

THE HISTERIDAE (COLEOPTERA: HISTEROIDEA) OF SICILY: NEW RECORDS AND AN UPDATED CHECKLIST

COSIMO BAVIERA ^{a*} AND PIERPAOLO VIENNA ^b

ABSTRACT. This paper is an updated checklist of the Sicilian Histeridae. Listed species originate from published data together with new material collected by the authors and other entomologists in the past last few decades. One hundred and four species and subspecies are reported, with new distribution data for many rare species in Sicily.

1. Introduction

Clown beetles, also known as histerid beetles, are mostly predacious Coleoptera. They are usually of a rather stout build, with a rounded or oval shape, but may also be cylindrical or dorsoventrally flattened as in some saproxylic species and range between 0.5 and 20 mm in length (Penati 2009). Worldwide some 4,300 species in 350 genera of Histeridae have been scientifically described (Slipinski *et al.* 2011), the majority of which occur in the tropics as is the case with numerous other Coleoptera families (Johnson 2002). All species are characterized by a retractile head (except Hololeptini and *Spelaeacritus*) and appendices, truncate elytra (which usually leave the last two abdominal segments exposed) and geniculate antennae with a compact club, consisting of three segments. Most species are black, but some are brown, reddish, metallic blue or green, while others have elytral markings varying in colour from yellowish to red. Adults live in diverse habitats such as leaf litter, sand, dead wood, under stones and under carrion. Many Histeridae are predators mainly of the egg and larval stages of insects (principally Diptera and Coleoptera) (Penati 2009).

Sicilian Histeridae were recorded in the Catalogues of Ragusa (1892) and in Vitale's "Fauna coleopterologica sicula sugli Scaphididae ed Histeridae" (Penati 1999). The Fauna Europaea database lists 92 species of Histeridae in Sicily (Lackner and Yélamos 2019). Much of the distribution data of the Italian Histeridae, some 12,955 records, gathered for the Ckmap project, were obtained from a critical evaluation of 109 papers and from the study of 74 public and private collections covering a period of over a century by Penati and Vienna (2005). In this project they identified 165 species and subspecies of Histeridae from Italy, 91 of which (with 813 distribution records) were considered as living in Sicily (Penati and Vienna 2005, 2006; Penati 2009). The number of Italian species increased to 168 to

include the two new endogean species and a new species record (Magrini 2005; Penati 2009). We have recently reported new data on the distribution of many species including the first record of twelve new taxa in Sicily, so the number of Sicilian species and subspecies has increased to 104 (Baviera 2006; Vienna and Baviera 2007; Baviera 2009).

The aim of the present paper is to provide an updated account of the presence and distribution of the Histeridae family in Sicily as has recently been conducted for Elateridae (Baviera and Platia 2018), Cerambycidae (Baviera *et al.* 2017), Chrysomelidae Alticini (Baviera and Biondi 2015) and Nitidulidae and Kateretidae (Baviera and Audisio 2014).

2. Materials and methods

Data came from sampling carried out all over Sicily, concentrated on the best-preserved habitats in mountains chains (Sicani, Madonie, Nebrodi, Peloritani, Erei, Iblei and Mount Etna) and on Sicilian Islands (Aeolian Archipelago: Lipari, Vulcano, Salina, Stromboli, Alicudi, Filicudi and Panarea; Egadi Archipelago: Favignana, Levanzo and Marettimo; Pelagie Archipelago: Lampedusa, Linosa and Lampione; Ustica; Pantelleria). Many listed specimens were obtained during research carried out aiming for a better knowledge of the Sicilian Coleoptera (Baviera and Sparacio 2002; Baviera 2007, 2008, 2010; Baviera and Liberti 2010; Baviera and Magnano 2010; Bellò and Baviera 2011; Magrini and Baviera 2011; Toševski *et al.* 2011; Caldara *et al.* 2012; Toševski *et al.* 2014; Baviera 2015; Toševski *et al.* 2015; Bellò *et al.* 2017).

