

Contribution to the knowledge of Hymenoptera from the Aeolian Archipelago (Sicily), emphasizing Aculeata

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ABSTRACT

This study provides the first contribution to the knowledge of the Order Hymenoptera, emphasizing Aculeata, for the Aeolian archipelago, based on recent field investigations and examination of several collections. A total of 169 species belonging to 19 families are recorded: Evaniidae (1 species), Aulacidae (2 species), Gasteruptionidae (3 species), Ichneumonidae (1 species), Leucospidae (1 species), Chrysididae (8 species), Tiphiidae (3 species), Scoliidae (6 species), Mutillidae (13 species), Pompilidae (6 species), Vespidae (14 species), Sphecidae (6 species), Crabronidae (24 species), Formicidae (14 species), Colletidae (4 species), Andrenidae (8 species), Halictidae (29 species), Megachilidae (12 species), Apidae (14 species). Most part of species are newly recorded for the Aeolian Archipelago, the following being new records for Sicily: *Dryudella esterinae* Pagliano, 2001, *Nysson quadriguttatus* Spinola, 1808, *Miscophus aetoni* Saunders, 1903, *Miscophus lusitanicus* Andrade, 1952, *Cerceris circularis dacica* Schletterer, 1887 (Crabronidae), and *Lasioglossum (Dialictus) semilucens* (Alfken, 1914) (Halictidae); *Miscophus lusitanicus* is also newly recorded for Italy. Combining the available data, a total of 218 species of Hymenoptera are currently known for the Aeolian Archipelago. The Hymenoptera fauna of these islands is dominated by widespread Mediterranean or West Palaearctic species, and most of them are also found in the Western Mediterranean Basin. The study briefly highlights some key points regarding biogeographical and conservation of this group and its significant role in the management of ecosystems in the Aeolian Archipelago.

KEY WORDS Aeolian Archipelago; Sicily; Hymenoptera; faunal list.

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INTRODUCTION

The Aeolian Islands have great importance in terms of environmental and biological heritage, and have been recognized by UNESCO as World Heritage Site. This archipelago harbors five protected areas and several sites of the Nature 2000 network,

and has been also proposed as National Park in 2007, although that has not yet been followed by a real institution. Both fauna and flora of these islands are characterized by the occurrence of many species of biogeographical and conservation interest, including some endemics. The faunal knowledge may be considered exhaustive for vertebrates, while several

groups of invertebrates remain still less investigated (Lo Cascio, 2017).

Among them, the hymenopterans have been only poorly studied despite their ecological importance, e.g., for the pollination of wild plants and crops as well as for the biological control of many groups of Arthropods. Data on the Hymenoptera from these islands are scanty and scattered in a wide literature, which includes monographs, collection's and taxonomic reviews (Santschi, 1927, 1934; Baroni Urbani, 1964, 1971; Warncke, 1981; Pagliano, 1987; Gayubo et al., 1988; Matteini Palmerini, 1992; Pagliano & Nobile, 1993; Ebmer, 1995; Olmi, 1999; Sanetra et al., 1999; Czösz & Schulz, 2010; Vicidomini et al., 2005; Boni Bartalucci, 2012; Pavesi & Rosa, 2013; Borowiec et al., 2015; Turrisi et al., 2015; Seifert, 2016; Korenko, 2017; Scupola, 2019), the "Checklist of Italian fauna" (Comba & Comba, 2005; Generani et al., 2005; Olmi, 2005; Strumia, 2005), papers related to apiculture and/or biological control (Monastero & Genduso, 1964a, 1964b; Monastero, 1965; Monastero & Delaonoue, 1965, 1966a, 1966b, Genduso & Mineo, 1974; Dall'Olio et al., 2008; Daane & Johnson, 2010; Bouga et al., 2011; Tenore et al., 2012; Muñoz et al., 2014; Utzeri et al., 2018) and faunal papers concerning Italian peninsular and insular areas or other islands (Kutter, 1927; Baccetti, 1967; Focarile, 1972; Nobile & Turrisi, 1996; Lo Cascio et al., 1998; Mei, 1998, 2008; Turrisi, 1999; Lo Cascio & Navarra, 2003; Borsato & Turrisi, 2004; Lo Cascio, 2004, 2015; Lo Cascio & Romano, 2004; Lo Cascio et al., 2006; Jucker et al., 2008; Ceccolini & Barbagli, 2014; Queiroz & Alves, 2016; Turrisi & Altadonna, 2017; Korenko & Di Giovanni, 2019), while just few papers are specifically referred to the fauna of the Aeolian Archipelago, although not exclusively dedicated to Hymenoptera (Costantino, 1937; Lo Cascio, 2004).

The aim of this paper is to update the knowledge of the Hymenoptera of the Aeolian Archipelago through the study of the material from several private and museum collections and that collected during recent field surveys.

MATERIAL AND METHODS

Study area

The Aeolian Archipelago (Fig. 1) lies between

38°21'54" and 38°48'40" latitude North and 14°20'35" and 15°14'70" longitude East of Greenwich, in the southern Tyrrhenian Sea. It includes seven main islands (Lipari, Salina, Vulcano, Stromboli, Filicudi, Alicudi and Panarea) whose surface ranges from 37.29 to 3.34 km², and several uninhabited islets and rocks. The southernmost island, Vulcano, is located 20 km from the Sicily, while the northernmost, Stromboli, is only 55 far from the Italian Peninsula (Capo Vaticano). The origin of this volcanic archipelago is strictly linked to the subduction processes related to the convergence between African and Euro-Asiatic plates. The islands are disposed along a semi-arc and represents the top of a wide volcanic system, that includes also several sea-mounts. The beginning of the activity in this area is dated back about 1,000,000 years ago, but the actual islands emerged during the last 300,000 years and some of them (for instance, Alicudi, Stromboli and Vulcano) are rather "young", with an estimated age of less than 100,000 years. Currently there are only three active volcanoes, namely Stromboli, Gran Cratere or La Fossa on Vulcano and a sub-marine crater off the eastern coast of Panarea. The first human settlements in the archipelago are dated to the end of 6th millennium B.C., hence the islands have undergone to a long-term anthropization; this trait play a significant role in their actual landscape, that is widely characterized by terraced agricultural lands, mostly abandoned since the dramatic economical crisis that involved the local communities between late 19th and the first half of the 20th century. Currently these areas host a complex mosaic of xeric grasslands, garrigues and maquis, with more mature and structured spots of the latter occurring on the top and the inner part of some islands (Salina, Lipari, Filicudi) (Lo Cascio, 2017).

Materials

Data provided in the present paper include the records given in literature and those obtained from the museum and private collections of the authors and several colleagues. The most part of the field surveys was done on the islands of Lipari and Vulcano, but some investigations were carried out on other islands. The specimens were gathered mainly through traditional collecting-methods (hand net), but also yellow-pan traps, Moericke traps, wine

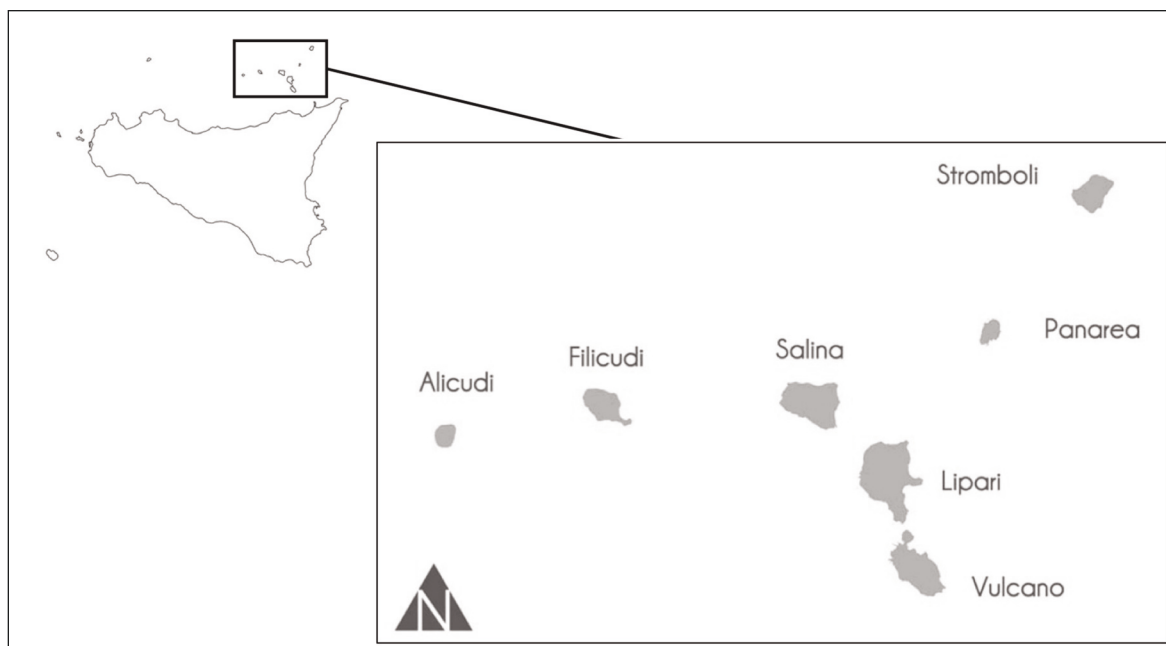


Figure 1. Localization of the study area.

traps and light traps have been used. For each species treated, we provide:

- 1) list of material examined;
- 2) distribution;
- 3) remarks, including eventual previous records.

The list of species is arranged according to the "Checklist della Fauna d'Italia" (Ruffo & Stock, 2005).

ACRONYMS. GAC: Giovanni Altadonna, Messina, Italy; WBC: Walter Borsato, Verona, Italy; DSCC: Dipartimento Scienze Biologiche, Geologiche e Ambientali, Università di Catania, Sezione Biologia Animale, Italy; PLCC: Pietro Lo Cascio, Lipari, Italy; MMC: Maurizio Mei, Roma, Italy; RAC: Museo Regionale di Terrasini (Coll. R. Alliata), Terrasini (Palermo), Italy; PNC: Pietro Niolu, Sassari, Italy; VNC: Vittorio Nobile, Ragusa, Italy; MRC: Marcello Romano, Capaci (Palermo), Italy; MSC: Marco Selis, Viterbo, Italy; GFTC: Giuseppe Fabrizio Turrisi, Pedara (Catania), Italy; CVC: Carlo Violani, Milan, Italy.

RESULTS

A total of 169 species are herein recorded for the Aeolian Archipelago, belonging to 19 families:

Evaniidae (1 species), Aulacidae (2 species), Gasteruptiidae (3 species), Ichneumonidae (1 species), Leucospidae (1 species), Chrysididae (8 species), Tiphidae (3 species), Scoliidae (6 species), Mutillidae (13 species), Pompilidae (6 species), Sphecidae (6 species), Crabronidae (24 species), Vespidae (14 species), Formicidae (14 species), Colletidae (4 species), Andrenidae (8 species), Halictidae (29 species), Megachilidae (12 species), Apidae (14 species). A summary of the distribution of Hymenoptera on the Aeolian Archipelago, including records from literature, is provided in Table 1.

Faunal list

EVANIIDAE

Zeuxevania splendidula (Costa, 1884) (Fig. 2)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI. 1997, 3 females, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. South European.

REMARKS. New for the Aeolian Archipelago.

AULACIDAE

Pristaulacus galitae (Gribodo, 1879)

EXAMINED MATERIAL. Vulcano: 28.VI.18. VII. 2008, 2 males, 2 females, M. Mei leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. West Palaearctic.

REMARKS. New for the Aeolian Archipelago, known from many other Mediterranean islands, e.g., Maltese Islands (Turrisi, 2007; Turrisi & Rattu, 2019).

Pristaulacus lindae Turrisi, 2000 (Fig. 3)

EXAMINED MATERIAL. Vulcano: 28.VI.-18.VII. 2008, 1 female, M. Mei leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. South West European.

REMARKS. New for the Aeolian Archipelago. Described from Sicily (Turrisi, 2000), subsequently recorded from other localities from Eastern Sicily (Turrisi, 2007), it has recently been recorded from Iberian Peninsula (Carbonell-Font & Turrisi, 2017).

GASTERUPTIIDAE

Gasteruption assectator (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Castellaro, 23. VI. 1998, 1 female, B. Carletti, B. Cecchi, L. Dapporto, P. Lo Cascio, C. Moreno leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Holarctic.

REMARKS. New for the Aeolian Archipelago.

