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Diversity and distribution of beetles in a Mediterranean volcanic archipelago: an updated checklist of the Coleoptera of the Aeolian Islands (Sicily, Italy)

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ABSTRACT This paper provides a faunal inventory of the Coleoptera of the Aeolian Islands, including both the list of 669 species so far recorded and its update with 192 new records for the archipelago. *Sericoderus brevicornis* Matthews, 1890 (Corylophidae) is new for Italy; for *Anthicus crinitus* La Ferté-Sénectère, 1849 (Anthicidae) the second record in Italy is given; *Pangus scaritides* (Sturm, 1818), *Tachyura curvimana* (Wollaston, 1854) (Carabidae), *Arthrolips convexiuscula* (Motschulsky, 1849) (Corylophidae), *Dignomus irroratus* (Kiesenwetter, 1851) (Ptinidae), *Megaloscapa punctipennis* (Kraatz, 1856) (Staphylinidae), *Aclees taiwanensis* Kôno, 1933, *Cryphalus numidicus* Eichhoff, 1878 and *Hypothenemus leprieuri* (Perris, 1866) (Curculionidae) are new for Sicily; *Migneauxia crassiuscula* (Aubé, 1850) (Latridiidae) and *Phloeotribus cristatus* (Fauvel, 1889) (Curculionidae) are confirmed for this region. For 193 species new distributional data are also given; among these latter, some concern the narrow endemics *Firminus massai* Arnone, Lo Cascio et Grita, 2014 (Scarabaeidae), *Catomus aeolicus* Ponel, Lo Cascio et Soldati, 2020, *Leptoderis zelmerloewae* Ferrer, 2015, *Nalassus pastai* Aliquò, Leo et Lo Cascio, 2006 (Tenebrionidae) and *Pseudomeira aeolica* Bellò, Pesarini et Pierotti, 1997 (Curculionidae). The inventory highlights an increasing abundance of alien species, some of which have only recently been reported at national or regional scale, that evidently spread rapidly even in isolated environments such as an archipelago. Some biogeographical considerations on the beetle fauna of these islands are given in the discussion.

KEY WORDS Coleoptera; Aeolian Islands; faunal inventory; new records; biogeography; alien species.

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INTRODUCTION

The Aeolian Archipelago is the largest, most complex and heterogeneous group among the circum-Sicilian islands, and is characterized by a remarkable floristic and faunal richness. Since 2000, these islands are included in the UNESCO World Heritage List for the importance of their volcanoes,

but in the 2007 assessment the IUCN commission has proposed to extend this nomination also to the biological values of the site (see Hamilton et al., 2007). In the same year, the archipelago was declared National Park by the law 222 of 24/12/2007, although this protected area has not yet been instituted.

Coleoptera is the largest order among all living organisms on the planet and therefore the most prominent group of the global biodiversity; according to www.faunaeur.org, more than 12,000 species are recorded for Italy and this number is constantly increasing. This group has a remarkable ecological and biogeographical importance, especially on island environments that host a disproportionate number of endemics in light of their relatively small geographical extension (Gillespie & Roderick, 2002).

Researches on the coleopteran assemblages of the Aeolian Islands are only relatively recent. With the exception of scattered data provided in literature between the late 19th century and the second half of the 20th century (Della Beffa, 1912-1914; Gridelli, 1950; Porta, 1934, 1959; Targioni-Tozzetti, 1891), the faunal investigations on this group indeed began in the 1960s, framed in the research program "Piccole Isole" launched by the National Research Council (CNR). Their first results have been published through a series of contributions (Bucciarelli, 1971; Carpaneto, 1985; Focarile, 1969, 1970, 1972; Magistretti, 1971; Marcuzzi, 1970a), as well as in the proceedings of the 18th Symposium of the Italian Society of Biogeography (SBI) held in Lipari in May 1972 (Bordoni, 1973; Magnano & Osella, 1973).

In the late 1990s, one of us (PLC) started a new cycle of investigations, still ongoing, whose results have been published separately for some families and/or species (Aliquò et al., 2006; Arnone et al., 2001, 2014; Cecchi & Lo Cascio, 1999, 2000; Cecchi et al., 1999; Lo Cascio, 2009, 2017, 2020a; Lo Cascio & Magrini, 1998; Lo Cascio & Sparacio, 2010; Magrini et al., 1999) and in a large update of the faunal knowledge (Lo Cascio et al., 2006). Furthermore, data from this material, partially kept at the Zoological Museum "La Specola" of the Florence University, were also used in the CKmaps of the "Checklist e distribuzione della fauna italiana" (Penati & Vienna, 2005; Rocchi, 2005) as well as in other contributions (Abbazzi et al., 2000; Leonardi, 2007; Caldara, 2008; 2014; Bordoni, 2014; Rapuzzi & Sparacio, 2015; Háva & Hermann, 2020; Zampetti & Toma, 2020).

For the Aeolian Islands, 669 species of Coleoptera are currently known (including 11 taxa identified only at generic level) recorded in more than 170 papers/monographs/other contributions (for a bibliographic review see Lo Cascio, 2020b). Although indicated for the archipelago, other four species (not considered above) must be excluded from the islands' faunas: according to Aliquò et al. (2006), i) *Scaurus aegyptiacus* ssp. *giganteus* Küster, 1848 and ii) *Stenosis freyi* Koch, 1944, respectively recorded for the islands of Stromboli and Lipari, have been misidentified by Marcuzzi (1970a); iii) Lo Cascio (2020b) has clarified that the type-specimen of *Sibinia cretaceocincta* Desbrochers des Loges, 1908 [currently synonym of *Sibinia* (*Dichotychius*) *tychiiformis* Pic, 1902] was not collected at Rinella (Salina Island), as suggested by Baviera & Caldara (2020), and its true provenance should be "Arenella" near Palermo, wrongly transcribed by Ragusa (1908); finally, iv) *Cylindera germanica* (L., 1758) was listed by Sadeghi et al. (2011 sub *Cicindela*) for "Lipari Is.", because these authors resumed its distribution from www.faunaeur.org where the circum-Sicilian islands are acritically merged with Sicily.

The aim of this paper is to provide the first complete inventory of the coleopteran fauna of the Aeolian Archipelago, and to update the list with new records obtained from i) the aforementioned long-term research performed by PLC and collaborators, ii) field investigations carried out on some islands by GA and iii) those made by PP between 2015 and 2018 as part of the "École de terrain" of the BEE/Bioeffect Master 2 of the Aix-Marseille University (see also Ponel et al., 2020). Furthermore, some records of specimens of Curculionidae Scolytinae kept in the collection of the Department of Agronomy, Food, Natural Resources, Animals and the Environment (DAFNAE) of the University of Padua, as well as others concerning Melyridae, have been respectively communicated by the colleagues Massimo Faccoli and Gabriele Franzini.

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 Green-

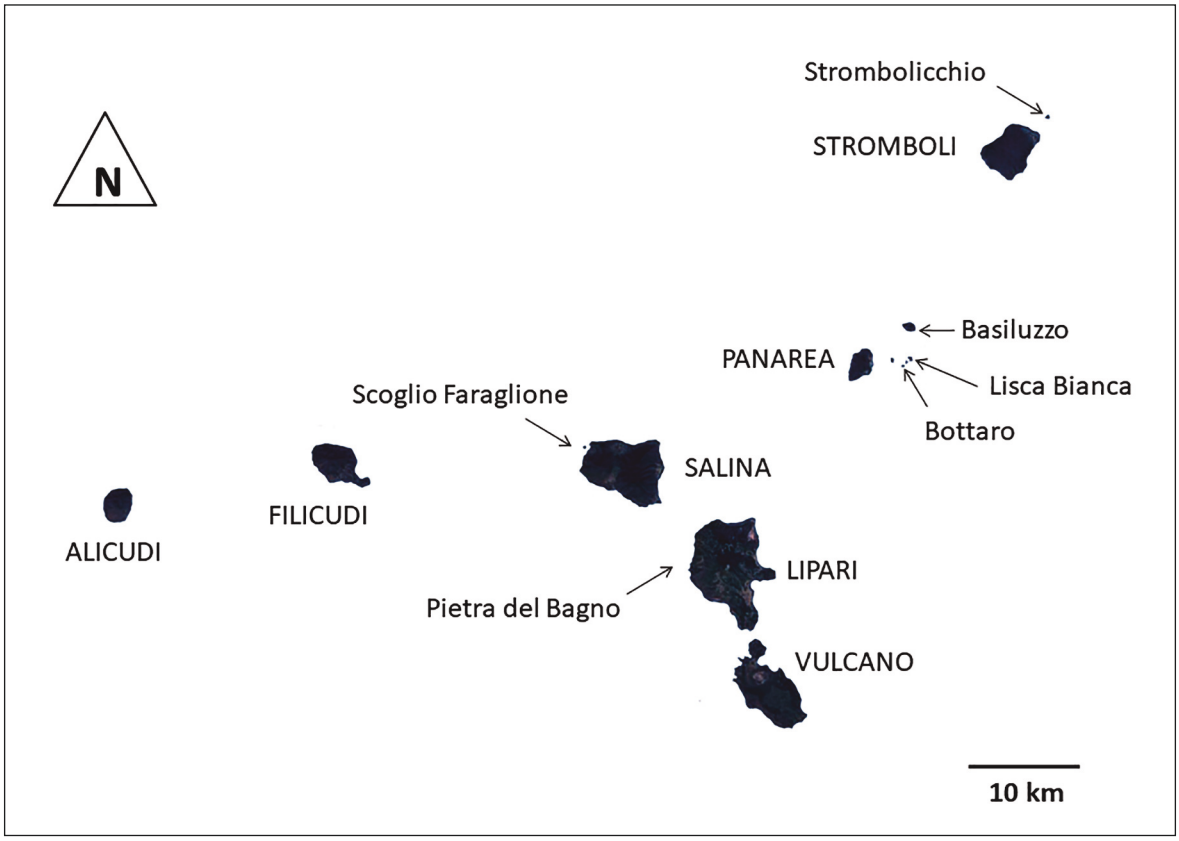

Figure 1. Geographical sketch of the Aeolian Archipelago.

wich, in the southern Tyrrhenian Sea. It includes seven main islands (Lipari, Salina, Vulcano, Stromboli, Filicudi, Alicudi and Panarea), with a surface ranging from 37.3 to 3.3 km^2, and several uninhabited islets; a geomorphological distinctive feature of the archipelago is the remarkable elevation, with five islands (Alicudi, Filicudi, Lipari, Salina and Stromboli) that exceed 600 m a.s.l. (Table 1).

The origin of this volcanic group is strictly linked to the subduction processes related to the convergence between the African and the Euro-Asiatic plates, as well as the occurrence of an important regional tectonic fault. 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 two of them (Alicudi and Stromboli) have an estimated age of less than 100,000 years. Currently there are only three active volcanoes, namely Stromboli, La Fossa crater at Vulcano and a sub-marine center off the eastern coast of Panarea; volcanic activity occurred until 800 years ago also on Lipari (Lucchi et al., 2013).

The archipelago is characterised by an average annual rainfall of 540-680 mm with a dry period lasting around 4.5 months, and by an average annual temperature of 18.3 °C with an annual range of monthly average temperatures 13.5-13.9 °C. The main local bioclimate belongs to the upper thermo-Mediterranean thermotype and to dry-subhumid hombrotype (Lo Cascio, 2017 and references therein).

The first human settlements are dated to the late 6th millennium B.C., hence the islands have undergone to a long anthropization (Martinelli et al., 2021). This factor has significantly influenced the structure and dynamic of their actual territory, widely characterized by terraced landscapes built for agriculture (and preceded by intense deforestation) but mostly abandoned between late 19th and the first half of 20th century (Figs. 2, 3), when a dramatic economic crisis involved the local communities and caused a massive emigration (King & Young, 1979). This trend has reversed over the last few decades, thanks to the advent of tourism which,

however, poses a threat to some habitats, especially the coastal ones (Lo Cascio, 2017).

The islands host a complex mosaic of xeric grasslands, garrigues and maquis belonging to the alliances *Oleo sylvestris-Ceratonion siliquae* Br.-Bl. ex Guinochet & Drouineau and *Erico arboreae-Quercion ilicis* Brullo et al., with well-structured patches of the latter occurring in the inner and on the top of some islands (Salina, Lipari and Filicudi); furthermore, during the second half of the 20th century large areas of Salina and Vulcano have been reforested with allochthonous species (*Eucalyptus* sp.pl. and *Pinus* sp. pl.) (Figs. 4, 5). Despite a high level of anthropization, the archipelago is still characterized by a remarkable environmental heterogeneity, with more than 25 terrestrial habitats of community interest recognized by the Management Plan of Nature 2000 Sites (Cavallaro et al., 2009) (Figs. 6, 7). Among them, it is noteworthy the occurrence of the small coastal lagoons of Lingua (Salina: Fig. 8) and Pantano (Vulcano), and of some sandy beaches, mostly on Stromboli and Vulcano, while only this latter hosts small examples of dune systems, although subject to strong anthropic dis-

Figure 2. Terraced landscapes are widely occurring in some islands; these abandoned fields in Panarea, now occupied by thermophile shrubs, are the most important habitat of the narrow endemic *Catomus aeolicus* (Tenebrionidae). Figure 3. On the top of Alicudi (500 m a.s.l.), a small plateau between Dirittusu and Montagnole hosts several regional endemics, such as *Percus corrugatus* (Carabidae), *Scydmaenus antidotus* (Staphylinidae) and *Dichillus subtilis* (Tenebrionidae). Figure 4. The dense woody vegetation of Monte Fossa delle Felci (962 m a.s.l.) on Salina represents a mosaic of ancient reforestations and well-structured maquis that originated a semi-natural habitat with a certain faunal distictiveness: for instance, *Bostrichus capucinus* (Bostrichidae), *Rhagonycha lignosa* (Cantharidae), *Pissodes castaneus* and *Polydrusus cervinus* (Curculionidae) were found only there; it hosts also a large population of the narrow endemic *Firminus massai* (Scarabaeidae). Figure 5. The pastures extended over a large parte of the plateau of Piano (300-350 m a.s.l.) on Vulcano are delimited by 50 years-old reforestations with *Pinus* sp. pl. and *Eucalyptus* sp. pl. Their most distinctive faunal trait is the occurrence of a rich community of dung beetles, that includes *Scarabaeus sacer* and *S. typhon* (Scarabaeidae); the site hosts also the only Aeolian population of *Ergates faber* (Cerambycidae). Photos by P. Lo Cascio.

turbance (Fig. 9). Once again on Vulcano, the presence of livestock supports that of a relatively large dung beetle community (Lo Cascio, 2020a).

Field surveys

Beetles have been collected through many standard methods, that include visual direct searching, soil and litter sampling, pitfall and Moericke traps, beating and sweep netting on different plant species, and light traps; most of the xylophagous species have been also obtained from reared wood. Surveys have been performed throughout all the seasons of the year and over more than twenty years; although not in homogeneous manner, field investigations covered more than 80 different sites in all the islands and islets and likely all the habitat types occurring in the archipelago.

Checklist

Systematic and nomenclature of the supra-generic taxa follow Bouchard et al. (2011) except for Cybocephalidae (see Cline et al., 2014), while

Figure 6. On the western hills of Lipari (Timpone Ricotta and Monte Mazzacaruso, 300-350 m a.s.l.), xeric grasslands with dwarf palms host some species of biogeographic interest, such as the Italian endemic *Amara sicula* (Carabidae), or relatively rare, such as *Megaloscapa punctipennis* (Staphylinidae) and *Hypothenemus leprieuri* (Curculionidae). Figure 7. The coleopteran fauna of the tiny islets (here is Scoglio Faraglione near Salina) generally includes few species, mostly belonging to the family Tenebrionidae, but also apterous Curculionidae such as *Trachyphloeus laticollis* and the narrow endemic *Otiorhynchus meligunensis*. Figure 8. Careful entomological investigations were carried out on the Lingua lagoon of Salina since the 1970s (see Focarile, 1972), when the salt pan was abandoned. Many species, such as *Dicheirotrichus obsoletus*, *Tachys dimidiatus* (Carabidae), *Anacaena limbata*, *Enochrus bicolor*, *Paracymus aeneus*, *P. relaxus* (Hydrophilidae), *Actinopteryx fucicola* (Ptiliidae) and *Cyclodinus minutus minutus* (Anthicidae), occurs in the archipelago only in this site. Figure 9. The most important sandy beach with a dunal system occurs in the western side of the Istmo at Vulcano; a small community of psammoalophilous beetles includes *Parallelomorphus laevigatus* (Carabidae), *Halacritus punctum* (Histeridae), *Remus sericeus* and *Cafius xantholoma* (Staphylinidae), *Ammobius rufus*, *Erodius siculus neapolitanus*, *Phaleria bimaculata* and *Trachyscelis aphodioides* (Tenebrionidae). Photos by P. Lo Cascio.

for genera and species the nomenclature follows the "Catalogue of Palaearctic Coleoptera" (Danilewsky, 2020; Iwan & Löbl, 2020; Löbl & Löbl, 2015, 2016, 2017; Löbl & Smetana, 2004, 2007, 2010) and the "Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea" (Alonso-Zarazaga et al., 2017), except for some updating (Deidun et al., 2011; Yus Ramos, 2013; ICZN, 2016; Baiocchi & Magnani, 2018; Vondráček et al., 2018; Kejval & Chandler, 2020; Leo et al., 2021).

Within each family, species are listed in alphabetical order and followed by the known distribution within the archipelago with the first relative bibliographic reference. New records are preceded by an asterisk (*) and followed by the collection data; toponyms are given according to the IGM nomenclature. Collectors' names are abbreviated as AG (Andrea Galasso), ALM (Antonio La Mantia), AM (Antonio Marra), AN (Angelo Natoli), AS (Arnold Sciberras), BCA (Beatrice Carletti), BCE (Bernardo Cecchi), CM (Carmelo Mustica), FG (Flavia Grita), GA (Giovanni Altadonna), GAL (Giuseppe Allegrino), JS (Jeffrey Sciberras), LD (Leonardo Dapporto), LLF (Luana La Fauci), PLC (Pietro Lo Cascio), PP (Philippe Ponel), SAL (Sebastiano Altadonna), SP (Salvatore Pasta), TML (Tommaso La Mantia), VP (Valeria Pancioli). All the examined specimens are kept in the authors' collections.

Data analysis

The effects of geographical predictors on faunal assemblages have been assessed through simple linear regression analysis with 95% confidence limits, while similarity in species composition (from presence/absence of each species) has been obtained using cluster analysis with paired groups (UPGMA) based on Jaccard's coefficient; both have been performed with the free-access software PAST version 3.1.

RESULTS

CHECKLIST

Suborder ADEPHAGA
Family CARABIDAE

Acinopus picipes (Olivier, 1795) - Lipari (Magistretti, 1971). Salina (Lo Cascio & Magrini, 1998). *Vulcano: Piano, 2.vi.2011, GA. Filicudi (Lo Cascio & Magrini, 1998).

Amara (*A.*) *aenea* (De Geer, 1774) - Lipari (Lo Cascio & Magrini, 1998). *Vulcano: Piano, 30.vii.2009, PLC & FG; Piani di Luccia, 2.vi.2012, 17.vi.2012, GA. Alicudi (Lo Cascio & Magrini, 1998).

Amara (*A.*) *anthobia* A. Villa & J.B. Villa, 1833 - Alicudi (Lo Cascio et al., 2006).

Amara (*Celia*) *montana* Dejean, 1828 - Lipari (Magistretti, 1971). Salina (Magistretti, 1971). Vulcano (Lo Cascio & Magrini, 1998). Basiluzzo (Lo Cascio & Magrini, 1998).

Amara (*Percosia*) *sicula* Dejean, 1831 - Lipari (Lo Cascio & Magrini, 1998).

**Apristus europaeus* Mateu, 1981 - Vulcano: 4-5.xi.2015, PP.

Bembidion (*Lymnaeum*) *nigropiceum* (Marsham, 1802) - Salina (Magistretti, 1971 sub *Limnaeum*).

**Bembidion* (*Trepanes*) *bedelianum* Netolitzky, 1918 - Salina: 24.vii.2010, PLC & FG.

**Brachinus crepitans* (L., 1758) - Lipari: Timpone Ricotta, x.2010, PLC & FG.

Bradycellus distinctus (Dejean, 1829) - Vulcano (Lo Cascio & Magrini, 1998).

Bradycellus lusitanicus (Dejean, 1829) - Lipari (Lo Cascio & Magrini, 1998). *Vulcano: Piano, vi.2012, PLC & FG.

Bradycellus verbasci (Duftschmid, 1812) - Lipari (Lo Cascio & Magrini, 1998). Stromboli (Cecchi et al., 1999).

Calathus cinctus Motschulsky, 1850 - Lipari (Magistretti, 1967 sub *C. mollis*). Salina (Magistretti, 1971 sub *C. mollis*). Vulcano (Magistretti, 1971 sub *C. mollis*). Stromboli (Magistretti, 1967 sub *C. mollis*). Filicudi (Magistretti, 1971 sub *C. mollis*). Alicudi (Focarile, 1970 sub *C. mollis*). Panarea (Magistretti, 1971 sub *C. mollis*).

Calomera littoralis ssp. *nemoralis* (Olivier, 1790) - Vulcano (Lo Cascio, 2017). Data record as follows: Gelso beach, vii.2011, TLM & ALM.

Carabus (*Macrothorax*) *morbillosus* ssp. *bruttianus* Born, 1906 - Lipari (Bruno, 1966 sub *C. morbillosus* ssp. *alternans*). Vulcano (Bruno, 1966 sub *C. morbillosus* ssp. *alternans*).

Carterus (*C.*) *rotundicollis* Rambur, 1837 - Lipari (Cecchi et al., 1999).

Carterus (*Sabienus*) *calydonius* (Rossi, 1790) - Lipari (Magistretti, 1967).

**Chlaenius* (*Chlaeniellus*) *vestitus* (Paykull, 1780) - Vulcano: Pantano, 1.iv.2011, PLC.

Cicindela campestris ssp. *siculorum* Schilder, 1953 - *Lipari: Poggio dei Funghi, xi.2008, PLC; same locality, 8.i.2021, 21.ii.2021, PLC & LLF; Monte Chirica, 6.xi.2015, PP. Salina (Magistretti, 1971 sub *C. campestris suffriani*).

Cryptophonus melancholicus (Dejean, 1829) - Panarea (Magistretti, 1971 sub *Harpalus*).

Cryptophonus tenebrosus (Dejean, 1829) - Lipari (Cecchi et al., 1999). Salina (Cecchi et al., 1999). Stromboli (Cecchi et al., 1999). Filicudi (Magistretti, 1971 sub *Harpalus*).

Cymindis (*Menas*) *miliaris* (F., 1801) - Filicudi (Magistretti, 1971 sub *C. variolosa cyanoptera*).

Dicheirotrichus obsoletus (Dejean, 1829) - Salina (Magistretti, 1971).

Ditomus clypeatus (Rossi, 1790) - Lipari (Magistretti, 1971).

**Dromius meridionalis* Dejean, 1825 - Vulcano: western slope of Gran Cratere, 16.x.2018, PP; near Gelso, 17.x.2018, PP. Stromboli: Nel Cannestrà, beating *Spartium junceum*, xii.2016, PLC.

Dyschiriodes apicalis (Putzeys, 1846) - Salina (Magistretti, 1971 sub *Dyschirius*). *Vulcano: Pantano, 2.iv.2018, PLC & FG.

**Emphanes normannus* (Dejean, 1831) - Vulcano: Pantano, 17.x.2018, PP.

Graniger cordicollis (Audinet-Serville, 1821) - Filicudi (Lo Cascio & Magrini, 1998).

Harpalus anxius (Duftschmidt, 1812) - Vulcano (Magistretti, 1971 sub *H. anxius pumilus*).

Harpalus atratus Latreille, 1804 - Salina (Magistretti, 1971). Filicudi (Magistretti, 1971). Alicudi (Magistretti, 1971).

Harpalus attenuatus Stephens, 1828 - Lipari (Vigna Taglianti, 1994). Salina (Magistretti, 1967). Vulcano (Vigna Taglianti, 1994).

Harpalus decipiens Dejean, 1829 - Stromboli (Lo Cascio & Magrini, 1998). Alicudi (Lo Cascio et al., 2006).

Harpalus rubripes (Duftschmidt, 1812) - Vulcano (Magistretti, 1971).

**Harpalus rufipalpis* Sturm, 1818 - Stromboli: Serro Adorno, 24.x.1996, PLC; 8.xi.2015, PP.

Harpalus sulphuripes ssp. *sulphuripes* Germar, 1824 - Lipari (Magistretti, 1971 sub *H. sulphuripes decolor*). Salina (Magistretti, 1971 sub *H. sulphuripes decolor*). *Vulcano: Piano, 13.v.2010, PLC & FG; same locality, viii.2012, 10–18.viii.2013, GA. Filicudi (Magistretti, 1971 sub *H. sulphuripes decolor*). Alicudi (Magistretti, 1971 sub *H. sulphuripes decolor*). Basiluzzo (Lo Cascio & Magrini, 1998).

Harpalus tardus (Panzer, 1797) - Alicudi (Magistretti, 1971).

Laemostenus (*Pristonychus*) *algerinus* ssp. *algerinus* (Gory, 1833) - Lipari (Magistretti, 1971 sub *Pristonychus*). *Vulcano: Capo Grillo, under bark of *Eucalyptus* sp., 15.vi.2012, GA. Stromboli (Magistretti, 1971 sub *Pristonychus*).

Leistus (*Pogonophorus*) *spinibarbis* ssp. *fiorii* Lutshnik, 1913 - Lipari (Magistretti, 1971). Salina (Magistretti, 1971). Filicudi (Magistretti, 1971). Alicudi (Magistretti, 1971).

Licinus punctatulus (F., 1792) - Lipari (Lo Cascio & Magrini, 1998).

Lionychus maritimus Fairmaire, 1862 - Lipari (Lo Cascio et al., 2006).

Masoreus wetterhallii ssp. *wetterhallii* (Gyllenhal, 1813) - Stromboli (Vigna Taglianti, 1995). Alicudi (Vigna Taglianti, 1995).

Metadromius nanus (Fiori, 1914) - Lipari (Cecchi et al., 1999). Salina (Poggi, 1981). Stromboli (Lo Cascio et al., 2006). Filicudi (Magistretti, 1971 sub *M. myrmidon*). Alicudi (Magistretti, 1971 sub *M. myrmidon*).

