, 3♀♀; Russi,  
Russi, 01.IV.1999, 2♀♀; 01.V.1999, 1♀;  
01.VI.1999, 2♀♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
29.IV.1999, 2♀♀; Rosignano Marittimo, Serragran-  
de, 30.V.1998, 1♂; 25.VI.1998, 1♂;  
MOLISE: San Biase, Lago del Corvo, 25.VI.1997,  
1♀; 04.V.2000, 1♀; 08.VII.2000, 1♀; San Biase, Si-

- gliature, 10.VII.1997, 1♀; 25.V.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀;  
 11.V.1997, 2♀♀; 20.V.1997, 1♀; 24.V.1997, 1♀;  
 08.VI.1997, 1♀; 13.VII.1997, 2♀♀; 08.VIII.1997,  
 2♀♀; 15.V.1998, 2♀♀; 12.VII.1999, 1♀;  
 SICILY: Catania, Contrada Spina Santa, 28.V.1999,  
 2♀♀;  
 SARDINIA: Sassari, Ottava, 24.IV.1997, 2♀♀; Sassa-  
 ri, Palmadula, 29.IV.1997, 3♀♀; 22.V.1997, 1♀;  
 10.VII.1998, 2♀♀;
- Lasioglossum perclavipes* (Blüthgen, 1934)  
 European extended to Macaronesia and Anatolia  
 SICILY: Catania, Contrada Spina Santa, 16.IV.1998,  
 1♀; Catania, Riserva orientata "Oasi del Simeto",  
 06.V.1998, 1♀;
- Lasioglossum peregrinum* (Blüthgen, 1923)  
 W-Palearctic  
 EMILIA-ROMAGNA: Civitella di Romagna, Geniz-  
 zo, 14.IV.1997, 1♀;
- Lasioglossum politum* (Schenck, 1853)  
 Palearctic  
 EMILIA-ROMAGNA: Castrocaro Terme, Pieve Sa-  
 lutare, 25.VI.1999, 1♀; Forlì, Pievequinta,  
 07.V.1999, 1♀; Ravenna, Massa Castello,  
 23.V.1999, 1♀; 18.IX.1999, 1♀; Rocca San Cascia-  
 no, Tavernelle Vecchie, 14.V.1999, 1♀; 17.VI.1999,  
 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 18.VI.1999, 2♀♀; Rosignano Marittimo, Serragran-  
 de, 26.VIII.1998, 1♂;  
 SICILY: Ramacca, Ramacca, 02.VII.1999, 1♀; Cata-  
 nia, Riserva orientata "Oasi del Simeto",  
 23.VII.1999, 1♀;
- Lasioglossum punctatissimum* (Schenck, 1853)  
 W-Palearctic  
 EMILIA-ROMAGNA: Meldola, Ricò, 15.VI.1998,  
 1♀; Ravenna, Massa Castello, 07.V.1998, 1♀;  
 06.VIII.1999, 1♂; Rocca San Casciano, Tavernelle  
 Vecchie, 31.VII.1998, 1♀; 17.VI.1999, 1♂;  
 TUSCANY: Rosignano Marittimo, Serragrande,  
 30.IV.1999, 1♀;
- Lasioglossum puncticolle* (Morawitz, 1872)  
 Palearctic  
 EMILIA-ROMAGNA: Civitella di Romagna, Civi-  
 tella di Romagna, 23.VII.1998, 1♀; Forlì, Carpinel-  
 lo, 10.VII.1999, 3♀♀; Meldola, Meldola,  
 18.IX.1998, 1♂; Predappio, Rocca della Caminate,  
 25.VII.1997, 1♀; Ravenna, Massa Castello,  
 17.VI.1998, 1♀; Rocca San Casciano, Tavernelle  
 Vecchie, 31.VII.1998, 1♂; 02.V.1999, 1♀;  
 14.V.1999, 1♀; 26.V.2000, 1♀; Russi, Russi,  
 01.V.1999, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 24.IV.1998, 1♀; 27.V.1998, 1♀; 22.VIII.1998, 1♀;  
 25.V.1999, 2♀♀; 27.VI.2000, 2♂♂; Rosignano Ma-  
 rittimo, Serragrande, 25.II.1998, 1♀; 23.IV.1998,  
 1♀; 30.V.1998, 3♀♀; 19.VIII.1999, 1♂;
- 27.IV.2000, 1♀; 23.V.2000, 1♀; 29.VI.2000, 1♂  
 1♀;  
 MOLISE: San Biase, Lago del Corvo, 16.IX.1997,  
 1♀; 26.IX.1997, 1♀; 20.VIII.1998, 1♀; 06.X.1998,  
 2♀♀; 23.X.1998, 1♀; 16.V.2000, 1♀; 29.VIII.2000,  
 4♀♀; 13.IX.2000, 2♀♀; 22.IX.2000, 5♀♀; San Bia-  
 se, Sigliature, 25.VI.1997, 1♀; 29.VIII.2000, 1♀;  
 22.IX.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 20.IV.1998, 2♀♀;  
 09.IX.1998, 1♀; 10.IX.1998, 2♀♀; 22.IX.1998, 1♀;  
 24.V.1999, 1♀; 04.VI.1999, 1♀; 19.VII.1999, 1♀;  
 01.IX.1999, 6♀♀; 23.IX.1999, 4♀♀; 12.X.1999,  
 2♀♀; 05.VII.2000, 1♀; 19.VII.2000, 2♀♀;  
 28.VIII.2000, 1♂; 29.VIII.2000, 1♂ 1♀;  
 06.IX.2000, 9♀♀; 21.IX.2000, 1♂ 3♀♀;  
 05.VII.2000, 1♀;  
 SICILY: Catania, Contrada Spina Santa, 30.IX.1997,  
 2♂♂; 25.IV.1998, 1♀;
- Lasioglossum pygmaeum* (Schenck, 1853)  
 Palearctic  
 PIEDMONT: Cherasco, Veglia Case Nuove,  
 09.VII.1998, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.IV.1997, 1♀;  
 EMILIA-ROMAGNA: Ravenna, Massa Castello,  
 07.V.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 15.V.1998, 1♀;  
 03.VI.1998, 1♀; 19.VI.2000, 1♀;
- Lasioglossum quadrinotatum* (Schenck, 1861)  
 Siberian-European  
 UMBRIA: Marsciano, Mercatello, 01.IX.1998, 1♀;  
 27.VIII.1999, 1♀;
- Lasioglossum rufitarse* (Zetterstedt, 1838)  
 Olarctic  
 EMILIA-ROMAGNA: Ravenna, Massa Castello,  
 28.VIII.1999, 1♀;  
 MOLISE: San Biase, Lago del Corvo, 22.VII.1999,  
 1♀;
- Lasioglossum sexnotatum* (Kirby, 1802)  
 Central-Asiatic-European  
 EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
 nelle Vecchie, 14.V.1999, 4♀♀;
- Lasioglossum subaenescens* (Pérez, 1896)  
 Mediterranean  
 MOLISE: San Biase, Lago del Corvo, 24.VII.1998,  
 1♀; 07.VII.2000, 1♀;
- Lasioglossum subfasciatum* (Imhoff, 1832)  
 Turanic-European-Mediterranean  
 EMILIA-ROMAGNA: Bertinoro, Capocolle,  
 20.VI.2000, 1♂;
- Lasioglossum transitorium* (Schenck, 1868)  
 European-Mediterranean  
 UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀;  
 25.VI.1997, 1♀; 15.V.1998, 4♀♀;