Gasteruption erythrostomum (Dahlbom, 1831)

EXAMINED MATERIAL. Lipari: Urnazzo, 2. VI. 1997, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. European.

REMARKS. New for the Aeolian Archipelago.

Gasteruption jaculator (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.

VII. 1999, 1 female, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

ICHNEUMONIDAE

Eutanyacra picta (Schrank, 1776) (Fig. 4)

EXAMINED MATERIAL. Vulcano: Piano, 4. VI. 1997, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Palaearctic and Oriental.

REMARKS. New for the Aeolian Archipelago.

LEUCOSPIDAE

Leucospis gigas Fabricius, 1793 (Fig. 5)

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI. 1997, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. European Asian (southern part). The record from Nearctic requires confirmation.

REMARKS. New for Lipari, previously observed and photographed in Stromboli on 12.06.2011 (https://www.naturamediterraneo.com/forum/topic.asp?TOPIC_ID=146201). It is primarily associated with Megachilidae (Noyes, 2019), and among the known hosts there are two large *Megachile* (*Chalicodoma*): *M. (C.) parietina* (Geoffroy, 1785) and *M. (C.) sicula* Rossi, 1792, both collected in Lipari, the former one in the same place and in the same time along a dry-stone wall.

CHRYSIDIDAE

Hedychridium* cf. *mediocrum Linsenmaier, 1987

EXAMINED MATERIAL. Salina: Monte Fossa delle Felci, VII.2017, P. Lo Cascio leg., P. Rosa det. (PLCC).

DISTRIBUTION. South European.

REMARKS. New for the Aeolian Archipelago and Sicily.

Hedychrum cf. micans* ssp. *europaeum Linsenmaier, 1959

EXAMINED MATERIAL. Salina: Monte Fossa delle Felci, 22.V.2009, P. Lo Cascio & F. Grita leg., P. Rosa det. (PLCC).

DISTRIBUTION. West European.

REMARKS. New for the Aeolian Archipelago.

Holopyga fervida (Fabricius, 1781) (Fig. 6)

EXAMINED MATERIAL. Alicudi: VII.2013, 2 females, P. Lo Cascio & F. Grita leg., P. Rosa det. (PLCC). Vulcano, crater, VII.2016, 1 female, P. Lo Cascio leg., P. Rosa det. (PLCC); Lipari, Palmeto, V.2016, 1 female, P. Lo Cascio leg., P. Rosa det. (PLCC). Panarea, Soldata, 20.V.2009, 1 female, P. Lo Cascio & F. Grita leg., P. Rosa det. (PLCC). Stromboli, Nel Cannestra, V.2016, 1 female, P. Lo Cascio leg., P. Rosa det. (PLCC).

DISTRIBUTION. West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Pseudomalus auratus (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC). Lipari: Palmeto, 20.VI.1998, 1 female, B. Carletti et al. leg., G.F. Turrisi det. (PLCC). Lipari: Monte Guardia, IV.2009, 3 females, P. Lo Cascio & F. Grita leg., reared from wood, G.F. Turrisi det. (PLCC).

DISTRIBUTION. Holarctic.

REMARKS. Recently recorded from Lipari by Pavesi & Rosa (2013).

Chrysis* cf. *auriceps Mader, 1936

EXAMINED MATERIAL. Panarea: Soldata, 230 m a.s.l., 21.VIII.2015, 2 specs., G. Altadonna leg., yellow-pan trap, P. Rosa det. (GAC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Chrysis cerastes Abeille De Perrin, 1877 (Fig. 7)

EXAMINED MATERIAL. Salina: Monte Fossa delle

Felci, VII.2017, 1 female, P. Lo Cascio leg., P. Rosa det. (PLCC).

DISTRIBUTION. South European.

REMARKS. New for the Aeolian Archipelago.

Chrysis scutellaris Fabricius, 1794

EXAMINED MATERIAL. Filicudi: Capo Graziano, 26.VI.2016, 1 male, P. Lo Cascio leg., P. Rosa det. (PLCC).

DISTRIBUTION. West European.

REMARKS. New for the Aeolian Archipelago.

Pseudochrysis neglecta (Shuckard, 1837)

EXAMINED MATERIAL. Vulcano: Piano, 20. IV. 2009, 1 spec., P. Lo Cascio & F. Grita leg., P. Rosa det. (PLCC).

DISTRIBUTION. European Asian

REMARKS. New for the Aeolian Archipelago.

TIPHIIDAE

Tiphia lepeletieri Berland, 1925

EXAMINED MATERIAL. Lipari: Monte Chirica, 26. IX.1996, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC); Vallone Muria, VII.1999, 1 male, Mocerike trap, P. Lo Cascio leg., G.F. Turrisi det. (PLCC); Castellaro, IX.1998, 1 male, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Italian.

REMARKS. Known from Sicily (Boni Bartalucci, 2012, 2013), new for the Aeolian Archipelago.

Meria dorsalis (Fabricius, 1804) (Fig. 8)

EXAMINED MATERIAL. Lipari: Urnazzo, 30. VII. 1996, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC); Chiesa Vecchia, 7.VII.1999, 2 females, on flowers of cultivated *Petroselinum*, G.F. Turrisi leg. and det. (GFTC). Vulcano: Piano, 330 m a.s.l., 18.VIII.2015, 1 female, G. Altadonna leg., G.F. Turrisi det. (GAC); 9-22.VIII.2015, 2 females, G. Altadonna leg., yellow-pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. European Asian.

REMARKS. Recorded from Lipari by Boni Bartalucci (2012), is newly recorded for Vulcano.

Meria tripunctata (Rossi, 1790)

EXAMINED MATERIAL. Lipari: Vallone Muria, VII.1999, 1 female, P. Lo Cascio leg., Moericke trap, G.F. Turrisi det. (PLCC). Vulcano: Piano, 330 m a.s.l., 13.VIII.2015, 1 female, G. Altadonna leg., G.F. Turrisi det. (GAC); 9-22.VIII.2015, 3 females, G. Altadonna leg., yellow-pan trap, M. Selis det. (GAC).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded from Lipari by Boni Bartalucci (2012), is newly recorded for Vulcano.

SCOLIIDAE

Megascolia (Regiscolia) maculata ssp. ***flavifrons*** (Fabricius, 1775)

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI. 1997, 1 male, G.F. Turrisi leg. and det. (GFTC); Vulcano: Piani di Luccia, 2.VI.2012, 1 male, G. Altadonna leg. and det. (GAC).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari and Salina by Generani et al., (2005) and for Vulcano, as *Megascolia maculata* (Drury, 1773), by Ceccolini & Barbagli (2014).

Megascolia bidens (Fabricius, 1775)

EXAMINED MATERIAL. Vulcano: Piano, 2. VI. 2011, 2 males, G. Altadonna leg. and det. (GAC)

DISTRIBUTION. Mediterranean.

REMARKS. Recorded for Lipari and Vulcano by Generani et al. (2005).

Scolia hirta (Schrank, 1781)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. South West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Scolia carbonaria (Linnaeus, 1767) (Fig. 9)

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC). Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. South Italian Maghrebian.

REMARKS. New for the Aeolian Archipelago.

Colpa (Colpa) sexmaculata (Fabricius, 1781)

EXAMINED MATERIAL. Vulcano: Monte Aria, 405 m a.s.l., 16.VIII.2014, 2 males, G. Altadonna leg., G.F. Turrisi det. (GAC, MSC).

DISTRIBUTION. Southern Europe.

REMARKS. Previously recorded for “Stromboli, loc. Malpasseddu (Lipari, ME) 13.VII.2000, F. Barbagli & S. Lotti [leg.]” and “Lipari, Monte Guardia (ME) 25.VIII.1996, P. Lo Cascio [leg.]” by Ceccolini & Barbagli (2014), is newly recorded for Vulcano.

Dasyscolia ciliata (Fabricius, 1787)

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 10.VIII.2013, 1 male, G. Altadonna leg., G.F. Turrisi det. (GAC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

MUTILLIDAE

Bidecoloratilla leopoldina (Invrea, 1955)

EXAMINED MATERIAL. Lipari: Quattropani, 7. VI.1997, 1 male, 1 female, G.F. Turrisi leg. and det. (GFTC) (quoted in Turrisi, 1999, and Turrisi et al., 2015); Vallone Muria, IX.1995, VII-VIII.1996, 3.VI.1997, 3.VIII.1997, 9 males, 12 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Madoro, 21.VIII.1996, 25.II.1996, 8 males, 5 females, P. Lo Cascio & S. Pasta leg., P. Lo Cascio & M. Romano det. (PLCC); Falcone,

30.III.1997, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Timpone Ricotta, 3.VI.1997, 1 male, 6 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded as *Blakeius leopoldinus* (Invrea, 1955) for Lipari by Turrisi (1999) and Lo Cascio & Romano (2004); for Salina and Vulcano by Lo Cascio (2015).

Myrmilla (Myrmilla) calva (Villers, 1789)

EXAMINED MATERIAL. Lipari: Capperò, 19.VII.1995, 2 females, P. Lo Cascio & S. Pasta leg., P. Lo Cascio & M. Romano det. (PLCC); Timpone Ospedale, 18.IV.1996, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Vallone Muria, VII.-VIII.1996, 3.VI.1997, 8 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Madoro, 21.VIII.1996, 3 females, P. Lo Cascio & S. Pasta leg., P. Lo Cascio & M. Romano det. (PLCC); Timpone Ricotta, VIII.1996, 3.VI.1997, 4.X.1997, 27.V.1998, 20.VI.1998, 1 male, 13 females, P. Lo Cascio leg. et al., P. Lo Cascio & M. Romano det. (PLCC). Vulcano: Capo Grillo, 27.V.1983, 1 female, M. Romano leg., P. Lo Cascio & M. Romano det. (MRC); Gran Cratere, 4.VI.1997, 2 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. European Mediterranean.

REMARKS. Recorded for Lipari and Vulcano by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

Ronisia brutia* ssp. *brutia (Petagna, 1787)
(Fig. 10)

EXAMINED MATERIAL. Lipari: Monte Sant'Angelo, 28.VI.1966, 1 female, V. Nobile leg., G.F. Turrisi det. (quoted in Turrisi, 1999); Capperò, 25.V.1996, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Palmeto, 10.VII.1996, 1 female, A. Nistri & S. Vanni leg., P. Lo Cascio & M. Romano det. (CVC); Quattropani, 3.V.2001, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC). Filicudi, Zucco Grande,

6.V.2002, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari by Matteini Palmerini (1992) and Turrisi (1999), Lipari and Filicudi by Lo Cascio & Romano (2004), Lipari, Vulcano, Salina, Filicudi and Panarea by Lo Cascio (2015).

Ronisia ghilianii (Spinola, 1843)

EXAMINED MATERIAL. Lipari: 3.X.1976, 1 female, B. Massa leg., P. Lo Cascio & M. Romano det. (MRC); Capperò, VII.1995, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Vallone Muria, VII.1995, 13.VIII.1996, 3.VI.1997, 4 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Timpone Ricotta, 3.VI.1997, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Palmeto, VIII.1998, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC). Panarea: Punta del Corvo, 26.V.2000, 1 female, P. Lo Cascio & C. Moreno Camacho leg., P. Lo Cascio & M. Romano det. (PLCC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded for Lipari and Panarea by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

Tropidotilla litoralis (Petagna, 1787)

EXAMINED MATERIAL. Lipari: 1 female, M.G. Di Palma leg., P. Lo Cascio & M. Romano det. (MRC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. European Mediterranean.

REMARKS. Recorded for Lipari by Lo Cascio et al., (1998), Lo Cascio & Romano (2004) and for Lipari and Vulcano by Lo Cascio (2015).

Nemka viduata* ssp. *viduata (Pallas, 1773)

EXAMINED MATERIAL. Lipari: Quattropani, 7. VI. 1997, 1 female, G.F. Turrisi leg. and det. (GFTC)

(quoted in Turrisi, 1999); Cappero, VII.1995, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Palmeto, 1 female, P. Lo Cascio & V. Pancioli leg., P. Lo Cascio & M. Romano det. (PLCC); Vallone dei Lacci, VIII.1995, 1 female, P. Lo Cascio & V. Pancioli leg., P. Lo Cascio & M. Romano det. (PLCC); Timpone Ricotta, 8.X.1996, 3.VI.1997, 3 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC). Vulcano: 1.VI.1956, 1 female, E. Di Napoli leg., P. Lo Cascio & M. Romano det. (RAC); 3-17.VII.1993, 1 female, M. Mei leg., P. Lo Cascio & M. Romano det. (MMC); Gran Cratere, 4.VI.1997, 4 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC, MRC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari by Turrisi (1999), for Lipari and Vulcano by Lo Cascio & Romano (2004) and for Stromboli and the above mentioned islands by Lo Cascio (2015).