Microlestes abeillei ssp. *brisouti* Holdhaus, 1912 - Filicudi (Lo Cascio & Magrini, 1998).

Microlestes corticalis (Dufour, 1820) - Lipari (Lo Cascio & Magrini, 1998).

Microlestes levipennis ssp. *longipennis* Motschulsky, 1859 - Vulcano (Cecchi et al., 1999).

Microlestes luctuosus Holdhaus in Apfelbeck, 1904 - Lipari (Lo Cascio & Magrini, 1998). Filicudi (Lo Cascio & Magrini, 1998). Alicudi (Vigna Taglianti, 1994). Panarea (Magistretti, 1971).

Microlestes negrita (Wollaston, 1854) - Salina (Magistretti, 1967).

Microlestes plagiatus (Duftschmidt, 1812) - Salina (Magistretti, 1971). Filicudi (Magistretti, 1971). Alicudi (Magistretti, 1971).

Myriochila melancholica (F., 1798) - Lipari (Lo Cascio et al., 2006).

Nebria (*Eunebria*) *psammodes* (Rossi, 1792) - Lipari (Magistretti, 1967 sub *N. psammodes schreibersi*).

Nebria (*N.*) *andalusia* Rambur, 1837 - Lipari (Magistretti, 1971 sub *N. andalusiaca*). Vulcano

(Magistretti, 1971 sub *N. andalusiaca*). Alicudi (Magistretti, 1971 sub *N. andalusiaca*).

Notiophilus geminatus Dejean & Boisduval, 1830 - Lipari (Lo Cascio & Magrini, 1998).

**Notiophilus quadripunctatus* Dejean, 1826 - Lipari: Monte Rosa, 20.xi.2009, PLC. Salina: Monte Fossa delle Felci, 2.v.2010, PLC & FG. Vulcano: Valle Rio Grande, 6.xi.2016, PP. Panarea: Iditella, beating *Spartium junceum*, 7.xi.2016, PLC.

Notiophilus rufipes Curtis, 1829 - Salina (Cecchi et al., 1999).

Ocys beatricis Magrini, Cecchi & Lo Cascio, 1999 - Lipari (Magrini et al., 1999).
Remarks: narrow endemic of Lipari Island (Neri et al., 2011).

Ocys harpaloides (Audinet-Serville, 1821) - Lipari (Magistretti, 1971 sub *Bembidion*).

Olisthopus elongatus Wollaston, 1854 - *Salina: Monte Fossa delle Felci, 2.v.2010, PLC & FG. *Vulcano: near Pantano, 1.iv.2011, PLC & FG. Alicudi (Magistretti, 1971 sub *Odontonyx*).

Olisthopus fuscatus Dejean, 1828 - Lipari (Magistretti, 1967 sub *Odontonyx*). Salina (Magistretti, 1971 sub *Odontonyx*). Vulcano (Magistretti, 1971 sub *Odontonyx*). Filicudi (Magistretti, 1971 sub *Odontonyx*). Basiluzzo (Lo Cascio & Magrini, 1998).

Ophonus (*Hesperophonus*) *azureus* (F., 1775) - Lipari (Cecchi et al., 1999).

Ophonus (*Hesperophonus*) *rotundatus* (Dejean, 1829) - Lipari (Lo Cascio & Magrini, 1998).

Ophonus (*Hesperophonus*) *subquadratus* (Dejean, 1829) - Panarea (Magistretti, 1971 sub *Harpalus*).

Ophonus (*Metophonus*) *puncticollis* (Paykull, 1798) - Salina (Magistretti, 1971 sub *Harpalus puncticollis meridianus*).

Ophonus (*Metophonus*) *rufibarbis* (F., 1792) - *Lipari: Capistello, at light, vi.2010, PLC & FG. Stromboli (Cecchi et al., 1999).
Remarks: known in Sicily only for these two sites (see Vigna Taglianti, 2005).

Ophonus (*O.*) *sabulicola* ssp. *columbinus* (Germar, 1817) - Lipari (Lo Cascio & Magrini, 1998: 251).

**Pangus scaritides* (Sturm, 1818) - Vulcano: Piano, 28.vi.2009, PLC & FG.
Remarks: first record for Sicily (see Vigna Taglianti, 2005; 2009).

Paradromius (*Manodromius*) *linearis* (Olivier, 1795) - Lipari (Magistretti, 1971 sub *Dromius*). Vulcano (Vigna Taglianti, 1994). *Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP. Alicudi (Vigna Taglianti, 1994). *Panarea: 7.xi.2016, PP.

Parallelomorphus laevigatus (F., 1792) - Salina (Magistretti, 1967 sub *Scarites*). Vulcano (Magistretti, 1971 sub *Scarites*).

**Parallelomorphus terricola* ssp. *terricola* (Bonelli, 1813) - Vulcano: Porto, 15.vii.2010, PLC & FG.

Parophonus hispanus (Rambur, 1838) - Lipari (Lo Cascio & Magrini, 1998).

Percus corrugatus (Billberg, 1815) - Alicudi (Focarile, 1970 sub *P. strictus*).

Philochthus vicinus (Lucas, 1846) - Vulcano (Magistretti, 1971 sub *Bembidion*).

**Philorhizus crucifer* ssp. *crucifer* (Lucas, 1846) - Alicudi: Dirittuso, 18–21.ii.2010, PLC & FG.

Philorhizus melanocephalus (Dejean, 1825) - *Lipari: Monte Mazzacaruso, 20.x.2018, PP. *Vulcano: Valle Rio Grande, 6.xi.2016, PP. Alicudi (Magistretti, 1971 sub *Dromius*). *Panarea: 7.xi.2015, PP.

**Phyla tethys* (Netolitzky, 1926) - Lipari: Timpone Pataso, 9.xi.2016, PP.

Pogonus chalceus (Marsham, 1802) - Salina (Magistretti, 1967).

Pogonus gilvipes Dejean, 1828 - Salina (Magistretti, 1967). *Vulcano: Pantano, vi.2018, PLC.

Pseudomasoreus canigoulensis (Fairmaire & Laboulbène, 1854) - Lipari (Vigna Taglianti, 1995). Salina (Magistretti, 1971 sub *Cymindis canigouensis chaudoiri*). Filicudi (Magistretti, 1971 sub *Cymindis canigouensis chaudoiri*). Alicudi (Magistretti, 1971 sub *Cymindis canigouensis chaudoiri*).

Pseudoophonus griseus (Panzer, 1797) - Lipari (Magistretti, 1971 sub *Harpalus*).

Pseudoophonus rufipes (De Geer, 1774) - *Vulcano: Piano, 9.vii.2011, 3.vii.2012, 19.viii.2014, GA; Piani di Luccia, 2.vi.2012, GA. Stromboli (Cecchi et al., 1999).

**Pterostichus* (*Feronidius*) *melas* ssp. *italicus* (Dejean, 1828) - Vulcano: Piano, 25.iv.2014, GA.

Scarites (*Scallophorites*) *buparius* (Forster, 1771) - Lipari (Lo Cascio & Magrini, 1998). Vulcano (Magistretti, 1967). *Stromboli: Scari, 27.vi.2009, PLC & FG.

Scybalicus oblongiusculus (Dejean, 1829) - Lipari (Lo Cascio & Magrini, 1998).

Siagona europaea Dejean, 1826 - Lipari (Lo Cascio & Magrini, 1998).

**Stenolophus mixtus* (Herbst, 1784) - Vulcano: Pantano, 1.iv.2011, PLC & FG.

Syntomus impressus (Dejean, 1825) - Lipari (Magistretti, 1971 sub *Metabletus*). *Salina: Monte Fossa delle Felci, 2.v.2010, PLC & FG. Vulcano (Magistretti, 1971 sub *Metabletus*). Alicudi (Magistretti, 1971 sub *Metabletus*).

Syntomus obscuroguttatus (Duftschmidt, 1812) - Lipari (Magistretti, 1971 sub *Metabletus*).

Tachys dimidiatus Motschulsky, 1849 - Salina (Magistretti, 1967).

**Tachyura curvimana* (Wollaston, 1854) - Salina: Monte Fossa delle Felci, 2.v.2010, PLC & FG. Remarks: in Italy so far known only for Sardinia (see Vigna Taglianti, 2005; 2009); first record for Sicily.

Tachyura parvula (Dejean, 1831) - Salina (Lo Cascio & Magrini, 1998).

Trechus quadristriatus (Schrank, 1781) - Lipari (Magistretti, 1967). *Salina: 14.v.2011, PLC.

Trechus rufulus Dejean, 1831 - Alicudi (Magistretti, 1971).

Tschitscherinellus cordatus (Dejean, 1825) - Lipari (Lo Cascio & Magrini, 1998 sub *Carterus*).

Family DYTISCIDAE

Hydroglyphus geminus (F., 1792) - Lipari (Terzani & Lo Cascio, 1997 sub *Guignotus pusillus*).

Nebrioporus (*Zimmermannius*) *ceresyi* (Aubé, 1836) - Salina (Focarile, 1972 sub *Potamonectes*).

Suborder POLYPHAGA
Superfamily HYDROPHILOIDEA
Family HYDROPHILIDAE

**Anacaena limbata* (F., 1792) - Salina: Lingua, vi.2018, PLC.

Berosus hispanicus Küster, 1847 - Vulcano (Rocchi, 2005).

**Cercyon haemorrhoidalis* (F., 1775) - Vulcano: 4–5.xi.2015, PP.

**Cercyon quisquilis* (L., 1761) - Salina: surrounding of Malfa, 20.iv.1996, PLC. Vulcano: Piano, 20.iv.2009, PLC & FG.

**Coelostoma hispanicum* (Küster, 1848) - Vulcano: Piano, 17.vii.1996, 3.vi.2009, PLC.

**Dactylosternum abdominale* (F., 1792) - Lipari: Vallone Muria, Moericke trap, vii.1999, PLC.

**Laccobius* (*Dimorpholaccobius*) *neapolitanus* Rottemberg, 1874 - Lipari: Bagno Secco, thermal spring, v.2015, PLC; San Calogero, thermal spring, 26.iii.2022, PLC & LLF.

Enochrus bicolor (F., 1792) - Salina (Focarile, 1972).

**Helochares lividus* (Forster, 1771) - Lipari: San Calogero, thermal spring, 26.iii.2022, PLC & LLF.

Paracymus aeneus (Germar, 1884) - Salina (Rocchi, 2005).

Paracymus relaxus Rey, 1884 - Salina (Focarile, 1972).

**Sphaeridium bipustulatum* F., 1781 - Vulcano: Piano, 1.iv.1996, PLC & VP; same locality, 20.iv.2009, PLC & FG.

**Sphaeridium substriatum* Faldermann, 1838 - Lipari: Pianoconte, 14.iv.1996, PLC. Salina: surrounding of Malfa, 20.iv.1996, PLC. Vulcano: Piano, 1.iv.1996, PLC & VP.

Family HISTERIDAE

Atholus bimaculatus (L., 1758) - Vulcano (Penati & Vienna, 2005).

Atholus duodecimstriatus (Schrank, 1781) - Vulcano (Vienna, 1971).

**Atholus siculus* (Tournier, 1869) - Vulcano: Capo Grillo, 6.iv.2015, GA.
Remarks: rare species, in Italy known only for few Sicilian sites (Baviera & Vienna, 2019).

**Carcinops pumilio* (Erichson, 1834) - Salina: Monte Fossa Felci, 23.v.2009, PLC & FG. Panarea: Soldata, 20.v.2009, PLC & FG.

Chalcionellus aemulus (Illiger, 1807) - Vulcano (Penati & Vienna, 2005).

**Halacritus punctum* Aubé, 1842 - Salina: Lingua, from dry litter of *Posidonia oceanica*, 8.xi.2016, PP. Vulcano: Ponente beach, 10.iv.2011, PLC & FG.

Hister illigeri Duftschmidt, 1805 - Vulcano (Penati & Vienna, 2005).

Hypocaccus (*Baeckmanniolus*) *dimidiatus* (Illiger, 1807) - Vulcano (Penati & Vienna, 2005).

**Margarinotus* (*Ptomister*) *brunneus* (F., 1775) - Vulcano: near Gelso, 17.x.2018, PP.

Margarinotus (*Stenister*) *graecus* ssp. *graecus* (Brullé, 1832) - Stromboli (Baviera & Vienna, 2019).

Pachylister inaequalis (Olivier, 1789) - Vulcano (Penati & Vienna, 2005).

Pactolinus major (L., 1767) - Lipari (Vienna, 1971 sub *Macrolister*). Salina (Penati & Vienna, 2005). *Vulcano: Piani di Luccia, 17.vi.2012, GA; Piano, 7.vii.2012, GA. Panarea (Penati & Vienna, 2005).

Saprinus acuminatus (F., 1798) - Stromboli (Vienna, 1974 sub *S. subnitidus*).

Saprinus caerulescens (Hoffmann, 1803) - Lipari (Penati & Vienna, 2005). Stromboli (Penati & Vienna, 2005).

**Saprinus calatravensis* Fuente, 1899 - Vulcano: Piano, 3.vi.2009, 28.vi.2009, 21.viii.2009, PLC.

Saprinus chalcites (Illiger, 1807) - Lipari (Penati & Vienna, 2005).

Saprinus furvus Erichson, 1834 - Lipari (Penati & Vienna, 2005). Stromboli (Vienna, 1980). Alicudi (Penati & Vienna, 2005).

**Saprinus georgicus* Marseul, 1862 - Vulcano: 4–5.xi.2015, PP.

Saprinus politus (Brahm, 1790) - Vulcano (Penati & Vienna, 2005).

Saprinus subnitescens Bickhardt, 1909 - Lipari (Penati & Vienna, 2005). Vulcano (Penati & Vienna, 2005). Stromboli (Vienna, 1971). Alicudi (Penati & Vienna, 2005).

Superfamily STAPHYLINOIDEA
Family HYDRAENIDAE

Ochthebius quadricollis Mulsant, 1844 - *Stromboli: Ginostra, 16–17.vi.2009, PLC & FG. Panarea (Urbanelli et al., 1996). Scoglio Faraglione (Lo Cascio et al., 2006). Pietra del Bagno (Lo Cascio et al., 2006). Generically recorded for "Isole Eolie" by Sallicandro et al. (1994).

Family PTILIIDAE

**Actinopteryx fucicola* (Allibert, 1844) - Salina: Lingua, from dry litter of *Posidonia oceanica*, 8.xi.2016, PP.

Family LEIODIDAE

**Agathidium* (*Neoceble*) *haemorrhoum* Erichson, 1845 - Lipari: Capistello, 21.x.2009, PLC & FG.

Colon (*Myloechus*) sp. - Stromboli (Lo Cascio et al., 2006).

Family SILPHIDAE

**Nicrophorus humator* (Gleditsch, 1767) - Stromboli: Nel Cannestrà, on a carrion of *Buteo buteo*, v.2016, PLC.

**Nicrophorus interruptus* Stephens, 1830 - Salina: Monte Fossa delle Felci, at light, 20.vii.2010, PLC & FG.

Silpha olivieri Bedel, 1887 - Lipari (Bertin & Lebboroni, 2001). *Vulcano: Vallonazzo, remains on spider net, 5–6.x.2021, GA.

**Thanatophilus sinuatus* (F., 1775) - Lipari: Vallone Lacci, 12.v.2011, PLC & FG; same locality, v.2014, FG.

Family STAPHYLINIDAE

Achenium striatum (Latreille, 1804) - Lipari (Bordoni, 2014).

Acrotona muscorum (Brisout de Barneville, 1860) - Lipari (Bordoni, 1973 sub *Atheta*).

Acrotona parvula (Mannerheim, 1830) - Lipari (Bordoni, 1973 sub *Atheta*).

**Aleochara* (*Coprochara*) cfr. *binotata* Kraatz, 1856 - Vulcano: 4–5.xi.2015, PP.

Aleochara (*Coprochara*) *bipustulata* (L., 1761) - Lipari (Bordoni, 2014). Salina (Bordoni, 1973 sub *Atheta*).

Aleochara (*Heterochara*) *clavicornis* Redtenbacher, 1849 - Panarea (Bordoni, 1973 sub *Atheta*).

Aleochara (*Isochara*) *tristis* Gravenhorst, 1806 - Lipari (Bordoni, 2014).

Aleochara (*Polychara*) *laevigata* Gyllenhal, 1810 - Vulcano (Bordoni, 1973 sub *Atheta*).

Anotylus inustus (Gravenhorst, 1806) - Lipari (Lo Cascio et al., 2006). *Vulcano: 4–5.xi.2015, PP; Valle Rio Grande, 6.xi.2016, PP. Alicudi (Bordoni, 2014).

Anotylus speculifrons (Kraatz, 1857) - Lipari (Bordoni, 1973 sub *Oxytelops*).

Astenus (*Astenopleuritus*) *melanurus* Küster, 1853 - Vulcano (Bordoni, 1973).

Astenus (*Eurysunius*) *curtulus* (Erichson, 1840) - Alicudi (Bordoni, 2014).

**Astenus* (*Eurysunius*) cfr. *schatzmayri* Bernhauer, 1929 - Vulcano: western slope of Gran Cratere, 16.x.2018, PP.

Astenus sp. - Salina (Focarile, 1972).

Astrapaeus ulmi (Rossi, 1790) - Lipari (Bordoni, 1973).

Atheta (*A.*) *aeneicollis* (Sharp, 1869) - Lipari (Bordoni, 1973 sub *A. pertyi*). Salina (Bordoni, 1973 sub *A. pertyi*).

Atheta (*A.*) *atramentaria* (Gyllenhal, 1810) - Lipari (Bordoni, 2014). Vulcano (Bordoni, 1973).

Atheta (*A.*) *oblita* (Erichson, 1839) - Lipari (Bordoni, 1973).

Atheta (*Microdota*) *amicula* (Stephens, 1832) - Salina (Bordoni, 1973).

Atheta (*Mycota*) *trinotata* (Kraatz, 1856) - Salina (Bordoni, 1973).

Atheta (*Xenota*) *fungi* (Gravenhorst, 1806) - Vulcano (Bordoni, 1973).

Atheta (*Xenota*) *orbata* (Erichson, 1837) - Vulcano (Bordoni, 1973). Strombolicchio (Lo Cascio et al., 2006).

Bledius sp. - Vulcano (Lo Cascio et al., 2006).

Cafius (*Pseudoremus*) *xantholoma* (Gravenhorst, 1806) - Salina (Focarile, 1972). *Vulcano: Ponente beach, 1.iv.2011, PLC & FG. Alicudi (Bordoni, 2014).

**Cordalia obscura* (Gravenhorst, 1802) - Alicudi: Bazzina, 6.xi.2017, PP.

Creophilus maxillosus (L., 1758) - Lipari (Bordoni, 2014). *Vulcano: Piano, under carrion of *Buteo buteo*, 19.viii.2015, GA; 4–5.xi.2015, PP. Stromboli (Pilon, 1998).

Domene stilicina (Erichson, 1840) - Lipari (Bordoni, 1973).

Euplectus sp. - Stromboli (Lo Cascio et al., 2006).

Euryporus aeneiventris Lucas, 1849 - Lipari (Bordoni, 1973). Salina (Bordoni, 1973).

**Eusphalerum* cfr. *luteum* ssp. *dispar* (Baudi di Selve, 1889) - Lipari: village, at light, v.2000, PLC.

Faronus lafertei Aubé, 1844 - Lipari (Poggi & Sabella, 2005). Filicudi (Sabella, 1993). Panarea (Poggi & Sabella, 2005).

Habrocerus capillaricornis (Gravenhorst, 1806) - Lipari (Bordoni, 1973).

Halobrecta flavipes (Thomson, 1861) - Salina (Bordoni, 2014).

Heterothops canariensis Israelson, 1979 - Lipari (Bordoni, 2014).
Remarks: north-African species, in Italy known only for this site and Linosa Island (Bordoni, 2014).

**Heterothops* cfr. *dissimilis* (Gravenhorst, 1802) - Alicudi: Bazzina, 6.xi.2017, PP.

Lamprinodes fairmairei (Leprieur, 1853) - Lipari (Bordoni, 2014).

**Megaloscapa punctipennis* (Kraatz, 1856) (Fig. 10) - Lipari: Monte Mazzacaruso, 20.x.2018, PP.
Remarks: species overall rare (Vogel, 1983), distributed in central and southern Europe, including southern Italy and Sardinia (Ciceroni et al., 1995; Smetana, 2004); first record for Sicily.

Micropeplus staphylinoides (Marsham, 1802) - Vulcano (Bordoni, 1973).

Mycetoporus baudueri Mulsant & Rey, 1875 - Lipari (Bordoni, 1973). Vulcano (Bordoni, 1973).

**Myrmecopora* (*Paraxenusa*) *laesa* (Erichson, 1839) - Salina: Lingua, lagoon shores, 8.xi.2016, PP.

**Myrmecopora* (*Xenusa*) *sulcata* (Kiesenwetter, 1850) - Salina: Lingua, from dry litter of *Posidonia oceanica*, 8.xi.2016, PP.

Figure 10. *Megaloscapa punctipennis* (Kraatz, 1856), new record for Sicily (Staphylinidae; length: 3.5 mm) (photo by P. Ponel).

Nehemitropia lividipennis (Mannerheim, 1830) - Vulcano (Bordoni, 1973 sub *Atheta sordida*). *Alicudi: Bazzina, 6.xi.2017, PP.

Ocypus (*O.*) *olens* (O.F. Müller, 1764) - Lipari (Bordoni, 1973). Salina (Bordoni, 1973). Vulcano (Bordoni, 1973). Stromboli (Bordoni, 1973). Filicudi (Pilon, 1998). Alicudi (Bordoni, 1973). Panarea (Bordoni, 1973).

Ocypus (*O.*) *ophthalmicus* (Scopoli, 1763) - Lipari (Bordoni, 1973). Panarea (Bordoni, 1973).

Ocypus (*Pseudocypus*) *fortunatarum* Wollaston, 1871 - Vulcano (Bordoni, 1973 sub *Pseudocypus*).

Ocypus (*Pseudocypus*) *sericeicollis* Menetries, 1832 - Vulcano (Bordoni, 1973 sub *Pseudocypus cupreus*).

Ocypus (*Pseudocypus*) *mus* ssp. *transadriaticus* (G. Müller, 1926) - Salina (Bordoni, 1973 sub *Pseudocypus*). *Vulcano: Piano, pitfall trap, 1-10.x.2021, GA.

Oedichirus paederinus Erichson, 1840 - Lipari (Bordoni, 2014). *Salina: Vallone Mastrognoli, 3.vii.2001, PLC.

Ontholestes murinus (L., 1758) - Vulcano (Bordoni, 2014).

Othius laeviusculus Stephens, 1832 - Vulcano (Bordoni, 1973). Alicudi (Bordoni, 2014).

Oxypoda (*Podoxya*) *brevicornis* (Stephens, 1832) - Lipari (Bordoni, 2014).

Philonthus (*P.*) *concinnus* (Gravenhorst, 1802) - Lipari (Bordoni, 1973 sub *P. ochropus*).

**Philonthus* (*P.*) *ebeninus* (Gravenhorst, 1802) - Vulcano: 4–5.xi.2015, PP.

Philonthus (*P.*) *jurgans* Tottenham, 1937 - Lipari (Bordoni, 1973). Vulcano (Bordoni, 1973). *Alicudi: Bazzina, 6.xi.2017, PP.

Philonthus (*P.*) *politus* (L., 1758) - Lipari (Bordoni, 2014).

Philonthus (*P.*) *spinipes* Sharp, 1874 - Vulcano (Bordoni, 2014).

Philonthus (*Spatulonthus*) *longicornis* Stephens, 1832 - Vulcano (Bordoni, 1973 sub *Spatulonthus*).

Philonthus (*Spatulonthus*) *parvicornis* (Gravenhorst, 1802) - Filicudi (Bordoni, 2014).

**Proteinus atomarius* Erichson, 1840 - Lipari: Falcone, 30.iii.1997, PLC.

Quedius (*Distichalius*) *cinctus* (Paykull, 1790) - Lipari (Bordoni, 1973).

Quedius (*Q.*) *laevicollis* (Brullé, 1832) - Lipari (Bordoni, 1973 sub *Q. tristis*). Vulcano (Bordoni, 1973 sub *Q. tristis*). Filicudi (Bordoni, 1973 sub *Q. tristis*).

Quedius (*Raphirus*) *humeralis* Stephens, 1832 - Lipari (Bordoni, 1973 sub *Q. oblitteratus*). Salina (Bordoni, 1973 sub *Q. oblitteratus*). Vulcano (Bordoni, 1973 sub *Q. oblitteratus*). *Alicudi: Bazzina, 6.xi.2017, PP.

Remus sericeus Holme, 1837 - *Salina: Lingua, from dry litter of *Posidonia oceanica*, 8.xi.2016, PP. *Vulcano: Ponente beach, 1.iv.2011, PLC & FG. Alicudi (Bordoni, 2014).

Rugilus orbiculatus (Paykull, 1789) - Alicudi (Bordoni, 2014).

Scaphium immaculatum (Olivier, 1790) - Lipari (Tamanini, 1969). Vulcano (Tamanini, 1969).

Scydmaenus (*Eustemmus*) *antidotus* Germar, 1817 - Alicudi (Lo Cascio et al., 2006).

Sepedophilus nigripennis (Stephens, 1832) - Lipari (Bordoni, 2014). *Vulcano: Valle Rio Grande, 6.xi.2016, PP. Stromboli (Bordoni, 2014).

Sepedophilus pedicularius (Gravenhorst, 1802) - Salina (Bordoni, 1973 sub *Conosoma*). Vulcano (Bordoni, 1973 sub *Conosoma*). Filicudi (Bordoni, 1973 sub *Conosoma*).

Sepedophilus testaceus (F., 1792) - Lipari (Bordoni, 1973 sub *Conosoma*). Salina (Bordoni, 1973 sub *Conosoma*). Vulcano (Bordoni, 1973 sub *Conosoma*).

Stenichnus sp. - Lipari (Lo Cascio et al., 2006).

**Stenichnus* (*Cyrtoscydmus*) *helferi* (Schaum, 1841) - Salina: Pollara, at light, 26.vi.2001, PLC.

Stenus aceris Stephens, 1833 - Lipari (Bordoni, 1973). Alicudi (Bordoni, 2014).

Sunius melanocephalus (F., 1793) - Filicudi (Bordoni, 2014).

Tachyporus (*Palporus*) *nitidulus* (F., 1781) - Lipari (Bordoni, 2014). *Vulcano: 4–5.xi.2015, PP.