*Lasioglossum tricinctum* (Schenck, 1874)

S-European

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 02.V.1999, 1♀; 21.IV.2000, 1♀;

*Lasioglossum truncaticolle* (Morawitz, 1878)

W-Palaearctic

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 14.IX.1999, 2♂♂; Udine, Sant'Osvaldo, 17.VIII.1998, 1♀; 12.VIII.1999, 1♂; 23.VI.2000, 2♀♀; 01.VIII.2000, 1♀;

EMILIA-ROMAGNA: Forlì, Pievequinta, 07.V.1999, 1♀; Ravenna, Massa Castello, 01.V.1999, 4♀♀; 23.V.1999, 1♀; 28.VIII.1999, 1♀;

MOLISE: San Biase, Sigliature, 31.V.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 12.VIII.1998, 1♂; 21.IX.2000, 1♀;

SICILY: Ramacca, Ramacca, 23.VI.1999, 1♂; 02.VII.1999, 1♂;

*Lasioglossum villosulum* (Kirby, 1802)

Palaearctic

PIEDMONT: Cherasco, Roreto, 24.VI.1998, 1♀; 02.VII.1998, 1♀; 23.VI.1999, 1♀; Cherasco, Veglia Case Nuove, 19.V.1998, 1♀; 02.VI.1998, 4♀♀; 15.VI.1998, 4♀♀; 24.VI.1998, 1♀; 02.VII.1998, 1♀; 31.V.1999, 1♀; 23.VI.1999, 1♂ 1♀; 02.VII.1999, 3♀♀; 05.VIII.1999, 1♀; 08.VI.2000, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 3♀♀; 21.V.1997, 3♀♀; 29.VI.1997, 2♀♀; 19.VIII.1998, 1♂ 3♀♀; 23.IV.1999, 2♀♀; 19.V.1999, 1♀; 14.IX.1999, 1♀; Udine, Sant'Osvaldo, 22.V.1997, 2♀♀; 25.VI.1997, 2♀♀; 20.VIII.1997, 4♀♀; 21.IX.1997, 1♂ 1♀; 19.IV.1998, 1♀; 18.V.1998, 4♀♀; 17.VI.1998, 1♂; 17.VIII.1998, 3♂♂; 20.IV.1999, 1♀;

EMILIA-ROMAGNA: Bertinoro, Capocolle, 20.VI.2000, 1♂; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Civitella di Romagna, Genizzo, 14.IV.1997, 1♀; Forlì, Carpinello, 26.VI.1999, 2♀♀; 03.VII.1999, 1♂; 10.VII.1999, 2♀♀; Forlì, Pievequinta, 07.V.1999, 2♀♀; Forlì, San Pietro ai Prati, 01.X.1997, 2♀♀; Meldola, Castelnuovo, 13.IX.1998, 1♀; Meldola, Meldola, 18.IX.1998, 1♂; Predappio, Rocca della Caminate, 25.VII.1997, 1♀; Premilcuore, Molino Fulgenzio, 31.V.1997, 1♀; Ravenna, Massa Castello, 28.V.1997, 2♀♀; 02.VII.1997, 1♀; 24.IV.1998, 3♀♀; 07.V.1998, 2♀♀; 14.V.1998, 1♀; 17.VI.1998, 1♀; 01.VII.1998, 1♀; 29.VII.1998, 1♂ 2♀♀; 25.VIII.1998, 1♀; 17.IX.1998, 1♀; 23.V.1999, 1♀; 06.VIII.1999, 2♀♀; 28.VIII.1999, 1♂ 3♀♀; 18.IX.1999, 1♂ 1♀; 24.V.2000, 1♀; Rocca San Casciano, Tavernelle Vecchie, 02.V.1999, 2♀♀; 14.V.1999, 1♀; 02.VIII.1999, 1♂ 1♀; 04.IX.1999, 2♂♂ 1♀; 26.V.2000, 6♀♀; 17.VI.2000, 1♀;

TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♀; 27.V.1998, 2♀♀; 29.IV.1999, 1♀; 25.V.1999, 4♀♀; 31.VII.2000, 1♂; Rosignano Marittimo, Serragrande, 25.II.1998, 2♀♀; 23.IV.1998, 2♀♀; 25.VI.1998, 1♂; 21.VII.1998, 1♂; 26.VIII.1998, 3♂♂ 1♀; 30.IV.1999, 1♀;

19.VIII.1999, 1♂; 29.VI.2000, 1♂; 28.VII.2000, 1♀; MOLISE: San Biase, Lago del Corvo, 13.VI.1997, 3♀♀; 20.VIII.1998, 1♀; 08.IX.1998, 2♀♀; 16.V.2000, 1♀; 31.V.2000, 2♀♀; 29.VIII.2000, 1♂ 1♀; 22.IX.2000, 1♂ 4♀♀; San Biase, Sigliature, 20.VIII.1998, 1♂; 18.IX.1998, 3♀♀; 06.X.1998, 3♂♂ 1♀; 29.VI.1999, 2♀♀; 29.VIII.2000, 2♀♀; 22.IX.2000, 1♀;

UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 11.V.1997, 2♀♀; 20.V.1997, 4♀♀; 24.V.1997, 17♀♀; 08.VI.1997, 4♀♀; 10.VI.1997, 6♀♀; 25.VI.1997, 1♀; 29.VI.1997, 1♀; 08.VIII.1997, 2♂♂ 4♀♀; 12.VIII.1997, 6♂♂ 9♀♀; 09.IX.1997, 5♂♂ 10♀♀; 20.IV.1998, 5♀♀; 02.V.1998, 1♀; 15.V.1998, 15♀♀; 03.VI.1998, 2♀♀; 01.IX.1998, 3♀♀; 10.IX.1998, 5♀♀; 22.IX.1998, 1♀; 15.IV.1999, 1♀; 01.VII.1999, 3♀♀; 12.VII.1999, 2♂♂; 30.VII.1999, 7♀♀; 31.VII.1999, 1♂ 2♀♀; 27.VIII.1999, 1♀; 01.IX.1999, 3♂♂ 4♀♀; 23.IX.1999, 7♀♀; 12.X.1999, 3♂♂ 1♀; 16.V.2000, 1♀; 18.VI.2000, 8♀♀; 12.VII.2000, 2♂♂ 1♀; 18.VII.2000, 4♂♂ 2♀♀; 19.VII.2000, 1♀; 28.VIII.2000, 8♂♂ 1♀; 29.VIII.2000, 6♂♂ 8♀♀; 06.IX.2000, 3♂♂ 10♀♀; 21.IX.2000, 2♂♂ 2♀♀; SICILY: Giarre, Contrada Nespole, 24.XI.2000, 1♀; Paternò, Paternò, 27.IV.1998, 1♀;

*Lasioglossum xanthopus* (Kirby, 1802)