Physetopoda pusilla (Klug, 1835)

EXAMINED MATERIAL. Lipari: Vallone Muria, 18.VII.1996, 13.VIII.1996, 3 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Fontanelle, 19.VIII.1996, 1 female, P. Lo Cascio & S. Pasta leg., P. Lo Cascio & M. Romano det. (PLCC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

Smicromyrme ausonia Invrea, 1950

EXAMINED MATERIAL. Lipari: Vallone Muria, 13.VIII.1996, 1 male, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Castellaro, 21.VIII.1999, 1 male, P. Lo Cascio & C. Moreno Camacho leg., P. Lo Cascio & M. Romano det. (PLCC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

Smicromyrme ruficollis (Fabricius, 1794)

EXAMINED MATERIAL. Lipari: S. Lucia, VIII.1996, 1 male (light trap), P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC); Fontanelle, 19.VIII.1996, 1 female, P. Lo Cascio & S. Pasta leg., P. Lo Cascio & M. Romano det. (PLCC); Vallone Muria, VIII-IX.1998, 7 males, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC). Vulcano: 3-17.VII.1993, 1 female, M. Mei leg., P. Lo Cascio & M. Romano det. (MMC); Monte Lentia, 4.VI.1997, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLCC). Stromboli: Scari, 24.VI.1998, 1 male (light trap), B. Carletti et al., leg., P. Lo Cascio & M. Romano det. (PLCC) (this material is quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. European.

REMARKS. Recorded for Lipari, Vulcano and Stromboli by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

Smicromyrme sulcisia Invrea, 1955

EXAMINED MATERIAL. Lipari: Cappero, VIII.1995, 1 female, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLC); Vallone Muria, VII-VIII.1996, 3.VI.1997, 1 male, 7 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLC). Vulcano: Monte Lentia, 4.VI.1997, 1 male, 4 females, P. Lo Cascio leg., P. Lo Cascio & M. Romano det. (PLC); Gran Cratere, 4.VI.1997, 22.VI.1998, 3 females, P. Lo Cascio et al. leg., P. Lo Cascio & M. Romano det. (PLC); Piano, 23.V.2000, 1 female, P. Lo Cascio and C. Moreno Camacho leg., P. Lo Cascio & M. Romano det. (PLC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. South European.

REMARKS. Recorded for Lipari and Vulcano by Lo Cascio & Romano (2004) as *S. ingauna* Invrea, 1958 (see also Lo Cascio, 2015).

Smicromyrme trinotata (A. Costa, 1858)

EXAMINED MATERIAL. Lipari: Vallone Muria, VII.1995, 1 male, P. Lo Cascio leg. and det. (PLC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. Sicilian Sardinian Corsican.

REMARKS. Recorded for Lipari by Lo Cascio & Romano (2004) as *S. prope melanolepis* (Costa, 1884) (see also Lo Cascio 2015).

Smicromyrme partita (Klug, 1835)

EXAMINED MATERIAL. Lipari: Vallone Muria, VII.1995, VII-VIII.1996, 14.X.1996, 3.VI.1997, 9female, P. Lo Cascio leg. and det. (PLC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. Mediterranean.

REMARKS. The species is recorded for Lipari as *Smicromyrme partita* sensu lato by Lo Cascio & Romano (2004) due to the lack of males, hence the identification needs further study for confirmation.

Dasylabris maura ssp. *maura* (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Timpone Ricotta, 4.X.1997, 27.V.1998, 20.IV.1998, 1 male, 3 females, P. Lo Cascio leg. and det. (PLC) (quoted in Lo Cascio & Romano, 2004).

DISTRIBUTION. European.

REMARKS. Recorded for Lipari by Lo Cascio & Romano (2004), quoted in Lo Cascio (2015).

POMPILIDAE

Pompilus cinereus Fabricius, 1798 (Fig. 11)

EXAMINED MATERIAL. Vulcano: Monte Lentia, 4.VI.1997, 1 female, P. Lo Cascio leg., on sand, G.F. Turrisi det. (PLCC). Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 2 males, G. Altadonna leg., yellow-pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. European Maghrebian.

REMARKS. New for the Aeolian Archipelago.

Agenioideus ciliatus (Lepelletier, 1845)

EXAMINED MATERIAL. Lipari: Timpone Ricotta, 27.V.1998, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. European Anatolian.

REMARKS. New for the Aeolian Archipelago.

Anoplius viaticus (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Quattropani, 6.VI.1997, 4 males, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Aporus bicolor Spinola, 1808 (Fig. 12)

EXAMINED MATERIAL. Lipari: Urnazzo, 30.VII.1996, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC). Lipari: Quattropani, 6.VI.1997, 1 female, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. European Maghrebian Anatolian.

REMARKS. New for the Aeolian Archipelago.

Auplopus carbonarius (Scopoli, 1763)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC). Lipari: Castello environs, 8.VI.1997, 1 female, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. Palaearctic (introduced in North America).

REMARKS. New for the Aeolian Archipelago.

Priocnemis (Priocnemis) propinqua (Lepelletier, 1845)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 female, G.F. Turrisi leg.-det. (GFTC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

VESPIDAE

Leptochilus (Neoleptochilus) regulus (Saunders, 1855)

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 male, M. Mei leg., W. Borsato det. (WBC).

DISTRIBUTION. West Palaearctic.

REMARKS. The material examined is quoted in Borsato & Turrisi (2004).

Stenodynerus fastidiosissimus* ssp. *fastidiosissimus (Saussure, 1855)

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 male, M. Mei leg., W. Borsato det. (WBC).

DISTRIBUTION. West Palaearctic.

REMARKS. The material examined is quoted in Borsato & Turrisi (2004).

Ancistrocerus auctus* ssp. *auctus (Fabricius, 1793)

EXAMINED MATERIAL. Lipari, 8.VI.1997, 1 male, G.F. Turrisi leg. (GFTC).

DISTRIBUTION. European Asian.

REMARKS. The material examined is quoted in Borsato & Turrisi (2004).

Ancistrocerus gazella (Panzer, 1798)

EXAMINED MATERIAL. Vulcano: VII.1993, 1 male, M. Mei leg., W. Borsato det. (WBC).

DISTRIBUTION. Palaearctic (introduced in North America and New Zealand).

REMARKS. The material examined is quoted in Borsato & Turrisi (2004).

Ancistrocerus longispinosus* ssp. *longispinosus (Saussure, 1855)

EXAMINED MATERIAL. Lipari: main town, 8.VI.1997, 1 female, G.F. Turrisi leg., W. Borsato det. (GFTC) (quoted in Borsato & Turrisi, 2004). Salina, 7.IV.1990, 1 female, M. Mei leg., W. Borsato det. (WBC) (quoted in Borsato & Turrisi, 2004). Vulcano: VII.1993, 1 female, M. Mei leg., W. Borsato det. (WBC) (quoted in Borsato & Turrisi, 2004); Piano, 330 m a.s.l., 2.VI.2012, 1 specimen, G. Altadonna leg., M. Selis det. (MSC); ibidem, 9.VIII.2013, 1 specimen, G. Altadonna leg., M. Selis det. (GAC); ibidem, 16.VIII.2014, 1 specimen, G. Altadonna leg., M. Selis det. (GAC); ibidem, 19.VIII.2014, 1 specimen, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC); ibidem, 22.VIII.2014, 1 specimen, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC).

DISTRIBUTION. Mediterranean.

REMARKS. Previously recorded for Vulcano, Lipari and Salina by Borsato & Turrisi (2004).

Eumenes coarctatus* ssp. *maroccanus Gusenleitner, 1972

EXAMINED MATERIAL. Vulcano: VII.1993, 1 male, M. Mei leg., W. Borsato det. (WBC).

DISTRIBUTION. South European Maghrebian.

REMARKS. The material examined is quoted in Borsato & Turrisi (2004).

Eumenes mediterraneus* ssp. *mediterraneus Kriechbaumer, 1879

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 male, 3 females, G.F. Turrisi leg., W. Borsato det. (GFTC) (quoted in Borsato & Turrisi, 2004). Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 2 females, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC).

DISTRIBUTION. Mediterranean.

REMARKS. Recorded for Lipari by Borsato & Turrisi (2004), newly recorded for Vulcano.

Delta unguiculatum (Villers, 1789) (Fig. 13)

EXAMINED MATERIAL. Lipari: Monte Guardia, 2.VI.1997, 1 male, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. South European West Asian.

REMARKS. New for the Aeolian Archipelago.

Rynchium oculatum (Fabricius, 1781)

EXAMINED MATERIAL. Vulcano: crater, VII.2017, 1 male, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Mediterranean South West Asian.

REMARKS. New for the Aeolian Archipelago.

Vespa crabro* ssp. *crabro Linnaeus, 1758

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 9.VIII.2015, 1 male, G. Altadonna leg., wine trap, M. Selis det. (GAC).

DISTRIBUTION. European Asian. This species is widely introduced in the Nearctic and Southern Hemisphere.

REMARKS. New for the Aeolian Archipelago.

Polistes (Polistes) dominula (Christ, 1791)

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 21.VIII.2014, 1 male, G. Altadonna leg., M. Selis det. (GAC); ibidem, 9-22.VIII.2015, 1 male, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC).

DISTRIBUTION. European Maghrebian (introduced to South Africa, Australia and America).

REMARKS. New for the Aeolian Archipelago. The taxonomic concept and distribution of the species belonging to the genus *Polistes* Latreille herein identified follow the recent review of Schmid-Egger et al., (2017).

Polistes (Polistes) gallicus (Linnaeus, 1767) (Fig. 14)

EXAMINED MATERIAL. Panarea, 23.VI.1967, 2 females, Sulfaro leg., M. Selis det. (GFTC). Vulcano, 12.IV.1968, 1 female, G. Marcuzzi leg., M. Selis det. (GFTC); Vulcano: Capo Secco, 16.VIII.2015, 2 females, G. Altadonna leg., M. Selis det. (GAC); Vulcano: Piano, 330 m a.s.l., 19.VIII.2014, 1 specimen, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC); Piano, 9-22.VIII.2015, 9 females, 2 males, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC); ibidem, 12-18.VIII.2016, 5 specimens, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Polistes (Polistes) nimpha (Christ, 1791)

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 1 female, G. Altadonna leg., yellow pan trap, M. Selis det. (MSC); ibidem, 12-18.VIII.2016, yellow pan trap, 2 specimens, G. Altadonna leg., M. Selis det. (MSC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

Vespula (Paravespula) germanica (Fabricius, 1793)

EXAMINED MATERIAL. Vulcano: Gelso, 30.VIII.2014, 1 specimen, G. Altadonna leg., M. Selis det. (MSC); Vulcano: Piano, 3.III.2019, 1 specimen, G. Altadonna leg., G.F. Turrisi det. (GAC). Lipari: Canneto, 21.II.1966, 1 female, M. La Greca leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. Palaearctic (largely introduced and widespread in the Nearctic).

REMARKS. New for the Aeolian Archipelago.

SPHECIDAE

Sceliphron destillatorium (Illiger, 1807)

EXAMINED MATERIAL. Panarea, 18.VI.1967, 1 female, Sulfaro leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. South Palaearctic.

REMARKS. Recorded for Panarea by Turrisi & Altadonna (2017).

Sceliphron spirifex (Linnaeus, 1758)

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 6.VII.2012, 1 female, G. Altadonna leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. West Palaearctic.

REMARKS. Recorded for Vulcano by Turrisi & Altadonna (2017), already known for other circum-sicilian islands (Ustica and Lampedusa) (Riggio & De Stefani Perez, 1888; Pagliano & Scaramozzino, 1995).

Ammophila heydeni Dahlbom, 1845

EXAMINED MATERIAL. Lipari: Vallone Muria, 14.VII.1995, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Prionyx subfuscatus (Dahlbom, 1845) (Fig. 15)

EXAMINED MATERIAL. Lipari: Timpone Ricotta,

8.X.1996, 1 female, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Prionyx lividocinctus (A. Costa, 1858)

EXAMINED MATERIAL. Lipari: Contrada San Giorgio, 15.X.1967, 1 male, Cirotti leg., G.F. Turrisi det. (GFTC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Sphex funerarius Gussakovskij, 1934

EXAMINED MATERIAL. Lipari: Monte Chirica, 26.IX.1996, 1 male, P. Lo Cascio leg., G.F. Turrisi det. (PLCC); Lipari: Madoro, 21.VIII.1996, 1 male, P. Lo Cascio & S. Pasta leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

CRABRONIDAE

Dryudella esterinae Pagliano, 2001 (Fig. 16)

EXAMINED MATERIAL. Lipari: Vallone Muria, 3.VI.1997, 1 male, P. Lo Cascio leg., G.F. Turrisi det. (PLCC).