Tachyporus (*T.*) *pusillus* Gravenhorst, 1806 - Vulcano (Bordoni, 1973 sub *T. macropterus*).

Tachinus flavolimbatus Pandellé, 1869 - Lipari (Bordoni, 1973). Salina (Bordoni, 1973). Vulcano (Bordoni, 1973). Alicudi (Bordoni, 2014).

Tasgius pedator ssp. *siculus* (Aubé, 1842) - Lipari (Bordoni, 1973). *Vulcano: Vallonazzo, 7.xi.2017, PP; same locality, 5.x.2021, GA.

Thinobius longipennis (Heer, 1841) - Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Xantholinus graecus ssp. *graecus* Kraatz, 1858 - Lipari (Assing, 2008). Salina (Bordoni, 1973).

Xantholinus linearis (Olivier, 1795) - Lipari (Bordoni, 1973). Vulcano (Bordoni, 1973).

Xantholinus rufipennis Erichson, 1839 - Lipari (Bordoni, 1973). Panarea (Bordoni, 1973).

Superfamily SCARABAEOIDEA
Family GEOTRUPIDAE

Geotrupes spiniger Marsham, 1802 - Filicudi (Arnone et al., 2001).

Jekelius intermedius (O.G. Costa, 1839) - Lipari (Carpaneto, 1985 sub *Thorectes*). Salina (Focarile, 1970 sub *Thorectes*). Vulcano (Carpaneto, 1985 sub *Thorectes*). Stromboli (Marcuzzi, 1970b sub *Thorectes*). Filicudi (Carpaneto, 1985 sub *Thorectes*). Panarea (Carpaneto, 1985 sub *Thorectes*).

Sericotrupes niger (Marsham, 1802) - Lipari (Rastelli, 2000). Salina (Lo Cascio et al., 2006). Vulcano (Rastelli, 2000). Alicudi (Arnone et al., 2001).

Family TROGIDAE

Trox litoralis Pittino, 1991 - Lipari (Pittino, 1991). Salina (Lo Cascio et al., 2006). Vulcano (Pittino, 1991).

Trox niger Rossi, 1792 - Lipari (Arnone et al., 2001). *Vulcano: Piano, 5.ix.2010, 2.vi.2011, 8.vii.2011, 3.vi.2012, viii.2012, 30.viii.2014, GA; same locality, at light, 23.vii.2012, 12–15.viii.2013, 5.x.2021, GA; same locality, from a bird nest, 9.viii.2015, GA; Grotte dei Rossi, 16.viii.2013, GA; 4–5.xi.2015, PP. Salina (Carpaneto, 1985). *Alicudi: at light, 5.xi.2017, PLC & PP; xi.2018, PLC.

Family SCARABAEIDAE

Aethiessa squamosa (Gory & Percheron, 1833) - Lipari (Carpaneto, 1985 sub *A. floralis*). Filicudi (Arnone et al., 2001 sub *A. floralis*). Panarea (Carpaneto, 1985 sub *A. floralis*).

Agrilinus ibericus (Harold, 1874) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Alocoderus hydrochaeris (F., 1798) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Anomala ausonia Erichson, 1847 - Vulcano (Carpaneto, 1985). Stromboli (Carpaneto, 1985).

**Anoxia* (*A.*) *scutellaris* ssp. *sicula* Motschulsky, 1860 - Vulcano: Piano, at light, 2.vi.2012, 17–18.vi.2012, GA.
Remarks: endemic of N coast of Sicily; it could be accidentally introduced on this island where however its actual occurrence seems to be excluded, because no further specimens have been found after summer 2012.

Anoxia (*Mesanoxia*) *matutinalis* Laporte de Castelnau, 1832 - Lipari (Sabatinelli, 1976). Salina (Arnone et al., 2001).

Anoxia (*Mesanoxia*) *moltonii* Sabatinelli, 1976 (Fig. 11) - Vulcano (Sabatinelli, 1976 sub *A. matutinalis* ssp. *moltonii*).
Remarks: narrow endemic of Vulcano Island (Leo et al., 2021).

Anoxia (*Protanoxia*) *orientalis* (Krynicky, 1832) - Stromboli (Arnone et al., 2001).

**Aphodius cardinalis* Reitter, 1892 - Vulcano: 4–5.xi.2015, PP.

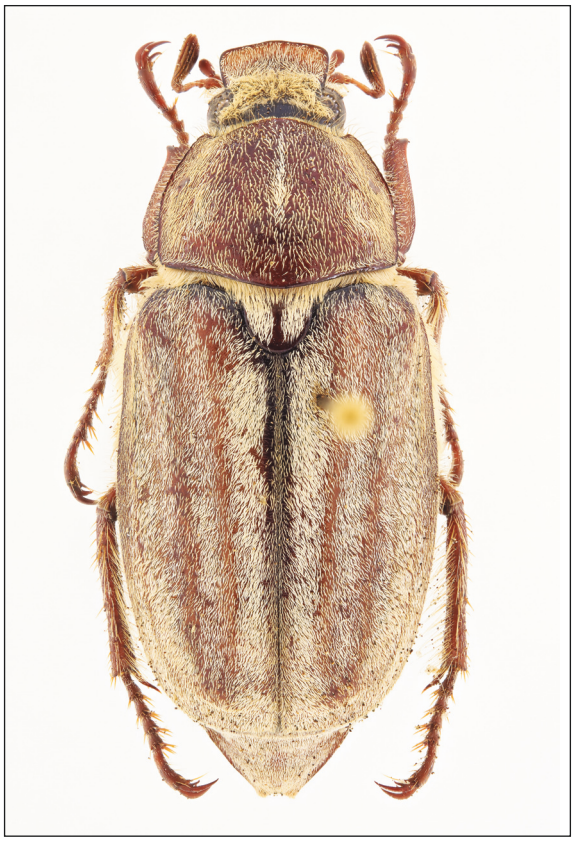

Figure 11. The Aeolian endemic *Anoxia moltonii* Sabatinelli, 1976 (Scarabaeidae; length: 20 mm) (photo by C. Mustica).

Aphodius fimetarius (L., 1758) - Lipari (Arnone et al., 2001). Salina (Arnone et al., 2001). Vulcano (Carpaneto, 1985). Filicudi (Arnone et al., 2001). Alicudi (Arnone et al., 2001).
Remarks: this species is very similar to *A. cardinalis* (see Fery & Rössner, 2015), hence it is possible that some of these records could be partially referred to the previous species.

Aphodius foetidus (Herbst, 1783) - Lipari (Arnone et al., 2001). Salina (Arnone et al., 2001). Vulcano (Carpaneto, 1985). Alicudi (Arnone et al., 2001).

Aplidia hirticollis Burmeister, 1855 - Lipari (Carpaneto, 1985 sub *Haplidia*). Salina (Arnone et al., 2001 sub *Haplidia*). Vulcano (Arnone et al., 2001 sub *Haplidia*). Stromboli (Arnone et al., 2001 sub *Haplidia*). *Filicudi: Rocca di Ciauli, v.2015, PLC & FG; Zucco Grande, 10.v.2021, PLC & LLF. Alicudi (Arnone et al., 2001 sub *Haplidia*). Panarea (Carpaneto, 1985 sub *Haplidia*).

Ateuchetus laticollis (L., 1767) - Lipari (Arnone et al., 2001 sub *Scarabaeus*). Vulcano (Arnone et al., 2001 sub *Scarabaeus*).

Ateuchetus semipunctatus (F., 1792) - Lipari (Arnone et al., 2001 sub *Scarabaeus*). Vulcano (Arnone et al., 2001 sub *Scarabaeus*). Stromboli (Agoglitta et al., 2006 sub *Scarabaeus*).

Bodiloides ictericus ssp. *ghardimaouensis* (Balthasar, 1929) - Lipari (Arnone et al., 2001 sub *Aphodius*). Vulcano (Dellacasa, 1987 sub *Aphodius*).

Bodilus lugens (Creutzer, 1799) - Vulcano (Arnone et al., 2001 sub *Aphodius*). Stromboli (Arnone et al., 2001 sub *Aphodius*).

Bubas bison (L., 1767) - Lipari (Agoglitta et al., 2006). Vulcano (Carpaneto, 1985). Filicudi (Arnone et al., 2001). Alicudi (Arnone et al., 2001).

Caccobius schreberi (L., 1767) - Vulcano (Arnone et al., 2001).

Calamosternus granarius (L., 1767) - Vulcano (Carpaneto, 1985 sub *Aphodius*). Filicudi (Arnone et al., 2001 sub *Aphodius*). Alicudi (Arnone et al., 2001 sub *Aphodius*).

Calamosternus mayeri (Pilleri, 1953) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Cetonia aurata ssp. *sicula* Aliquò, 1983 - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006).

Cheironitis ungaricus ssp. *hirroratus* (Rossi, 1790) - Lipari (Arnone et al., 2001). Vulcano (Martín-Piera, 1987).

Chilothorax lineolatus (Illiger, 1803) - Lipari (Arnone et al., 2001 sub *Aphodius*). Vulcano (Carpaneto, 1985 sub *Aphodius*). Alicudi (Arnone et al., 2001 sub *Aphodius*).

Colobopterus erraticus (L., 1758) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Copris hispanus ssp. *cavolinii* (Petagna, 1792) - Lipari (Arnone et al., 2001). Vulcano (Carpaneto, 1985). Stromboli (Angelini & Montemurro, 1986).

Esymus merdarius (F., 1775) - Vulcano (Carpaneto, 1985 sub *Aphodius*).

Euoniticellus fulvus (Goeze, 1777) - Lipari (Arnone et al., 2001). Vulcano (Carpaneto, 1985). Filicudi (Arnone et al., 2001).

Euoniticellus pallipes (F., 1781) - Vulcano (Aliquò et al., 1973).

Euonthophagus amyntas (Olivier, 1789) - Lipari (Zunino, 1972). Filicudi (Agoglitta et al., 2006).

Euorodalus tersus (Erichson, 1848) - Vulcano (Carpaneto, 1985 sub *Aphodius*).

Firminus massai Arnone, Lo Cascio & Grita, 2014 - Lipari (Arnone et al., 2014). Salina (Arnone et al., 2014). Stromboli (Arnone et al., 2014). *Filicudi: Macine (N slope of Capo Graziano), 3.xii.2021, FG. Panarea (Arnone et al., 2014).
Remarks: narrow endemic of these islands (Arnone et al., 2014).

Gymnopleurus mopsus (Pallas, 1781) - Lipari (Agoglitta et al., 2006).

Labarrus lividus (Olivier, 1789) - *Lipari: village, vii.2013, PLC. Vulcano (Arnone et al., 2001 sub *Aphodius*). Stromboli (Arnone et al., 2001 sub *Aphodius*).

Mecynodes striatulus (Waltl, 1935) - Lipari (Arnone & Massa, 1993 sub *Aphodius*). Vulcano (Dellacasa, 1987 sub *Aphodius*).

Onthophagus taurus (Schreber, 1759) - Lipari (Carpaneto, 1985). Vulcano (Carpaneto, 1985). Stromboli (Arnone et al., 2001). Filicudi (Arnone et al., 2001).

Oryctes nasicornis (L., 1758) - Lipari (Carpaneto, 1985). Salina (Arnone et al., 2001). Vulcano (Arnone et al., 2001). Stromboli (Carpaneto, 1985). *Alicudi: Dirittusu, larva under rotting trunk of *Pinus* sp., 5.x.2021, GA. *Bottaro: larvae under stone, 11.ii.2022, PLC & LLF.
Remarks: the finding of pre-imaginal stages under the stones on Bottaro in an area occupied by the seagull colony sounds quite strange; their occur-

rence is probably accidental, as the islet does not represent a suitable habitat for this species.

Otophorus haemorrhoidalis (L., 1758) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Oxythyrea funesta ssp. *funesta* (Poda, 1761) - Lipari (Carpaneto, 1985). Salina (Carpaneto, 1985). Vulcano (Carpaneto, 1985). Stromboli (Carpaneto, 1985). Filicudi (Carpaneto, 1985). Alicudi (Arnone et al., 2001). Panarea (Carpaneto, 1985).

Palaeonthophagus andalusicus Waltl, 1835 - Alicudi (Arnone et al., 2001 sub *Onthophagus*).

Palaeonthophagus fracticornis (Preyssler, 1790) - Lipari (Agoglitta et al., 2006 sub *Onthophagus*). Vulcano (Agoglitta et al., 2006 sub *Onthophagus*).
Remarks: according to some authors (Carpaneto et al., 2005; Ballerio et al., 2014; Arnone & Romano, 2020) this species does not occur in Sicily, and its records should be referred to *P. massai* (Baraud, 1975).

Palaeonthophagus grossepunctatus Reitter, 1905 - Filicudi (Arnone et al., 2001 sub *Onthophagus*).

Palaeonthophagus opacicollis Reitter, 1893 - Lipari (Palestrini, 1981 sub *Onthophagus similis*). Salina (Arnone et al., 2001 sub *Onthophagus*). Vulcano (Palestrini, 1981 sub *Onthophagus similis*).

Palaeonthophagus ruficapillus Brullé, 1832 - Vulcano (Arnone et al., 2001 sub *Onthophagus*).

Palaeonthophagus vacca (L., 1767) - Vulcano (Zunino, 1981 sub *Onthophagus*). Filicudi (Carpaneto, 1985 sub *Onthophagus*).

Pentodon bidens ssp. *punctatus* (Villiers, 1789) - Lipari (Carpaneto, 1985). Vulcano (Arnone et al., 2001). Alicudi (Arnone et al., 2001).

Phalacronothus quadrimaculatus (L., 1761) - Lipari (Arnone et al., 2001 sub *Aphodius*). Vulcano (Dellacasa, 1987 sub *Aphodius*). Alicudi (Arnone et al., 2001 sub *Aphodius*).

Phyllognathus excavatus (Forster, 1771) - Lipari (Arnone et al., 2001). Salina (Carpaneto, 1985 sub *P. silenus*). Vulcano (Focarile, 1970 sub *P. silenus*). Stromboli (Habsburg Lothringen, 1894 sub *Oryctes silenus*). *Filicudi: Filo Braccio, 6.xi.2015, FG. Alicudi (Habsburg Lothringen, 1894 sub *Oryctes silenus*). Panarea (Carpaneto, 1985 sub *P. silenus*).

**Platytomus tibialis* (F., 1798) - Vulcano: Piano, 30.vii.2009, 28.iv.2010, PLC & FG.

Pleurophorus caesus (Creutzer, 1796) - Lipari (Arnone et al., 2001). *Salina: Lingua, 25.v.2005, PLC; Monte Fossa delle Felci, iv.2013, PLC. Filicudi (Lo Cascio et al., 2006).

**Potosia hypocrita* Ragusa, 1905 - Vulcano: Piano, vi.2017, SAL.
Remarks: Sicilian endemic species (Vondráček et al., 2018); it is not clear if the only specimen found could belong to a natural population (perhaps relictual) hitherto unknown, or more likely due to an accidentally interception, and its occurrence requires further confirmation.

Psammodius plicicollis Erichson, 1848 - Stromboli (Arnone et al., 2001).
Remarks: in Sicily known only for this site (see Carpaneto et al., 2005).

**Rhyssemus plicatus* (Germar, 1817) - Vulcano: Piano, at light, 4.x.2021, GA.

Scarabaeus (*S.*) *sacer* L., 1758 - Lipari (Aliquò et al., 1973). Vulcano (Habsburg Lothringen, 1894 sub *Ateuchus*). Stromboli (Agoglitta et al., 2006).

Scarabaeus (*S.*) *typhon* (Fischer von Waldheim, 1823) - Lipari (Agoglitta et al., 2006). Vulcano (Agoglitta et al., 2006).

Sisyphus schaefferi (L., 1785) - Vulcano (Arnone et al., 2001).

Subrinus sturmi (Harold, 1870) - Lipari (Arnone et al., 2001 sub *Aphodius*). Vulcano (Lo Cascio, 2020a).

Trichonotulus scrofa (F., 1787) - Vulcano (Dellacasa, 1987 sub *Aphodius*).

Tropinota squallida ssp. *squallida* (Scopoli, 1783) - Lipari (Carpaneto, 1985 sub *Epicometis*). Salina (Carpaneto, 1985 sub *Epicometis*). Vulcano (Carpaneto, 1985 sub *Epicometis*). Stromboli (Carpaneto, 1985 sub *Epicometis*). Filicudi (Arnone et al., 2001). Alicudi (Arnone et al., 2001). Panarea (Carpaneto, 1985 sub *Epicometis*).

Valgus hemipterus (L., 1758) - Lipari (Arnone et al., 2001).

Superfamily SCIRTOIDEA
Family EUCINETIDAE

Eucinetus haemorrhoidalis (Germar, 1818) - Lipari (Lo Cascio et al., 2006).
Remarks: in Sicily known only for this site (see Angelini & Poggi, 1995; Lo Cascio et al., 2006).

Superfamily BUPRESTOIDEA

Family BUPRESTIDAE

Acmaeoderella (*A.*) *trinacriae* (Obenberger, 1923) - Lipari (Lo Cascio et al., 2006).

Acmaeoderella (*Euacmaeoderella*) *lanuginosa* ssp. *lanuginosa* (Gyllenhal, 1817) - Lipari (Lo Cascio et al., 2006). *Stromboli: Nel Cannestrà, v.2016, PLC.

Acmaeoderella (*Omphalothorax*) *adspersula* (Illiger, 1803) - Lipari (Lo Cascio et al., 2006). *Salina: Valdichiesa, 28.vi.2001, PLC. Vulcano (Lo Cascio et al., 2006). Stromboli (Ceccolini et al., 2014). *Filicudi: Filo Braccio, on *Daucus* sp., 1.vii.2021, FG.

Agrilus sp. - Stromboli (Lo Cascio, 2004 sub *A. elegans* ssp. *elegans*).
Remarks: this record must be referred to a different taxon, currently under study (I. Sparacio, pers. comm. v.2021).

**Agrilus* (*Anambus*) *derasofasciatus* Lacordaire, 1835 - Lipari: Capistello, vii.2016, PLC.

**Agrilus* (*Anambus*) *graminis* Kiesenwetter, 1857 - Lipari: Monte Chirica, reared from *Quercus ilex*, ii.2011, PLC.

**Anthaxia* (*A.*) *dimidiata* (Thumberg, 1789) - Lipari: Capistello, vi.2010, PLC & FG. Panarea: Soldata, 20.v.2009, PLC & FG.

Anthaxia (*A.*) *impunctata* Abeille de Perrin, 1909 - *Lipari: Monte Chirica, 19.v.2010, PLC & FG. Salina (Lo Cascio et al., 2006 sub *A. nereis*). Vulcano (Curletti, 1994 sub *A. nereis*). Stromboli (Lo Cascio et al., 2006 sub *A. nereis*).

Anthaxia (*A.*) cfr. *mendizabali* Cobos, 1965 - *Lipari: Monte Chirica, v.2010, PLC & FG. Vulcano (Bílý, 2006). *Stromboli: Schicciole, reared from *Cytisus aeolicus*, 3.iv.2000, PLC; San Vincenzo, 27.vi.2009, PLC. *Panarea: Piana Milazzese, beating *Genista tyrrhena*, 29.iv.2021, PLC & LLF.

Anthaxia (*A.*) *thalassophila* Abeille de Perrin, 1900 - Lipari (Lo Cascio et al., 2006).

Anthaxia (*Haplanthaxia*) *croesus* (Villers, 1789) - Lipari (Lo Cascio et al., 2006 sub *A. scutellaris*).

Anthaxia (*Haplanthaxia*) *flaviae* Lo Cascio et Sparacio, 2010 - Lipari (Lo Cascio & Sparacio, 2010). Salina (Lo Cascio & Sparacio, 2010). Panarea (Lo Cascio & Sparacio, 2010). Remarks: narrow endemic of these islands (Lo Cascio & Sparacio, 2010).

Anthaxia (*Haplanthaxia*) *millefolii* ssp. *polychloros* Abeille de Perrin, 1894 - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 14.vi.2021, PLC. Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006). *Filicudi: Capo Graziano, 26.vi.2016, PLC; Filo Braccio, 31.v.2018, PLC.

Anthaxia (*Haplanthaxia*) *scylla* Levey, 1985 - Salina (Curletti, 1994 sub *A. aprutiana*). *Alicudi: Bazzina, 9.vi.2000, PLC.

Anthaxia (*Haplanthaxia*) *umbellatarum* (F., 1787) - Lipari (Curletti, 1994). Salina (Curletti, 1994). Stromboli (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Capnodis cariosa (Pallas, 1776) - Panarea (Lo Cascio et al., 2006).

**Meliboeus graminis* (Panzer, 1799) - Stromboli: Nel Cannestrà, v.2016, PLC.

Superfamily BYRRHOIDEA
Family HETEROCERIDAE

Augyles (*Littorimus*) *maritimus* (Guérin-Menéville, 1844) - Lipari (Mascagni, 1985 sub *Heterocerus*).

Superfamily ELATEROIDEA
Family THROSCIDAE

Trixagus elateroides Heer, 1841 - Lipari (Lo Cascio et al., 2006 sub *Throscus*).

Family ELATERIDAE

Agriotes brevis (Candèze, 1863) - Lipari (Platia & Marini, 1990).

Agriotes sordidus (Illiger, 1807) - Lipari (Lo Cascio et al., 2006).

Cardiophorus eleonorae (Géné, 1836) - Lipari (Platia, 2005). Salina (Platia, 2005). Vulcano (Baviera & Platia, 2018). Stromboli (Platia, 2005). Scoglio Faraglione (Lo Cascio et al., 2006).

Cardiophorus ulcerosus (Géné, 1836) - Lipari (Platia, 2005). *Salina: Vallone Mastrognoli, 3.vii.2001, PLC; surrounding of Lingua, 8.xi.2016, PP. Vulcano (Platia, 2005). Stromboli (Lo Cascio et al., 2006). Alicudi (Platia, 2005). Panarea (Lo Cascio et al., 2006). Generically recorded for "Isole Eolie" by Platia (1994).

Cardiophorus vestigialis Erichson, 1840 - Lipari (Lo Cascio et al., 2006).

Cebrio germari Jaquelin du Val, 1860 - Lipari (Lo Cascio et al., 2006 sub *C. melanocephalus*).

Drasterius bimaculatus (Rossi, 1790) - Lipari (Platia, 2005). *Salina: Monte Fossa delle Felci, 20.vii.2010, PLC & FG. Vulcano (Lo Cascio et al., 2006). Filicudi (Lo Cascio et al., 2006). *Alicudi: Pianicello, iv.2003, PLC.

Harminius spiniger (Candèze, 1860) - Lipari (Lo Cascio et al., 2006).

Melanotus dichrous (Erichson, 1841) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Melanotus tenebrosus (Erichson, 1841) - Vulcano (Lo Cascio et al., 2006).

Mulsanteus guillebelli (Mulsant & Godart, 1853) - Lipari (Platia, 2005). *Salina: Lingua, 6.vi.2000, PLC; Monte Fossa delle Felci, 20.vii.2012, PLC & FG.

Family LAMPYRIDAE

**Nyctophila bonvouloirii* (Jacquelin du Val, 1860) - Lipari: Pirrera, vi.2001, AM.

Family CANTHARIDAE

Malthinus scapularis Marseul, 1877 - *Lipari: San Calogero, 12.v.2011, PLC & FG. *Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG. *Stromboli: Nel Cannestrà, beating *Quercus ilex*, v.2021, PLC & LLF. *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF. *Alicudi: San Bartolo, 3.iv.2021, PLC & FG. Panarea (Lo Cascio et al., 2006 sub *M. scriptus*).

Malthinus gr. *scriptus* Kiesenwetter, 1851 - Lipari (Lo Cascio et al., 2006).

**Malthinus seriepunctatus* Kiesenwetter, 1851 - Lipari: Monte Chirica, vi.2010, PLC. Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG.

**Malthinus* cfr. *sordidus* Kiesenwetter, 1871 - Stromboli: Nel Cannestrà, beating *Quercus ilex*, v.2021.

Rhagonycha fulva (Scopoli, 1763) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 7.vi.2014, PLC.

Rhagonycha lignosa (O.F. Müller, 1764) - Salina (Lo Cascio, 2017). Data record as follows: Monte Fossa delle Felci, 22.v.2009, PLC & FG. Remarks: in Sicily previously known only for Etna (V. Švihla, pers. comm. 2009).

Superfamily BOSTRICHOIDEA
Family DERMESTIDAE

Anthrenus (*A.*) *delicatus* Kiesenwetter, 1851 - Lipari (Lo Cascio et al., 2006). *Vulcano: surrounding of Gran Cratere, 22.vi.1998, BCA, BCE, LD & PLC; Piano, 23.v.2000, PLC; same locality, 13.v.2010, PLC & FG.

Anthrenus (*A.*) *goliath* Saulcy in Mulsant & Rey, 1868 - Vulcano (Lo Cascio et al., 2006).

Anthrenus (*Nathrenus*) *biskrensis* Reitter, 1887 (Fig. 12) - Lipari (Háva & Hermann, 2020). *Alicudi: Bazzina, iv.2010, PLC & FG.
Remarks: in Italy so far known only for Lipari and Lampedusa (Háva & Hermann, 2020), new for Alicudi.

Anthrenus (*Nathrenus*) *verbasci* (L., 1767) - Lipari (Lo Cascio et al., 2006). *Salina: Valdichiesa, 29.v.2009, PLC & FG. *Filicudi: Filo Braccio, 31.v.2018, PLC.

Attagenus rossii Ganglbauer, 1804 - Lipari (Lo Cascio et al., 2006 as *A. bifasciatus*). *Stromboli: 8.xi.2015, PP. Panarea (Lo Cascio et al., 2006 as *A. bifasciatus*). Strombolicchio (Lo Cascio et al., 2006 as *A. bifasciatus*).

Attagenus sp. - Salina (Focarile, 1970). Filicudi (Focarile, 1970). Alicudi (Focarile, 1970).

Dermestes (*Dermestinus*) *frischii* Kugelann, 1792 - Lipari (Lo Cascio et al., 2006). *Salina: Lingua, 10.v.2009, PLC. Vulcano (Lo Cascio et al.,

Figure 12. *Anthrenus (Nathrenus) biskrensis* Reitter, 1887 (Dermestidae; length: 2.8 mm) (photo by C. Mustica).

2006). Stromboli (Lo Cascio et al., 2006). *Filicudi: Le Punte, v.2013, PLC. Alicudi (Lo Cascio et al., 2006).