Palaearctic

FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 20.V.1997, 1♀; 11.V.1998, 1♀; 20.IV.1999, 1♀; 18.V.1999, 1♀;

EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 1♀;

MOLISE: San Biase, Lago del Corvo, 22.VII.1997, 2♀♀; 27.VIII.1997, 1♀; 11.V.1999, 2♀♀; San Biase, Sigliature, 06.VIII.1997, 1♀; 04.VI.1998, 1♀; 06.X.1998, 1♂; 11.V.1999, 1♀; 25.V.1999, 1♀;

*Lasioglossum zonulum* (Smith, 1848)

Olarctic

PIEDMONT: Cherasco, Costa Lamberti, 26.III.1997, 1♀; 05.VIII.1999, 1♀; Cherasco, Veglia Case Nuove, 19.V.1998, 1♀; 02.VI.1998, 1♀; 15.VI.1998, 1♀; 09.VII.1998, 2♀♀; 07.VIII.1998, 1♀; 23.VI.1999, 2♀♀; 02.VII.1999, 1♀; 06.VII.1999, 1♀; 12.V.2000, 1♀; 29.VI.2000, 2♀♀; 10.VII.2000, 1♂; Cherasco, Veglia Pilone, 16.IV.1997, 1♀;

FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 23.IV.1997, 1♀; 22.IX.1997, 1♀; 19.V.1998, 2♀♀; 19.V.1999, 1♀; 23.VII.1999, 1♀; Udine, Sant'Osvaldo, 21.IX.1997, 1♀; 18.V.1998, 1♀; 17.VIII.1998, 1♀; 21.VII.1999, 1♀;

UMBRIA: Marsciano, Mercatello, 01.IX.1998, 3♀♀; 09.IX.1998, 3♀♀;

*Lithurgus chrysurus* Fonscolombe, 1834

Cosmopolitan

EMILIA-ROMAGNA: Meldola, Castelnuovo, 17.VII.1998, 1♀;

UMBRIA: Marsciano, Mercatello, 23.VII.1997, 1♂; 08.VIII.1997, 1♂;

- Lithurgus cornutus* (F., 1787)  
European extended to Caucasus  
UMBRIA: Marsciano, Mercatello, 08.VIII.1997, 2♀♀;  
SARDINIA: Sassari, Palmadula, 21.VIII.1997, 1♀;
- Macropis europaea* Warncke, 1973  
Siberian-European  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 20.VII.1998, 2♀♀; 23.VI.2000, 1♂;
- Megachile albohirta* Brullé, 1839  
European-Mediterranean  
EMILIA-ROMAGNA: Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♂ 4♀♀; Meldola, Castelnuovo, 17.VII.1998, 2♀♀; Meldola, Meldola, 18.IX.1998, 4♀♀; Ravenna, Massa Castello, 17.VI.1998, 1♀; 01.VII.1998, 1♀; 29.VII.1998, 2♀♀; 25.VIII.1998, 1♀; 17.IX.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 1♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 1♀;
- Megachile apicalis* Spinola, 1808  
Olarctic  
EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 26.VIII.1998, 1♀;  
SICILY: Catania, Contrada Spina Santa, 30.IX.1997, 2♀♀; 12.VII.1998, 1♀; Ramacca, Ramacca, 02.VII.1999, 2♀♀; Catania, Riserva orientata "Oasi del Simeto", 04.VIII.1997, 1♀; 28.VII.1998, 1♀; 23.VII.1999, 2♀♀;  
SARDINIA: Sassari, Ottava, 20.VI.1997, 2♀♀;
- Megachile centuncularis* (L., 1758)  
Olarctic  
PIEDMONT: Cherasco, Veglia Case Nuove, 22.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 29.VII.1997, 1♀; 17.VIII.1998, 1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Ravenna, Massa Castello, 11.IX.1998, 4♀♀; Rocca San Casciano, Tavernelle Vecchie, 26.VIII.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 21.IX.1998, 1♀;  
UMBRIA: Marsciano, Mercatello, 10.VI.1997, 1♂; 22.IX.1997, 2♂♂; 01.IX.1998, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 28.VIII.1997, 2♀♀; 27.IX.1997, 1♂; 29.VIII.1998, 1♀;
- Megachile lagopoda* (L., 1761)  
Siberian-European  
PIEDMONT: Cherasco, Tetti Lelli, 07.VIII.1998, 1♀;
- Megachile maritima* (Kirby, 1802)  
Palearctic  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 28.VI.1999, 1♂;  
SARDINIA: Sassari, Palmadula, 22.VII.1997, 1♀;
- Megachile melanopyga* A.Costa, 1863  
European extended to Macaronesia  
EMILIA-ROMAGNA: Ravenna, Massa Castello, 11.IX.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 30.VI.1998, 1♀; 26.VIII.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Serragrande, 21.VII.1998, 1♂; 29.IX.1998, 2♀♀;  
SARDINIA: Sassari, Ottava, 23.VII.1997, 1♂; Sassari, Palmadula, 24.VI.1997, 1♀; 22.VII.1997, 1♂; 21.VIII.1997, 5♂♂;
- Megachile octosignata* Nylander, 1852  
European  
TUSCANY: Rosignano Marittimo, Serragrande, 30.IX.1997, 1♀; 17.X.1997, 1♀;
- Megachile pilicrus* Morawitz, 1878  
European extended to Caucasus and Anatolia  
SARDINIA: Sassari, Palmadula, 21.VIII.1997, 2♂♂;
- Megachile pilidens* Alfken, 1923  
European-Mediterranean  
PIEDMONT: Cherasco, Costa Lamberti, 24.VI.1998, 1♀; Cherasco, Roreto, 02.VII.1999, 1♀; 06.VII.1999, 1♀; Cherasco, Tetti Lelli, 09.IX.1998, 1♀; Cherasco, Veglia Case Nuove, 23.VI.1999, 1♀;  
EMILIA-ROMAGNA: Forlì, San Martino in Strada, 11.VI.1997, 1♀; Forlì, San Pietro ai Prati, 01.X.1997, 1♀; Meldola, Meldola, 18.IX.1998, 4♂♂; Ravenna, Massa Castello, 08.X.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni, 22.VI.1998, 1♀; 21.IX.1998, 1♀; Rosignano Marittimo, Serragrande, 26.VIII.1998, 1♀;  
MOLISE: San Biase, Lago del Corvo, 25.VI.1997, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto", 29.VIII.1998, 1♀; 29.IX.1998, 1♀;  
SARDINIA: Sassari, Palmadula, 21.VIII.1997, 2♂♂;
- Megachile rotundata* (F., 1787)  
Cosmopolitan  
PIEDMONT: Cherasco, Cà Bianca, 09.IX.1998, 1♀;
- Megachile schmiedeknechti* A. Costa, 1884  
Mediterranean  
SARDINIA: Sassari, Ottava, 20.VI.1997, 3♀♀; 23.VII.1997, 4♀♀; 15.VI.1999, 1♀; Sassari, Palmadula, 22.VII.1997, 13♀♀; 21.VIII.1997, 3♀♀; 25.VI.1999, 1♀; 29.IX.1999, 1♀;
- Megachile willughbiella* (Kirby, 1802)  
European  
EMILIA-ROMAGNA: Premilcuore, Molino Fulgenzio, 31.V.1997, 1♂;
- Melecta aegyptiaca* Radoszkowski, 1876  
W-Palearctic  
MOLISE: San Biase, Sigliature, 04.VI.1998, 1♀;
- Melecta albifrons* (Förster, 1771)  
W-Palearctic  
MOLISE: San Biase, Lago del Corvo, 27.V.1997, 1♀;

- UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂  
2♀♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
14.IV.1998, 1♀;
- Melecta italica* Radoszkowski, 1876  
W-Palearctic  
MOLISE: San Biase, Sigliature, 12.V.1997, 1♀;
- Melecta leucorhyncha* Gribodo, 1893  
S-European  
MOLISE: San Biase, Sigliature, 13.VI.1997, 1♀;
- Melecta luctuosa* (Scopoli, 1770)  
W-Palearctic  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂;
- Melitta leporina* (Panzer, 1799)  
Olarctic  
PIEDMONT: Avigliana, Villa Sant'Agostino,  
10.VII.1998, 3♂♂ 1♀; 12.VII.1998, 1♂ 1♀;  
15.VII.1998, 1♂ 1♀; Cherasco, Tetti Lelli,  
09.VII.1998, 2♀♀; 22.VII.1998, 1♀; 09.IX.1998,  
1♀; Reano, Cimitero, 23.VII.1998, 1♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
22.VI.1997, 1♀; 24.VI.1997, 3♂♂; 15.VII.1997,  
1♀; 17.VI.1998, 1♂ 2♀♀; 20.VII.1998, 1♀;  
21.VII.1999, 2♀♀; 12.VIII.1999, 1♀;  
EMILIA-ROMAGNA: Castrocara Terme, Pieve Sa-  
lutare, 25.VI.1999, 1♂; Forlimpopoli, Sant'Andrea,  
16.VII.1998, 3♂♂; Meldola, Castelnuovo,  
17.VII.1998, 2♂♂; Ravenna, Massa Castello,  
16.VI.1999, 2♀♀;
- Melitta nigricans* Alfken, 1905  
European extended to Anatolia  
EMILIA-ROMAGNA: Ravenna, Massa Castello,  
02.VII.1997, 1♀;
- Melitta tricincta* Kirby, 1802  
Asiatic-European  
MOLISE: San Biase, Sigliature, 16.IX.1997, 1♀;
- Melitturga clavicornis* (Latreille, 1806)  
Asiatic-European  
PIEDMONT: Cherasco, Tetti Lelli, 07.VII.1997,  
2♀♀; 09.VII.1998, 2♂♂ 2♀♀;  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
20.VII.1998, 1♀;
- Metallinella brevicornis* (F., 1798)  
European-Mediterranean  
TUSCANY: Rosignano Marittimo, Polveroni,  
30.IV.1997, 4♂♂; 25.V.1999, 2♂♂ 1♀;
- Nomada basalis* Herrich-Schaeffer, 1839  
European-Mediterranean  
MOLISE: San Biase, Sigliature, 04.VI.1998, 1♂;
- Nomada carnifex* Mocsáry, 1883  
S-European  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 22.IV.1998, 2♀♀;
- Nomada castellana* Dusmet, 1913  
Siberian-European  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 23.VI.1997, 1♂;
- Nomada concolor* Schmiedeknecht, 1882  
S-European  
EMILIA-ROMAGNA: Meldola, Ricò, 15.VI.1998,  
1♂;
- Nomada discrepans* Schmiedeknecht, 1882  
European-Mediterranean  
EMILIA-ROMAGNA: Meldola, Ricò, 15.VI.1998,  
2♂♂;  
UMBRIA: Marsciano, Mercatello, 10.VI.1997, 1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
28.VIII.1997, 1♂;
- Nomada distinguenda* Morawitz, 1874  
Palearctic  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
04.VIII.1997, 1♂; 28.VIII.1997, 1♂;
- Nomada facilis* Schwarz, 1967  
European  
EMILIA-ROMAGNA: Premilcuore, Molino Fulgen-  
zio, 31.V.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♀;
- Nomada femoralis* Morawitz, 1869  
European-Mediterranean  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 30.VI.1998, 1♀;
- Nomada flavoguttata* (Kirby, 1802)  
European-Mediterranean  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 23.VI.1997, 1♂;  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 22.IV.1998, 2♀♀;
- Nomada fucata* Panzer, 1798  
Palearctic  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀;
- Nomada fulvicornis* F., 1793  
European  
UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♂;
- Nomada kohli* Schmiedeknecht, 1882  
European-Mediterranean  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 31.VII.1998, 1♂;
- Nomada melathoracica* Imhoff, 1834  
European  
UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♂;
- Nomada mutica* Morawitz, 1872  
European