DISTRIBUTION. South West European.

REMARKS. New for the Aeolian Archipelago and Sicily.

Dryudella tricolor (Van der Linden, 1829)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 female, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

Harpactus laevis (Latreille, 1792)

EXAMINED MATERIAL. Lipari: Vallone Muria,

VII.1999, 1 male, P. Lo Cascio leg., Moericke trap, G.F. Turrisi det. (PLCC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

Nysson quadriguttatus Spinola, 1808

EXAMINED MATERIAL. Vulcano: Piano, 9.VI.2013, 1 female, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. European.

REMARKS. New for the Aeolian Archipelago and Sicily.

Crossocerus distinguendus (Morawitz, 1866)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg. et det. (GFTC). Lipari: Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg. et det. (GFTC).

DISTRIBUTION. European Maghrebian.

REMARKS. New for the Aeolian Archipelago.

Crossocerus quadrimaculatus (Fabricius, 1793)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg. et det. (GFTC).

DISTRIBUTION. Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Lestica clypeata (Schreber, 1759) (Fig. 17)

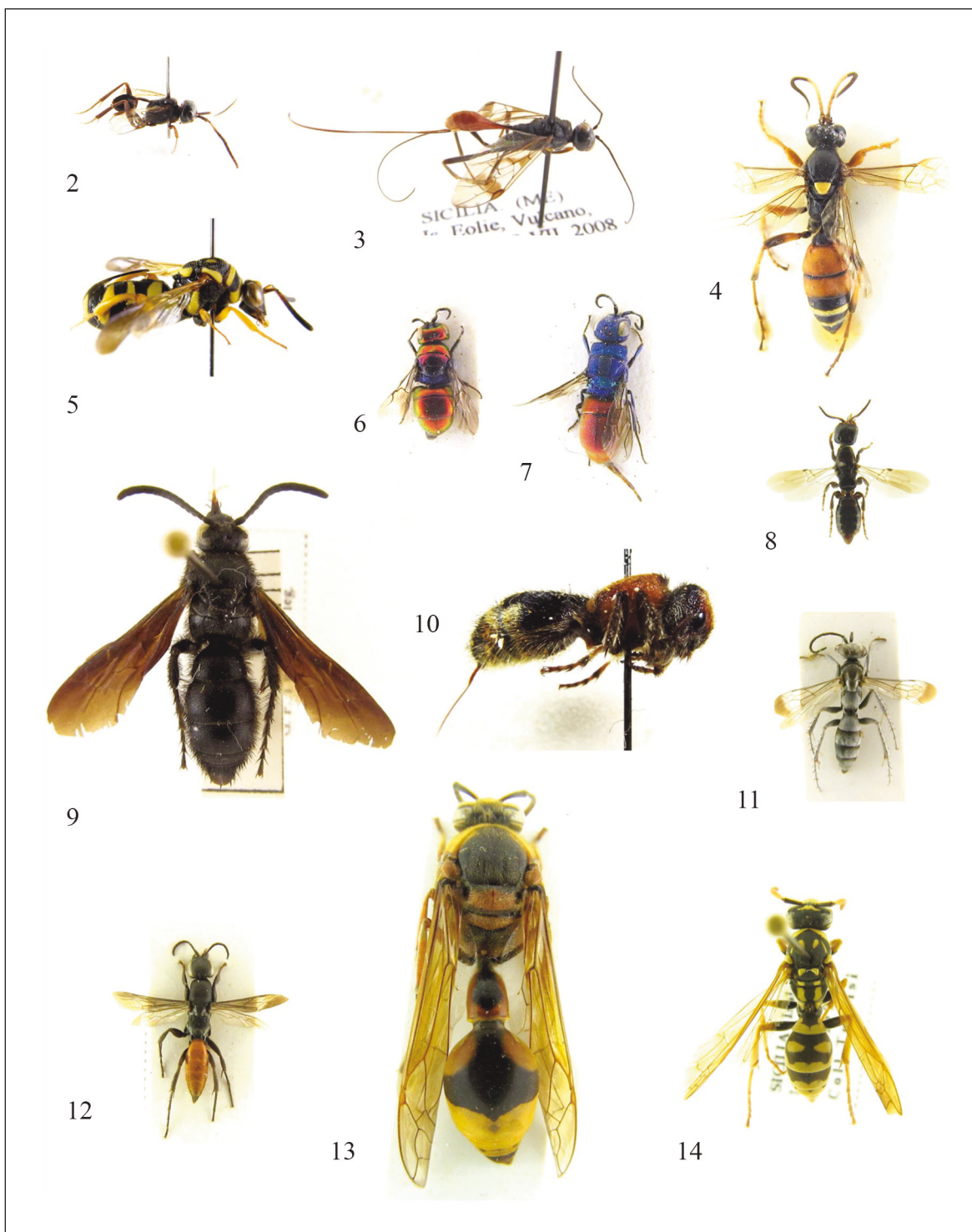
EXAMINED MATERIAL. Lipari: Urnazzo, 2.VI.1997, 1 male, P. Lo Cascio leg., on *Daucus* sp., G.F. Turrisi det. (PLCC).

DISTRIBUTION. Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Tracheliodes quinquenotatus (Jurine, 1807) (Fig. 18)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg. et det. (GFTC). Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 2 males, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).



Figures 2–14. Hymenoptera of Aeolian Archipelago (not in scale). Fig. 2: *Zeuxevania splendidula* female (Lipari). Fig. 3: *Pristaulacus lindae* female (Vulcano). Fig. 4: *Eutanyacra picta* female (Vulcano). Fig. 5: *Leucospis gigas* female (Lipari). Fig. 6: *Holopyga fervida* female (Lipari). Fig. 7: *Chrysis cerastes* female (Salina). Fig. 8: *Meria dorsalis* female (Lipari). Fig. 9: *Scolia carbonaria* male (Lipari). Fig. 10: *Ronisia brutia* female (Lipari). Fig. 11: *Pompilus cinereus* female (Vulcano). Fig. 12: *Aporus bicolor* female (Lipari). Fig. 13: *Delta unguiculatum* male (Lipari). Fig. 14: *Polistes gallicus* worker (Lipari).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Tachysphex costae (De Stefani-Perez, 1882)

EXAMINED MATERIAL. Vulcano: Piano, 9.VI.2013, 1 female, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. Southern West Palaeartic.

REMARKS. New for the Aeolian Archipelago.

Tachysphex nitidior Beaumont, 1940

EXAMINED MATERIAL. Vulcano: Piano, 9.VI.2013, 1 male, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. Southern West Palaeartic.

REMARKS. New for the Aeolian Archipelago.

Miscophus eatoni Saunders, 1903

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 1 female, G. Altadonna leg., yellow pan trap, M. Selis det. (MSC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago and Sicily.

Miscophus lusitanicus Andrade, 1952

EXAMINED MATERIAL. Panarea: Soldata, 230 m a.s.l., 21.VIII.2015, 1 male, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. South European Anatolian.

REMARKS. New for the Aeolian Archipelago; first record for Italy.

Miscophus pretiosus Kohl, 1884

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 1 female, G. Altadonna leg., yellow-pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. South European Anatolian.

REMARKS. New for the Aeolian Archipelago.

Solierella compedita (Piccioli, 1869)

EXAMINED MATERIAL. Lipari: Vallone Muria, VII.1999, 1 male, P. Lo Cascio leg., Moericke trap, G.F. Turrisi det. (PLCC). Panarea: Soldata, 230 m a.s.l., 21.VIII.2015, 2 males, G. Altadonna leg., yellow-pan trap, M. Selis det. (MSC); ibidem, 21.VIII.2015, 2 males, G. Altadonna leg., yellow-pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. West Palaeartic.

REMARKS. New for the Aeolian Archipelago.

Pison atrum (Spinola, 1808)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 female, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Trypoxylon kolazyi Kohl, 1893

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 2 males, G.F. Turrisi leg. and det. (GFTC). Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 1 female, G. Altadonna leg., yellow pan trap, G.F. Turrisi det. (GAC).

DISTRIBUTION. South European Anatolian.

REMARKS. New for the Aeolian Archipelago. Recently recorded for Sicily (Schmid-Egger, 2003; Tomarchio & Turrisi, 2006) and Lampedusa (Pagliano, 2003).

Trypoxylon deceptorium Antropov, 1991

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 1 female, G. Altadonna leg., yellow pan trap, M. Selis det. (MSC).

DISTRIBUTION. European South West Asian.

REMARKS. New for the Aeolian Archipelago. Recently recorded for Sicily by Tomarchio & Turrisi (2006).

Trypoxylon scutatatum Chevrier, 1867

EXAMINED MATERIAL. Lipari: Castello environs,

8.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC). Vulcano: Piano, 330 m a.s.l., 9-22.VIII.2015, 3 females, G. Altadonna leg., yellow pan trap, M. Selis det. (GAC); ibidem, 12-18.VIII.2016, 2 specimens, G. Altadonna leg., yellow pan trap, M. Selis det. (MSC).

DISTRIBUTION. European Anatolian.

REMARKS. New for the Aeolian Archipelago.

Ammoplanus perrisi Giraud, 1869

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. European.

REMARKS. New for the Aeolian Archipelago.

Passaloeus pictus Ribaut, 1952

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 2 females, G.F. Turrisi leg. and det. (GFTC). Lipari: Castello environs, 8.VI.1997, 7 females, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. South European Anatolian.

REMARKS. New for the Aeolian Archipelago. Recorded for Sicily by Schmid-Egger (2003) and Tomarchio & Turrisi (2006).

Pemphredon austriaca (Kohl, 1888)

EXAMINED MATERIAL. Lipari: Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. European.

REMARKS. New for the Aeolian Archipelago.

Mimesa grandii Maidl, 1933 (Fig. 19)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 female, G.F. Turrisi leg. et det. (GFTC).

DISTRIBUTION. West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Cerceris circularis ssp. *dacica* Schletterer, 1887

EXAMINED MATERIAL. Lipari: Castello environs,

8.VI.1997, 1 male, G.F. Turrisi leg. et det., on *Daucus* sp. (GFTC).

DISTRIBUTION. South European.

REMARKS. New for the Aeolian Archipelago and Sicily.

Philanthus coarctatus ssp. *siculus* Giordani Soika, 1944 (Fig. 20)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 4 males, G.F. Turrisi leg. et det., on *Daucus* sp. (GFTC).

DISTRIBUTION. South Italian.

REMARKS. New for the Aeolian Archipelago.

FORMICIDAE

Aphaenogaster pallida (Nylander, 1848)

EXAMINED MATERIAL. Filicudi: Fossa delle Felci, 1.I.1997, P. Lo Cascio leg., F. Rigato det. (PLCC). Lisca Bianca: 7.IV.1996, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC).

DISTRIBUTION. South East European.

REMARKS. Recorded for Lipari (Kutter, 1927) and Salina (Schär et al., 2020), is newly recorded for Filicudi and the islet Lisca Bianca.

Aphaenogaster subterranea (Latreille, 1798)

EXAMINED MATERIAL. Strombolicchio: 29.VI.1998, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. Mediterranean European.

REMARKS. Recorded for all the main islands except Vulcano (Schär et al., 2020), is newly recorded for the islet Strombolicchio.

Camponotus lateralis (Olivier, 1791)

EXAMINED MATERIAL. Vulcano: Monte Lentia, 4.VI.1997, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. Mediterranean Turanian.

REMARKS. Recorded for Lipari (Kutter, 1927),

Vulcano (Baroni Urbani, 1964), Salina, Stromboli, Filicudi and Panarea (Schär et al., 2020).

Camponotus micans (Nylander, 1856)

EXAMINED MATERIAL. Lipari: Timpone Ricotta, 8.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded for Lipari (Kutter, 1927), Salina, Vulcano and Filicudi (Schär et al., 2020).