Dermestes (*Dermestinus*) *undulatus* Brahm, 1790 - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 29.ix.2009, PLC & FG. *Vulcano: Piano, from carrion of *Buteo buteo*, 19.viii.2015, GA. Stromboli (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Globicornis variegata (Küster, 1851) - Lipari (Lo Cascio et al., 2006). *Vulcano: Piano, 20.iv.2009, 24.iv.2009, 15.xi.2009, 1.iv.2011, iv.2012, PLC & FG; Piani di Luccia, under bark of *Eucalyptus* sp., 25.iv.2014, GA; Capo Grillo, under bark of *Eucalyptus* sp., 6.iv.2014, GA. *Alicudi: 24.v.2014, PLC; Dirittusu, 5.xi.2017, PLC. *Panarea: Soldata, 20.v.2009, PLC & FG.

Thorictus grandicollis Germar, 1817 - Lipari (Lo Cascio et al., 2006). Salina (Focarile, 1972). Alicudi (Lo Cascio et al., 2006). Pietra del Bagno (Lo Cascio et al., 2006).

**Trogoderma inclusum* LeConte, 1854 - Vulcano: Piano, 23.v.2000, PLC. Stromboli (Lo Cascio et al., 2006 sub *Trogoderma* sp.). Alicudi: Bazzina, 9.vi.2000, PLC.

Family BOSTRICHIDAE

**Bostrichus capucinus* (L., 1758) - Salina: Monte Fossa delle Felci, 26.v.2018, PLC.

**Scobicia chevrieri* (A.Villa & J.B. Villa, 1835) - Lipari: Acquacalda, vii.1999, PLC; Quattropani, at light, 25.vi.2001, PLC; Capistello, v.2001, PLC; Monte Chirica, at light, vii.2010, PLC & FG. Salina: Pollara, at light, 26.vi.2001, PLC. Vulcano: Serro Pisani, reared from *Spartium junceum*, iv.1996, PLC; Piano, reared from *Cytisus aeolicus*, 22.vi.1998, PLC; same locality, at light, 13.viii.2015, GA; Lentia, at light, 22.vi.1998, PLC; Gelso, at light, 22.vi.2001, 3.VI.2009, PLC. Stromboli: Scari, at light, 24.vi.1998, PLC.

**Sinoxylon sexdentatus* (Olivier, 1790) - Lipari: Urnazzo, 21.v.2009, PLC & FG. Salina: Monte Fossa delle Felci, v.2018, PLC.

**Trogoxylon impressum* (Comolli, 1837) - Salina: Vallone Mastrognoli, 3.vii.2001, PLC. Vulcano: Gelso, at light, 21.v.2001, PLC.

**Xyloperthella picea* (Olivier, 1790) - Lipari: Capistello, at light, 9.iv.2014, PLC, FG & GA.

Family PTINIDAE

Anobium punctatum (De Geer, 1774) - Lipari (Lo Cascio et al., 2006).

**Dignomus irroratus* (Kiesenwetter, 1851) - Alicudi: Dirittusu, beating *Spartium junceum*, 5.xi.2017, PP.
Remarks: widely distributed in southern Europe, including the Italian Peninsula (see Audisio et al., 1995a; Bellés, 1996; Calmont, 2016); first record for Sicily.

**Dryophilus* sp. - Vulcano: Valle Rio Grande, 6.xi.2016, PP.

**Dryophilus longicollis* (Mulsant & Rey, 1853) - Panarea: S. Pietro, 24.ii.2021, PLC & LLF.

Gastrallus corsicus Schilsky, 1898 - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006). Filicudi (Lo Cascio et al., 2006). Strombolicchio (Lo Cascio, 2004).

Gastrallus laevigatus (Olivier, 1790) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Lasioderma baudii Schilsky, 1899 - Lipari (Lo Cascio et al., 2006).

Lasioderma haemorrhoidale (Illiger, 1807) - Lipari (Lo Cascio et al., 2006).

Lasioderma redtenbacheri (Bach, 1852) - Lipari (Lo Cascio et al., 2006).

Mesocoelopus collaris Mulsant & Rey, 1864 - Stromboli (Lo Cascio et al., 2006).

Metholcus phoenicis (Fairmaire, 1859) - Lipari (Lo Cascio et al., 2006 sub *M. cylindricus*). Salina (Lo Cascio et al., 2006 sub *M. cylindricus*). Stromboli (Lo Cascio et al., 2006 sub *M. cylindricus*).

**Nicobium castaneum* (Olivier, 1790) - Lipari: village, 14.vi.2009, PLC & FG; Capistello, vii.2014, PLC & FG.

Oligomerus ptilinoides (Wollaston, 1854) - Stromboli (Lo Cascio et al., 2006).

**Ozognathus cornutus* (LeConte, 1859) - Lipari: Palmeto, 19.x.2018, PP; Monte Mazzacaruso, 20.x.2018, PP. Salina: Lingua, beating *Tamarix* sp., 8.xi.2016, PP. Salina: Lingua, beating *Tamarix africana*, 7.v.2021, PLC & LLF. Vulcano: 4–5.xi.2015, PP; Gran Cratere, beating *Genista tyrrhena*, xi.2017, PLC; Valle Rio Grande, 6.xi.2016, PP; Vallonazzo, 7.xi.2017, PP; western slope of Gran Cratere, 16.x.2018, PP; near Gelso, 17.x.2018, PP. Stromboli: path to Osser-

vatorio Labronzo, beating *Olea europaea*, 6.ii.2022, PLC & LLF. Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP. Alicudi: San Bartolo, 3.iv.2021, PLC & LLF; Tonna, 4.iv.2021, PLC & LLF. Panarea: 7.xi.2015, 7.xi.2016, PP; Iditella, beating *Spartium junceum*, 7.xi.2016, PLC; S. Pietro, 24.ii.2021, PLC & LLF.
Remarks: alien species of north-American origin, in Italy so far recorded only for Sicily, Sardinia and Campania (Cusimano et al., 2014; Sidoti et al., 2016; Bazzato et al., 2021; Cerasa & Lo Verde, 2021).

**Ptinus obesus* Lucas, 1849 - Stromboli: 8.xi.2015, PP.

**Ptinus perrini* (Reitter, 1884) - Lipari: Capistello, 19.iii.2010, PLC & FG.

**Stagetus* sp. - Salina: 14.v.2011, PLC & FG. Alicudi: Dirittusu, beating *Spartium junceum*, 5.xi.2017, PP.

**Stagetus byrrhoides* (Mulsant & Rey, 1861) - Lipari: Capistello, 3.xi.2009, PLC & FG. Vulcano: Piano, reared from *Cytisus aeolicus*, iv.2011, PLC.

Stegobium paniceum (L., 1758) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Superfamily CLEROIDEA
Family TROGOSSITIDAE

**Nemosoma elongatum* (L., 1761) - Vulcano: Piano, reared from *Cytisus aeolicus*, vii.2010, PLC & FG.

Family CLERIDAE

Denops albofasciatus (Charpentier, 1825) - Vulcano (Cecchi & Lo Cascio, 1999). Stromboli (Lo Cascio, 2004).

Enoplium doderoi Luigioni, 1926 (Fig. 13) - Lipari (Cecchi & Lo Cascio, 1999). *Salina: Monte Fossa delle Felci, v.2018, PLC. Stromboli (Cecchi & Lo Cascio, 1999). *Filicudi: Capo Graziano, vi.2017, PLC.
Remarks: considered for a long time as rare Tyrrhenian endemic, but recently recorded also for Crete (Löbl & Smetana, 2007); it is categorized as Endangered species in the IUCN Red list of Italian saproxylic beetles (Audisio et al., 2014).

Necrobia rufipes (De Geer, 1775) - Vulcano (Lo Cascio et al., 2006).

Figure 13. *Enoplium doderoi* Luigioni, 1926 (Cleridae; length: 7.8 mm) (photo by C. Mustica).

Necrobia violacea (L., 1758) - Lipari (Cecchi & Lo Cascio, 1999).

Opilo domesticus (Sturm, 1837) - Lipari (Cecchi & Lo Cascio, 1999). *Vulcano: Portella della Trovatina, viii.2012, GA.

Tilloidea transversalis (Charpentier, 1825) - Lipari (Lo Cascio et al., 1998). Vulcano (Cecchi & Lo Cascio, 1999).

Thanasimus formicarius (L., 1758) - Lipari (Cecchi & Lo Cascio, 1999). *Vulcano: vi.2014, PLC.

Trichodes alvearius (F., 1792) - Vulcano (Cecchi & Lo Cascio, 1999).

**Trichodes leucopsideus* (Olivier, 1795) - Salina: Pollara, 3.vi.2017, PLC.

Family MELYRIDAE

**Aplocnemus marginatus* Rottemberg, 1871 (Fig. 14) - Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG.
Remarks: rare trans-Ionian species occurring in Sicily and Greece (Liberti, 2019).

Aplocnemus pectinatus (Küster, 1849) - Lipari (Lo

Cascio et al., 2006). Salina (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006). *Filicudi: 17.iv.2009, PLC; Zucco Grande, 10.v.2021, PLC & LLF. *Panarea: Soldata, 20.v.2009, PLC & FG.

**Attalus* (*Abrinus*) *parietariae* (Erichson, 1840) - Alicudi: San Bartolo, 3.iv.2021, PLC & LLF. Remarks: distributed in S Italy, Sicily and Pantelleria Island, recorded also for Balearic Islands (Palmer & Petitpierre, 1993) where however it needs to be confirmed; this species is considered rare at regional scale, where all its records given in literature date back to 19th century (Pasqual & Angelini, 2001), although it has been recently found in W Sicily (G. Liberti, pers. comm. 8.iv.2021).

**Attalus* (A.) cfr. *aetnensis* Abeille, 1891 - Panarea (G. Franzini, pers. comm. 8.iv.2021).

Attalus (*A.*) gr. *sicanus* Erichson, 1840 - Lipari (Lo Cascio et al., 2006). *Salina: Lingua, 10.v.2009, PLC. *Filicudi: 17.iv.2009, PLC. *Panarea: 20.v.2009, PLC. Scoglio Faraglione (Lo Cascio et al., 2006).

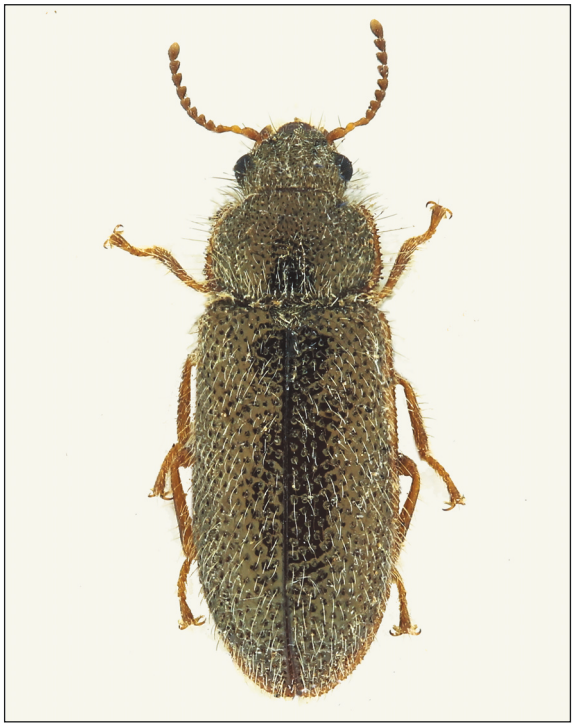

Figure 14. *Aplocnemus marginatus* Rottemberg, 1871 (Melyridae; length: 4 mm) (photo by C. Mustica).

Attalus (*A.*) sp. - Stromboli (Lo Cascio et al., 2006). Strombolicchio (Lo Cascio et al., 2006).

**Axinotarsus* sp. - Vulcano (G. Franzini, pers. commun. 8.iv.2021).

**Clanoptilus elegans* (Olivier, 1790) - Alicudi: iv.2011, PLC.

Clanoptilus parilis (Erichson, 1840) - Lipari (Lo Cascio et al., 2006 sub *Malachius*).

**Colotes* (*Antidipnis*) *punctatus* Erichson, 1840 - Salina: Lingua, 3.ix.1998, PLC.

Colotes (*Psauter*) *obsoletus* Erichson, 1840 - Salina (Focarile, 1972).
Remarks: extremely localized in Italy (see Franzini, 2015), it is known in Sicily only for this locality where it has not been confirmed during the present research.

Danacea (*Allodanacea*) *elongatipennis* (Pic, 1901) - Lipari (Liberti & Baviera, 2004). Salina (Liberti & Baviera, 2004). Filicudi (Liberti & Baviera, 2004). Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).
Remarks: endemic of NE Sicily and Aeolian Islands (Liberti & Baviera, 2004).

Dasytes (*Hypodasytes*) *productus* Schilsky, 1894 - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006). *Stromboli: 27.vi.2009, PLC & FG. Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).

Dasytes (*Mesodasytes*) *aeneiventris* Küster, 1850 - Filicudi (Lo Cascio et al., 2006).

Dasytes (*Mesodasytes*) *nigroaeneus* Küster, 1850 - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006). Vulcano (Lo Cascio, 2004). Stromboli (Lo Cascio et al., 2006). Filicudi (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006). *Panarea: Soldata, 20.v.2009, PLC & FG. Scoglio Faraglione (Lo Cascio et al., 2006).

**Dasytes* (*Mesodasytes*) *plumbeus* (O.F. Müller, 1776) - Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG.

Divales communimacula (Costa, 1847) - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006). *Filicudi: Le Punte, v.2013, PLC.

Ebaeus ruffoi Pardo Alcaide, 1962 - Lipari (Lo Cascio et al., 2006). *Salina: Lingua, 10.v.2009, PLC & FG; 14.v.2011, PLC & FG.

**Hypebaeus flavicollis* (Erichson, 1840) - Salina: Vallone Mastrognoli, 28.iv.2021, PLC & LLF. Vulcano: Piano, 20.iv.2009, PLC & FG. Alicudi: San Bartolo, 3.iv.2021, PLC & LLF.

Psilothrix melanostoma (Brullé, 1832) - Salina (Lo Cascio et al., 2006 sub *P. aureola*). Vulcano (Lo Cascio et al., 2006 sub *P. aureola*). *Filicudi: Pecorini, 17.iv.2009, PLC & FG. Alicudi (Lo Cascio et al., 2006 sub *P. aureola*).

Psilothrix viridicoerulea (Geoffroy, 1785) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Superfamily CUCUJOIDEA
Family EROTYLIDAE

Cryptophilus integer Heer, 1841 - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). *Stromboli: 8.xi.2015, PP. *Alicudi: Bazzina, 6.xi.2017, PP.

Leucohimatium arundinaceum (Forskål, 1775) - Lipari (Lo Cascio et al., 2006). Basiluzzo (Lo Cascio et al., 2006).

Setariola sericea (Mulsant & Rey, 1863) - Lipari (Lo Cascio et al., 2006).

Family MONOTOMIDAE

**Monotoma picipes* Herbst, 1793 - Vulcano: Piano, 30.vii.2009, PLC & FG.

Family CRYPTOPHAGIDAE

Atomaria (*Anchicera*) *turgida* Erichson, 1846 - Stromboli (Lo Cascio et al., 2006).
Remarks: in Sicily known only for this site (see Angelini, 2005).

Cryptophagus dentatus (Herbst, 1793) - *Lipari: Monte Mazzacaruso, 20.x.2018, PP. Vulcano (Lo Cascio et al., 2006). *Stromboli: beating *Genista tyrrhena*, 8.xi.2015, PP. Filicudi (Lo Cascio et al., 2006).

Cryptophagus fasciatus Kraatz, 1852 - Salina (Lo Cascio et al., 2006).

Cryptophagus reflexus Rey, 1889 - Vulcano (Angelini, 2005 sub *C. thomsoni*).

Micrambe ulicis (Stephens, 1830) - Lipari (Lo Cascio et al., 2006 sub *M. vini*). *Vulcano: 4–5.xi.2015, PP; Valle Rio Grande, 6.xi.2015, PP; Vallonazzo, 7.xi.2017, PP. *Alicudi: Dirittusu, beating *Spartium junceum*, 5.xi.2017, PP. *Panarea: 7.xi.2016, PP.

Family SILVANIDAE

**Ahasverus advena* (Waltl, 1832) - Panarea: 7.xi.2016, PP.

Oryzaephilus surinamensis (L., 1758) - Lipari (Ratti, 1972). *Vulcano: near Gelso, 17.x.2018, PP.

Family LAEMOPHLOEIDAE

Cryptolestes (*C.*) *spartii* (Curtis, 1834) - Vulcano (Ratti, 2000). *Stromboli: reared from *Cytisus aeolicus*, 3.iv.2000, PLC. *Panarea: Iditella, beating *Spartium junceum*, 7.xi.2016, PLC.

Cryptolestes (*Leptophloeus*) *juniperi* (Grouvelle, 1874) - Vulcano (Ratti, 2000).

Family PHALACRIDAE

Olibrus aenescens Küster, 1852 - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Olibrus affinis (Sturm, 1807) - Lipari (Lo Cascio et al., 2006).

**Olibrus bimaculatus* Küster, 1848 - Vulcano: Piano, 20.iv.2009, PLC & FG.

Olibrus castaneus Baudi di Selve, 1870 - Lipari (Lo Cascio et al., 2006). *Salina: surrounding of Lingua, 8.xi.2016, PP.

Olibrus corticalis (Panzer, 1792) - Lipari (Lo Cascio et al., 2006).

**Olibrus pygmaeus* (Sturm, 1807) - Lipari: Monte Mazzacaruso, 20.x.2018, PP. Vulcano: 4–5.xi.2015, PP ; Valle Rio Grande, 6.xi.2016, PP ; western slope of Gran Cratere, 16.x.2018, PP.

Phalacrus corruscus (Panzer, 1792) - Lipari (Lo Cascio et al., 2006). *Vulcano: Vallonazzo, 7.xi.2017, PP. *Panarea: 7.xi.2016, PP.

Stilbus testaceus (Panzer, 1797) - Lipari (Lo Cascio et al., 2006).

Family KATERETIDAE

**Brachypterolus antirrhini* (Murray, 1864) - Vulcano: Valle Rio Grande, 6.xi.2016, PP.

Family NITIDULIDAE

Acanthogethes fuscus (Olivier, 1790) - Lipari (Audisio & De Biase, 2005 sub *Meligethes*). *Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG.

Afrogethes planiusculus (Heer, 1841) - Lipari (Audisio & De Biase, 2005 sub *Meligethes*). *Vulcano: 4–5.xi.2015, PP; Valle Rio Grande, 6.xi.2016, PP.

Brassicogethes aeneus (F., 1775) - Salina (Baviera & Audisio, 2014).

**Carpophilus bipustulatus* (Heer, 1841) - Vulcano: Piano, 23.v.2000, PLC. Stromboli: Ginostra, 16-17.vi.2009, PLC & FG.

**Carpophilus dimidiatus* (F., 1792) - Lipari: Capistello, 3.xi.2009, PLC & FG. Salina: Vallone Mastrognoli, 3.vii.2001, PLC. Vulcano: Piano, 23.v.2000, PLC.

**Carpophilus marginellus* Motschulsky, 1858 - Lipari: Canneto, 20.x.2018, PP.

**Carpophilus mutilatus* Erichson, 1843 - Lipari: Monte Mazzacaruso, 20.x.2018, PP.

Colopterus abdominalis (Erichson, 1843) - Lipari (Baviera & Audisio, 2014).

Epuraea (*Haptoncus*) *luteolus* (Erichson, 1843) - *Lipari: Quattropani, at light, 25.vi.2001, PLC; Canneto, 20.x.2018, PP. Vulcano (Baviera & Audisio, 2014). *Panarea: near Cala Zimmari, 18.ix.1999, PLC & SP. *Strombolicchio: 14.ix.1999, PLC & SP.

Remarks: probably native from Central America, this invasive species has been recorded for Sicily from specimens collected since 1998 (Audisio & De Biase, 2005; Baviera & Audisio, 2014); its occurrence on the tiny islet of Strombolicchio already in 1999 seems therefore remarkable.

Epuraea (*Haptoncus*) *ocularis* (Fairmaire, 1849) - Lipari (Baviera & Audisio, 2014).

Genistogethes erichsoni (Brisout de Barneville, 1863) - Panarea (Audisio & De Biase, 2005 sub *Meligethes*).

Genistogethes immundus (Kraatz, 1858) - Vulcano (Lo Cascio, 2004 sub *Meligethes*). Stromboli (Baviera & Audisio, 2014). Alicudi (Baviera & Audisio, 2014).

Genistogethes punctatus (Brisout de Barneville, 1863) - Vulcano (Baviera & Audisio, 2014).

Stelidota geminata (Say, 1845) - Lipari (Baviera & Audisio, 2014).

**Urophorus humeralis* (F., 1798) - Alicudi: Bazzina, 9.vi.2000, PLC. Lipari: Capistello, viii.2009, PLC & FG.

Family CYBOCEPHALIDAE

**Cybocephalus rufifrons* Reitter, 1874 - Lipari: Monte S. Angelo, 21.vi.1998, BCA, BCE, LD & PLC; village, viii.1998, PLC.

Family ENDOMYCHIDAE

Cholovocera fleischeri (Reitter, 1902) - Lipari (Lo Cascio et al., 2006). *Alicudi: Dirittusu, 5.xi.2017, PP.

Holoparamecus (*Calyptobium*) *niger* (Aubé, 1843) - Lipari (Lo Cascio et al., 2006).

Holoparamecus (*Tomyrium*) *bertouti* Aubé, 1861 - Lipari (Lo Cascio et al., 2006).

Merophysia oblonga Kiesenwetter, 1872 - Filicudi (Lo Cascio et al., 2006).

Family COCCINELLIDAE

Adalia bipunctata ssp. *bipunctata* (L., 1758) - *Salina: Valdichiesa, 28.vi.2001, PLC; 20.vii.2012, PLC & FG. Vulcano (Lo Cascio et al., 2006).

**Adalia decempunctata* (L., 1758) - Lipari: Timpone Ricotta, 5.vi.2000, PLC; village, 18.vi.2009, PLC & FG. Salina: 24.vii.2010, PLC & FG. Vulcano: surrounding of Gran Cratere, 22.vi.1998, PLC; Piano, 5.x.2021, GA.

Chilocorus bipustulatus (L., 1758) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 20.vii.2010, PLC & FG. Vulcano (Lo Cascio et al., 2006). *Alicudi: Chiesa del Carmine, 9.x.2021, GA. *Panarea: 7.xi.2015, 7.xi.2016, PP.

Coccinella septempunctata L., 1758 - Lipari (Della Beffa 1912–1914). *Salina: Valdichiesa, 28.vi.2001, PLC. *Vulcano: Piano, 24.v.2009, FG; same locality, 2.vi.2012, 3.ix.2014, GA; 4–5.xi.2015, PP. Stromboli (Lo Cascio et al., 2006). Filicudi (Lo Cascio et al., 2006). *Alicudi: Dirittusu, 18–21.ii.2010, PLC; Chiesa del Carmine, 9.x.2021, GA.

**Harmonia axyridis* (Pallas, 1773) - Vulcano: Piano, at light, 16.viii.2016, GA.

Remarks: native to Eastern Asia, this species has been intentionally introduced in Italy in the late 1990s but only recently recorded for Sicily (Menchetti et al., 2016).

Harmonia quadripunctata (Pontoppidan, 1763) - Vulcano (Lo Cascio et al., 2006). *Stromboli: Vallonazzo, v.2021, PLC & LLF. Bottaro (Lo Cascio et al., 2006).

Hippodamia (*Adonia*) *variegata* ssp. *variegata* (Goeze, 1777) - Lipari (Della Beffa 1912–1914 sub *Adonia*).

Hyperaspis chevrolati Canepari, 1985 - Lipari (Lo

Cascio et al., 2006). *Vulcano: Piano, 15.xi.2009, PLC & FG.

Lindorus lophanthae (Blaisdell, 1892) - Lipari (Lo Cascio et al., 2006 sub *Rhyzobius*). *Salina: Pollara, at light, 26.vi.2001, PLC; surrounding of Lingua, 8.xi.2016, PP. *Vulcano: western slope of Gran Cratere, 16.x.2018, PP. *Panarea: 7.xi.2015, 7.xi.2016, PP.

Myrrha octodecimguttata ssp. *formosa* (Costa, 1849) - *Lipari: Capistello, 14.vi.2009, PLC & FG; village, 18.vi.2009, PLC & FG; Pirrera, v.2017, PLC. *Salina: Vallone Mastrognoli, 3.vii.2001, PLC. *Vulcano: Piano, 3.vi.2009, PLC & FG; same locality, 19.vi.2012, PLC, FG & GA; same locality, viii.2013, GA. Stromboli (Lo Cascio et al., 2006).

Nephus (*Bipunctatus*) *bisignatus* ssp. *bisignatus* (Boheman, 1850) - Lipari (Lo Cascio et al., 2006).

**Nephus* (*Bipunctatus*) *kiesenwetteri* Mulsant, 1850 - Salina: Lingua, beating *Tamarix africana*, 8.xi.2016, PP; same locality, beating *T. africana*, vi.2021, PLC & LLF. Vulcano: 4–5.xi.2015, PP.

Nephus (*Bipunctatus*) *nigricans* ssp. *nigricans* (Weise, 1879) - Lipari (Lo Cascio et al., 2006). *Panarea: 7.xi.2015, 7.xi.2016, PP.

**Nephus* (*N.*) gr. *quadrimaculatus* (Herbst, 1783) - Panarea: S. Pietro, 24.iv.2021, PLC & LLF.
Remarks: this group, that includes species only little differentiated among themselves and therefore difficult to identify, needs further investigations Canepari, 2007); this species is not recorded for Sicily where however the closely related *N. schatzmayri* Canepari & Tedeschi, 1977 occurs (Canepari & Tedeschi, 1977).

Propylea quatuordecimpunctata (L., 1758) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 20.vii.2010, PLC & FG. *Alicudi: vii.2013, PLC & FG.

**Psyllobora vigintiduopunctata* (L., 1758) - Lipari: Monte Chirica, at light, 11.vi.2014, PLC, FG & GA. Vulcano: Piano, 1.iv.2011, PLC & FG.

Rhyzobius litura (F., 1787) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Rodolia cardinalis (Mulsant, 1850) - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006). *Vulcano: 4–5.xi.2015, PP; Vallonazzo, 7.xi.2017, PP. *Stromboli: 8.xi.2015, PP; Nel Cannestrà, v.2021, PLC & LLF; vii.2021, PLC. *Panarea: 7.xi.2015, PP.