- EMILIA-ROMAGNA: Civitella di Romagna, Nespoli, 20.IV.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♀♀;
- Nomada sexfasciata* Panzer, 1799  
 European extended to Maghreb  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 3♀♀;  
 20.V.1997, 1♀;
- Nomada sheppardana* (Kirby, 1802)  
 W-Palearctic  
 UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀;  
 15.V.1998, 1♀;
- Nomada verna* Schmiedeknecht, 1882  
 European  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♂;
- Nomada zonata* Panzer, 1798  
 European  
 UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀;
- Osmia aurulenta* (Panzer, 1799)  
 European-Mediterranean  
 PIEDMONT: Cherasco, Costa Lamberti, 26.III.1997, 1♂; 15.VI.1998, 1♀; 24.VI.1998, 3♀♀;  
 02.VII.1998, 2♀♀; 09.VII.1998, 2♀♀; Cherasco, Veglia Case Nuove, 02.VII.1999, 1♀;  
 EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 02.VII.1999, 2♂♂; Civitella di Romagna, Nespoli, 20.IV.1998, 1♂; Ravenna, Massa Castello, 24.IV.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 31.VII.1998, 5♀♀; 24.III.1999, 2♂♂; 02.V.1999, 3♂♂ 2♀♀; 17.VI.1999, 1♀; 02.VIII.1999, 1♀; 21.IV.2000, 1♂; Russi, Russi, 01.IV.1999, 3♂♂; 01.V.1999, 2♂♂ 1♀; 07.V.1999, 2♂♂;  
 TUSCANY: Rosignano Marittimo, Polveroni, 24.IV.1998, 1♂; 27.V.1998, 2♀♀; Rosignano Marittimo, Serragrande, 15.V.1997, 6♀♀; 30.IV.1999, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 10.VII.1997, 2♀♀; 24.VI.1998, 1♀; San Biase, Sigliature, 11.V.1999, 1♀; 25.V.1999, 1♀; 29.VI.1999, 1♀; 31.V.2000, 1♂;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂; 08.VI.1997, 3♀♀; 25.VI.1997, 1♀; 02.V.1998, 1♂ 1♀; 03.VI.1998, 1♀; 03.VII.1998, 3♀♀; 03.VI.1999, 2♀♀; 17.V.2000, 2♀♀; 19.VI.2000, 2♀♀;  
 SICILY: Bronte, Bronte, 31.V.2000, 1♀; Catania, Riserva orientata "Oasi del Simeto", 06.V.1998, 1♀;  
 SARDINIA: Sassari, Palmadula, 26.IV.2000, 1♂;
- Osmia caerulescens* (L., 1758)  
 Olarctic  
 PIEDMONT: Avigliana, Villa Sant'Agostino, 10.VII.1998, 1♀; Reano, Cimitero, 23.VII.1998, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizzani, 19.V.1998, 4♀♀; Udine, Sant'Osvaldo, 17.VI.1998, 1♀; 20.VII.1998, 1♂; 21.VII.1999, 1♂;
- EMILIA-ROMAGNA: Castrocaro Terme, Pieve Salutare, 25.VI.1999, 3♂♂; Civitella di Romagna, Civitella di Romagna, 23.VII.1998, 1♀; Civitella di Romagna, Genizzo, 14.IV.1997, 1♀; Forlimpopoli, Sant'Andrea, 16.VII.1998, 1♀; Meldola, Castelnuovo, 17.VII.1998, 1♂; Ravenna, Massa Castello, 24.IV.1998, 1♀; 29.VII.1998, 2♀♀; 31.III.1999, 1♂; 23.V.1999, 2♀♀; Ravenna, Pisignano, 11.IV.1997, 1♂; Rocca San Casciano, Tavernelle Vecchie, 30.VI.1998, 2♀♀; 31.VII.1998, 2♂♂ 3♀♀; Russi, Russi, 01.IV.1999, 1♂; 01.V.1999, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 31.III.1999, 1♂; 29.IV.1999, 2♀♀; Rosignano Marittimo, Serragrande, 30.V.1998, 1♀; 30.VI.1999, 1♂;  
 MOLISE: San Biase, Sigliature, 04.VI.1998, 1♀; 04.V.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀; 08.VI.1997, 1♀; 23.VII.1997, 1♀; 17.V.2000, 1♂ 2♀♀;  
 SICILY: Catania, Riserva orientata "Oasi del Simeto", 28.VI.1999, 1♀;  
 SARDINIA: Sassari, Ottava, 24.IV.1997, 1♀; 20.V.1997, 2♀♀; 20.VI.1997, 3♀♀; 23.VII.1997, 3♀♀; 12.V.1998, 1♀;
- Osmia cephalotes* Morawitz, 1871  
 European-Mediterranean  
 MOLISE: San Biase, Sigliature, 16.V.2000, 1♂;
- Osmia cornuta* (Latreille, 1805)  
 European-Mediterranean  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 26.III.1998, 1♀;  
 EMILIA-ROMAGNA: Civitella di Romagna, Nespoli, 20.IV.1998, 1♀; Rocca San Casciano, Tavernelle Vecchie, 24.III.1999, 2♂♂;  
 MOLISE: San Biase, Sigliature, 22.IV.1998, 1♀; 18.IV.2000, 1♀;
- Osmia dimidiata* Morawitz, 1871  
 Asiatic-European  
 SARDINIA: Sassari, Palmadula, 14.VI.1999, 1♀; 28.VI.1999, 2♀♀; 21.VI.2000, 1♀;
- Osmia emarginata* Lapeletier, 1841  
 European-Mediterranean  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 20.V.1997, 1♀; 17.VI.1998, 1♀; 18.V.1999, 1♀;  
 MOLISE: San Biase, Sigliature, 11.V.1999, 1♂; 25.V.1999, 1♀;
- Osmia fulviventris* (Panzer, 1798)  
 Olarctic  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo, 20.V.1997, 3♀♀; 22.VI.1997, 3♀♀; 26.V.2000, 4♀♀;  
 EMILIA-ROMAGNA: Rocca San Casciano, Tavernelle Vecchie, 14.V.1999, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni, 27.V.1998, 1♀; 25.V.1999, 3♀♀;  
 MOLISE: San Biase, Sigliature, 25.VI.1997, 1♀;

- 25.V.1999, 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♂;  
 SARDINIA: Sassari, Palmadula, 13.V.1998, 1♀;  
 26.IV.2000, 1♀;
- Osmia gallarum* Spinola, 1808  
 European-Mediterranean  
 MOLISE: San Biase, Lago del Corvo, 07.VII.2000,  
 1♀; San Biase, Sigliature, 12.V.1997, 1♂;  
 UMBRIA: Marsciano, Mercatello, 25.VI.1997, 1♀;
- Osmia kohli* Duce, 1900  
 Mediterranean  
 SICILY: Bronte, Bronte, 26.IV.2000, 1♀;
- Osmia melanogaster* Spinola, 1808  
 W-Palearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 21.VII.1998, 2♀♀;
- Osmia nana* Morawitz, 1873  
 European extended to Caucasus and Anatolia  
 TUSCANY: Rosignano Marittimo, Serragrande,  
 30.V.1998, 1♀;
- Osmia niveibarbis* Pérez, 1902  
 W-Palearctic  
 MOLISE: San Biase, Lago del Corvo, 02.VII.1997,  
 1♀;  
 SARDINIA: Sassari, Ottava, 20.V.1997, 1♀;
- Osmia rufa* (L., 1758)  
 Olearctic  
 PIEDMONT: Cherasco, Costa Lamberti, 06.V.1998,  
 1♂; Cherasco, Veglia Case Nuove, 22.IV.1998, 1♂;  
 26.IV.1999, 1♀; Cherasco, Veglia Pilone,  
 09.IV.1997, 1♀;  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 23.IV.1999, 1♀; 19.V.1999, 1♀; 27.IV.2000, 1♀;  
 Udine, Sant'Oswaldo, 22.IV.1997, 2♂♂; 19.IV.1998,  
 1♂;  
 EMILIA-ROMAGNA: Civitella di Romagna, Nespole,  
 20.IV.1998, 1♂; Premilcuore, Molino Fulgenzio,  
 31.V.1997, 1♀;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 24.IV.1998, 1♂; 29.IV.1999, 1♂ 1♀; 25.V.1999,  
 1♀;  
 MOLISE: San Biase, Lago del Corvo, 16.V.2000, 1♂;  
 San Biase, Sigliature, 25.V.1999, 1♀; 18.IV.2000,  
 1♂; 16.V.2000, 1♂ 1♀;  
 UMBRIA: Marsciano, Mercatello, 03.V.1997, 2♂♂  
 13♀♀; 11.V.1997, 1♂; 20.V.1997, 2♀♀;  
 SARDINIA: Sassari, Ottava, 03.IV.1998, 2♂♂;  
 07.IV.1998, 1♂; 21.IV.1999, 2♂♂; 30.IV.1999, 1♂;  
 07.V.1999, 2♀♀;
- Osmia signata* Erichson, 1835  
 Turanic-European-Mediterranean  
 SICILY: Catania, Contrada Spina Santa, 12.VII.1998,  
 1♂ 2♀♀; Ramacca, Ramacca, 02.VII.1999, 2♂♂  
 1♀;  
 SARDINIA: Sassari, Palmadula, 22.III.2000, 1♂;
- Osmia viridana* Morawitz, 1873  
 W-Palearctic  
 MOLISE: San Biase, Lago del Corvo, 21.VI.2000,  
 1♀; 07.VII.2000, 1♀;  
 UMBRIA: Marsciano, Mercatello, 13.VII.1997, 1♀;
- Panurgus calcaratus* (Scopoli, 1763)  
 European extended to Anatolia  
 EMILIA-ROMAGNA: Predappio, Rocca della Cami-  
 nate, 25.VII.1997, 1♂; Ravenna, Massa Castello,  
 02.VII.1997, 1♂;  
 MOLISE: San Biase, Lago del Corvo, 10.VII.1997,  
 2♂♂; San Biase, Sigliature, 27.VIII.1997, 1♂;  
 16.IX.1997, 1♂; 26.IX.1997, 1♂;
- Panurgus dentipes* Latreille, 1811  
 European-Mediterranean  
 SICILY: Paternò, Paternò, 07.V.1998, 1♂ 1♀;  
 SARDINIA: Sassari, Palmadula, 29.IV.1997, 1♂;  
 22.V.1997, 2♂♂;
- Pasites maculatus* Jurine, 1807  
 Turanic-European-Mediterranean  
 EMILIA-ROMAGNA: Ravenna, Massa Castello,  
 17.IX.1998, 2♀♀;
- Pseudapis diversipes* (Latreille, 1806)  
 Central-Asiatic-European  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 22.VII.1998, 1♀; 21.IX.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 09.IX.1998, 1♀;  
 22.IX.1998, 1♂;  
 SICILY: Catania, Riserva orientata "Oasi del Simeto",  
 04.VIII.1997, 1♀;
- Pseudoanthidium lituratum* (Panzer, 1801)  
 W-Palearctic  
 FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
 ni, 31.VII.2000, 1♂ 1♀; 29.VIII.2000, 1♀; Udine,  
 Sant'Oswaldo, 17.VI.1998, 1♀; 21.IX.1998, 1♀;  
 12.VIII.1999, 3♀♀; 23.VI.2000, 1♀;  
 EMILIA-ROMAGNA: Forlì, Carpinello, 26.VI.1999,  
 2♂♂ 1♀; 03.VII.1999, 1♂ 1♀;  
 TUSCANY: Rosignano Marittimo, Serragrande,  
 26.VIII.1998, 1♀;  
 UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♂;  
 13.VII.1997, 1♂; 08.VIII.1997, 1♂ 1♀;  
 16.VII.1998, 1♂;
- Rhodanthidium septemdentatum* (Latreille, 1809)  
 Turanic-European  
 FRIULI-VENEZIA-GIULIA: Udine, Sant'Oswaldo,  
 20.VIII.1997, 1♂;  
 EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
 nelle Vecchie, 17.VI.1999, 1♂;  
 TUSCANY: Rosignano Marittimo, Polveroni,  
 27.V.1998, 5♂♂ 1♀; 25.V.1999, 2♂♂; 05.VII.1999,  
 1♂; 24.V.2000, 1♀; Rosignano Marittimo, Serra-  
 grande, 30.V.1998, 2♂♂ 1♀; 25.V.1999, 2♂♂;  
 23.V.2000, 2♀♀;  
 MOLISE: San Biase, Lago del Corvo, 24.VII.1998,  
 2♀♀; 08.VII.2000, 1♂; San Biase, Sigliature,