Camponotus nylanderii Emery, 1921

EXAMINED MATERIAL. Lipari: Timpone Ricotta, 8.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC). Filicudi: Fossa delle Felci, 1.I.1997, P. Lo Cascio leg., F. Rigato det. (PLCC). Alicudi: Pianicello, 2.IV.1997, P. Lo Cascio & G. Serra leg., F. Rigato det. (PLCC). Strombolicchio: 6.VIII.1994, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC); 29.VI.1998, P. Lo Cascio leg., F. Rigato det. (PLCC). Scoglio Faraglione: 5.VIII.1994, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC).

DISTRIBUTION. South Italian.

REMARKS. Recorded for Lipari (Kutter, 1927), the islet Strombolicchio (Lo Cascio, 2004), Salina, Vulcano, Stromboli, Filicudi and Panarea (Schär et al., 2020), is newly recorded for Alicudi and the islet Scoglio Faraglione.

Crematogaster scutellaris (Olivier, 1791)

EXAMINED MATERIAL. Lipari: Vallone Muria, 14.X.1998, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. Mediterranean.

REMARKS. Recorded for Lipari (Kutter, 1927), Salina (Monastero & Genduso, 1964b), Vulcano, Stromboli, Filicudi and Panarea (Schär et al., 2020).

Lepisiota nigra (Dalla Torre, 1893)

EXAMINED MATERIAL. Strombolicchio: 25.VI.1998, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. Mediterranean Turanian.

REMARKS. Recorded for Lipari, Salina, Vulcano

and Panarea (Schär et al., 2020), is newly recorded for the islet Strombolicchio.

Messor capitatus (Latreille, 1798)

EXAMINED MATERIAL. Lipari: Timpone Ricotta, 8.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC); Fuardo, 9.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded for Lipari (Kutter, 1927; Baccetti, 1967; Schär et al., 2020).

Messor minor* ssp. *calabricus Santschi, 1927

EXAMINED MATERIAL. Lisca Bianca: 7.IV.1996, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC).

DISTRIBUTION. Southern Italian.

REMARKS. Recorded for Lisca Bianca (Lo Cascio & Navarra, 2003).

Messor structor (Latreille, 1798)

EXAMINED MATERIAL. Lipari: Fuardo, 9.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. South East European.

REMARKS. Already recorded for Lipari (Kutter, 1927).

Pheidole pallidula (Nylander, 1848)

EXAMINED MATERIAL. Stromboli: path to the crater, 400 m a.s.l., 24.X.1996, P. Lo Cascio leg., F. Rigato det. (PLCC).

DISTRIBUTION. West Mediterranean.

REMARKS. Recorded for Lipari (Kutter, 1927), Filicudi (Seifert, 2016), Salina, Vulcano, Stromboli and Panarea (Schär et al., 2020).

Plagiolepis pallescens Lomnicki, 1925

EXAMINED MATERIAL. Strombolicchio: 6.IV.1996, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC).

DISTRIBUTION. West Palaearctic.

REMARKS. Recorded for all the main islands except Filicudi (Schär et al., 2020), is newly recorded for the islet Strombolicchio.

Ponera coarctata (Latreille, 1802)

EXAMINED MATERIAL. Alicudi: Pianicello, 2.IV.1997, P. Lo Cascio & G. Serra leg., F. Rigato det. (PLCC).

DISTRIBUTION. South European.

REMARKS. Recorded for Alicudi (Lo Cascio et al., 2006), Lipari and Salina (Schär et al., 2020).

Tetramorium punctatum Santschi, 1927

EXAMINED MATERIAL. Scoglio Faraglione: 6.VIII.1994, P. Lo Cascio & V. Pancioli leg., F. Rigato det. (PLCC).

DISTRIBUTION. East Mediterranean.

REMARKS. Recorded for Lipari (Kutter, 1927 as *T. semilaeve*; Santschi, 1927 as *T. semilaeve* var. *lipareum* nov.; Sanetra et al. 1999), Salina, Vulcano, Stromboli, Filicudi and Panarea (Schär et al., 2020), is newly recorded for the islet Scoglio Faraglione.

COLLETIDAE

Colletes nigricans Gistel, 1857

MATERIAL EXAMINED. Salina, Monte dei Porri, 20.IX.1966, 2 females, Arcidiacono leg., V. Nobile det. (VNC).

DISTRIBUTION. West Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Hylaeus (Paraprosopis) clypearis (Schenck, 1853)

EXAMINED MATERIAL. Panarea: 23.VI.1967, 1 female, Sulfaro leg., V. Nobile det. (VNC).

DISTRIBUTION. South West Palaearctic (introduced in Chile).

REMARKS. New for the Aeolian Archipelago.

Hylaeus (Dentigera) imparilis Förster, 1871

EXAMINED MATERIAL. Lipari: Chiesa Vecchia, 7.VII.1999, 1 female, G.F. Turrisi leg., V. Nobile det., on cultivated *Petroselinum* sp. (GFTC).

DISTRIBUTION. South West Palaearctic (introduced in Chile).

REMARKS. New for the Aeolian Archipelago.

Hylaeus (Spatulariella) punctatus (Brullé, 1832)

EXAMINED MATERIAL. Salina: Monte dei Porri, 20.IX.1966, 1 female, Arcidiacono leg., V. Nobile det. (VNC).

DISTRIBUTION. South West Palaearctic (introduced in Chile).

REMARKS. New for the Aeolian Archipelago.

ANDRENIDAE

Andrena (Charitandrena) hattorfiana ssp. *dimidiata* Brullé, 1832

EXAMINED MATERIAL. Vulcano: 29.V-4.VI.2010, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central South Anatolian European. The nominate subspecies has a West European Asian distribution.

REMARKS. New for the Aeolian Archipelago.

Andrena (Euandrena) ruficrus Nylander, 1848

EXAMINED MATERIAL. Lipari: Acquacalda, 29.IV.1966, 1 female, I. Marcellino leg., V. Nobile det. (VNC).

DISTRIBUTION. European West Asian.

REMARKS. New for the Aeolian Archipelago.

Andrena (Melandrena) morio ssp. *morio* Brullé, 1832

EXAMINED MATERIAL. Vulcano: 26.IV-4.V.2009, 2 females, M. Mei leg., V. Nobile det. (VNC); Panarea: Drauto, 20 m a.s.l., 21.VIII.2015, G. Altadonna leg., 1 female, G.F. Turrisi det. (GAC).

DISTRIBUTION. South East European West Asian.

REMARKS. New for the Aeolian Archipelago.

Andrena (Melandrena) nigroaenea* ssp. *nigroaenea (Kirby, 1802)

EXAMINED MATERIAL. Filicudi, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

Andrena (Melandrena) nitida* ssp. *nitida (Müller, 1776)

EXAMINED MATERIAL. Vulcano: Piano, 14. III.2000, 1 female, P. Lo Cascio & S. Pasta leg., on flowers of *Cytisus aeolicus* (PLCC).

DISTRIBUTION. European.

REMARKS. New for the Aeolian Archipelago.

Andrena (Plastandrena) pilipes Fabricius, 1781

EXAMINED MATERIAL. Vulcano, 29.V.4.VI.2010, 2 females, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Andrena (Scitandrena) scita Eversmann, 1852

EXAMINED MATERIAL. Vulcano, 29.V-4.VI.2010, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South East European South West Asian.

REMARKS. New for the Aeolian Archipelago.

Andrena (Taeniandrena) wilkella (Kirby, 1802)

EXAMINED MATERIAL. Vulcano, 25.IV-4.V.2009, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

HALICTIDAE

Pseudapis bispinosa (Brullé, 1832)

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 6 males, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Cealylictus variegatus (Olivier, 1789)

EXAMINED MATERIAL. Vulcano: 24.VII.1963, 2 males, 1 female, V. Nobile leg. et det. (VNC). Vulcano: 3-17.VII.1993, 1 male, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Nomioides facilis (Smith, 1853)

EXAMINED MATERIAL. Lipari: Urnazzo, 2.VI.1997, 1 female, P. Lo Cascio leg., on Asteraceae, V. Nobile det. (PLCC).

DISTRIBUTION. Mediterranean Asian.

REMARKS. New for the Aeolian Archipelago.

Nomioides minutissimus (Rossi, 1790)

EXAMINED MATERIAL. Vulcano: Piano, 9-22.VIII.2015, 1 female, G. Altadonna leg., V. Nobile det. (yellow pan-trap) (GAC).

DISTRIBUTION. Mediterranean South West Asian.

REMARKS. New for the Aeolian Archipelago.

Halictus (Halictus) quadricinctus (Fabricius, 1776)

EXAMINED MATERIAL. Panarea: 12.VI.1967, 1 female, V. Nobile leg. et det. (VNC). Vulcano: 28.VI-18.VI.2008, 2 males, M. Mei leg., V. Nobile det. (VNC); 29.V-4.VI.2010, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Halictus (Hexataenites) fulvipes (Klug, 1817)

EXAMINED MATERIAL. Lipari: Monte Chirica,

26.IX.1996, 1 male, P. Lo Cascio leg., V. Nobile det. (PLCC). Panarea: 18.VI.1967, 1 female, Sulfaro leg., V. Nobile det. (VNC). Vulcano: 24.VII.1963, 1 female, V. Nobile leg. et det. (VNC); 10.VII.1993, 2 males, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Mediterranean Asian (introduced in Mexico).

REMARKS. New for the Aeolian Archipelago.

Halictus (Hexataenites) scabiosae (Rossi, 1790) (Fig. 21)

EXAMINED MATERIAL. Lipari: Vallone Muria, VII.1999, 1 female, P. Lo Cascio leg., V. Nobile det. (Moericke trap) (PLCC).

DISTRIBUTION. South West Palaearctic (extended to South Africa).

REMARKS. New for the Aeolian Archipelago.

Halictus (Monilapis) compressus Walckenaer, 1802

EXAMINED MATERIAL. Lipari: Quattropani, 6. VI.1997, 1 male, 2 females, on flowers of *Rubus* sp., G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. South European Central Asian (excluding Iberian Peninsula).

REMARKS. New for the Aeolian Archipelago.

Halictus (Seladonia) gemmeus Dours, 1872

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Halictus (Seladonia) smaragdulus Vachal, 1895

EXAMINED MATERIAL. Vulcano: 24.VII.1963, 2 females, V. Nobile leg. and det. (VNC).

DISTRIBUTION. South West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Halictus (Tythhalictus) asperulus Perez, 1895

EXAMINED MATERIAL. Panarea: 23.VI.1967, 1

male, Sulfaro leg., V. Nobile det. (VNC). Vulcano, 15.VII.1993, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Mediterranean South West Asian.

REMARKS. New for the Aeolian Archipelago.

Halictus (Tythhalictus) maculatus Smith, 1848

EXAMINED MATERIAL. Panarea: 23.VI.1967, 1 male, Sulfaro leg., V. Nobile det. (VNC).

DISTRIBUTION. South European Turanian.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Dialictus) nitidulum (Fabricius, 1804)

EXAMINED MATERIAL. Lipari: Monte Sant'Angelo, 500 m a.s.l., 21.II.1966, 2 females, M. La Greca leg., V. Nobile det. (VNC).

DISTRIBUTION. South European Central Asian.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Dialictus) planulum (Perez, 1903)

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI.1997, 1 male, G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. North Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Dialictus) semilucens (Alfken, 1914)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. Central South European Central Asian.

REMARKS. New for the Aeolian Archipelago and Sicily.

Lasioglossum (Sphecodogastra) immunitum ssp. *sillatum* (Warncke, 1981)

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Sicilian Sardinian South Italian. The nominate subspecies has a Mediterranean Iranian distribution (discontinuous in the South East Mediterranean).

REMARKS. Described from Catania (holotype) and Lipari: Mount Guardia (paratypes) (Warncke, 1981). The holotype was collected on flowers of *Centaurea* (Asteraceae).

Lasioglossum (Sphecodogastra) malachurum
(Kirby, 1802)

EXAMINED MATERIAL. Lipari: Mount Sant'Angelo, m 500, 21.II.1966, 1 female, M. La Greca leg. (DSCC); Pianoconte, 7.VI.1997, 1 male, G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. Central South West Palaearctic Macaronesian.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Sphecodogastra) opacum Perez, 1895

EXAMINED MATERIAL. Lipari: Quattropani-Acquacalda, 22.II.1966, 1 female, M. La Greca leg., V. Nobile det. (DSCC); Acquacalda, 29.VI.1966, 1 female, I. Marcellino leg., V. Nobile det. (DSCC); Urnazzo, 2.VI.1997, 1 male, P. Lo Cascio leg., on Asteraceae, V. Nobile det. (PLCC); Quattropani, 6.VI.1997, 1 male, G.F. Turrisi leg., V. Nobile det. (GFTC); Pianoconte, 7.VI.1997, 1 female, G.F. Turrisi leg., V. Nobile det. (GFTC). Vulcano: 10.VII.1993, 3 males, 2 females, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Mediterranean Iranian.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Sphecodogastra) nigripes (Lepelletier, 1841)

EXAMINED MATERIAL. Lipari: Mendolita, 30.VI.1967, 1 female, Cirotti leg., V. Nobile det. (DSCC).