Scymnus (*Pullus*) *auritus* (Thunberg, 1795) - Stromboli (Lo Cascio et al., 2006).

Scymnus (*Pullus*) *subvillosus* (Goeze, 1777) - Lipari (Lo Cascio et al., 2006). *Vulcano: Valle Rio Grande, 6.xi.2015, PP. *Stromboli: 8.xi.2015, PP. *Filicudi: Zucco Grande, v.2021, PLC & LLF.

**Scymnus* (*Pullus*) *suturalis* Thunberg, 1795 - Lipari: Monte Chirica, 6.xi.2015, PP. Alicudi: San Bartolo, 3.iv.2021, PLC & LLF; Tonna, 4.iv.2021, PLC & LLF.

Scymnus (*S.*) *apetzi* Mulsant, 1846 - Lipari (Canepari, 1983). Salina (Canepari, 1983).

Scymnus (*S.*) *bivulnerus* Capra & Fürsch, 1967 - Lipari (Lo Cascio et al., 2006). *Salina: Valdichiesa, 29.v.2009, PLC & FG; Malfa, 7.x.2009, PLC & FG; 21.vii.2010, PLC & FG. *Stromboli: 27.vi.2009, PLC & FG.

Scymnus (*S.*) *marginalis* (Rossi, 1794) - Stromboli (Lo Cascio et al., 2006). *Panarea: 7.xi.2015, 7.xi.2016, PP. Generically recorded for "Isole Eolie" by Canepari (1983).

Scymnus (*S.*) *nubilus* Mulsant, 1850 - Lipari (Lo Cascio et al., 2006). *Stromboli: Vallonazzo, v.2021, PLC & LLF.

Scymnus (*S.*) *rubromaculatus* (Goeze, 1778) - Lipari (Lo Cascio et al., 2006).

Scymnus (*S.*) *rufipes* ssp. *rufipes* (F., 1798) - Lipari (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Family CORYLOPHIDAE

**Arthrolips convexiuscula* (Motschulsky, 1849) - Lipari: Monte Mazzacaruso, 20.x.2018, PP. Vulcano: Valle Rio Grande, 6.xi.2016, PP; Vallonazzo, 7.xi.2017, PP.
Remarks: widely distributed in central Asia and southern Europe, it is known for few localities of central and southern Italy (Angelini, 1996; 2020; Bordoni et al., 2006); first record for Sicily.

**Arthrolips picea* (Comolli, 1837) - Alicudi: Bazzina, 6.xi.2017, PP.

Peltinus sp. - Vulcano (Lo Cascio et al., 2006).

**Sericoderus brevicornis* Matthews, 1890 - Vulcano: Valle Rio Grande, 6.xi.2016, PP. Stromboli: 8.x.2015, PP. Alicudi: Bazzina, 6.xi.2017, PP. Remarks: Australian species whose range is expanding in Europe (Galsworthy & Booth,

2007; Ponel et al., 2010, 2011; Alexander, 2013); first record for Italy.

Family LATRIDIIDAE

Dienerella separanda (Reitter, 1887) - Lipari (Lo Cascio et al., 2006). *Stromboli: 10.xii.2000, PLC; 8.xi.2015, PP.

Enicmus transversus (Olivier, 1790) - Lipari (Lo Cascio et al., 2006). *Vulcano: Ponente beach, 1.iv.2011, PLC. Alicudi (Lo Cascio et al., 2006).

Melanophthalma distinguenda (Comolli, 1837) - Lipari (Lo Cascio et al., 2006).

Melanophthalma fuscipennis (Mannerheim, 1844) - Lipari (Lo Cascio et al., 2006). *Vulcano: Valle Rio Grande, 6.xi.2016, PP. *Alicudi: Dirittusu, 5.xi.2017, PP.

Melanophthalma sericea (Mannerheim, 1844) - Lipari (Lo Cascio et al., 2006).
Remarks: in Sicily known only for this locality (Lo Cascio et al., 2006).

Melanophthalma taurica (Mannerheim, 1844) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

**Migneauxia crassiuscula* (Aubé, 1850) - Alicudi: Bazzina, 6.xi.2017, PP.
Remarks: after a record given by Luigioni (1929), this species has not been confirmed at regional scale until this finding (Audisio et al., 1995b; Angelini & Rücker, 1999; see also Rücker, 2018).

Stephostethus angusticollis (Gyllenhal, 1827) - Lipari (Lo Cascio et al., 2006).

Superfamily TENEBRIONOIDEA
Family MYCETOPHAGIDAE

Berginus tamarisci Wollaston, 1854 - Lipari (Lo Cascio et al., 2006). *Salina: Vallone Mastrognoli, 3.vii.2001, PLC. Vulcano (Lo Cascio, 2004). *Stromboli: 8.xi.2015, PP. *Alicudi: Bazzina, 9.vi.2000, PLC. *Panarea: 7.xi.2015, 7.xi.2016, PP.

**Typhaea stercorea* (L., 1758) - Lipari: village, at light, v.2000, PLC; same locality, 10.v.2009, PLC & FG; Capistello, at light, 31.v.2000, PLC; Quattropani, at light, 25.vi.2000, PLC. Salina: Vallone Mastrognoli, 3.vii.2001, PLC. Vulcano: Vallonazzo, 7.xi.2017, PP. Alicudi: Bazzina, 6.xi.2017, PP. Panarea: 7.xi.2016, PP.

Typhaeola maculata (Perris, 1865) - Lipari (Lo Cascio et al., 2006). Filicudi (Focarile, 1987).

Family MORDELLIDAE

**Mordellistena brevicauda* (Bohemann, 1849) - Vulcano: Piano, 24.v.2009, PLC & FG.

Mordellistena sp. - Lipari (Lo Cascio et al., 2006).

Mordellochroa pulchella Mulsant & Rey, 1859 - *Salina: Valdichiesa, 28.vi.2001, PLC. Alicudi (Lo Cascio et al., 2006 sub *Tolida*). *Panarea: Cala Zimmari, 26.v.2000, PLC.

Variimorda villosa (Schrank, 1781) - Stromboli (Lo Cascio et al., 2006 sub *V. fasciata*). *Filicudi: Capo Graziano, vi.2021, PLC & LLF. *Alicudi: Bazzina, 9.vi.2000, PLC.

Family TENEBRIONIDAE

Accanthopus velikensis (Piller et Mitterparcher, 1783) - *Salina: Monte Fossa delle Felci, ix.1995, PLC.
Remarks: erroneously recorded for Stromboli by Aliquò et al. (2006 sub *Enoplopus dentipes*) due to a misprint.

Akis trilineata ssp. *trilineata* Herbst, 1799 - *Stromboli: Grotta di Eolo, 15.vi.2006, data from M. Violi at www.entomologiitaliani.net/public/forum/phpBB3/viewtopic.php?f=178&t=18054. Alicudi (Focarile, 1969 sub *A. spinosa*). Panarea (Focarile, 1969 sub *A. spinosa*).

Akis subterranea Solier, 1836 - Lipari (Focarile, 1969). Vulcano (Canzoneri, 1968). Alicudi (Fattorini & Leo, 2000). Panarea (Focarile, 1969). Strombolicchio (Aliquò et al., 2006).

Allophylax picipes ssp. *picipes* (Olivier, 1811) - Lipari (Focarile, 1969). Salina (Focarile, 1969). Vulcano (Marcuzzi, 1970a). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969). Basiluzzo (Aliquò et al., 2006). Lisca Bianca (Aliquò et al., 2006). Bottaro (Aliquò et al., 2006).

Alphasida (*Glabrasida*) *grossa* ssp. *grossa* (Solier, 1836) - Lipari (Marcuzzi, 1970a). Salina (Focarile, 1969). Stromboli (Marcuzzi, 1970a). Panarea (Focarile, 1969). *Basiluzzo: 11.xi.2020, PLC. Bottaro (Aliquò et al., 2006). Scoglio Faraglione (Aliquò et al., 2006).

**Alphitobius diaperinus* (Panzer, 1796) - Lipari: Capistello, viii.2008, PLC & FG.

Ammobius rufus Lucas, 1849 - Salina (Focarile, 1969). Vulcano (Focarile, 1969). Stromboli (Focarile, 1969). Panarea (Focarile, 1969).

Blaps gibba Laporte de Castelnau, 1840 - Lipari (Focarile, 1969). Salina (Focarile, 1969). Vulcano (Canzoneri, 1968). Stromboli (Marcuzzi, 1970a). Alicudi (Marcuzzi, 1970a). Strombolicchio (Aliquò et al., 2006).
Remarks: specimens from Alicudi probably are hybrids between *B. gibba* and *B. mucronata* (Leo & Fattorini, 2002).

Blaps gigas (L., 1767) - Lipari (Focarile, 1969). Salina (Focarile, 1969). Vulcano (Focarile, 1969). Stromboli (Habsburg Lothringen, 1894). Filicudi (Focarile, 1969). Alicudi (Habsburg Lothringen, 1894). Panarea (Focarile, 1969). Scoglio Faraglione (Aliquò et al., 2006). Pietra del Bagno (Aliquò et al., 2006).

Blaps mucronata Latreille, 1804 - Lipari (Marcuzzi, 1970a). Vulcano (Canzoneri, 1968). Stromboli (Marcuzzi, 1970a). Filicudi (Marcuzzi, 1970a). Alicudi (Marcuzzi, 1970a).

Catomus aeolicus Ponel, Lo Cascio & Soldati, 2020 - Stromoboli (Ponel et al., 2020). Panarea (Ponel et al., 2020). *Basiluzzo: 11.xi.2020, PLC. Bottaro (Aliquò et al., 2006 sub *C. rotundicollis*).
Remarks: narrow endemic of the islands of the NE sector of the Aeolian Archipelago (Ponel et al., 2020).

**Catomus consentaneus* (Küster, 1851) - Lipari: Capistello, viii.2014, PLC & FG.

Catomus rotundicollis (Guérin-Méneville, 1825) - Lipari (Marcuzzi, 1970a). Vulcano (Aliquò et al., 2006). Stromboli (Focarile, 1969). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969).
Remarks: records for Stromboli and Panarea should be partially referred to *C. aeolicus*.

Centorus (*Belopus*) *elongatus* ssp. *ecalcaratus* (Seidlitz, 1898) - Lipari (Aliquò et al., 2006 sub *Belopus*).

Cheirodes sardous ssp. *sardous* (Géné, 1839) - Lipari (Aliquò et al., 2006 sub *Anemia*). Salina (Aliquò et al., 2006 sub *Anemia*). Vulcano (Aliquò et al., 2006 sub *Anemia*). Stromboli (Aliquò et al., 2006 sub *Anemia*).

Cossyphus moniliferus Chevrolat, 1829 - Salina (Aliquò et al., 2006). Panarea (Marcuzzi, 1970a).

Dendarus (*Pandarinus*) *lugens* Mulsant & Rey, 1854 - Stromboli (Marcuzzi, 1970a).

**Diaperis boleti* (L., 1758) - Vulcano: Piano, viii.2012, GA.

Dichillus subtilis Kraatz, 1862 - Alicudi (Aliquò et al., 2006).

Erodius siculus ssp. *neapolitanus* Solier, 1834 - Vulcano (Marcuzzi, 1970a). Stromboli (Focarile, 1969). Panarea (Focarile, 1969). Remarks: endemic subspecies of Tyrrhenian and Ionian coasts of S Italy, not occurring in Sicily (Aliquò et al., 2006).

Gonocephalum granulatum ssp. *nigrum* (Küster, 1849) - Lipari (Aliquò et al., 2006). Salina (Focarile, 1969 sub *G. pusillum*).

Gonocephalum obscurum ssp. *obscurum* (Küster, 1849) - Lipari (Aliquò et al., 2006). Vulcano (Marcuzzi, 1970a sub *G. prolixum*). Filicudi (Marcuzzi, 1970a sub *G. prolixum*). Panarea (Focarile, 1969 sub *G. prolixum*).

Gonocephalum rusticum (Olivier, 1811) - Lipari (Marcuzzi, 1970a). Salina (Aliquò, 1995). Vulcano (Aliquò, 1992). *Stromboli: Scari, 16.iii.2000, PLC.

Gonocephalum setulosum (Faldermann, 1837) - Lipari (Aliquò et al., 2006).

Gunarus parvulus (Lucas, 1849) - *Lipari: Capistello, viii.2014, PLC & FG. Stromboli (Aliquò et al., 2006). *Alicudi: Dirittusu, 5.xi.2017, PP.

Figure 15. The Aeolian endemic *Leptoderis zelmerloewae* Ferrer, 2015 (Tenebrionidae) (photo by P. Lo Cascio).

Panarea (Focarile, 1969). *Lisca Bianca: 11.ii.2022, PLC & LLF. Strombolicchio (Aliquò et al., 2006).

Helops caeruleus (L., 1758) - Lipari (Aliquò et al., 2006). Vulcano (Aliquò, 1993).

Helops rossii Germar, 1817 - Lipari (Marcuzzi, 1970a).

Isomira melanophthalma (Lucas, 1846) - Lipari (Lo Cascio et al., 2006 sub *I. ferruginea*). Salina (Lo Cascio et al., 2006 sub *I. ferruginea*). Vulcano (Lo Cascio et al., 2006 sub *I. ferruginea*). *Filicudi: Pecorini, 17.iv.2009, PLC & FG; Zucco Grande, 10.v.2021, PLC & LLF. Alicudi (Lo Cascio et al., 2006 sub *I. ferruginea*). *Panarea: Soldata, 20.iv.2009, PLC & FG. Scoglio Faraglione (Lo Cascio et al., 2006 sub *I. ferruginea*).

Lagria hirta (L., 1758) - Lipari (Lo Cascio et al., 2006). *Vulcano: Piano, 24.v.2009, PLC & FG; Piani di Luccia, 2.vi.2012, GA.

Leptoderis zelmerloewae Ferrer, 2015 (Fig. 15) - Lipari (Marcuzzi, 1970a sub *Elenophorus collaris*). Salina (Marcuzzi, 1970a sub *Elenophorus collaris*). *Vulcano: Gelso, 9.vi.2013, GA. Stromboli (Aliquò, 1993 sub *Elenophorus collaris*). *Filicudi: Porto, x.2018, x.2020, FG. Alicudi (Focarile, 1969 sub *Elenophorus collaris*).
Remarks: narrow endemic of the Aeolian Islands (Ferrer, 2015).

Megischia curvipes (Brullé, 1832) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Generically recorded for "Isole Eolie" by Focarile (1974).

Nalassus assimilis (Küster, 1850) - Lipari (Focarile, 1969 sub *Helopondrus*). Salina (Focarile, 1969 sub *Helopondrus*). Filicudi (Focarile, 1969 sub *Helopondrus*). Alicudi (Focarile, 1969 sub *Helopondrus*).

Nalassus dryadophilus (Mulsant, 1854) - Stromboli (Aliquò et al., 2006).

Nalassus pastai Aliquò, Leo et Lo Cascio 2006 (Fig. 16) - Vulcano (Aliquò et al., 2006). *Salina: surrounding of Lingua, 8.xi.2016, PP. *Stromboli: 8.xi.2015, PP; Scari, under bark of *Eucalyptus* sp., 2.ii.2022, PLC & LLF. Remarks: so far considered a narrow endemic of Vulcano Island (Aliquò et al., 2006), the new findings extend remarkably its range within the archipelago.

Omophlus (*Odontomophlus*) *lepturoides* (F., 1787) - Lipari (Lo Cascio et al., 2006) . *Vulcano: Piano, 24.v.2009, PLC & FG.

Figure 16. The Aeolian endemic *Nalassus pastai* Aliquò, Leo et Lo Cascio 2006 (Tenebrionidae; length: 9 mm) (photo by C. Mustica).

Omophlus (*Paromophlus*) *picipes* (F., 1792) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Oochrotus unicolor Lucas, 1852 - Lipari (Marcuzzi, 1970a).

Opatrum obesum Olivier, 1811 - Salina (Focarile, 1969).

Opatrum verrucosum Germar, 1817 - Lipari (Focarile, 1969). Salina (Focarile, 1969). Vulcano (Marcuzzi, 1970a). Stromboli (Marcuzzi, 1970a). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969). Basiluzzo (Aliquò et al., 2006).

Pachychila (*P.*) *frioli* Solier, 1835 - Stromboli (Focarile, 1969). Panarea (Focarile, 1969).

Pachychila (*Pachychilina*) *dejeani* ssp. *dejeani* (Besser, 1832) - Lipari (Canzoneri, 1968). Salina (Focarile, 1969). Panarea (Focarile, 1969).

Pedinus helopioides Ahrens, 1814 - Lipari (Marcuzzi, 1970a). Salina (Focarile, 1969). Strom-

boli (Marcuzzi, 1970a). Filicudi (Focarile, 1969). Panarea (Focarile, 1969).

Pedinus siculus Seidlitz, 1883 - Filicudi (Aliquò et al., 2006).

Phaleria acuminata Küster, 1852 - Lipari (Aliquò, 1993). Vulcano (Aliquò, 1993).

Phaleria bimaculata s.l. (L., 1767) - Lipari (Marcuzzi, 1970a). Salina (Focarile, 1969). Vulcano (Aliquò, 1993 sub *P. bimaculata* ssp. *marcuzzii*). Stromboli (Marcuzzi, 1970a). *Panarea: Cala Zimmari, 24.ii.2021, PLC & LLF.

Remarks: the Aeolian populations have been referred to the ssp. *marcuzzii* by Aliquò (1993), an endemic taxon which was successively treated as synonym of the nominal form (Marcuzzi, 1996; Aliquò et al., 2006; Marrone et al., 2014) or as valid subspecies (Löbl & Smetana, 2008; Deidun et al., 2011); the same are generally characterized by melanic trend and high variability and deserve further investigations.

Pimelia rugulosa ssp. *rugulosa* Germar, 1824 - Lipari (Targioni-Tozzetti, 1891). Salina (Habsburg Lothringen, 1894 sub "*Pimelia*"). Vulcano (Canzoneri, 1968). Stromboli (Habsburg Lothringen, 1894 sub "*Pimelia*"). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969). Lisca Bianca (Aliquò et al., 2006). Bottaro (Habsburg Lothringen, 1894 sub "*Pimelia*"). Scoglio Faraglione (Aliquò et al., 2006).

Prionychus lugens Küster, 1850 - Lipari (Lo Cascio et al., 2006).

Probaticus (*Pelorinus*) *anthrax* (Seidlitz, 1898) - Lipari (Focarile, 1969). Salina (Focarile, 1969). Stromboli (Aliquò et al., 2006). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). *Panarea: 7.xi.2015, PP.

Scaurus atratus F., 1775 - Lipari (Canzoneri, 1968).

Scaurus striatus F., 1792 - Lipari (Canzoneri, 1968). Salina (Focarile, 1969). Vulcano (Focarile, 1969). Stromboli (Focarile, 1969). Filicudi (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969). Lisca Bianca (Aliquò et al., 2006). Bottaro (Aliquò et al., 2006). Pietra del Bagno (Aliquò et al., 2006).

Scaurus tristis Olivier, 1795 - Lipari (Porta, 1934). Salina (Marcuzzi, 1970a). Stromboli (Focarile, 1969). Alicudi (Focarile, 1969). Panarea (Focarile, 1969).

Stenosis intermedia (Solier, 1838) - Lipari (Porta, 1959). Salina (Focarile, 1969). Vulcano (Marcuzzi, 1970a). Stromboli (Marcuzzi, 1970a). Alicudi (Aliquò et al., 2006). Panarea (Marcuzzi, 1970a). Basiluzzo (Aliquò et al., 2006). Lisca Bianca (Aliquò et al., 2006). Bottaro (Aliquò et al., 2006). Scoglio Faraglione (Aliquò et al., 2006). Pietra del Bagno (Aliquò et al., 2006).

Stenosis sardoa ssp. *sardoa* (Küster, 1848) - Lipari (Marcuzzi, 1970a sub *S. brenthoides*). Salina (Focarile, 1969 sub *S. brenthoides*). Filicudi (Focarile, 1969 sub *S. brenthoides*). Alicudi (Focarile, 1969 sub *S. brenthoides*). Panarea (Focarile, 1969 sub *S. brenthoides*).

Tentyria grossa Besser, 1832 - Lipari (Gridelli, 1950). Salina (Gridelli, 1950). Vulcano (Marcuzzi, 1970a). Stromboli (Focarile, 1969). Filicudi (Aliquò, 1993). Alicudi (Leo & Lo Cascio, 2021). Panarea (Gridelli, 1950). Bottaro (Aliquò et al., 2006).

Tentyria laevigata ssp. *laevigata* Steven, 1829 - Lipari (Focarile, 1969). Vulcano (Focarile, 1969). Stromboli (Aliquò, 1993). Filicudi (Focarile, 1969). Panarea (Marcuzzi, 1970a).

Trachyderma lima (Petagna, 1819) - Vulcano (Marcuzzi, 1970a sub *Ocnera*). *Alicudi: near Scalo Palomba, elytral remains, x.2007, PLC.

Trachyscelis aphodioides ssp. *aphodioides* Latreille, 1809 - Salina (Focarile, 1972). Vulcano (Focarile, 1969). Stromboli (Aliquò et al., 2006). *Panarea: Cala Zimmari, 24.ii.2021, PLC & LLF.

**Xanthomus pallidus* (Curtis, 1830) - Vulcano: Ponente beach, 1.iv.2011, PLC & FG.

Family OEDEMERIDAE

**Nacerdes melanura* (L., 1758) - Lipari: Capistello, 14.vi.2009, PLC & FG. Salina: Lingua, 25.v.2005, PLC. Alicudi: 24.v.2014, PLC.

Oedemera atrata Schmidt, 1846 - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Oedemera barbara (F., 1792) - *Lipari: Vallone Fiume Bianco, 20.vi.1998, PLC. Vulcano (Bologna, 1995). *Filicudi: Pecorini, 10.vi.2001, PLC.

Oedemera crassipes Ganglbauer, 1881 - Lipari (Lo Cascio et al., 2006 sub *O. caudata*).

Oedemera flavipes (F., 1792) - Lipari (Arnone & Vázquez, 1998). *Salina: Lingua, 10.v.2009, PLC & FG. Vulcano (Bologna, 1995). *Stromboli: beach E coast, 25.vi.1998, PLC. Filicudi

(Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).

Oedemera nobilis (Scopoli, 1763) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006).

Oedemera simplex (L., 1767) - Lipari (Bologna, 1995). Salina (Bologna, 1995). *Vulcano: Piano, 23.v.2000, PLC; same locality, 2.vi.2011, 2.vi.2012, 9.vi.2013, GA.

Family MELOIDAE

Meloe (*Eurymeloe*) *mediterraneus* J. Müller, 1925 - Lipari (Bologna, 1995). Salina (Bologna & Marangoni, 1991). Vulcano (Bologna, 1995). Filicudi (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Meloe (*Eurymeloe*) *murinus* Brandt & Erichson, 1832 - Lipari (Bologna, 1995). Vulcano (Bologna, 1988).

**Meloe* (*M.*) *proscarabaeus* L., 1758 - Lipari: Timpone Mazzacaruso, 6.iii.2000, PLC. Vulcano: Piano, 20.iii.2022, GA. Alicudi: Dirittusu, 15.iii.2000, PLC & SP.

Meloe (*Meloegonius*) *cicatricosus* Leach, 1815 - Lipari (Bologna & Marangoni, 1991).

Meloe (*Taphromeloe*) *erythrocnemus* Pallas, 1782 - Lipari (Bologna, 1991). Vulcano (Bologna & Marangoni, 1991).

**Meloe* (*Treiodous*) *autumnalis* ssp. *heydeni* Escherich, 1889 - Lipari: Monte Mazzacaruso, 20.x.2018, PP.

**Sitaris muralis* (Förster, 1771) - Lipari: Acropolis, x.2014, FG.

Zonitis immaculata (Olivier, 1789) - Lipari (Bologna, 1991). *Vulcano: Piano, 2.vi.2012, GA.

**Zonitis nana* Ragusa, 1882 - Salina: Monte Fossa delle Felci, 2.v.2010, PLC & FG.

Family SALPINGIDAE

**Lissodema* (*Stenolissodema*) *lituratum* (A. Costa, 1847) - Lipari: Monte Guardia, iv.2009, PLC & FG; Capistello, 14.iv.2009, PLC & FG. Panarea: Soldata, 20.v.2009, PLC & FG.

Salpingus planirostris (F., 1787) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 20.iv.2012, PLC & FG. Vulcano (Lo Cascio et al., 2006).

Family ANTHICIDAE

Anthelephila pedestris (Rossi, 1790) - Lipari (Lo Cascio et al., 2006 sub *Formicomus*).

**Anthicus crinitus* La Ferté-Sénectère, 1849 (Fig. 17) - Vulcano: Piano, 24.v.2009, PLC & FG. Remarks: only recently recorded for Italy (Degiovanni & Baviera, 2009), this is the second locality so far known for the species at national scale.

Anthicus fenestratus W.L.E. Schmidt, 1842 - Salina (Bucciarelli, 1971). *Vulcano: Piano, 1.iv.2011, PLC & FG; Ponente beach, 25.iv.2014, GA. Stromboli (Bucciarelli, 1971).

**Anthicus niger* (Olivier, 1811) - Vulcano: Piano, 30.vii.2009, 1.iv.2011, PLC & FG; same locality, viii.2012, GA.

Anthicus tristis ssp. *tristis* W.L.E. Schmidt, 1842 - Lipari (Bucciarelli, 1971). *Vulcano: Piano, iv.2012, PLC & FG; Capo Secco, 1.iii.2019, GA. Filicudi (Lo Cascio et al., 2006). Alicudi (Bucciarelli, 1971).

Cordicomus instabilis ssp. *instabilis* (W.L.E. Schmidt, 1842) - Lipari (Lo Cascio et al., 2006).

Cyclodinus minutus ssp. *minutus* (La Ferté-Sénectère, 1842) - Salina (Bucciarelli, 1971).

**Endomia tenuicollis* ssp. *tenuicollis* (Rossi, 1792) - Panarea: 7.xi.2016, PP.

Figure 17. *Anthicus crinitus* La Ferté-Sénectère, 1849, second record for Italy (Anthicidae; length: 3.3 mm) (photo by C. Mustica).

Hirticomus hispidus (Rossi, 1792) - Lipari (Lo Cascio et al., 2006). Alicudi (Bucciarelli, 1971 sub *Anthicus*).