We used sweep netting, leaf-litter sifting and pitfall traps to collect samples. The data obtained were compared and combined with the regional presence available in published records. The systematics and nomenclature follow the recent Catalogue of Palearctic Coleoptera (Lackner *et al.* 2015). Genera and species are listed in alphabetical order within each subfamily and tribe. For each species the following data is given: nomenclatural combinations, chorotype (according to the categories proposed by Vigna Taglianti *et al.* (1993, 1999) and Biondi *et al.* (2013) from the Italian distribution provided by Penati and Vienna (2005) and the morpho-ecological group described by Kryzhanovskij (1989) and slightly modified by Yélamos (2002) and Penati (2009). Among the morpho-ecological groups, the Microhisterids are a very heterogeneous group, characterized much more by morphological features than by ecological ones and thus strongly “artificial”. This group comprises small size species (0.5–2.5 mm) with rounded body and, usually, very thin legs, belonging to the Bacaniini, Abraeini and Acritini tribes, occurring in decaying vegetable matter, under bark and sometimes in dung or compost, rotten wood and under stranded seaweed. Diversely they feed on small invertebrates (mites, nematodes, etc.) and fungal spores. New records are reported, grouped by Sicilian provinces, with data written on labels pinned under the specimens and standardized as follows: locality (with municipality and province), date, collecting method and habitat, surname and initials of name of the collector, collection acronym. The source of records taken from the literature notes the locality or generic regional record. The acronym “FEI” (Forum Entomologi Italiani) reports citations from photos identified on the web site (<http://www.entomologiitaliani.net>). All specimens reported were identified or verified using the most recent keys and papers by Vienna.

MORPHO-ECOLOGICAL GROUPS ACRONYMS (Penati 2009)

DE = Dendrophiles (species inhabiting tree trunks belonging to: *Hololepta* spp., *Euroso-mides* sp., *Platylomalus* spp., *Platysoma* spp. *Platylister* spp., *Cylister* spp., *Paromalus* spp., *Plegaderus* spp., *Eubrachiium* spp. and *Teretrius* spp.)

SA = Saprophiles (coprophiles, necrophiles, phytosaprophiles and vagrant hunters belonging to: *Hister* spp., *Margarinotus* spp., *Pactolinus* spp., *Pachylister* spp., *Atholus* spp., *Saprinus* spp., etc.)

PS = Psammophiles (species usually found at the base of typical sandy habitats vegetation, including psammo-littoral and riverbanks species belonging to: *Hypocacculus* spp., *Hypocaccus* spp., *Exaesiopus* spp., *Xenonychus* spp.)

PH = Pholeophiles (species more or less strictly associated with birds' nests and burrows of reptiles and mammals: *Gnathoncus* spp., *Onthophilus* spp., *Carcinops* spp., etc.)

MI = Micro-histerids (species of small size of Bacaniini, Abraeini and Acritini tribes)

MY = Inquilines (species inhabiting ant nests = Myrmecophiles)

COLLECTIONS ACRONYMS

CBPC = C. Baviera, Private Collection, Messina;

PVPC = P. Vienna, Private Collection;

FAMC = F. Angelini, Collection Museo La Specola, Firenze;

MSNG = Collezione Museo Giacomo Doria, Genova;

MCST = Collezione Museo Civico Storia Naturale di Trieste.

CHOROTYPE ACRONYMS

0.01 COS = Cosmopolitan

1.02 PAL = Palearctic

1.03 WPA = West-Palearctic

1.05 SIE = Sibero-European

1.06 CEM = Central-European-Mediterranean

1.07 CAE = Central-Asiatic-European

1.08 CAM = Central-Asiatic-Mediterranean

1.09 TEM = Turanic-European-Mediterranean

1.10 TUE = Turanic-European

1.12 EUM = European-Mediterranean

2.01 EUR = European

2.04 SEU = South-European

3.01 MED = Mediterranean

3.02 WME = West-Mediterranean

3.03 EME = East-Mediterranean

4.01 AIM = Asiatic-Indian-Mediterranean

4.02 AFM = Afrotropical-Mediterranean

4.03 INM = Indo-Mediterranean

5.04 SAS = Saharo-Sindian

ENDEMIC DISTRIBUTION TYPE ACRONYMS

SISR = Sicilian-Sardinian Endemic (or Corso-Sardinian-Sicilian endemic)