- 10.VII.1997, 1♂; 22.VII.1997, 1♂; 07.VII.1998, 1♂  
1♀; 29.VI.1999, 1♂; 16.V.2000, 1♀; 21.VI.2000,  
1♂;  
UMBRIA: Marsciano, Mercatello, 25.V.1999, 1♂;  
17.V.2000, 2♂♂;  
SARDINIA: Sassari, Ottava, 24.IV.1997, 1♀;  
20.V.1997, 1♂ 3♀♀; 20.VI.1997, 6♂♂ 2♀♀;  
30.IV.1999, 1♂ 2♀♀; 17.V.1999, 2♂♂; 25.V.1999,  
1♀; 11.VI.1999, 2♀♀; 15.VI.1999, 2♂♂;  
18.VI.1999, 1♂; 14.VII.1999, 1♂;
- Sphecodes albilabris* (F., 1793)  
European extended to Maghreb  
EMILIA-ROMAGNA: Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 2♂♂;  
MOLISE: San Biase, Lago del Corvo, 24.VII.1998,  
1♂;
- Sphecodes gibbus* (L., 1758)  
Olarctic  
FRIULI-VENEZIA-GIULIA: Pagnacco, Villa Rizza-  
ni, 19.VIII.1998, 2♀♀; Udine, Sant'Osvaldo,  
20.V.1997, 2♀♀;  
EMILIA-ROMAGNA: Ravenna, Massa Castello,  
25.VIII.1998, 1♂;  
MOLISE: San Biase, Lago del Corvo, 22.VII.1997,  
1♂; San Biase, Sigliature, 13.VI.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 11.V.1997, 1♀;  
01.IX.1998, 1♂;
- Sphecodes monilicornis* (Kirby, 1802)  
Asiatic-European  
PIEDMONT: Cherasco, Veglia, 24.VI.1998, 1♀;  
EMILIA-ROMAGNA: Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 11♂♂ 1♀; Rocca  
San Casciano, Tavernelle Vecchie, 30.V.1998, 1♀;  
MOLISE: San Biase, Sigliature, 25.VI.1997, 1♀;  
10.VII.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 24.V.1997, 1♀;  
08.VI.1997, 2♀♀;
- Sphecodes puncticeps* Thomson, 1870  
Palearctic  
TUSCANY: Rosignano Marittimo, Polveroni,  
01.VI.1997, 1♂;
- Sphecodes reticulatus* Thomson, 1870  
European-Mediterranean  
MOLISE: San Biase, Sigliature, 22.VII.1997, 1♂;
- Sphecodes rufiventris* (Panzer, 1798)  
European-Mediterranean  
EMILIA-ROMAGNA: Civitella di Romagna, Civi-  
tella di Romagna, 23.VII.1998, 1♂;
- Sphecodes schenckii* Hagens, 1882  
Turanic-European-Mediterranean  
UMBRIA: Marsciano, Mercatello, 11.V.1997, 5♀♀;
- Stelis breviscula* (Nylander, 1848)  
Palearctic  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
15.VII.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 23.VII.1997, 1♂;
- Stelis nasuta* (Latreille, 1809)  
W-Palearctic  
TUSCANY: Rosignano Marittimo, Serragrande,  
25.VI.1998, 1♀;
- Stelis punctulatissima* (Kirby, 1802)  
Palearctic  
PIEDMONT: Cherasco, Costa Lamberti, 11.VI.1997,  
1♂;  
UMBRIA: Marsciano, Mercatello, 12.VIII.1998, 1♀;
- Systropha curvicornis* (Scopoli, 1770)  
European  
PIEDMONT: Cherasco, Roreto, 23.VI.1999, 1♂;  
MOLISE: San Biase, Lago del Corvo, 08.VII.2000,  
1♂;  
UMBRIA: Marsciano, Mercatello, 23.VII.1997, 1♂;  
01.IX.1998, 1♂ 5♀♀;
- Tetralonia alticincta* (Lepeletier, 1841)  
European extended to Maghreb and Caucasus  
TUSCANY: Rosignano Marittimo, Serragrande,  
20.VI.1997, 3♀♀; 25.VI.1998, 2♀♀;  
UMBRIA: Marsciano, Mercatello, 23.VII.1997, 1♀;
- Tetralonia hungarica* (Friese, 1895)  
European extended to Maghreb  
EMILIA-ROMAGNA: Civitella di Romagna, Genizo,  
14.IV.1997, 1♂; Rocca San Casciano, Tavernelle  
Vecchie, 02.V.1999, 2♂♂;
- Tetralonia julliani* (Pérez, 1879)  
S-European  
EMILIA-ROMAGNA: Forlì, Carpinello, 26.VI.1999,  
3♀♀; 03.VII.1999, 2♀♀; Ravenna, Massa Castello,  
06.VIII.1999, 1♀;
- Tetralonia malvae* (Rossi, 1790)  
European extended to Caucasus  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
20.VII.1998, 1♂;  
MOLISE: San Biase, Lago del Corvo, 08.VII.2000,  
4♂♂;  
UMBRIA: Marsciano, Mercatello, 05.VII.2000, 2♀♀;  
19.VII.2000, 1♀; 05.VII.2000, 2♀♀;
- Tetralonia salicariae* (Lepeletier, 1841)  
European extended to Maghreb and Caucasus  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
20.VII.1998, 1♂;  
EMILIA-ROMAGNA: Rocca San Casciano, Taver-  
nelle Vecchie, 04.IX.1999, 1♂;  
MOLISE: San Biase, Lago del Corvo, 21.VII.2000,  
1♂;
- Thyreus ramosus* (Lepeletier, 1841)  
W-Palearctic  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♂;