Hirticomus quadriguttatus (Rossi, 1792) - Lipari (Bucciarelli, 1971 sub *Anthicus*). Salina (Arnone, 1992). *Vulcano: Piano, 20.iv.2009, PLC & FG; Serro Felicicchie, 13.viii.2015, GA. Filicudi (Lo Cascio et al., 2006). Panarea (Bucciarelli, 1971 sub *Anthicus*).

Leptaleus rodriguesi (Latreille, 1802) - Lipari (Lo Cascio et al., 2006).

Microhoria velox ssp. *velox* (La Ferté-Sénectère, 1849) - Lipari (Lo Cascio et al., 2006 sub *Tenuicomus*). Filicudi (Lo Cascio et al., 2006 sub *Tenuicomus*).

Notoxus appendicinus Desbrochers des Loges, 1874 - Vulcano (Lo Cascio et al., 2006 sub *N. cavifrons* ssp. *appendicinus*). Stromboli (Lo Cascio et al., 2006 sub *N. cavifrons* ssp. *appendicinus*).

Notoxus trifasciatus Rossi, 1792 - Lipari (Lo Cascio et al., 2006). Vulcano (Arnone, 1992).

Omonadus bifasciatus (Rossi, 1792) - Salina (Bucciarelli, 1971 sub *Anthicus*). *Vulcano: Piano, 13.v.2010, PLC & FG. Filicudi (Lo Cascio et al., 2006). Alicudi (Bucciarelli, 1971 sub *Anthicus*).

**Omonadus floralis* (L., 1758) - Vulcano: 4–5.xi.2015, PP.

**Stricticomus longicollis* (W.L.E. Schmidt, 1842) - Alicudi: Dirittusu, 18–21.ii.2010, PLC & FG.

**Stricticomus tobias* (Marseul, 1879) - Lipari: village, 14.ix.2009, PLC & FG.

Stricticomus transversalis ssp. *transversalis* (A. Villa & J.B. Villa, 1833) - Lipari (Arnone, 1992). Salina (Bucciarelli, 1971 sub *Anthicus*). Vulcano (Arnone, 1992).

Tomoderus italicus Marseul, 1879 - Stromboli (Degiovanni & Pezzi, 2007).

Family ADERIDAE

Aderus populneus (Creutzer in Panzer, 1796) - Lipari (Lo Cascio et al., 2006). *Vulcano: 4–5.xi.2015, PP.

**Anidorus sanguinolentus* (Kiesenwetter, 1861) - Lipari: Capistello, 21.x.2009, 3.xi.2009, PLC & FG.

Family SCRAPTIIDAE

Anaspis (*A.*) *pulicaria* A. Costa, 1854 - Generically recorded for "Isole Eolie" by Franciscolo (1988).

**Anaspis* (*Silaria*) *varians* Mulsant, 1856 - Lisca Bianca: 19.iv.1995, PLC.

Superfamily CHRYSOMELOIDEA
Family CERAMBYCIDAE

Agapanthia (*A.*) *cardui* (L., 1767) - Lipari (Lo Cascio et al., 2006). *Vulcano: near Porto, 10.iv.2011, PLC. Alicudi (Cecchi & Lo Cascio, 2000).

Agapanthia (*A.*) *suturalis* (F., 1787) - Lipari (Baviera et al., 2017). Vulcano (Baviera et al., 2017). Filicudi (Rapuzzi & Sama, 2006).

Agapanthia (*Epoptes*) *irrorata* (F., 1787) - Lipari (Lo Cascio et al., 2006). Salina (Lo Cascio et al., 2006).

Arhopalus ferus (Mulsant, 1839) - Vulcano (Lo Cascio et al., 2006).

Arhopalus syriacus (Reitter, 1895) - Vulcano (Baviera et al., 2017 sub *Cephalocrius*).

Calamobius filum (Rossi, 1790) - *Lipari: Capistello, 22.v.2018, PLC. Salina (Baviera et al., 2017). Vulcano (Baviera et al., 2017). Filicudi (Sama, 2005).

Cerambyx scopolii Fuessly, 1775 - Lipari (Cecchi & Lo Cascio, 2000). Vulcano (Sama & Schurmann, 1980).

Certallum ebulinum (L., 1781) - Lipari (Lo Cascio et al., 2006).

Chlorophorus glabromaculatus (Goeze, 1777) - Lipari (Cecchi & Lo Cascio, 2000 sub *C. pilosus* ssp. *glabromaculatus*). Vulcano (Lo Cascio et al., 2006 sub *C. pilosus* ssp. *glabromaculatus*). *Stromboli: Vancori (850 m a.s.l.), 3.vii.2013, PLC & FG.

Chlorophorus sartor (Müller, 1766) - *Salina: Pollara, 29.v.2009, PLC & FG. Vulcano (Cecchi & Lo Cascio, 2000). *Filicudi: Capo Graziano, 15.vi.2021, PLC. Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).

Chlorophorus trifasciatus (F., 1781) - Lipari (Cecchi & Lo Cascio, 2000).

Chlorophorus varius (Müller, 1766) - Lipari (Cecchi & Lo Cascio, 2000). Salina (Lo Cascio et al., 2006). *Vulcano: Piano, 28.v.2009, PLC & FG; Monte Saraceno, 9.vii.2011, GA; Gelso, 7.vi.2018, PLC. Generically recorded for "Isole

Eolie" by Sama & Schurmann (1980); also recorded for the locality "Vallonazzo" without further indications by Sama (2005).

Deilus fugax (Olivier, 1790) - *Lipari: Monte Chirica, vi.2010, PLC & FG; Piano Greca, reared from *Prunus domestica*, iv.2011, PLC. Salina (Baviera et al., 2017). Vulcano (Cecchi & Lo Cascio, 2000). *Stromboli: Ginostra, 16–17.vi.2009, PLC & FG. Filicudi (Sama, 2005).

Deroplia troberti (Mulsant, 1843) - Lipari (Baviera et al., 2017). *Panarea: 7.xi.2016, PP.

Ergates faber ssp. *opifex* Mulsant, 1851 - Vulcano (Lo Cascio, 2017). Data record as follows: Piano, at light, 18.vi.2012, GA; viii.2012, GA; Piani di Luccia, 17.viii.2012, 25.viii.2012, GA; same locality, at night on *Pinus pinea*, 17.viii.2013, GA; Capo Grillo, on *Pinus pinea*, viii.2012, PLC.

Gracilia minuta (F., 1781) - Lipari (Cecchi & Lo Cascio, 2000). Vulcano (Cecchi & Lo Cascio, 2000).

Herophila tristis ssp. *tristis* (L., 1767) - Salina (Cecchi & Lo Cascio, 2000).

Hylotrupes bajulus (L., 1758) - Lipari (Cecchi & Lo Cascio, 2000). Salina (Lo Cascio et al., 2006). *Vulcano: Piano, 28.vi.2009, PLC & FG; same locality, 2.vi.2012, 9.vi.2013, GA.

Mesosa nebulosa (F., 1781) - Lipari (Cecchi & Lo Cascio, 2000).

Niphona picticornis Mulsant, 1839 - Lipari (Cecchi & Lo Cascio, 2000). *Vulcano: Piano, reared from *Cytisus aeolicus*, iv.2011, PLC; same locality, at light, 24.viii.2012, GA. *Filicudi: Piano del Porto, reared from *Pistacia lentiscus*, iii.2010, F. Scaldati. *Alicudi: Dirittusu, beating *Spartium junceum*, 5.xi.2017, PP. *Panarea: Iditella, beating *Spartium junceum*, 7.xi.2016, PLC & PP; Piana Milazzese, beating *Genista tyrrhena*, 29.iv.2021, PLC & LLF.

Opsilia coerulescens (Scopoli, 1763) - Lipari (Cecchi & Lo Cascio, 2000).

**Oxypleurus nodieri* Mulsant, 1839 - Vulcano: Piano, 4.iv.2015, GA.

Paracorymbia fulva (De Geer, 1775) - Lipari (Sparacio et al., 2003 sub *Corymbia*).

Parmena pilosa ssp. *inclusa* Mulsant, 1862 - Lipari (Lo Cascio et al., 2006 sub *P. pubescens*). Salina (Cecchi & Lo Cascio, 2000 sub *P. pubescens*). Vulcano (Lo Cascio et al., 2006 sub *P. pubescens*). Stromboli (Cecchi & Lo Cascio, 2000 sub *P. pubescens*). *Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP. Alicudi (Lo Cascio et al., 2006 sub *P. pubescens*). Panarea (Sama & Schurmann, 1980 sub *P. pubescens*). Generically recorded for "Isole Eolie" by Sama (1985 sub *P. pubescens*).

Penichroa fasciata (Stephens, 1831) - Vulcano (Cecchi & Lo Cascio, 2000). *Alicudi: vii.2013, PLC & FG.

Phoracantha recurva Newman, 1840 - *Salina: Valdichiesa, at light, 22.v.2009, PLC & FG. Vulcano (Lo Cascio, 2009).

Phoracantha semipunctata (F., 1775) - Salina (Lo Cascio et al., 2006). *Vulcano: Piano, 15.ix.2009, PLC & FG.

Phymatodes testaceus (L., 1758) - Vulcano (Baviera et al., 2017).

Stenopterus ater (L., 1767) - Lipari (Cecchi & Lo Cascio, 2000). Salina (Lo Cascio et al., 2006). Vulcano (Cecchi & Lo Cascio, 2000). Stromboli (Cecchi & Lo Cascio, 2000). Filicudi (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006). *Panarea: surrounding of San Pietro, 14.vi.2021, PLC.

Stenopterus rufus (L., 1767) - Lipari (Sama, 1988). Vulcano (Sama, 2005).

Stenurella (*Nigrostenurella*) *nigra* (L., 1758) - Vulcano (Cecchi & Lo Cascio, 2000).
Remarks: in Sicily known only for this site (see Baviera et al., 2017).

Stictoleptura cordigera (Fuessly, 1775) - Lipari (Cecchi & Lo Cascio, 2000 sub *Corymbia*). *Salina: Monte Fossa delle Felci, vii.2011, PLC & FG. Vulcano (Cecchi & Lo Cascio, 2000 sub *Corymbia*). Filicudi (Lo Cascio et al., 2006 sub *Corymbia*). Generically recorded for "Isole Eolie" by Sama (1988 sub *Corymbia*).

Trichoferus griseus (F., 1792) - Stromboli (Baviera et al., 2017).

Trichoferus holosericeus (Rossi, 1790) - Vulcano (Cecchi & Lo Cascio, 2000).

Trichoferus fasciculatus (Faldermann, 1837) - Salina (Sparacio et al., 2003).

Trichoferus spartii (Müller, 1948) - Lipari (Cecchi & Lo Cascio, 2000 sub *T. fasciculatus*). Stromboli (Biscaccianti, 2003).
Remarks: in Sicily known only for these sites (see Baviera et al., 2017).

Xylotrechus antilope (Schönherr, 1817) - Vulcano (Baviera et al., 2017).

Xylotrechus stebbingi Gahan, 1906 - *Lipari: Lami, at light, 15.vi.2021, FG. *Salina: Valdichiesa, at light, 22.v.2009, PLC & FG; Monte Fossa delle Felci, at light, 20.vii.2010, PLC & FG. Vulcano (Baviera et al., 2017).

CHRYSOMELIDAE

**Altica lythri* Aubé, 1843 - Lipari: Lami, iv.2019, PLC.

Altica oleracea (L., 1758) - Lipari (Lo Cascio et al., 2006).

Aphthona euphorbiae (Schrank, 1871) - Salina (Baviera & Biondi, 2015).

Aphthona pygmaea Kutschera, 1861 - Lipari (Lo Cascio et al., 2006).

**Arrhenocoela lineata* (Rossi, 1790) - Lipari: Monte Chirica, 6.xi.2015, PP; Monte Mazzacaruso, 20.x.2018, PP; Poggio dei Funghi, 21.ii.2021, PLC & LLF. Panarea: 7.xi.2015, PP.

**Bruchidius albolineatus* (Blanchard, 1844) - Lipari: Castellaro, 23.vi.1998, BCA, BCE, LD & PLC.

Bruchidius ater Marsham, 1802 - Salina (Lo Cascio et al., 2006).

Bruchidius biguttatus (Olivier, 1795) - Lipari (Lo Cascio et al., 2006).

Bruchidius bimaculatus (Olivier, 1795) - Lipari (Lo Cascio et al., 2006). *Vulcano: Piano, 22.vi.1998, BCA, BCE, LD & PLC; same locality, 23.v.2000, PLC. Salina (Lo Cascio et al., 2006).

**Bruchidius cinerascens* (Gyllenhal, 1833) - Salina: x.2006, PLC.

Bruchidius dispar (Gyllenhal, 1833) - Lipari (Lo Cascio et al., 2006).

Bruchidius foveolatus (Gyllenhal, 1833) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio, 2004). *Alicudi: Dirittusu, 5.xi.2017, PP. *Panarea: 7.xi.2016, PP.

**Bruchidius lividimanus* (Gyllenhal, 1833) - Lipari: Monte Mazzacaruso, 20.x.2018, PP. Vulcano: Vallonazzo, 7.xi.2017, PP.

Bruchidius nudus (Allard, 1868) - Vulcano (Lo Cascio, 2004). Stromboli (Lo Cascio, 2004). Alicudi (Lo Cascio et al., 2006).

**Bruchidius pauper* (Boheman, 1829) - Lipari: Timpone Ricotta, 23.vi.1998, BCA, BCE, LD & PLC.

Bruchidius salinaensis Zampetti & Toma, 2020 - Salina (Zampetti & Toma, 2020).
Remarks: narrow endemic of Salina Island (Zampetti & Toma, 2020).

Bruchidius seminarius (L., 1767) - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).

**Bruchidius villosus* (F., 1792) - Vulcano: surrounding of Gran Cratere, 22.vi.1998, BCA, BCE, LD & PLC.

Bruchus brachialis Fåhraeus, 1839 - *Salina: Valdichiesa, 29.v.2009, PLC & FG. *Vulcano: Serro Felicicchie, 13.viii.2015, GA; Vallonazzo, 7.xi.2017, PP; near Gelso, 17.x.2018, PP. Alicudi (Lo Cascio et al., 2006). *Panarea: Soldata, 20.v.2009, PLC & FG.

**Bruchus rufipes* Herbst, 1783 - Lipari: Castellaro, 23.vi.1998, BCA, BCE, LD & PLC.

Bruchus signaticornis Gyllenhal, 1833 - Alicudi (Lo Cascio et al., 2006).

Bruchus tristiculus Fåhraeus, 1839 - *Lipari: Monte Mazzacaruso, 19.x.2018, PP. Vulcano (Lo Cascio et al., 2006).

**Cassida algirica* Lucas, 1849 - Salina: Monte Fossa delle Felci, v.2018, PLC.

**Cassida deflorata* Suffrian, 1844 - Vulcano: top of the crater, 4–5.xi.2015, PP.

Chrysolina (*C.*) *bankii* (F., 1775) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, 29.ix.2009, PLC & FG. *Vulcano: Vallonazzo, 29.x.2011, GA.

Chrysolina (*Erythrochrysa*) *polita* (L., 1758) - Lipari (Lo Cascio et al., 2006).

Chrysolina (*Melasomoptera*) *grossa* (F., 1792) - Lipari (Lo Cascio et al., 2006). *Salina: Valdichiesa, 29.v.2009, PLC & FG. Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Chrysolina (*Stichoptera*) *variolosa* (Petagna, 1819) - Lipari (Lo Cascio et al., 2006). *Vulcano: Capo Grillo, 13.v.2010, PLC & FG; same locality, x.2014, PLC; 4–5.xi.2015, PP; western slope of Gran Cratere, 16.x.2018, PP.
Remarks: endemic of Sicily and Malta, also recorded (but not recently confirmed) for Calabria (Daccordi & Ruffo, 2005).

Chrysolina (*Sulcicollis*) *peregrina* ssp. *erythromera* (Lucas, 1849) - Lipari (Lo Cascio et al., 2006).

Chrysolina (*Synerga*) *viridana* ssp. *chloris* (Lucas, 1849) - Lipari (Lo Cascio et al., 2006). Vulcano

(Lo Cascio, 2004). *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF. *Alicudi: 27.ix.2011, AS & JS; Dirittusu, 5.xi.2017, PP; same locality, 3.iv.2021, PLC & LLF; same locality, 9.x.2021, GA.

**Chrysolina (Taeniochrysea) americana* (L., 1758) - Lipari: Quattropani, 21.x.2009, GAL; Capistello, 27.x.2009, PLC & FG. Vulcano: Piano, 2.x.2021, GA.

Colaspidea globosa (Küster, 1848) - Salina (Lo Cascio et al., 2006). *Alicudi: Dirittusu, on *Spartium junceum*, 5.xi.2017, PP. Panarea (Lo Cascio et al., 2006).

Colaspidea oblonga Blanchard, 1855 - Lipari (Lo Cascio et al., 2006). *Panarea: 7.xi.2015, 7.xi.2016, PP.

**Coptocephala chalybaea* ssp. *chalybaea* (Germar, 1824) - Lipari: Timpone Ricotta, 26.vi.2009, PLC & FG.

Coptocephala linneana Petitpierre & Alonso-Zarazaga, 2000 - Lipari (Lo Cascio et al., 2006 sub *C. quadrimaculata*).

Coptocephala unicolor (Lucas, 1845) - Lipari (Lo Cascio et al., 2006).

**Crioceris macilenta* Weise, 1880 - Lipari: Capistello, v.2009, PLC & FG; Monte Mazzacaruso, 19.x.2018, PP. Stromboli: Scari, iii.2002, PLC.

Crioceris paracenthesis (L., 1767) - Lipari (Lo Cascio et al., 2006). *Panarea: 7.xi.2015, 7.xi.2016, PP.

Cryptocephalus (*Burlinius*) *connexus* Olivier, 1807 - Lipari (Lo Cascio et al., 2006). *Vulcano: Piano, 24.v.2009, PLC & FG.

Cryptocephalus (*Burlinius*) *fulvus* (Goeze, 1777) - Salina (Baviera & Sassi, 2020). Vulcano (Baviera & Sassi, 2020).

Cryptocephalus (*Burlinius*) *macellus* Suffrian, 1860 - Lipari (Sassi, 2005). Salina (Baviera & Sassi, 2020). Vulcano (Baviera & Sassi, 2020).

**Cryptocephalus* (*Burlinius*) *politus* Suffrian, 1853 - Lipari: Timpone Ricotta, 26.vi.2009, LD, AG, PLC & FG. Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG. Vulcano: Piano, 24.v.2009, PLC & FG. Panarea: Piana Milazzese, v.2021, PLC & LLF.

Cryptocephalus (*C.*) *ilicis* Olivier, 1808 - Lipari (Lo Cascio et al., 2006).

Diorhabda elongata (Brullé, 1832) - Salina (Focarile, 1972).

Galeruca (*Emarhopa*) *rufa* (Germar, 1824) - Lipari (Lo Cascio et al., 2006).

Hispa atra L., 1767 - Alicudi (Lo Cascio et al., 2006).

Labidostomis taxicornis (F., 1792) - Lipari (Lo Cascio et al., 2006).

**Longitarsus australis* (Mulsant & Rey, 1874) - Vulcano: Vallonazzo, 7.xi.2017, PP.
Remarks: uncommon species in Italy, reported generically for Sicily by Biondi (1990), where however it has not been confirmed by recent records (see Biondi, 2005; Baviera & Biondi, 2015).

**Longitarsus ballotae* (Marsham, 1802) - Vulcano: near Gelso, 17.x.2018, PP.

Longitarsus candidulus (Foudras, 1860) - Lipari (Lo Cascio et al., 2006). Remarks: in Sicily known only for this site (Baviera & Biondi, 2015).

Longitarsus codinai Madar & Madar, 1965 - Vulcano (Baviera & Biondi, 2015).

Longitarsus gracilis Kutschera, 1864 - Stromboli (Baviera & Biondi, 2015).
Remarks: uncommon species in Italy, known at regional scale only for Stromboli and Peloritani Mounts (Baviera & Biondi, 2015); several specimens have been found by PP (8.xi.2015) on *Jacobaea maritima* ssp. *bicolor* in the NE slope of this island.

Longitarsus helvolus Kutschera, 1863 - Stromboli (Baviera & Biondi, 2015).
Remarks: known in Sicily only for this island and Peloritani Mounts (Baviera & Biondi, 2015).

**Longitarsus lateripunctatus* Rosenhauer, 1856 - Lipari: Capistello, 3.xi.2009, PLC & FG.

**Longitarsus luridus* (Scopoli, 1763) - Lipari: Monte Mazzacaruso, 19.x.2018, PP.

Longitarsus obliteratoides Gruev, 1973 - *Lipari: Monte Mazzacaruso, 20.x.2018, PP. Panarea (Biondi, 2005).

**Longitarsus pellucidus* (Foudras, 1860) - Lipari: Monte Mazzacaruso, 19.x.2018, PP. Salina: surrounding of Lingua, 8.xi.2016, PP. Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP.

Longitarsus succineus (Foudras, 1860) - Lipari (Lo Cascio et al., 2006). Vulcano (Baviera & Biondi, 2015). Filicudi (Baviera & Biondi, 2015). Alicudi (Baviera & Biondi, 2015).

**Longitarsus tabidus* (F., 1775) - Lipari: Monte Mazzacaruso, 20.x.2018, PLC & PP.

Macrolenes dentipes (Olivier, 1808) - Lipari (Lo Cascio et al., 2006). *Stromboli: Nel Cannestrà, v.2016, PLC. Filicudi (Lo Cascio et al., 2006). *Alicudi: vii.2013, PLC & FG. Panarea (Lo Cascio et al., 2006).

**Ochrosis ventralis* (Illiger, 1807) - Lipari: Monte Mazzacaruso, 20.x.2018, PP.

Phyllotreta procera (Redtenbacher, 1849) - Lipari (Lo Cascio et al., 2006).

Phyllotreta punctulata (Marsham, 1802) - Lipari (Lo Cascio et al., 2006).

Phyllotreta variipennis (Boieldieu, 1859) - Salina (Baviera & Biondi, 2015).

Psylliodes caneparii Leonardi, 2007 - Lipari (Leonardi, 2007). Vulcano (Baviera & Biondi, 2015). Remarks: endemic of Calabria, NE Sicily and Aeolian Islands (Baviera & Biondi, 2015).

Psylliodes chalcomera (Illiger, 1807) - Vulcano (Baviera & Biondi, 2015).

**Psylliodes chrysocephala* (L., 1758) - Lipari: Urnazzo, 21.v.2009, PLC & FG.

Psylliodes fusiformis (Illiger, 1807) - Lipari (Lo Cascio et al., 2006). Salina (Baviera & Biondi, 2015).

Psylliodes hospes Wollaston, 1854 - *Lipari: Monte Mazzacaruso, on *Brassica fruticulosa*, 19.x.2018, PP. Vulcano (Baviera & Biondi, 2015). *Alicudi: Bazzina, 6.xi.2017, PP.

**Psylliodes instabilis* Foudras, 1860 - Lipari: Monte Mazzacaruso, on *Brassica fruticulosa*, 19–20.x.2018, PP. Vulcano: near Gelso, on *Quercus ilex*, 17.x.2018, PP.

Psylliodes marcida (Illiger, 1807) - Stromboli (Baviera & Biondi, 2015).

Psylliodes pallidipennis Rosenhauer, 1856 - Stromboli (Baviera & Biondi, 2015).

Psylliodes pyritosa Kutschera, 1864 - Lipari (Lo Cascio et al., 2006). Vulcano (Baviera & Biondi, 2015).

Serratobruchidius jocosus (Gyllenhal, 1833) - Lipari (Lo Cascio et al., 2006 sub *Bruchidius*). *Vulcano: Piano, 29.vii.1999, PLC; Vulcanello, 3.v.2009, PLC & FG.

Serratobruchidius meleagrinus (Géné, 1839) - Lipari (Lo Cascio et al., 2006 sub *Bruchidius*). *Vulcano: Piano, 23.v.2000, PLC. *Filicudi: Filo Braccio, 31.v.2018, PLC. *Panarea: Castello di Salvamento, 20.v.2000, PLC; Soldata, 20.v.2009, PLC & FG.

Spermophagus calystegiae (Luk'yanovich & Ter-Minasyan, 1957) - Lipari (Lo Cascio et al., 2006).

Spermophagus sericeus (Geoffroy, 1785) - Lipari (Lo Cascio et al., 2006). *Salina: Valdichiesa, 29.v.2009, PLC & FG.

Sphaeroderma rubidum (Graëlls, 1858) - *Lipari: Timpone Ricotta, 19.x.2018, PLC. Salina (Baviera & Biondi, 2015). Vulcano (Baviera & Biondi, 2015).

Tituboea biguttata (Olivier, 1791) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, v.2018, PLC. *Filicudi: Filo Braccio, 31.v.2018, PLC. *Alicudi: 24.v.2014, PLC.

Xanthogaleruca luteola (O.F. Müller, 1766) - Lipari (Lo Cascio et al., 2006). *Vulcano: Capo Grillo, iv.2018, PLC.

Superfamily CURCULIONOIDEA
Family ANTHRIBIDAE

Noxius curtirostris (Mulsant, 1861) - Lipari (Abbazzi et al., 2000). Vulcano (Abbazzi et al., 2000). Stromboli (Abbazzi et al., 2000). Generically recorded for "Isole Eolie" by Cecchi & Lo Cascio (1999).

Family BRENTIDAE

**Apion cruentatum* Walton, 1844 - Lipari: Capistello, 3.xi.2009, PLC & FG. Vulcano: La Fossa, 25.x.2010, PLC.

Apion frumentarium (L., 1758) - Vulcano (Magnano & Osella, 1973).

**Apion haematodes* Kirby, 1808 - Vulcano: western slope of Gran Cratere, 16.x.2018, PP.

Aspidapion radiolus (Marsham, 1802) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*). Pietra del Bagno (Lo Cascio et al., 2006).

Catapion calabricum (A. Solari & F. Solari, 1922) - Vulcano (Magnano & Osella, 1973 sub *Apion*).

Catapion corsicum (Desbrochers des Loges, 1888) - Lipari (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*).

Ceratapion (*C.*) *carduorum* (Kirby, 1808) - Lipari (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*).

Ceratapion (*Echinostroma*) *basicorne* (Illiger, 1807) - Lipari (Lo Cascio et al., 2006).