DISTRIBUTION. Central South West Mediterranean Macaronesian.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Sphecodogastra) pauxillum
(Schenck, 1853)

EXAMINED MATERIAL. Panarea: 12.VI.1967, 2

males, V. Nobile leg. (VNC); 23.VI.1967, 1 males, Sulfaro leg., V. Nobile det. (DSCC).

DISTRIBUTION. Central South West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Sphecodogastra) subhirtum
(Lepelletier, 1841)

EXAMINED MATERIAL. Lipari: Urnazzo, 2. VI. 1997, 1 male, on flowers of *Daucus* sp. (Apiaceae), P. Lo Cascio leg., V. Nobile det. (LPC).

DISTRIBUTION. Central South West Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Lasioglossum) albocinctum
(Lucas, 1849)

EXAMINED MATERIAL. Vulcano: 10.VII.1993, 3 males, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. European Mediterranean (discontinuous in North East Africa).

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Lasioglossum) bimaculatum
(Dours, 1872)

EXAMINED MATERIAL. Lipari: Pianoconte, 24.V.1967, 1 female, V. Nobile leg. and det. (VNC). Vulcano: 3-17.VII.1993, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. West Mediterranean.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Lasioglossum) costulatum
(Kriechbaumer, 1873)

EXAMINED MATERIAL. Lipari: Pianoconte, 24.V.1967, 1 female, V. Nobile leg. and det. (VNC).

DISTRIBUTION. Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Lasioglossum (Lasioglossum) leucozonium
ssp. *cedri* Ebmer, 1976

EXAMINED MATERIAL. Lipari: Acquacalda, 29.IV.1966, 1 female, I. Marcellino leg., V. Nobile det. (DSCC).

DISTRIBUTION. South West Mediterranean. The species is European Central Asian.

REMARKS. New for the Aeolian Archipelago.

Sphecodes albilabris (Fabricius, 1793) (Fig. 22)

EXAMINED MATERIAL. Lipari: Vallone Muria, 3.VI.1997, 1 female, P. Lo Cascio leg., V. Nobile det. (PLCC).

DISTRIBUTION. European Central Asian.

REMARKS. New for the Aeolian Archipelago.

Sphecodes gibbus (Linnaeus, 1758)

EXAMINED MATERIAL. Vulcano: 25.IV-4.V.2009, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. European Asian.

REMARKS. New for the Aeolian Archipelago.

Sphecodes monilicornis ssp. *quadratus* Meyer, 1919

EXAMINED MATERIAL. Vulcano: 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South European. The species is Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Sphecodes spinulosus Hagens, 1875

EXAMINED MATERIAL. Vulcano: 25.IV-4.V.2009, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. European West Asian.

REMARKS. New for the Aeolian Archipelago.

MEGACHILIDAE

Heriades (Heriades) truncorum (Linnaeus, 1758)

EXAMINED MATERIAL. Vulcano: 25.IV-4.V.2009, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. West Central Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Hoplitis (Hoplitis) adunca ssp. *adunca* (Panzer, 1798)

EXAMINED MATERIAL. Vulcano: 25.IV-4.V.2009, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central South European Central Asian. The other subspecies, *Hoplitis (Hoplitis) adunca* ssp. *contraria* Tkalcu, 1974 has an Iberian Maghrebian distribution.

REMARKS. New for the Aeolian Archipelago.

Hoplitis (Hoplitis) lepeletieri (Panzer, 1798)

EXAMINED MATERIAL. Vulcano, 25.IV-4.V.2009, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central South West European.

REMARKS. New for the Aeolian Archipelago.

Osmia (Helicosmia) latreillei ssp. *iberoafricana* Peters, 1975

EXAMINED MATERIAL. Filicudi, 14.VII.1993, 1 female, M. Mei leg., V. Nobile det. (VNC); Vulcano, 29.V-4.VI.2010, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South Mediterranean Macaronesian. The nominate subspecies is South European, excluding Iberian Peninsula.

REMARKS. New for the Aeolian Archipelago.

Osmia (Pyrosmia) submicans ssp. *hebraea* Benoist, 1934

EXAMINED MATERIAL. Vulcano, 29.V-4.VI.2010, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. South Mediterranean. The nominate subspecies is Central South European.

REMARKS. New for the Aeolian Archipelago.

Rhodanthidium septemdentatum (Latreille, 1809)

EXAMINED MATERIAL. Lipari: Quattropani, 6.

VI.1997, 1 male, G.F. Turrisi leg., V. Nobile det. (GFTC); Pianoconte, 7.VI.1997, 1 female, G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. North Mediterranean.

REMARKS. New for the Aeolian Archipelago.

***Stelis phaeoptera* ssp. *murina* Perez, 1884**

EXAMINED MATERIAL. Lipari: VI.2000, 1 male, 5 females, Sinacori leg., reared from Arundo stems together with the host *Osmia (Chalcosmia)* sp., V. Nobile det. (VNC).

DISTRIBUTION. South Mediterranean Iranian Macaronesian. The nominate subspecies is Central North European Central Asian.

REMARKS. New for the Aeolian Archipelago.

***Dioxys cincta* (Jurine, 1807)**

EXAMINED MATERIAL. Lipari: 14.IV.1968, 1 female, G. Marcuzzi leg., V. Nobile det. (DSCC).

DISTRIBUTION. Central European Mediterranean African.

REMARKS. Recorded for Lipari by Nobile & Turrisi (1996).

***Megachile (Chalicodoma) parietina* (Geoffroy, 1785)**

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI. 1997, 1 female, G.F. Turrisi leg., V. Nobile det. (GFTC). Panarea: 23.VI.1967, 1 female, Sulfaro leg., V. Nobile det. (DSCC).

DISTRIBUTION. Central South Palaearctic.

REMARKS. New for the Aeolian Archipelago.

***Megachile (Chalicodoma) sicula* Rossi, 1792**

EXAMINED MATERIAL. Lipari: Vallone Ponte, 22. II.1967, 1 male, S. Bruno leg., V. Nobile det. (DSCC).

DISTRIBUTION. South Palaearctic Macaronesian.

REMARKS. New for the Aeolian Archipelago.

***Megachile (Eutricharaea) apicalis* Spinola, 1808**

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI.1997, 1 female, G.F. Turrisi leg., V. Nobile det. (GFTC).

DISTRIBUTION. Central South European Maghreb-ian Central Asian (extended to North America).

REMARKS. Recorded for Vulcano by Comba & Comba (2005).

***Megachile (Eutricharaea) pilidens* Alfken, 1923**

EXAMINED MATERIAL. Vulcano: 28.VI-18. VII. 2008, 1 male, 1 female, M. Mei leg., V. Nobile det. (VNC). Vulcano: Piano, 330 m, 21.VIII.2014, 1 specimen, G. Altadonna leg., V. Nobile det. (PNC).

DISTRIBUTION. Mediterranean Central European Iranian.

REMARKS. Recorded for Vulcano by Comba & Comba (2005).

APIDAE

***Xylocopa violacea* (Linnaeus, 1758)**

EXAMINED MATERIAL. Lipari: Pianoconte, 7. VI.1997, 1female, G.F. Turrisi leg. and det. (GFTC). Vulcano: Piano, 21.VIII.2014, 1female, G. Altadonna leg., G.F. Turrisi det. (GAC). Vulcano: Gelso, 12.VIII.2016, 1female, G. Altadonna leg., G.F. Turrisi det. (GAC).

DISTRIBUTION. Palaearctic (recorded also for Mexico).

REMARKS. Recorded for Lipari, Filicudi, Panarea, and Vulcano by Pagliano & Nobile (1993), Vicidomini (2003), and Vicidomini et al., (2005); for Stromboli by Comba & Comba (2005). The similar *X. valga* Gerstaecker, 1872 is recorded for Stromboli by Pagliano & Nobile (1993), Vicidomini (2003), and Vicidomini et al., (2005).

***Ceratina cucurbitina* (Rossi, 1792)**

EXAMINED MATERIAL. Lipari: Urnazzo, 2.VI. 1997, 1 female, P. Lo Cascio leg., on *Daucus* sp.,

V. Nobile det. (PLCC); Chiesa Vecchia, 7.VI.1999, on cultivated *Petroselinum* sp. (Apiaceae), G.F. Turrisi leg., V. Nobile det. (GFTC). Vulcano: Piano, 9-22.VIII.2015, 1 male (yellow-pan trap), G. Altadonna leg., V. Nobile det. (GAC). Alicudi: Pianicello, 2.IV.1997, 1 female, Lo Cascio & Serra leg., V. Nobile det. (PLCC).

DISTRIBUTION. Central South West Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Nomada fulvicornis Fabricius, 1793

EXAMINED MATERIAL. Vulcano: 25.IV-4.V.2009, 2 female, M. Mei leg., V. Nobile det. (VNC). Vulcano, 29.V-4.VI.2010, 1 male, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central South Palaearctic.

REMARKS. New to Aeolian archipelago.

Epeolus julliani Perez, 1884

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 female, M. Mei leg. and det. (VNC).

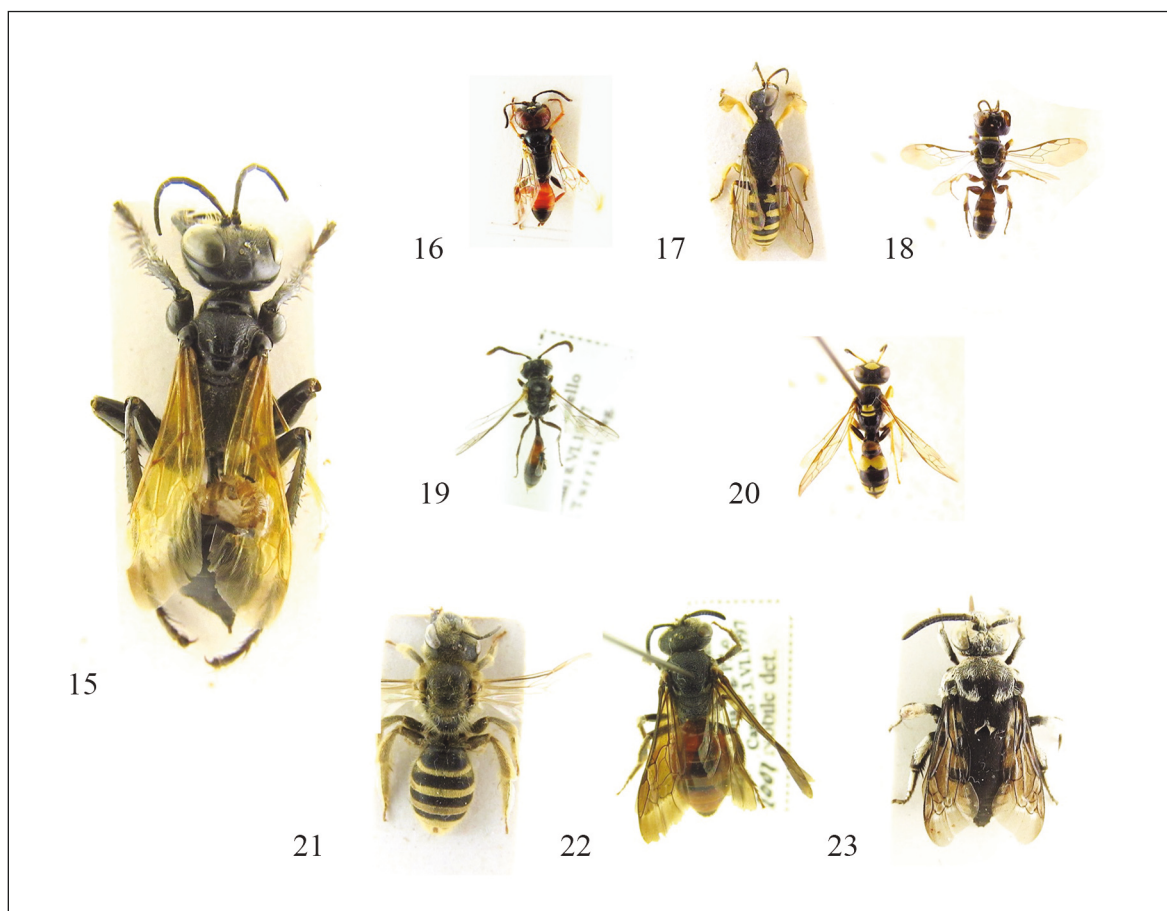
DISTRIBUTION. South European Anatolian.