SICI = Sicilian Endemic

3. Results

List of species

FAMILY HISTERIDAE Gyllenhal, 1808

Abraeinae W.S. Macleay, 1819

***Abraeini* W.S. Macleay, 1819**

Abraeus (Abraeus) perpusillus (Marsham, 1802)

Chorotype – SEU

Morpho-ecological group – MI

New records –**Messina**: Peloritani, Montalbano Elicona, Bosco di Malabotta, 5.V.2000, *Quercus* sp. Angelini F. (FAMC).

Notes. This species, reported from Madonie park (Sabella and Sparacio 2004), was recently firstly reported from oriental Sicily (Nebrodi, Biviere di Cesaró: Baviera (2009)).

Abraeus (Postabraeus) granulum Erichson, 1839

Chorotype – SEU

Morpho-ecological group – MI

New records –**Messina**:Nebrodi, Tre Arie Lake, sifting in *Quercus cerris*, 23.X.2010, Baviera C. (BCPC); Nebrodi, from Maulazzo to Biviere di Cesaró, in *Fagus* sp., 1300 m a.s.l., 27.IV.2016, Baviera C. (BCPC); Peloritani, Montalbano Elicona, Bosco di Malabotta, 5.V.2000, *Quercus* sp., Angelini F. (FAMC).

Notes. This species was recently firstly reported from Sicily (Peloritani, Malabotta Wood: Baviera (2009)). Not listed from Sicily in Fauna Europea (Lackner and Yélamos 2019).

Abraeus (Postabraeus) parvulus Aubé, 1842

Chorotype – SEU

Morpho-ecological group – MI

Notes. A species known from Italy only from two Sicilian sites (Catania, Nicolosi: Rottenberg (1870) and Palermo: Vitale (1929). Considered an “Urwald relict species” in Germany (beetles that are considered associated with primeval forest: Müller *et al.* (2005)). The only clown beetle assessed as “Critically Endangered” (CR) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015).

Chaetabraeus (Chaetabraeus) globulus (Creutzer, 1799)

Chorotype – SIE

Morpho-ecological group – MI

Notes. In Sicily, known from a single specimen from Palermo (Favorita: Vitale (1929)) preserved in Vitale collection (Vienna and Baviera 2007).