**Ceratapion* (*Echinostroma*) *scalptum* (Mulsant & Rey, 1859) - Vulcano: Vallonazzo, 7.xi.2017, PP.

Corimalia tamarisci (Gyllenhal, 1838) - Lipari (Magnano & Osella, 1973). Salina (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973).

Dieckmanniellus nitidulus (Gyllenhal, 1838) - Lipari (Magnano & Osella, 1973 sub *Nanophyes*).

Diplapion detritum (Mulsant & Rey, 1858) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Eutrichapion (*Cnemapion*) *vorax* (Herbst, 1797) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). *Vulcano: near Gelso, 17.x.2018, PP.

Eutrichapion (*E.*) *viciae* (Paykull, 1800) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Lo Cascio et al., 2006). *Stromboli: Nel Cannestrà, 1.ii.2017, PLC. *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF.

Holotrichapion (*Apiops*) *pisi* (F., 1801) - Lipari (Lo Cascio et al., 2006).

Holotrichapion (*H.*) *ononis* (Kirby, 1808) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Holotrichapion (*Legaricapion*) *gracilicolle* (Gyllenhal, 1839) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Lo Cascio et al., 2006). Vulcano (Magnano & Osella, 1973 sub *Apion*). Alicudi (Lo Cascio et al., 2006).

Ischnopterapion plumbeomicans (Rosenhauer, 1856) - Lipari (Dieckmann, 1973 sub *Apion sicardi*). Vulcano (Dieckmann, 1973 sub *Apion sicardi*).

Kalcapion semivittatum (Gyllenhal, 1833) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Lo Cascio et al., 2006). *Vulcano: 4–5.xi.2015, PP; near Gelso, 17.x.2018, PP. Basiluzzo (Lo Cascio et al., 2006).

Malvapion malvae (F., 1775) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Lo Cascio et al., 2006). *Vulcano: near Pantano, iv.2018, PLC. Stromboli (Lo Cascio et al., 2006). *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF. Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio et al., 2006).

Oryxolaemus flavifemoratus (Herbst, 1797) - Lipari (Magnano & Osella, 1973 sub *Apion*). *Salina: surrounding of Lingua, 8.xi.2016, PP. *Vulcano: Vallonazzo, 7.xi.2017, PP. Panarea (Magnano & Osella, 1973 sub *Apion*).

**Oryxolaemus scabiosus* (Weise, 1889) - Lipari: Monte Sant'Angelo, 21.vi.1998, PLC; Timpone Ospedale, 13.x.2009, PLC & FG; Capistello, 3.xi.2009, IV.2009, PLC & FG; Poggio dei Funghi, 21.ii.2021, PLC & LLF. Salina: Monte Fossa delle Felci, at light, 20.vii.2010, PLC & FG. Stromboli (Lo Cascio et al., sub *O. flavifemoratus*).

**Oxystoma craccae* (L., 1767) - Salina: Vallone Mastrognoli, 3.vii.2001, PLC. Stromboli: Vallonazzo, v.2021, PLC & LLF.

Oxystoma dimidiatum Desbrochers des Loges, 1897 - Lipari (Magnano & Osella, 1973 sub *Apion pseudocerdo*). Vulcano (Magnano & Osella, 1973 sub *Apion pseudocerdo*).

Oxystoma pomonae (F., 1798) - Lipari (Magnano & Osella, 1973: 641 sub *Apion*). Salina (Lo Cascio et al., 2006). *Vulcano: near Gelso, 17.x.2018, PP.

Perapion curtirostre (Germar, 1817) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Lo Cascio et al., 2006). Vulcano (Magnano & Osella, 1973 sub *Apion*).

**Perapion ilvense* (Wagner, 1905) - Vulcano: 5.x.2015, PP; Valle Rio Grande, 6.xi.2016, PP; Vallonazzo, 7.xi.2017, PP; western slopes of Gran Cratere, 16.x.2018, PP.

Perapion violaceum (Kirby, 1808) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Phrissotrichum tubiferum (Gyllenhal, 1833) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*).

Figure 18. A specimen of the Asian weevil *Aclees taiwanensis* Kôno, 1933 (Curculionidae), photografed in November 2021 on a fig tree at Piana Greca, Lipari (photo by L. Mazza).

Protapion dissimile (Germar, 1817) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Protapion interjectum (Desbrochers des Loges, 1895) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*).

Protapion laevicolle (Kirby, 1811) - Lipari (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*). Alicudi (Lo Cascio et al., 2006).

Protapion nigritarse (Kirby, 1808) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). Vulcano (Magnano & Osella, 1973 sub *Apion*). Panarea (Magnano & Osella, 1973 sub *Apion*).

Pseudapion rufirostre (F., 1775) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Pseudoprotapion astragali (Paykull, 1800) - Lipari (Lo Cascio et al., 2006).

Squamapion leucophaeatum (Wencker, 1864) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Stenopterapion tenue (Kirby, 1808) - Lipari (Magnano & Osella, 1973 sub *Apion*). *Salina: Valdichiesa, 29.v.2009, PLC & FG.

Taeniapion rufescens (Gyllenhal, 1833) - Lipari (Magnano & Osella, 1973 sub *Apion*). Salina (Magnano & Osella, 1973 sub *Apion*). *Vulcano: Piano, at light, 13.viii.2015, GA.

Taeniapion rufulum (Wencker, 1864) - Lipari (Lo Cascio et al., 2006). *Vulcano: Vallonazzo, 7.xi.2017, PP; near Gelso, 17.x.2018, PP. Stromboli (Lo Cascio et al., 2006). *Alicudi: Dirittusu, 5.xi.2017, PP.

Taeniapion urticarium (Herbst, 1784) - Lipari (Magnano & Osella, 1973 sub *Apion*).

Family CURCULIONIDAE

Acentrus histrio (Schoenherr, 1837) - Salina (Magnano & Osella, 1973).

**Aclees taiwanensis* Kôno, 1933 - Lipari: Piana Greca, on *Ficus carica*, 29.xi.2021 (L. Mazza, pers. comm. 30.xi.2021).
Remarks: a fig pest of SE Asian origin recorded as *A. cribratus* or *A.* cf. *foveatus* for some Italian regions (Ciampolini et al., 2005; Abbazzi & Zinetti, 2013; Benelli et al., 2014; Casalini & Colonnelli, 2014), whose introduced populations have been however referred to this taxon on the basis of molecular investigations (Meregalli et al., 2020); first record for Sicily.

Figure 19. *Caulostrophus zancleanus* Pesarini et Baviera, 2006 (Curculionidae; length: 8 mm) (photo by C. Mustica).

**Amaurorhinus bewickianus* (Wollaston, 1860) - Lipari: village, vii.2010, AN.

Anisorhynchus monachus (Germar, 1817) - Lipari (Magnano & Osella, 1973).

Aparopion suturidens Reitter, 1891 - Lipari (Magnano & Osella, 1973).

**Aulacobaris caerulescens* (Scopoli, 1763) - Vulcano: Piano, 1.iv.2016, PLC & FG. Alicudi: Pianicello, iv.2003, PLC.

Brachycerus albidentatus Gyllenhal, 1840 - Alicudi (Lo Cascio et al., 2006).

Brachycerus undatus F., 1798 - Lipari (Magnano & Osella, 1973). *Salina: Praiola, 5.x.2018, FG. *Filicudi: Filo Braccio, 21.v.2018, PLC.

Brachypera (Antidonus) dauci (Olivier, 1807) - Lipari (Magnano & Osella, 1973 sub *Hypera fasciculata*).

**Brachypera (Antidonus) lunata* (Wollaston, 1854) - Vulcano: Vulcano, western slopes of Gran Cratere, 16.x.2018, PP.

Brachypera (Antidonus) zoilus (Scopoli, 1763) - Lipari (Magnano & Osella, 1973 sub *Hypera punctata*). Vulcano (Magnano & Osella, 1973 sub *Hypera punctata*). Alicudi (Lo Cascio et al., 2006 sub *Donus*).

Brachypera (*B.*) *crinita* (Boheman, 1834) - Lipari (Magnano & Osella, 1973 sub *Donus*). *Vulcano: Piano, 1–5.x.2021, GA. Alicudi (Magnano & Osella, 1973 sub *Donus*).

**Brachytemnus porcatus* (Germar, 1824) - Vulcano: near Gelso, 17.x.2018, PP.

Bradybatus tomentosus Desbrochers des Loges, 1892 - Stromboli (Baviera & Caldara, 2020).

**Caulostrophus zancleanus* Pesarini et Baviera, 2006 (Fig. 19) - Stromboli: Nel Cannestrà, v.2016, PLC.
Remarks: regional endemic so far known only for NE Sicily (Abbazzi & Maggini, 2009).

Ceutorhynchus assimilis (Paykull, 1792) - Lipari (Magnano & Osella, 1973 sub *C. pleurostigma*). *Vulcano: western slopes of Gran Cratere, 16.x.2018, PP.

Ceutorhynchus chalybaeus Germar, 1824 - Lipari (Magnano & Osella, 1973). Salina (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973).

Ceutorhynchus leprieuri Brisout de Barneville, 1881 - Lipari (Lo Cascio et al., 2006). *Vulcano: western slopes of Gran Cratere, 16.x.2018, PP.

Ceutorhynchus obstrictus (Marsham, 1802) - Lipari (Lo Cascio et al., 2006). *Stromboli: Scari, iii.2002, PLC; Vallonazzo, v.2021, PLC & LLF.

Ceutorhynchus pallidactylus (Marsham, 1802) - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, v.2018, PLC. Vulcano (Magnano & Osella, 1973 sub *C. quadridens*).

Ceutorhynchus viridipennis Brisout de Barneville, 1869 - Lipari (Lo Cascio et al., 2006). *Salina: Vallone Mastrognoli, 28.iv.2021, PLC & LLF.

Charagmus gressorius (F., 1792) - Lipari (Magnano & Osella, 1973 sub *Sitona*). Vulcano (Lo Cascio et al., 2006 sub *Sitona*). Stromboli (Magnano & Osella, 1973 sub *Sitona*). Filicudi (Magnano & Osella, 1973 sub *Sitona*). Alicudi (Lo Cascio et al., 2006 sub *Sitona*).

Charagmus intermedius (Küster, 1847) - Lipari (Magnano & Osella, 1973 sub *Sitona*). *Vulcano: Piano, 24.v.2009, PLC & FG; 4–5.xi.2015, PP.

Choerorhinus squalidus Fairmaire, 1857 - Lipari (Magnano & Osella, 1973 sub *Choenorrhinus*). Salina (Magnano & Osella, 1973 sub *Choenorrhinus*).

Cionus alauda (Herbst, 1784) - Stromboli (Lo Cascio et al., 2006).

Cionus hortulanus (Geoffroy, 1785) - Salina (Magnano & Osella, 1973).

Cionus thapsus (F., 1792) - Lipari (Lo Cascio et al., 2006).

Cleopomiarus plantarum (Germar, 1824) - Lipari (Magnano & Osella, 1973 sub *Miarus*).

Coccotrypes dactyliperda (F., 1801) - Lipari (Lo Cascio et al., 2006).

Coelositona limosus (Rossi, 1792) - Lipari (Lo Cascio et al., 2006 sub *Sitona*). Vulcano (Magnano & Osella, 1973 sub *Sitona*). Alicudi (Magnano & Osella, 1973 sub *Sitona*).

Coelositona puberulus (Reitter, 1903) - Lipari (Lo Cascio et al., 2006 sub *Sitona*).

Coniatus tamarisci (F., 1787) - Lipari (Lo Cascio et al., 2006). Salina (Focarile, 1972). Vulcano (Magnano & Osella, 1973). Panarea (Lo Cascio et al., 2006).

Coniocleonus (*Plagiographus*) *excoriatus* (Gyllenhal, 1834) - Lipari (Lo Cascio et al., 2006 sub *Stephanocleonus*).

Coniocleonus (*Plagiographus*) *pseudobliquus* (J. Müller, 1921) - Lipari (Lo Cascio et al., 2006 sub *Stephanocleonus*).

**Cosmobaris scolopacea* (Germar, 1819) - Salina: Valdichiesa, x.2006, PLC.

**Cryphalus numidicus* Eichhoff, 1878 - Lipari: Monte Mazzacaruso, 20.x.2018, PP.
Remarks: the occurrence of this species in Italy is reported by several catalogues (Pfeffer, 1995; Knížec, 2011; Alonso-Zarazaga et al., 2017; Yang, 2020) without detailed indications concerning the localities; first record for Sicily.

**Crypturgus numidicus* Ferrari, 1867 - Lipari: village, at light, v.2000, PLC.

Curculio elephas (Gyllenhal, 1835) - Lipari (Magnano & Osella, 1973).

**Cycloderes canescens* (Rossi, 1792) - Vulcano: Piano, viii.2010, PLC & FG; Piani di Luccia, 7.vii.2012, viii.2012, GA.

Cyphocleonus testatus (Gyllenhal, 1834) - Lipari (Magnano & Osella, 1973 sub *C. morbillosus*).

Derelomus chamaeropis (F., 1798) - Lipari (Lo Cascio et al., 2006). *Panarea: Capperaia, v.2018, PLC.

Figure 20. *Hypothenemus leprieuri* (Perris, 1866), new record for Sicily (Curculionidae; length: 1.6 mm) (photo by P. Ponel).

**Derelomus piriformis* (Hoffmann, 1938) - Lipari: Cappero, 8.v.2009, PLC & FG.

Dichromacalles dromedarius (Boheman, 1844) - Lipari (Magnano & Osella, 1973 sub *Acalles*). Vulcano (Lo Cascio et al., 2006).

**Donus philanthus* (Olivier, 1807) - Vulcano: Piano, 13.v.2010, PLC & FG; same locality, 2.vi.2012, 1–10.x.2021, GA; Piani di Luccia, viii.2012, 9.viii.2015, GA; Valle Rio Grande, 6.xi.2016, PP; Capo Grillo, 17.x.2018, PLC.

**Gonipterus* sp. - Vulcano: Piano, 1.iii.2019, GA. Remarks: Australian weevil belonging to *scutellatus* complex, that includes several cryptic species (Mapondera et al., 2012), only recently recorded for Sicily (Mazza et al., 2015).

**Hadroplontus trimaculatus* (F., 1775) - Vulcano: Vallonazzo, 7.xi.2017, PP.

**Hylesinus fraxini* (F., 1775) - Salina: Valdichiesa, 14.v.2011, PLC.

**Hylurgus ligniperda* (F., 1787) - Vulcano: Capo Grillo, 17.x.2018, PLC.

Hypera melancholica (F., 1792) - Lipari (Magnano & Osella, 1973 sub *H. murina*). *Alicudi: Dirittusu, 5.xi.2017, PP; Bazzina, 6.xi.2017, PP.

Hypera nigrirostris (F., 1775) - Lipari (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973).

Hypera ononidis (Chevrolat, 1863) - Lipari (Magnano & Osella, 1973).

Hypera postica (Gyllenhal, 1813) - Lipari (Magnano & Osella, 1973 sub *H. varabilis*). *Salina: 14.v.2011, PLC & FG; Lingua, from *Limbarda crithmoides* litter, 8.xi.2016, PP. *Vulcano: Piano, vi.2012, PLC & FG. *Stromboli: Nel Cannestrà, beating *Spartium junceum*, xii.2016, PLC; Scari, 2.ii.2017, PLC.

Hypera venusta (F., 1781) - Lipari (Magnano & Osella, 1973 sub *H. trilineata*). Vulcano (Magnano & Osella, 1973 sub *H. trilineata*). Panarea (Magnano & Osella, 1973 sub *H. trilineata*).

**Hypoborus ficus* Erichson, 1836 - Lipari: Capistello, 3.xi.2009, PLC & FG. Salina (M. Faccoli, pers. comm. 17.ii.2021). Vulcano: Piano, reared from *Cytisus aeolicus*, iv.2011, PLC; 4–5.xi.2015, PP.

**Hypothenemus leprieuri* (Perris, 1866) (Fig. 20) - Lipari: Palmeto, beating *Chamaerops humilis*, 19.x.2018, PP.
Remarks: rare species distributed in North Africa and Near East, known in Italy from an old record for Sardinia and more recent findings on Pianosa Island (Eggers, 1912; Faccoli & Cecchi, 2003); first record for Sicily.

Lachnaeus crinitus Schoenherr, 1826 - Vulcano (Magnano & Osella, 1973).

Larinus (*Larinomesius*) *curtus* Hochhut, 1851 - Lipari (Lo Cascio et al., 2006).

Larinus (*Larinomesius*) *scolymi* (Olivier, 1808) - Lipari (Magnano & Osella, 1973 sub *L. flavescens*). *Filicudi: Capo Graziano, v.2014, PLC. Panarea (Magnano & Osella, 1973 sub *L. flavescens*).

Larinus (*L.*) *cynarae* (F., 1787) - Lipari (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Larinus (*L.*) *ursus* (F., 1792) - Lipari (Magnano & Osella, 1973 sub *L. vittatus*). Salina (Magnano & Osella, 1973 sub *L. vittatus*). Vulcano (Magnano & Osella, 1973 sub *L. vittatus*). *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF.

**Liparthrum genistae* (Aubé, 1862) - Lipari (M.

Faccoli, pers. comm. 17.ii.2021). Stromboli: NE slope, on *Cytisus aeolicus*, 8.xi.2015, PP.

Lixus (*Compsolixus*) *anguinus* (L., 1767) - Lipari (Magnano & Osella, 1973). Salina (Osella & Riti, 1995). Panarea (Magnano & Osella, 1973).

Lixus (*Dilixellus*) *pulverulentus* (Scopoli, 1763) - Lipari (Magnano & Osella, 1973 sub *L. algirus*). Stromboli (Magnano & Osella, 1973 sub *L. algirus*). Filicudi (Magnano & Osella, 1973 sub *L. algirus*).

Lixus (*Dilixellus*) *punctiventris* Boheman, 1835 - Lipari (Magnano & Osella, 1973).

Lixus (*Epimeces*) *filiformis* (F., 1781) - Lipari (Magnano & Osella, 1973 sub *L. elongatus*). Vulcano (Magnano & Osella, 1973 sub *L. elongatus*).

**Lixus* (*Epimeces*) *scolopax* Boheman, 1835 - Lipari: Timpone Ricotta, 26.vi.2009, PLC.

Lixus (*Ortholixus*) *angustus* (Herbst, 1795) - Salina (Magnano & Osella, 1973 sub *L. sanguineus*).

**Lixus* (*Phillixus*) *brevirostris* Boheman, 1835 - Stromboli: Ginostra, 16–17.vi.2009, PLC & FG.

**Mecinus ictericus* (Gyllenhal, 1838) - Filicudi: Le Punte, v.2015, PLC.

Mesites cunipes Boheman, 1838 - Lipari (Magnano & Osella, 1973).

Mesites pallidipennis Boheman, 1838 - *Salina: Lingua, 25.v.2005, PLC. Vulcano (Lo Cascio et al., 2006). *Stromboli: Ginostra, 16–17.vi.2009, PLC & FG. Alicudi (Lo Cascio et al., 2006).

Microplontus molitor (Gyllenhal, 1837) - Lipari (Lo Cascio et al., 2006).

**Microplontus nigrovittatus* (Schultze, 1901) - Lipari: Capistello, 3.xi.2009, PLC & FG.

Microplontus rugulosus (Herbst, 1795) - Lipari (Magnano & Osella, 1973 sub *Ceutorhynchus chrysanthemi*). Vulcano (Magnano & Osella, 1973 sub *Ceutorhynchus chrysanthemi*).

Mogulones geographicus (Goeze, 1777) - *Lipari: San Calogero, 12.v.2011, PLC & FG. Vulcano (Lo Cascio et al., 2006).

Naupactus cervinus Boheman, 1840 - Lipari (Lo Cascio et al., 2006 sub *Pantomorus*). Salina (Lo Cascio et al., 2006 sub *Pantomorus*).

Otiorhynchus (*Arammichnus*) *cribricollis* Gyllenhal, 1834 - Lipari (Lo Cascio et al., 2006). *Vulcano: Vallonazzo, 7.xi.2017, PP. *Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP.

Otiorhynchus (*Arammichnus*) *meligunensis* Magnano, 1992 - Lipari (Magnano, 1992). Salina (Pesarini, 1970 sub *O. ferdinandi*). Vulcano (Magnano, 1992). Stromboli (Lo Cascio et al., 2006). Filicudi (Baviera & Magnano, 2010). Alicudi (Lo Cascio et al., 2006). Panarea (Lo Cascio, 2017). Basiluzzo (Lo Cascio et al., 2006). Lisca Bianca (Lo Cascio et al., 2006). Bottaro (Magnano, 1992). Strombolicchio (Lo Cascio et al., 2006). Pietra del Bagno (Lo Cascio et al., 2006). Remarks: narrow endemic of the Aeolian Islands (Magnano, 1992).

Otiorhynchus (*Arammichnus*) *ocellifer* Reitter, 1912 - Lipari (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973). Panarea (Magnano & Osella, 1973).

Otiorhynchus (*Nehrodistus*) *armatus* Boheman, 1842 - Salina (Magnano & Osella, 1973).

Pachytychius hordei ssp. *grandicollis* (Waltl, 1835) - Lipari (Magnano & Osella, 1973 sub *P. squamosus*). Alicudi (Lo Cascio et al., 2006 sub *P. squamosus*).

Phloeosinus thujae (Perris, 1855) - Lipari (Lo Cascio et al., 2006).

**Phloeotribus cristatus* (Fauvel, 1889) - Lipari: Poggio dei Funghi, 21.ii.2021, PLC & LLF. Vulcano: Valle Rio Grande, 6.xi.2016, PP; western slope of Gran Cratere, 16.x.2018, PP; also M. Faccoli (pers. comm. 17.ii.2021). Filicudi: surrounding of Pecorini Alto, 9.xi.2017, PP. Alicudi: Dirittusu, 5.xi.2017, PP. Panarea: 7.xi.2015, 7.xi.2016, PP.
Remarks: recorded with doubt (Abbazzi et al., 1995) and successively reported for Sicily (Colonnelli, 2003) without detailed information; the above sites are therefore the only surely confirmed at regional scale.

**Phloeotribus pubifrons* (Guillebeau, 1893) - Stromboli (M. Faccoli, pers. comm. 17.ii.2021).

**Phloeotribus rhododactylus* (Marsham, 1802) - Vulcano: 4–5.xi.2015, PP; Valle Rio Grande, 6.xi.2016, PP; western slope of Gran Cratere, 16.x.2018, PP. Stromboli: 8.xi.2015, PP. Alicudi: Dirittusu, 5.xi.2017, PP.

Phloeotribus scarabaeoides (Bernard, 1788) - Lipari (Lo Cascio et al., 2006). *Panarea: Piana Milazzese, v.2021, PLC & LLF.

**Pissodes castaneus* (De Geer, 1775) - Salina: Monte Fossa delle Felci, 9.x.2016, PLC.

**Pityogenes calcaratus* (Eichhoff, 1878) - Panarea: Iditella, beating *Spartium junceum*, 7.xi.2016, PLC.

Remarks: species with wide European-Mediterranean distribution, recently recorded for Sicily (Sidoti & Bellomo, 2006) and Malta (Mifsud & Knížek, 2009).

Polydrusus (*Eurodrusus*) *armipes* Brullé, 1832 - Lipari (Magnano & Osella, 1973). *Filicudi: Le Punte, v.2013, PLC.

Polydrusus (*Eurodrusus*) *cervinus* (L., 1758) - Salina (Lo Cascio et al., 2006).

Polydrusus (*Eurodrusus*) *pilosus* ssp. *italicus* Gredler, 1866 - Lipari (Lo Cascio et al., 2006). *Salina: Monte Fossa delle Felci, beating *Arbutus unedo*, 22.v.2009, PLC & FG.

Pseudocleonus cinereus (Schrank, 1781) - Lipari (Lo Cascio et al., 2006)

Pseudomeira aeolica Bellò, Pesarini et Pierotti, 1997 - Lipari (Bellò et al., 1997). Salina (Bellò et al., 1997). *Vulcano: Piano, iii.2000, PLC. Stromboli (Bellò & Baviera, 2011). Filicudi (Bellò & Baviera, 2011). Alicudi (Bellò et al., 1997).

Remarks: narrow endemic of the Aeolian Islands (Bellò & Baviera, 2011); many specimens were found at Alicudi (Dirittusu, 5.xi.2017, PP) beating *Spartium junceum*.

Pseudomeira vitalei (Desbrochers des Loges, 1892) - Lipari (Magnano & Osella, 1973). Panarea (Magnano & Osella, 1973).

Rhamphus oxyacanthae (Marsham, 1802) - Lipari (Magnano & Osella, 1973).

Rhinocyllus conicus (Froelich, 1792) - Lipari (Lo Cascio et al., 2006). *Vulcano: Piano, under bark of *Eucalyptus* sp., 15.ix.2009, PLC & FG; same locality, 19.vi.2012, GA; same locality, under bark of *Robinia pseudoacacia*, 10.viii.2013, GA; Capo Grillo, under bark of *Eucalyptus* sp., 15.vi.2012, 13.viii.2013, GA; Passo Piano, under bark of *Eucalyptus* sp., 18.viii.2014, GA; Vallonazzo, beating *Cistus* sp., 4.iv.2015, GA; Vulcanello, 10.xi.2016, PP; near Gelso, on *Quercus ilex*, 17.x.2018, PP. Panarea (Magnano & Osella, 1973).

Rhinusa bipustulata (Rossi, 1794) - Lipari (Lo Cascio et al., 2006). Salina (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973). *Stromboli: Nel Cannestrà, beating *Spartium junceum*, xii.2016, 1.ii.2017, PLC; Vallonazzo, v.2021, PLC & LLF. *Filicudi: Zucco Grande, 10.v.2021, PLC & LLF.

Rhinusa depressa (Rottenberg, 1872) - Salina (Baviera & Caldara, 2020). Filicudi (Baviera & Caldara, 2020).

Rhinusa incana (Kirsh, 1881) - Salina (Baviera & Caldara, 2020).

Rhinusa moroderi (Reitter, 1906) - Lipari (Caldara, 2008).

Rhinusa tetra (F., 1792) - Lipari (Magnano & Osella, 1973).

**Rhynchophorus ferrugineus* (Olivier, 1790) - Lipari: village, vi.2011, x.2014, PLC & FG. Vulcano: Porto, 26.x.2009, PLC; same locality, xi.2011, viii.2012; Portella della Trovatina, viii.2012, GA.