REMARKS. New for the Aeolian Archipelago.

Pasites maculatus Jurine, 1807

EXAMINED MATERIAL. Vulcano: 3-17.VII.1993, 1 male, 2 females, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central West Palaearctic.



Figures 15–23. Hymenoptera of Aeolian Archipelago (not in scale). Fig. 15: *Prionyx subfuscatus* female (Lipari). Fig. 16: *Dryudella esterinae* male (Lipari). Fig. 17: *Lestica clypeata* male (Lipari). Fig. 18: *Tracheliodes quinquenotatus* female (Lipari). Fig. 19: *Mimesa grandii* female (Lipari). Fig. 20: *Philanthus coarctatus siculus* male (Lipari). Fig. 21: *Halictus scabiosae* female (Lipari). Fig. 22: *Sphecodes albilabris* female (Lipari). Fig. 23: *Thyreus ramosus* male (Basiluzzo).

REMARKS. New for the Aeolian Archipelago.

Eucera (Eucera) nigrescens Perez, 1879

EXAMINED MATERIAL. Alicudi: 5.VII.1993, 1 male, 1 female, M. Mei leg., V. Nobile det. (VNC). Vulcano, 15.VII.1993, 1 female, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central South European Iranian.

REMARKS. New for the Aeolian Archipelago.

Tetraloniella dentata (Germar, 1839)

EXAMINED MATERIAL. Vulcano: 29.V-4.VI.2010, 1 male, M. Mei leg., V. Nobile det. (VNC).

DISTRIBUTION. Central Southern Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Amegilla albigena (Lepelletier, 1841)

EXAMINED MATERIAL. Vulcano: 24.VII.1963, 1 female, V. Nobile leg. and det. (VNC).

DISTRIBUTION. Mediterranean Central North East African.

REMARKS. New for the Aeolian Archipelago.

Amegilla garrula (Rossi, 1790)

EXAMINED MATERIAL. Lipari: Castello environs, 8.VI.1997, 1 male, G.F. Turrisi leg., V. Nobile det. (GFTC). Salina: Monte Dei Porri, 20.IX.1966, 1 female, S. Arcidiacono leg., V. Nobile det. (VNC).

DISTRIBUTION. South European Iranian.

REMARKS. New for the Aeolian Archipelago.

Thyreus ramosus (Lepelletier, 1841) (Fig. 23)

EXAMINED MATERIAL. Basiluzzo: 20.VIII.1996, 1 male, P. Lo Cascio leg., V. Nobile det. (PLCC).

DISTRIBUTION. South Palaearctic Macaronesian.

REMARKS. New for the Aeolian Archipelago.

Anthophora (Lophanthophora) dispar Lepelletier, 1841

EXAMINED MATERIAL. Vulcano: Piano, 14.

III.2000, 2 females, 1 male, P. Lo Cascio & S. Pasta leg., on *Cytisus aeolicus* Guss. ex Lindl., V. Nobile det. (PLCC).

DISTRIBUTION. Mediterranean.

REMARKS. Recorded for Vulcano by Lo Cascio (2004) (sub *Lophanthophora* dispar) and for Alicudi by Comba & Comba (2005).

Anthophora (Anthophora) plumipes ssp. ***niger*** (Friese, 1896)

EXAMINED MATERIAL. Vulcano: Piano, 330 m a.s.l., 2.VI.2012, 1 specimen, G. Altadonna leg., V. Nobile det. (PNC).

DISTRIBUTION. Palaearctic.

REMARKS. New for the Aeolian Archipelago.

Bombus (Bombus) terrestris (Linnaeus, 1758)

EXAMINED MATERIAL. Vulcano: Piano, 14.III.2000, 1 worker, P. Lo Cascio & S. Pasta leg., on *Cytisus aeolicus* Guss. ex Lindl., V. Nobile det. (PLCC).

DISTRIBUTION. Palaearctic.

REMARKS. Recorded for Vulcano by Lo Cascio (2004).

Apis mellifera (Linnaeus, 1758)

EXAMINED MATERIAL. Lipari: Canale, 30.VI.1967, 1 worker, Allegrina leg., V. Nobile det. (VNC). Lipari: Pianoconte, 7.VI.1997, 1 worker, G.F. Turrisi leg. and det. (GFTC).

DISTRIBUTION. Cosmopolitan.

REMARKS. Recorded for the Aeolian Archipelago by Bouga et al. (2011), Tenore et al. (2012), Muñoz et al. (2014).

DISCUSSION AND CONCLUSIONS

Data from literature (see Introduction) recorded 98 species (including one doubtful record among Formicidae) for the archipelago; 20 of them are confirmed by the present research, and 120 are added as new records. As the whole, 218 species of Hymenoptera belonging to 24 families are currently

known for the Aeolian Islands (Table 1). Among them, *Dryudella esterinae*, *Nysson quadriguttatus*, *Miscophus aetoni*, *Miscophus lusitanicus*, *Cerceris circularis* ssp. *dacica* and *Lasioglossum (Dialictus) semilucens* are recorded for the first time for Sicily, and *Miscophus lusitanicus* resulted also new for Italy.

Despite this remarkable increase, the hymenopteran fauna of these islands should be considered largely underestimated, especially for many groups of *Terebrantia*, also including those so called “micro Hymenoptera”. No sawflies (“*Symphyla*”) have yet been recorded for the Aeolian Archipelago, but it could be due to the lack of collecting efforts, as suggested by the relatively high diversity and endemism richness that characterizes this group in Sicily, where 139 species were so far recorded (Pesarini & Turrise, 2001; Turrise, 2011; Liston et al., 2013); for instance, it is likely that at least some representatives of the most speciose family Tenthredinidae should be occurring also in the Aeolian Archipelago.

On the contrary, these islands harbour a relatively high diversity of Formicidae, with 49 species, and Apoidea, with 68 species belonging to 5 families, and especially Halictidae that include 29 species.

Although the available data are not sufficient to perform an exhaustive biogeographical analysis, taking into account the distributional patterns only, most of the recorded species have a wide European-Mediterranean distribution, and even in the Palaearctic region; moreover, the Mediterranean chorotypes seem to be well represented within the Aeolian fauna.

The Hymenoptera represent one of the four mega-diverse insect orders, and they play a fundamental role in virtually all terrestrial ecosystems as parasitoids, predators, and pollinators, being of substantial economic importance. As the faunal knowledge is likely far to be complete, data concerning population sizes and trends, distribution and conservation of Hymenoptera in the study islands are very limited and essentially based on personal observations carried out by the authors during the field-work.

Anthropogenic disturbance is not strong, but it increases during summer due to the massive occurrence of tourism. This factor, together with urban sprawl and infrastructural developments, may affect structure and dynamics of local ecosystems, as well as the fire, that recently involved large areas of the main islands (f.i., Lipari and Vulcano). The islands have also a long-term history of agricultural ex-

ploitation, that was characterized by a phase of recession and general abandonment between the late 19th and the second half of 20th century. Currently agriculture, and especially viticulture, are gradually spreading again in some islands (Lipari, Salina, Vulcano), but generally moving toward organic practices and avoiding the use of pesticides. On the other hand, the small surface and the rough morphology of the islands hinder strong agricultural changes such as mechanization.

Especially bee populations and species are sensitive to environmental changes, as observed for continental Europe where this problem, together with stress from parasites, pesticides and flower pauperization, has caused honey bee colony losses and declines of wild pollinators (Goulson et al., 2015). However, some of the study islands (Lipari, Vulcano, Filicudi and Alicudi) are now exclusively inhabited by the Sicilian subspecies of honey bee (*Apis mellifera* ssp. *siciliana* Dalla Torre, 1896), that is bred in traditional manner and not exposed to the risk of genetic pollution, as since 1990s the Municipality of Lipari has promulgated an ordinance prohibiting the introduction of other bee races. In this perspective, the islands may be considered as “refuges” for threatened hymenopteran that in other areas (such as Sicily) suffer all the adverse factors above-mentioned, including the modernization of agricultural practices.

More detailed faunal knowledge, together with the extension of the researches to the local population trends and a monitoring programme, are however needed in order to recognize and prevent any negative change that could affect the Aeolian hymenopteran fauna, and consequently its role in agriculture and maintenance of plant diversity. In fact, trends in the decline of Hymenoptera, as with other invertebrates, could be underestimated because of insufficient data both on the number of species, and on the size of local populations. It is not excluded that even among invertebrates, usually considered more “resistant” to the so-called sixth mass extinction (see Leakey & Lewin, 2015 and Kolbert, 2016), some species may disappear even before to be discovered. The development of investigations for a better understanding of the population trends, as well as improvements to the taxonomy and the ecology of the Hymenoptera, are critical for an effective conservation and management of this important faunal component, also for wider benefits associated with pollination network of the ecosystem.

Taxa	Lipari	Salina	Vulcano	Stromboli	Filicudi	Alicudi	Panarea	Islets
EVANIIDAE								
<i>Zeuxevania splendidula</i> (Costa, 1884)	+							
AULACIDAE								
<i>Pristaulacus galitae</i> (Gribodo, 1879)			+					
<i>Pristaulacus lindae</i> Turrisi, 2000			+					
GASTERUPTIIDAE								
<i>Gasteruption assectator</i> (Linnaeus, 1758)	+							
<i>Gasteruption erythrostomum</i> (Dahlbom, 1831)	+							
<i>Gasteruption jaculator</i> (Linnaeus, 1758)	+							
ICHNEUMONIDAE								
<i>Eutanyacra picta</i> (Schrank, 1776)			+					
<i>Clistopyga incitator</i> (Fabricius, 1793)			○					
<i>Zaglyptus multicolor</i> (Gravenhorst, 1829)			○					
EURYTOMIDAE								
<i>Eurytoma martellii</i> Domenichini, 1960		○						
PTEROMALIDAE								
<i>Cyrtopyx latipes</i> (Rondani, 1874)		○						
<i>Scutellista cyanea</i> Motschulsky, 1859			○					
EUELMIDAE								
<i>Eupelmus urozonus</i> Dalman, 1820		○						
EULOPHIDAE								
<i>Pnigalio mediterraneus</i> Ferrière & Delucchi, 1957		○						
LEUCOSPIDAE								
<i>Leucospis gigas</i> Fabricius, 1793	+			○				
CHRYSIDIDAE								
<i>Hedychridium</i> cf. <i>mediocrum</i> Linsenmaier, 1987		+						
<i>Hedychrum</i> cf. <i>micans europaeum</i> Linsenmaier, 1959		+						
<i>Holopyga fervida</i> (Fabricius, 1781)	+		+	+		+	+	
<i>Pseudomalus auratus</i> (Linnaeus, 1758)	●							
<i>Chrysis</i> cf. <i>auriceps</i> Mader, 1936							+	
<i>Chrysis cerastes</i> Abeille De Perrin, 1877		+						
<i>Chrysis ignita ignita</i> Linnaeus, 1761			○					
<i>Chrysis scutellaris</i> Fabricius, 1794					+			
<i>Pseudochrysis neglecta</i> (Shuckard, 1837)			+					
DRYINIDAE								
<i>Gonatopus lunatus</i> Klug, 1810			○					
TIPHIIDAE								
<i>Tiphia lepeletieri</i> Berland, 1925	+							
<i>Meria tripunctata</i> (Rossi, 1790)	●		+					
<i>Meria dorsalis</i> (Fabricius, 1804)	●		+					