*Trachusa interrupta* (F., 1781)

European extended to Maghreb and Anatolia  
UMBRIA: Marsciano, Mercatello, 16.VII.1998, 1♀;

*Triepeolus tristis* (Smith, 1854)

S-European  
MOLISE: San Biase, Lago del Corvo, 27.VIII.1997,  
1♂;

*Xylocopa iris* (Christ, 1791)

European extended to Maghreb and Anatolia  
TUSCANY: Rosignano Marittimo, Polveroni,  
22.VII.1998, 1♀;  
MOLISE: San Biase, Lago del Corvo, 06.VII.1999,  
1♂;  
UMBRIA: Marsciano, Mercatello, 08.VI.1997, 1♂  
1♀;  
SICILY: Catania, Riserva orientata "Oasi del Simeto",  
04.VIII.1997, 1♀; 27.IX.1997, 1♂; 28.VII.1998, 1♂;  
28.VI.1999, 1♂; 23.VII.1999, 1♂ 1♀;

*Xylocopa valga* Gerstaecker, 1872

Palaearctic  
UMBRIA: Marsciano, Mercatello, 02.V.1998, 1♀;

*Xylocopa violacea* (L., 1758)

European extended to Maghreb and Anatolia  
FRIULI-VENEZIA-GIULIA: Udine, Sant'Osvaldo,  
20.VII.1998, 1♀;  
TUSCANY: Rosignano Marittimo, Polveroni,  
27.V.1998, 1♀; 22.VII.1998, 2♀♀; Rosignano Ma-  
rittimo, Serragrande, 18.III.1998, 1♂; 30.V.1998,  
2♀♀;  
MOLISE: San Biase, Sigliature, 27.V.1997, 1♀;  
13.VI.1997, 1♀;  
UMBRIA: Marsciano, Mercatello, 03.V.1997, 1♀;  
20.V.1997, 1♂; 08.VI.1997, 1♂ 1♀; 18.III.1998,  
1♂; 03.VI.1998, 1♀; 22.IX.1998, 1♂;  
SICILY: Ragalna, Monte San Leo Contrada Milia,  
24.III.2000, 2♂♂; 20.IV.2000, 1♀; Paternò, Paternò,  
27.IV.1998, 1♂; Catania, Riserva orientata "Oasi del  
Simeto", 28.VIII.1997, 3♂♂ 1♀; 27.IX.1997, 1♂;  
SARDINIA: Sassari, Ottava, 20.V.1997, 2♀♀;  
23.VII.1997, 1♀; 03.IV.1998, 1♀; Sassari, Pal-  
madula, 22.V.1997, 1♀; 22.VII.1997, 1♂ 4♀♀;  
21.VIII.1997, 1♂ 4♀♀; 16.VI.1998, 1♀;  
26.VI.1998, 2♀♀; 28.VI.1999, 1♀;

## Discussion

### Collected Fauna and richness of species

To our knowledge, as far as the size of the sampled territory, the number of involved contributors using the same sampling protocol, and the duration of the collection period are concerned, similar studies on an entomological faunistic group do not exist in Italy.

In each region, the number of species vary consistently among environments and years. This is related to the different climatic and vegetational conditions, latitude and to changes in the ecosystems. Some of these changes occur due to human activities, and can also be

transitory (drought, irrigation, mowing, etc.). We think of two possible reasons for the fact that the two environments contain a rather similar number of species (265 in agroecosystem vs 289 of the semi-natural landscape): 1. The intensively cultivated areas of our Country (agroecosystems) are managed in a "pollinator-diversity-respectful" way; 2. Our semi-natural landscapes are extremely impoverished. Only a further census carried out in not anthropised areas of our peninsula could provide an answer to this question.

### New taxa in Italy, synonyms and updating of the Checklist

#### New Taxa with respect to the Checklist of the Italian Fauna

Species already known from literature:

#### *Amegilla magnilabris* (Morawitz, 1875)

Comba and Comba (1991) report a few references and original records.

#### *Andrena aberrans* Eversmann, 1852

Dilewska (1987 cf. p. 585) signalled its presence in Italy.

#### *Coelioxys echinata* Förster, 1853

Warncke (1992) signalled its presence in Italy, and reports *C. rufocaudata* Smith, 1954 as a synonym.

#### *Eucera nigrilabris* Lapeletier, 1841

Signalled for Sicily by De Stefani (1895), and for Corsica and Southern Italy by Kullemborg *et al.* (1984).

#### *Hylaeus taeniolatus* Förster, 1871

Schwarz *et al.* (1996) report *H. diplonymus* (Schulz, 1906) as a synonym.

Valid species names that differ from those reported in the Checklist of Italian Fauna:

#### *Andrena similis croceiventris* Morawitz, 1871

Dilewska (1987) reports *A. croceiventris* Morawitz, 1871 as a synonym of *A. similis*. According to Warncke (1968): *A. similis* Smith = *A. ocreata* (Christ, 1791). In *A. s. similis*, the cuticle of the abdomen is black, whereas in *A. s. croceiventris* the cuticle of the tergites is red-orange. The two forms are sympatric in Molise. See Gusenleitner and Schwarz (2002 cf. p. 698).

#### *Andrena carantonica*, Pérez, 1902

Warncke (1968, cit. in Dilewska, 1987, 1981, cit. in Westrich, 1989) considers *A. sabulosa* (Scopoli, 1763) a valid name for *A. jacobii* Perkins, 1921. Dilewska (1987) and Westrich (1989) do not agree with this synonymy and they maintain the name *A. jacobii*. However, the synonymy is accepted by Rasmont *et al.* (1995). Finally Gusenleitner and Schwarz (2002 cf. p. 157) report *A. sabulosa* as a synonym of *A. carantonica* Pérez, 1902.