Rhytideres plicatus (Olivier, 1790) - *Lipari: Varesana, x.2014, PLC & FG; Pianoconte, xi.2020, CM. Salina (Lo Cascio et al., 2006). *Filicudi: Pecorini, 9.xi.2017, PLC & FG.

Scolytus amygdali (Guérin-Méneville, 1847) - Stromboli (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Sibinia attalica Gyllenhal, 1835 - Lipari (Magnano & Osella, 1973). Salina (Lo Cascio et al., 2006). Vulcano (Magnano & Osella, 1973). Alicudi (Lo Cascio et al., 2006).

Sibinia primita (Herbst, 1795) - Lipari (Magnano & Osella, 1973).

Sirocalodes mixtus (Mulsant & Rey, 1859) - Lipari (Magnano & Osella, 1973 sub *Sirocalus*). *Salina: Monte Fossa delle Felci, 22.v.2009, PLC & FG. Filicudi (Lo Cascio et al., 2006). Alicudi (Lo Cascio et al., 2006).

Sitona cylindricollis (Fåhraeus, 1840) - Lipari (Magnano & Osella, 1973).

**Sitona discoideus* (Gyllenhal, 1834) - Vulcano: xi.2015, PP.

Sitona gemellatus (Gyllenhal, 1834) - Lipari (Magnano & Osella, 1973).

Sitona humeralis Stephens, 1831 - Lipari (Magnano & Osella, 1973). *Salina: Lingua, from *Limbarda crithmoides* litter, 8.xi.2016, PP.

Sitona lineatus (L., 1758) - Lipari (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973).

Sitona ophthalmicus Desbrochers des Loges, 1869 - Lipari (Magnano & Osella, 1973). Vulcano (Magnano & Osella, 1973). *Alicudi: Pianicello, v.2011, PLC.

**Sitona puncticollis* Stephens, 1831 - Vulcano: near Gelso, 17.x.2018, PP.

**Sitona virgatus* Fåhraeus, 1840 - Lipari: western slope of Monte Mazzacaruso, 19.x.2018, PP.

Sitophilus granarius (L., 1758) - Vulcano (Magnano & Osella, 1973).

Sitophilus oryzae (L., 1763) - *Lipari: Capistello, 21.vii.2009, PLC & FG. Vulcano (Magnano & Osella, 1973). Strombolicchio (Lo Cascio et al., 2006).

**Sitophilus zeamais* Motschulsky, 1855 - Vulcano: near Gelso, 17.x.2018, PP.
Remarks: this species is usually associated to stored food, however many specimens were found in a wild context from acorns of *Quercus ilex*.

**Smicronyx* (*S.*) *albosquamosus* Wollaston, 1854 - Lipari: Monte Mazzacaruso, 6.xi.2017, 19–20.x.2018, PP.

Smicronyx (*S.*) *syriacus* Faust, 1887 - Lipari (Magnano & Osella, 1973 sub *S. brevicornis*).

Smicronyx (*Chalybodontus*) *cyaneus* (Gyllenhal, 1835) - Lipari (Magnano & Osella, 1973).

Strophomorphus porcellus (Schoenherr, 1832) - Lipari (Lo Cascio et al., 2006).

**Styphloderes exsculptus* (Boheman, 1843) - Salina: Lingua, 13.iii.2005, PLC.

**Tomicus destruens* (Wollastron, 1865) - Vulcano: top of Gran Cratere, 5.xi.2015, PP. Filicudi: Pecorini Alto, xi.2019, PLC.

Trachyphloeus laticollis Boheman, 1842 - Lipari (Magnano & Osella, 1973). Salina (Osella et al., 2005). Vulcano (Osella et al., 2005). Stromboli (Lo Cascio et al., 2006). Alicudi (Borovec & Osella, 1993). Panarea (Magnano & Osella, 1973). Strombolicchio (Lo Cascio et al., 2006). Scoglio Faraglione (Lo Cascio et al., 2006). Pietra del Bagno (Lo Cascio et al., 2006).

Tychius bicolor C.N.F. Brisout de Barneville, 1862 - *Lipari: Palmeto, v.2016, PLC. Salina (Baviera & Caldara, 2020). *Vulcano: Vulcanello, 3.vi.2009, PLC & FG; Piano, 1.iv.2011, PLC & FG.

Tychius capucinus (Boheman, 1843) - Scoglio Faraglione (Lo Cascio et al., 2006).

Tychius consputus Kiesenwetter, 1864 - Lipari (Lo Cascio et al., 2006).

Tychius curtirostris Desbrochers des Loges, 1873 - Lipari (Magnano & Osella, 1973 sub *T. neapolitanus*). Vulcano (Magnano & Osella, 1973 sub *T. neapolitanus*).

Tychius naxiae Faust, 1889 - Lipari (Lo Cascio et al., 2006). Vulcano (Lo Cascio et al., 2006). Stromboli (Lo Cascio et al., 2006).

Tychius picirostris (F., 1787) - *Lipari: Timpone Ricotta, 26.vi.2009, LD, AG, PLC & FG. Salina (Magnano & Osella, 1973 sub *Miccotrogus*). *Stromboli: Ginostra, 16–17.vi.2009, PLC & FG.

**Xyleborinus saxesenii* (Ratzeburg, 1837) - Vulcano: Valle Rio Grande, 6.xi.2016, PP.

DISCUSSION

The main difficulty of having really exhaustive inventories in faunal investigations depends on the sampling completeness. The present research has been performed by using a wide range of methods in all the seasons of the year and over more than twenty years, but not homogeneously among the different islands: an average of 50 sampling sessions has been done on some of them (for instance, Lipari, Vulcano and Alicudi), while those carried out on Filicudi are much lower. However, many new records concern species collected on the same site by different researchers and/or in different years, confirming indirectly a good level of accuracy for these faunal investigations.

The checklist includes 192 species not previously recorded for the Aeolian Islands, and provides new distributional data for 193 species already known for the study area; among these latter are included narrow endemics such as the scarabaeid *Firminus massai* (new for Filicudi), the tenebrionids *Catomus aeolicus* (new for Basiluzzo), *Leptoderis zelmerloewae* (new for Vulcano and Filicudi) and *Nalassus pastai* (new for Salina and Stromboli), and the curculionid *Pseudomeira aeolica* (new for Vulcano). Particularly interesting sounds the record of *F. massai* for Filicudi: the species has been found in a site at 30 m a.s.l., confirming once again the existence of a strong ecological segregation between this endemic and its closely related *F. ciliatus* (Reiche, 1862), characterized by a montane distribution (see Arnone et al., 2014).

The occurrence of seven coleopteran families (Bostrichidae, Cybocephalidae, Kateretidae, Lampyridae, Monotomidae, Ptiliidae and Trogossitidae) was previously unrecorded, but also for other families so far considered scarcely represented in the archipelago (such as Corylophidae, Hydrophilidae, Silphidae) the species richness has now increased of about 60–70%.

	a	b	c	d	e	f
Lipari	37.29	602	27.3	0.9	448	547
Salina	26.38	962	37.8	3.0	170	262
Vulcano	20.87	499	19.5	0.9	247	410
Stromboli	12.19	924	54.3	17.5	131	173
Filicudi	9.49	773	44.8	16.1	78	117
Alicudi	5.10	676	52.5	16.1	110	162
Panarea	3.34	421	40.2	14.3	70	116
Basiluzzo	0.281	165	-	3.5	9	11
Lisca Bianca	0.031	32	-	3.0	5	7
Strombolicchio	0.0076	49	-	1.5	10	11
Bottaro	0.0074	23	-	2.7	9	10
Scoglio Faraglione	0.0057	33	-	0.3	11	11
Pietra del Bagno	0.0032	21	-	0.4	8	8

Table 1. Geographical and faunal data of the Aeolian Archipelago: a) surface (in km2), b) max elevation (in m a.s.l.), c) distance from mainland (in km) (not given for islets), d) distance from the nearest island (in km), e) N coleopteran species recorded from literature, f) N coleopteran species including the new records.

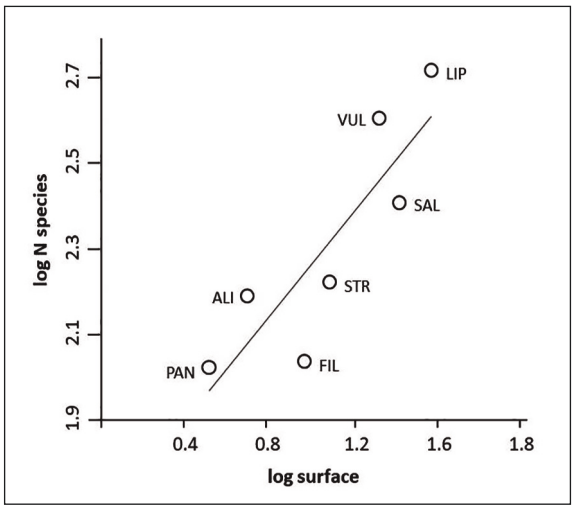

Figure 21. Species-area plot for the Coleoptera assemblages of the archipelago. Islands' abbreviations: ALI, Alicudi; FIL, Filicudi; LIP, Lipari; PAN, Panarea; SAL, Salina; STR, Stromboli; VUL, Vulcano.

There are new records at national or regional scale: the corylophid *Sericoderus brevicornis* is new for Italy, and Lipari is the second Italian locality known for the anthicid *Anthicus crinitus*. Eight species (the carabids *Pangus scaritides* and *Tachyura curvimana*, the corylophid *Arthrolips convexiuscula*, the ptinid *Dignomus irroratus*, the staphylinid *Megaloscapa punctipennis*, the curculionids *Aclees taiwanensis*, *Cryphalus numidicus* and *Hypothenemus leprieuri*) are new for Sicily, and the latridiid *Migneauxia crassiuscula* and the curculionid *Phloeotribus cristatus* are definitively confirmed for this region.

The checklist includes also some critical records: the melyrid *Colotes obsoletus* was reported by Focarile (1972) for Salina, that for a long time represented the only Italian locality known for this species (see Franzini, 2015), but its occurrence needs a confirmation in light of our finding on the

same island of the congeneric *C. punctatus*; the scarabaeid *Anoxia scutellaris* ssp. *sicula* is a narrow endemic of the N coast of Sicily (Ballerio et al., 2014) that we found on Vulcano during a short span of time (summer 2012), but despite careful investigations no further observations were done later, therefore the collected specimens may have been accidentally introduced; another scarabaeid, *Potosia hypocrita*, is a Sicilian endemic (Vondráček et al., 2018) found only once on the same island, a circumstance that makes difficult to understand if it belongs to a a small and hitherto unknown population (perhaps relictual) or, more likely, could represents just an accidental finding.

The whole beetle fauna of the archipelago includes 861 species. Within the main islands, it ranges from 547 (Lipari) to 116 species (Panarea) (see Table 1), and species richness seems to be significantly correlated to the island surface (log N species–log area: $r^2 = 0.734$, $P = 0.01$; Fig. 21); contrariwise, less or not significant correlations occur considering the distance of islands from mainland ($r^2 = 0.582$, $P = 0.04$) or their elevation ($r^2 = 0.003$, $P = 0.8$). These results partially agree with those discussed by Fattorini (2011), who found as the island area plays an important role in determining species composition for some groups (e.g., Tenebrionidae), but also stated as for Carabidae it should be mostly influenced by the distance from mainland. This achievement may be anyhow due to a bias in the data source: Fattorini (2010) has explained for instance the low number of Carabidae found on Vulcano with habitat alteration caused by volcanic activity in the late 19th century, an assumption that becomes feeble after the update of the checklist, where the carabid beetles occurring on this island have increased from 14 to 34 species indeed.

An interesting faunal trait is that about 50% of the species recorded for the archipelago seem to occur only in a single island. The percentages differ however between families and/or groups, with highest values resulting for those that include a large number of predators (Carabidae: 62%), or constrained by a narrow ecological specialization (coprophagous Scarabaeidae: 69%), and the lowest for non-coprophagous Scarabaeidae (23%, excluding the doubtful records above mentioned) or Tenebrionidae (27%). Ground beetles are extremely sensitive to habitat alteration (see Niemelä, 2001; Avgin & Luff, 2010; Ludwiczak et al., 2020), hence their selective distribution might be influenced by land use changes that occurred in the recent time (King & Young, 1979). A different matter concerns the dung beetles, whose occurrence is strongly linked to pabulum availability: some old records for islands where cattle breeding is currently reduced or ceased (Lipari, Salina, Stromboli) could be only partially reliable, while on Vulcano livestock is still occurring and the coprophagous communities seem to be stable through time (Lo Cascio, 2020a).

Only a small percentage (1.6%) of the whole coleopteran assemblage occurs instead on all the seven main islands: in most cases these are synanthropic or widely distributed species, such as the carabid *Calathus cinctus*, the staphylinid *Ocypus olens*, the tenebrionids *Blaps gigas*, *Pimelia rugulosa*, *Scaurus striatus* and *Tentyria grossa*, the scarabaeids *Oxythtrea funesta*, *Phyllognathus excavatus* and *Tropinota squalida*, the cerambycid *Stenopterus ater*, and the brentid *Malvapion malvae*; however, this group includes also the Italian endemic *Aplidia hirticollis* (Scarabaeidae), the narrow endemic *Otiorhynchus meligunensis* (Curculionidae), and even *Ozognathus cornutus* (Ptinidae), a North-American death-watch beetle that has only recently colonized the Aeolian Islands (see below).

The dynamics of colonization and dispersal of beetles on and/or within the archipelago was the subject of authoritative studies, whose results appear to be sometimes controversial. According to Fattorini (2010), the origin of these faunas is quite recent, and species seem to have established on the islands mainly by stepping stone dispersal or inter-island faunal exchanges, without being influenced by island age. Contrariwise, taking into consideration only the tenebrionid *Pimelia rugulosa*, Stroscio et al. (2011) came to the conclusion that volcanism has determined spatial patterns of genetic variability: the archipelago hosts separate lineages that have independently colonized different islands from the mainland and differentiated locally forming small haplogroups, whose variability is correlated with island age and in some cases presumably depleted by catastrophic events.

Starting from our data, an average linkage cluster analysis (UPGMA) using Jaccard's coefficient was performed to evaluate faunal similarity among the archipelago for three selected families/groups

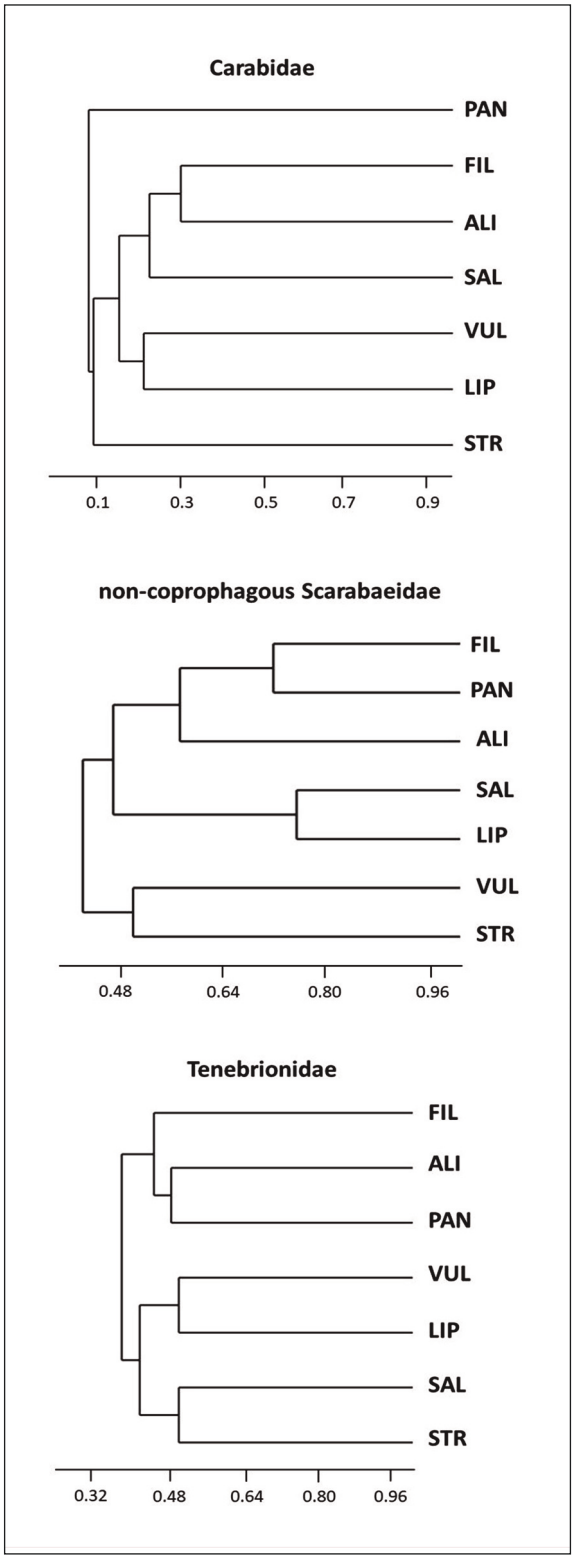

Figure 22. Dendrograms obtained by UPGMA clustering of the islands with Jaccard index similarity matrix for Carabidae, non-coprophagous Scarabaeidae and Tenebrionidae. Islands' abbreviations as in Fig. 21.

(Fig. 22). Concerning Carabidae, the faunal composition seems mainly influenced by the geographical proximity: two distinct groups include Lipari-Vulcano and Filicudi-Alicudi (secondarily also Salina), while Stromboli and especially Panarea are more isolated (this latter probably due to its low number of species). Island size (and therefore environmental heterogeneity) appears instead to be the main factor determining similarity both for Tenebrionidae and non-coprophagous Scarabaeidae; within this latter group, two islands (Vulcano and Stromboli) are clustered in a rather isolated position, probably due to their distinctive environmental resemblance (large areas occupied by active volcanoes, wide representation of sandy habitats, etc.).

Volcanic activity and stochastic events could have played a role in micro-evolutionary processes occurred for some populations (e.g. through repeated bottle-neck effects), as suggested for instance by the neo-endemic scarabaeid *Anoxia moltonii* on Vulcano, while its closely related *A. matutinalis* is found on Lipari (just 1 km from this island) and Salina. At the same time, the relatively recent age of these islands has probably hampered on the whole the speciation processes, and the endemics are in fact only 10 species exclusively distributed on one (3) or more islands (7), two of these latter also occurring on tiny islets (Fig. 23). This low percentage (1.17%) seems to be consistent with that assessed for the vascular flora (0.79%: see Chiarucci et al., 2021). Some endemics whose taxonomic isolation suggests an ancient origin (e.g. the carabid *Ocys beatricis* or the tenebrionid *Nalassus pastai*) could instead have a relictual significance, and therefore the role of the islands is interpreted as a refuge (Magrini et al., 1999; Aliquò et al., 2006).

Despite this low endemism rate, the Aeolian faunas show however a certain distinctiveness: apart from the above mentioned new records for Sicily, several species seem to occur exclusively on the archipelago at regional scale: the carabid *Ophonus rufibarbis*, the scarabaeid *Psammodius plicicollis*, the eucinetid *Eucinetus haemorrhoidalis*, the cryptophagid *Atomaria turgida*, the latridiid *Melanophthalma sericea*, the cerambycids *Stenurella nigra* and *Trichoferus spartii*, and the chrysomelid *Longitarsus candidulus*. Moreover, the islands host some species of biogeographic interest, rare or

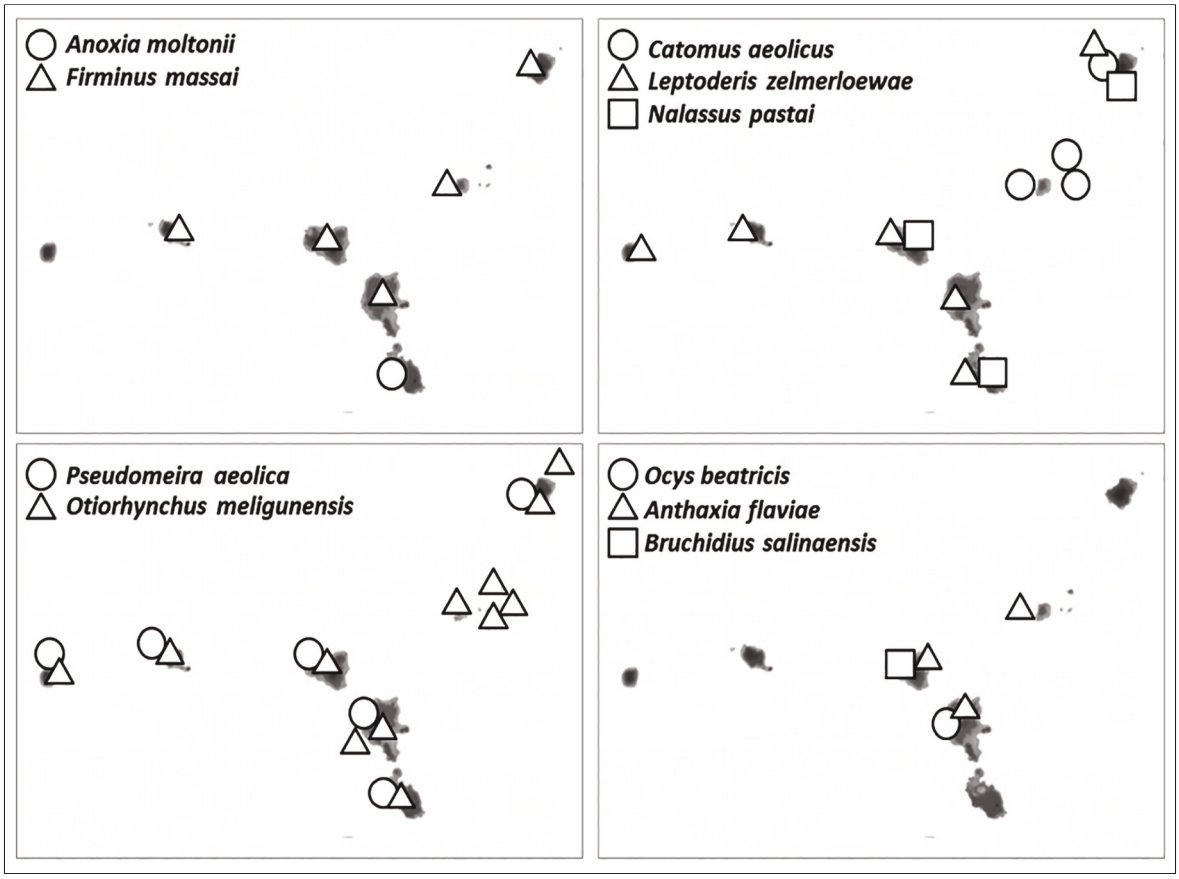

Figure 23. Distribution of the narrow Aeolian endemics.

strictly localized at regional or national scale: the histerid *Atholus siculus*, the staphylinid *Heterothops canariensis*, the cantharid *Rhagonycha lignosa*, the dermestid *Anthrenus biskrensis*, and the chrysomelid *Longitarsus australis* and *L. gracilis*; it is also the case of *Erodius siculus*, a psammophilous tenebrionid here occurring with the subspecies *neapolitanus*, endemic of the Tyrrhenian and Ionian coasts of S Italy, while the other Sicilian populations are referred to the subspecies *siculus*. Finally, a remarkable biogeographic interest has also the record of the weevil *Caulostrophus zancleanus*, so far considered as endemic of a narrow area of NE Sicily (Pesarini & Baviera, 2006).

Eight species have been found for the first time in association with the endemic broom *Cytisus aeolicus* Guss.: *Anthaxia* gr. *mendizabali* (Buprestidae), *Scobicia chevrieri* (Bostrichidae), *Stagetus byrrhoides* (Ptinidae), *Nemosoma elongatum* (Trogossitidae), *Cryptolestes spartii* (Laemophloeidae), *Niphona picticornis* (Cerambycidae), *Liparthrum genistae* and *Hypoborus ficus* (Curculionidae), that together with those previously reported by Lo Cascio (2004) add further data about the ecology of this threatened plant, strictly localized at Stromboli, Vulcano and Alicudi and listed as priority species in the Annex II of the 43/92 EU Directive (Zaia et al., 2020).

The checklist includes also a unexpected number of Curculionidae Scolytinae whose biological cycle is usually linked to plant-hosts growing in mature continental forests, that sounds strange on small Mediterranean islands, but that could be related to the wide use of introduced ornamental plants in the private gardens. It should also be noted that the new data show a significant increase in alien species: *Ozognathus cornutus* (Ptinidae), *Epuraea luteolus* (Nitidulidae), *Sericoderus brevicornis* (Corylophidae), *Harmonia axyridis* (Coccinellidae), *Xylotrechus stebbingi* (Cerambycidae), *Aclees*

taiwanensis, *Gonipterus* sp. and *Rhynchophorus ferrugineus* (Curculionidae), which are added to those already recorded for the Aeolian Archipelago, such as several Coccinellidae, the nitidulids *Colopterus abdominalis* and *Epuraea ocularis*, the cerambycids *Phoracantha recurva* and *P. semipunctata* (Lo Cascio et al., 2006; Lo Cascio, 2009; Baviera & Audisio, 2014; Baviera et al., 2017).

Especially in the case of the ptinid *O. cornutus*, it is noteworthy as this species was able to spread very quickly, as suggested by its findings on all the main islands just few years after its first record for Sicily (Cusimano et al., 2014; Sidoti et al., 2016; Cerasa & Lo Verde, 2021). Also the nitidulid *E. luteolus* was collected on the tiny, uninhabited islet Strombolicchio in 1999, thus only one year after its first record for Sicily (in 1998: see Audisio & De Biase, 2005; Baviera & Audisio, 2014). The amount of exotic species recently detected suggests an increasing trend and confirms as islands are extremely exposed to biological invasion and colonization from alien beetles, a phenomenon now widely documented both at Mediterranean (see Mifsud & Cutajar, 2017; Toma et al., 2017; Leza et al., 2020; Demetriou et al., 2021; Hadjiconstantis & Zoumides, 2021) and at global level (see Hänel & Jäch, 2013; Bella & Aguiar, 2020; Gillet et al., 2020; Romanowski et al., 2020; Hullé & Vernon, 2021). Alien species pose a threat not only to local biodiversity, but also to traditional rural activities – for instance, the potential of damage expected by the fig pest *Aclees taiwanensis* – and therefore require urgent prevention and monitoring measures, which however do not seem easy to implement in the continuing absence of an effective and sustainable management of these islands.

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