SCOLIIDAE								
<i>Megascolia bidens</i> (Linnaeus, 1767)	○		●					
<i>Megascolia maculata</i> (Drury, 1773)	●	○	●					
<i>Scolia hirta</i> (Schrank, 1781)	+							
<i>Scolia carbonaria</i> (Linnaeus, 1767)	+							
<i>Scolia sexmaculata</i> (Müller, 1766)	○		○					
<i>Colpa sexmaculata</i> (Fabricius, 1781)	○		+	○				
<i>Dasyscolia ciliata</i> (Fabricius, 1787)			+					
MUTILLIDAE								
<i>Bidecoloratilla leopoldina</i> (Invrea, 1955)	○	○	○					
<i>Myrmilla calva</i> (Villiers, 1789)	○		○					
<i>Ronisia brutia brutia</i> (Petagna, 1787)	○	○	○		○		○	
<i>Ronisia ghilianii</i> (Spinola, 1843)	○						○	
<i>Tropidotilla litoralis</i> (Petagna, 1787)	○		○					
<i>Nemka viduata viduata</i> (Pallas, 1773)	○		○	○				
<i>Physetopoda pusilla</i> (Klug, 1835)	○							
<i>Smicromyrme ausonia</i> Invrea, 1950	○							
<i>Smicromyrme partita</i> (Klug, 1835)	○							
<i>Smicromyrme ruficollis ruficollis</i> (Fabricius, 1793)	○		○	○				
<i>Smicromyrme sulcisia</i> Invrea, 1955	○		○					
<i>Smicromyrme trinotata</i> (Costa, 1858)	○							
<i>Dasylabris maura maura</i> (Linnaeus, 1758)	○							
POMPILIDAE								
<i>Pompilus cinereus</i> Fabricius, 1798			+					
<i>Agenioideus ciliatus</i> (Lepelletier, 1845)	+							
<i>Anoplius viaticus</i> (Linnaeus, 1758)	+							
<i>Aporus bicolor</i> Spinola, 1808	+							
<i>Auplopus carbonarius</i> (Scopoli, 1763)	+							
<i>Priocnemis (Priocnemis) propinqua</i> (Lepelletier, 1845)	+							
VESPIDAE EUMENINAE								
<i>Leptochilus (Neoleptochilus) regulus</i> (Saussure, 1855)			○					
<i>Stenodynerus fastidiosissimus</i> s. str. (Saussure, 1855)			○					
<i>Ancistrocerus auctus auctus</i> (Fabricius, 1793)	○							
<i>Ancistrocerus gazella</i> (Panzer, 1798)			○					
<i>Ancistrocerus longispinosus longispinosus</i> (Saussure, 1855)	○	○	●					
<i>Eumenes coarctatus maroccanus</i> Gusenleitner, 1972			○					
<i>Eumenes mediterraneus mediterraneus</i> Kriechbaumer, 1879	○		+					
<i>Delta unguiculatum</i> (Villers, 1789)	+							
<i>Rynchium oculatum</i> (Fabricius, 1781)			●					
VESPIDAE VESPINAE								
<i>Vespa crabro crabro</i> Linnaeus, 1758			+					
<i>Polistes (Polistes) dominula</i> (Christ, 1791)			+					
<i>Polistes (Polistes) gallicus</i> (Linnaeus, 1767)			+					
<i>Polistes (Polistes) nimpha</i> (Christ, 1791)			+					

<i>Camponotus ruber</i> Emery, 1925	○						○	
<i>Crematogaster scutellaris</i> (Olivier, 1791)	●	○	○	○	○		○	
<i>Crematogaster sordidula</i> (Nylander, 1849)		○					○	
<i>Formica cunicularia</i> Latreille, 1798	○							
<i>Lepisiota frauenfeldi</i> (Mayr, 1855)	○							
<i>Lepisiota nigra</i> (Dalla Torre, 1893)	○	○	○				○	1+
<i>Messor barbarus</i> (Linnaeus, 1767)		○						
<i>Messor bouvieri</i> Bondroit, 1918	○	○	○	○	○		○	
<i>Messor capitatus</i> (Latreille, 1798)	●							
<i>Messor ibericus</i> Santschi, 1931		○			○			
<i>Messor meridionalis</i> (André, 1882)	○							
<i>Messor minor</i> ssp. <i>calabricus</i> Santschi, 1927								2●
<i>Messor structor</i> (Latreille, 1798)	●							
<i>Nylanderia</i> sp.				○				
<i>Oxyopomyrmex saulcyi</i> Emery, 1889	○							
<i>Pheidole pallidula</i> (Nylander, 1848)	○	○	○	●	○		○	
<i>Plagiolepis pallescens</i> Lomnicki, 1925	○	○	○	○		○	○	1+
<i>Plagiolepis pygmaea</i> (Latreille, 1798)	○				○			
<i>Ponera coarctata</i> (Latreille, 1802)	○	○				●		
<i>Tetramorium bicarinatum</i> (Nylander, 1846)	○						○	
<i>Tetramorium diomedaeum</i> Emery, 1908					○			
<i>Tetramorium immigrans</i> Santschi, 1927							○	
<i>Tetramorium punctatum</i> Santschi, 1927	○	○	○	○	○		○	4+
<i>Tetramorium semilaeve</i> André, 1883	○	○	○	○	○	○	○	
<i>Lasius myops</i> Forel, 1894	○	○	○					
<i>Lasius casevitzi</i> Seifert & Galkowski, 2016	○	○				○		
<i>Lasius emarginatus</i> (Olivier, 1792)	○	○						
<i>Lasius lasioides</i> (Emery, 1869)	○	○	○	○	○	○	○	
<i>Linepithema humile</i> (Mayr, 1868)				○	○			
<i>Monomorium subopacum</i> (F. Smith, 1858)	○			○	○		○	
<i>Solenopsis fugax</i> (Latreille, 1798)	○							
<i>Solenopsis latro</i> Forel, 1894	○	○		○	○			
<i>Strongylognathus destefanii</i> Emery, 1915			○					
<i>Strumigenys membranifera</i> Emery, 1869				○				
<i>Tapinoma erraticum</i> (Latreille, 1798)	○	○	○					
<i>Tapinoma nigerrimum</i> complex	○	○	○	○	○		○	
<i>Temnothorax exilis</i> (Emery, 1869)	○	○	○	○	○	○	○	
<i>Temnothorax lichtensteini</i> (Bondroit, 1918)		○						
<i>Temnothorax mediterraneus</i> Ward, Brady, Fisher & Schultz, 2014	○		○	○	○		○	
<i>Wasmannia auropunctata</i> (Roger, 1863)								2?
COLLETIDAE								
<i>Colletes nigricans</i> Gistel, 1857		+						
<i>Hylaeus (Paraprosopis) clypearis</i> (Schenck, 1853)							+	
<i>Hylaeus (Dentigera) imparilis</i> Förster, 1871	+							
<i>Hylaeus (Spatulariella) punctatus</i> (Brullé, 1832)		+						

ANDRENIDAE							
<i>Andrena (Charitandrena) hattorfiana dimidiata</i> Brullé, 1832			+				
<i>Andrena (Euandrena) ruficrus</i> Nylander, 1848	+						
<i>Andrena (Melandrena) morio morio</i> Brullé, 1832			+			+	
<i>Andrena (Melandrena) nigroaenea</i> s.str. (Kirby, 1802)					+		
<i>Andrena (Melandrena) nitida nitida</i> (Müller, 1776)			+				
<i>Andrena (Plastandrena) pilipes</i> Fabricius, 1781			+				
<i>Andrena (Scitandrena) scita</i> Eversmann, 1852			+				
<i>Andrena (Taeniandrena) wilkella</i> (Kirby, 1802)			+				
HALICTIDAE							
<i>Pseudapis bispinosa</i> (Brullé, 1832)			+				
<i>Ceylalyctus variegatus</i> (Olivier, 1789)			+				
<i>Nomioides facilis</i> (Smith, 1853)	+						
<i>Nomioides minutissimus</i> (Rossi, 1790)			+				
<i>Halictus (Halictus) quadricinctus</i> (Fabricius, 1776)			+			+	
<i>Halictus (Hexataenites) fulvipes</i> (Klug, 1817)	+		+			+	
<i>Halictus (Hexataenites) scabiosae</i> (Rossi, 1790)	+						
<i>Halictus (Monilapis) compressus</i> Walckenaer, 1802	+						
<i>Halictus (Seladonia) gemmeus</i> Dours, 1872			+				
<i>Halictus (Seladonia) smaragdulus</i> Vachal, 1895			+				
<i>Halictus (Tythalyctus) asperulus</i> Perez, 1895			+			+	
<i>Halictus (Tythalyctus) maculatus</i> Smith, 1848						+	
<i>Lasioglossum (Dialictus) nitidulum</i> (Fabricius, 1804)	+						
<i>Lasioglossum (Dialictus) planulum</i> (Perez, 1903)	+						
<i>Lasioglossum (Dialictus) semilucens</i> (Alfken, 1914)	+						
<i>Lasioglossum (Sphecodogastra) immunitum sillatum</i> (Warncke, 1981)			+				
<i>Lasioglossum (Sphecodogastra) malachurum</i> (Kirby, 1802)	+						
<i>Lasioglossum (Sphecodogastra) opacum</i> Perez, 1895	+		+				
<i>Lasioglossum (Sphecodogastra) nigripes</i> (Lepelletier, 1841)	+						
<i>Lasioglossum (Sphecodogastra) pauxillum</i> (Schenck, 1853)						+	
<i>Lasioglossum (Sphecodogastra) subhirtum</i> (Lepelletier, 1841)	+						
<i>Lasioglossum (Lasioglossum) albocinctum</i> (Lucas, 1849)			+				
<i>Lasioglossum (Lasioglossum) bimaculatum</i> (Dours, 1872)	+		+				
<i>Lasioglossum (Lasioglossum) costulatum</i> (Kriechbaumer, 1873)	+						
<i>Lasioglossum (Lasioglossum) leucozonium cedri</i> Ebmer, 1976	+						
<i>Sphecodes albilabris</i> (Fabricius, 1793)	+						
<i>Sphecodes gibbus</i> (Linnaeus, 1758)			+				
<i>Sphecodes monilicornis quadratus</i> Meyer, 1919			+				
<i>Sphecodes spinulosus</i> Hagens, 1875			+				
MEGACHILIDAE							
<i>Heriades (Heriades) truncorum</i> (Linnaeus, 1758)			+				
<i>Hoplitis (Hoplitis) adunca adunca</i> (Panzer, 1798)			+				
<i>Hoplitis (Hoplitis) lepeletieri</i> (Panzer, 1798)			+				
<i>Osmia (Helicosmia) latreillei iberofafricana</i> Peters, 1975			+		+		
<i>Osmia (Pyrosmia) submicans hebraea</i> Benoist, 1934			+				

<i>Rhodanthidium septemdentatum</i> (Latreille, 1809)	+							
<i>Stelis phaeoptera murina</i> Perez, 1884	+							
<i>Dioxys cincta</i> (Jurine, 1807)	+							
<i>Megachile (Chlicodoma) parietina</i> (Geoffroy, 1785)	+						+	
<i>Megachile (Chalicodoma) sicula</i> Rossi, 1792	+							
<i>Megachile (Eutricharaea) apicalis</i> Spinola, 1808	+		○					
<i>Megachile (Eutricharaea) pilidens</i> Alfken, 1924			●					
<i>Anthidium manicatum</i> (Linnaeus, 1758)			○					
<i>Anthidium florentinum</i> (Fabricius, 1775) ¹				○				
APIDAE								
<i>Xylocopa (Xylocopa) valga</i> Gerstaecker 1872				○				
<i>Xylocopa (Xylocopa) violacea</i> (Linnaeus, 1758)	●		●	○	○		○	
<i>Ceratina cucurbitina</i> (Rossi, 1792)	+		+				+	
<i>Nomada fulvicornis</i> Fabricius, 1793			+					
<i>Epeolus julliani</i> Perez, 1884			+					
<i>Pasites maculatus</i> Jurine, 1807			+					
<i>Eucera (Eucera) nigrescens</i> Perez, 1879			+				+	
<i>Tetraloniella dentata</i> (Germar, 1839)			+					
<i>Amegilla albigena</i> (Lepelletier, 1841)			+					
<i>Amegilla garrula</i> (Rossi, 1790)	+	+						
<i>Thyreus ramosus</i> (Lepelletier, 1841)								3+
<i>Anthophora (Lophanthophora) dispar</i> Lepelletier, 1841			○				○	
<i>Anthophora (Anthophora) plumipes niger</i> (Friese, 1896)			+					
<i>Bombus (Bombus) terrestris</i> (Linnaeus, 1758)			●					
<i>Apis mellifera</i> (Linnaeus, 1758)	●							

Table 1. Summary of Hymenoptera from Aeolian archipelago. Legend: ○ = bibliographic record only; ● = record confirmed by the present study; + = new record; ? = doubtful record. Islets: 1 = Strombolicchio; 2 = Lisca Bianca; 3 = Basiluzzo; 4 = Scoglio Faraglione. 1 observed and photographed in Stromboli as reported on 06.07.2011, https://www.naturamediterraneo.com/forum/topic.asp?TOPIC_ID=146201.

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