*Dasygaster hirtipes* (F., 1793)

Rasmont *et al.* (1995 cf. p. 44) have concerns about considering *D. altercator* (Harris, 1776) a synonym of *D. hirtipes*. The species is cited by Comba and Comba (1991) and Comba and Comba (2001).

*Eucera proxima* Radoszkowski, 1875

See Schwarz *et al.* (1996 cf. p. 143). The species is called *E. nitidiventris* Mocsary, 1879 in the Checklist of the Italian Fauna.

*Eucera nigrescens* Pérez, 1879

Rasmont *et al.* (1995 cf. p. 60) consider *E. nigrescens* a valid name for *E. tuberculata* Auct., nec Fabricius, 1793.

*Megachile albobirta* (Kirby, 1802)

The species is commonly known as *M. variscopa* Pérez, 1895, which is considered a synonym of *M. albobirta* by Tkalcu (1993).

*Tetralonia malvae* (Rossi, 1790)

Rasmont *et al.* (1995 cf. p. 62) indicate *T. malvae* as a valid name for *T. macroglossa* (Illiger, 1806).

Species that have a different meaning in the Checklist of the Italian Fauna:

*Anthophora aestivalis* Panzer, 1801

According to Rasmont *et al.* (1995 cf. p. 58), *A. aestivalis* Panzer, 1801 and *A. retusa* (L., 1758) are different species.

*Anthophora retusa* (L., 1758)

See *A. aestivalis*.

*Anthophora mucida* Gribodo, 1873

We agree with Rasmont *et al.* (1995) and consider *A. mucida* Gribodo, 1873 a valid name.

*Bombus campestris* (Panzer, 1801)

Including the social, parasitic bumblebees that were previously named *Psithyrus*, in the genus *Bombus* is currently accepted by most of the authors.

*Metallinella brevicornis* (F., 1798)

Pagliano (1995) refers to this species with the name *Osmia brevicornis* (F., 1798). Rasmont *et al.* (1995) agree with Tkalcu (1966).

## Chorology

From a biogeography viewpoint, 29 species that are restricted to the South of the Po river (table 7), are of particular interest. Of these 29 species, 13 are present in the Mediterranean area. The remaining species are probably present also in natural ecosystems in the Northern regions of Italy.

Species distribution and diffusion in Italy, faunistic characterization of a territory and monitoring of the variations

In order to provide a description of the state of health

of the territory, we qualitatively analysed the particular pollinator set of each sampling site. For each collection site, we provide a set of lists of species, which are commonly present in different moments of the season. These lists include a group of expected species, useful for environmental monitoring, pollination ecology of cultivated crops and for studies on spontaneous plants.

## The local composition of the bee fauna

According to the geographic distribution of the species grouped in Families, the national territory may be divided into two faunistic macro-zones: the first zone covers the Northern and Central territory, is characterised by a sub-continental climate, and is particularly rich in Halictids (short-tongued Apoidea). In the second, peninsular zone with Mediterranean climate, the Anthophorids (long-tongued Apoidea) increases progressively towards the South. Melittids (short-tongued) and Colletids (short-tongued) were the less abundant Families. Future studies should investigate the likelihood of a vulnerability of these taxa. Andrenids (short-tongued) and Megachilids (long-tongued) were present locally in large numbers, probably because of their particular ecological needs. However, our understanding of the factors that influence population size in these two Families is still limited. Notwithstanding the remarkable fluctuations that these Families showed locally, they seem to be the most promising Families for the ecological characterisation of an area. For example, we know that Megachilidae build their nests by digging through the soft pith of branches and stems, and thus depend on the presence of forests or shrubs. The Megachilidae could therefore be indicator of areas with mosaical habitat containing hedgerows and refuge areas. The genus *Andrena* is well-known for its high number of different species. Most *Andrena* species, but a few exceptions (*Andrena flavipes*), were found everywhere with a low number of specimens, and even between two nearby sites the set of collected species was often extremely variable. In the future, also the distribution of each *Andrena* species, in relation to the altitudinal variation should be investigated.

With regard to species distribution on our national territory, in the South many species seem to have spread more than previously known. This is probably due to the fact that hitherto in Southern Italy less effort has been put into the collection of the bee fauna compared to Northern Italy. The proportion of species restricted to the North of the peninsula is small, whereas 9% of the species are confined South of the Po river. Our findings suggest that scientists studying bee biodiversity in Italy should pay more attention to the Southern part of the peninsula.

A high proportion of bee species (almost 50%) were found only in one single region out of eight that had been sampled, whereas only around 5% of the bee species were present and easy to find in all regions investigated. In other words, each of the eight Research Institutions was able to find in its own region a set of species that is peculiar and characteristic of the area. The "state of health" of a territory could therefore be established



through a quantitative and qualitative characterisation of the particular pollinator set of a sampling site and the monitoring of possible subsequent changes.

The bee fauna is of enormous importance for environmental conservation. The huge amount of material collected during this study shall be the foundation and starting point for any future analysis on the biodiversity of the pollinating fauna in Italian cultivated ecosystem. We sincerely hope that in the future also the bee fauna of environments relatively undisturbed by human activities (e.g. preserve areas, mountain areas of the peninsula) will be censused.

Finally, in order to emphasise the importance and the interest in this topic, we would like to underline that our study is issued more than forty years after "Studies of an Entomologist on higher Hymenoptera" (Grandi, 1961), which has been published in the same journal founded by Prof. Guido Grandi.

## Personal contributions

The coordination of the research has been carried out by Claudio PORRINI.

Contributors to the conceiving, planning, organisation and methodological supervision of the research: Claudio PORRINI, Antonio FELICOLI, Francesco INTOPPA, Pietro ZANDIGIACOMO, Gaetana MAZZEO, Franco MARLETTO, Giancarlo RICCIARDELLI D'ALBORE, Ignazio FLORIS, Mauro PINZAUTI, Santi LONGO, Maria Gioia PIAZZA, Aulo MANINO, Augusto PATETTA, Giorgio CELLI, Stefano MAINI.

The field work, including counting, identifying and recording of flying pollinators, environmental data recording, specimen collection, preparation and labelling, data editing in electronic format, has been carried out by: Sabrina AMBROSELLI, Paola BARRO, Salvatore BELLA, Alfredo CARINI, Piero COGOI, Livio COMBA, Riccardo COMOLI, Francesco INTOPPA, Aulo MANINO, Gaetana MAZZEO, Emanuela NARDI, Lucia NICCOLINI, Nicola PALMIERI, Augusto PATETTA, Claudia PIATTI, Maria Gioia PIAZZA, Marco PORPORATO, Francesco ROMAGNOLI, Luca RUIU, Alberto SATTA, Pietro ZANDIGIACOMO.

Data were processed by: Marino QUARANTA, Piotr MEDRZYCKI, Francesco ROMAGNOLI, Nicola PALMIERI, Riccardo COMOLI, Alberto SATTA.

Marino QUARANTA determined most of the specimens.

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