Acritini Wenzel, 1944

Acritus (Acritus) italicus Reitter, 1904

Chorotype – MED

Morpho-ecological group – MI

New records – **Messina:** Peloritani, Colle San Rizzo, 600 m a.s.l., 06.I.2010, Baviera C. (BCPC); Monte Antennammare, 1133 m a.s.l., 26.XI.2010, Baviera C. (BCPC); Curcuraci, 300 m a.s.l., 06.II.2001, Baviera C. (BCPC); Gualtieri Sicaminó, 700 m a.s.l., Li Pantani, 03.IV.2010, Baviera C. (BCPC); ditto, 20.VI.2011, Baviera C. (BCPC); ditto, 09.I.2011, Baviera C. (BCPC); Peloritani, Portella Mandrazzi 1150 m.a.s.l. 11.V.2013 sifting under *Castanea*, Baviera C. (BCPC); Montalbano Elicona, Bosco di Malabotta, 03.VII.2014, Baviera C. (BCPC); ditto, 5.V.2000, *Quercus* sp. Angelini F. (FAMC); Montalbano, Arginusco orante, 22.XII.2016, Baviera C. (BCPC); Nebrodi, Biviere Cesaró, 1200 m a.s.l., 27.XI.2005, Baviera C. (BCPC); ditto, 05.V.2013, Baviera C. (BCPC); Floresta, sorg. San Giacomo, 1088 m a.s.l., 21.VII.2010, Baviera C. (BCPC); ditto, 29.VII.2010, Baviera C. (BCPC); Floresta, Pizzo Scavello, 1500 m a.s.l., 24.V.2007, Baviera C. (BCPC); Sella Tre Arie, 1400 m a.s.l., 14.VII.2009, Baviera C. (BCPC); Capizzi, Portella dell'Obolo, 1500 m a.s.l., 25.VI.2007, Baviera C. (BCPC); San Fratello, Loc. Muto, 13.X.2005, Baviera C. (BCPC); Longi, Bosco di Mangalaviti, 26.VI.2007, Baviera C. (BCPC); Capizzi, Tassita, 05.V.2015, Baviera C. (BCPC); ditto, 1450 m a.s.l., 29.IV.2015, Baviera C. (BCPC); ditto, 29.V.2016, Baviera C. (BCPC); Galati Mamertino, Santuario del Trofillo, 20.III.2015, Baviera C. (BCPC); **Catania:** Etna, vers. Nord, Rifugio Brunek, 1500 m a.s.l., sifting under *Quercus* sp., 21.V.2009, Baviera C. (BCPC); Monte Nero, 2000 m a.s.l. sifting under *Fagus* sp., 01.XI.2005, Baviera C. (BCPC); Etna vers. Est, Milo, Fornazzo, 900 m a.s.l., 06.IV.2013, Baviera C. (BCPC); Sant'Alfio, Bosco Cerrita, 1400 m, on *Q. cerris*, 26.IV.2000, Angelini F. (FAMC); **Enna:** Nicosia RNO Monte Sambughetti, 800 m a.s.l., 19.V.2016, Baviera C. (CBPC); ditto, 1000 m, 19.V.2016, Baviera C. (CBPC); ditto, 1500 m a.s.l., Baviera C. (CBPC); **Palermo:** Madonie, Località Ortaggi, sifting under *Quercus* sp., 26.X.2006, Baviera C. (BCPC); Polizzi Generosa, 1400 m a.s.l., sifting under *Fagus* sp., Baviera C. (BCPC); Piano Sempria, 30.V.2007, Baviera C. (BCPC); Pomieri, 1400 m a.s.l., 26.X.2006, Baviera C. (BCPC); ditto, 19.VII.2016, Baviera C. (BCPC); Sicani, Godrano, Gorgo del Drago, 700 m a.s.l., 16.IV.2010, Baviera C. (BCPC); Pizzo Carbonara Nord, Piano Pomo, sifting under *Ilex aquifolium*, 1400 m a.s.l., 07.VI.2014, Baviera C. (BCPC); **Trapani:** Alcamo, Monte Bonifato, 300 m a.s.l., sifting *Olea*, 10.III.2009, Baviera C. (BCPC); Isole Egadi, Marettimo, 22.IV.2007, sifting under *Quercus ilex*, Baviera C. (BCPC); Favignana, 19.IV.2007, Baviera C. (BCPC).

Notes. A widespread species in southern Italy and northern Sicily (Peloritani, Nebrodi, Sicani: Vienna and Baviera (2007)). Previously not recorded from Catania, Enna and Trapani provinces.

Acritus (Acritus) minutus (Herbst, 1792)

Chorotype – TEM

Morpho-ecological group – MI

Notes. A rarely collected species in Sicily known only from Catania (Rottenberg 1870), Palermo (Mondello: Ragusa (1892)) and Ustica (Ragusa 1892).

Acritus (Acritus) nigricornis (Hoffmann, 1803)

Chorotype – COS

Morpho-ecological group – MI

New records – **Trapani**: Vita, Montagnagrande, 600 m, 17.III.2017 Baviera C. (BCPC).

Notes. Another rare species, in Sicily known only from Messina (Nebrodi, Monte Soro: Penati and Vienna (2005)); “Messina”, Colle: Vienna and Baviera (2007)), Palermo (Gibilmanna: Lundberg *et al.* (1987)); Ficuzza: Penati and Vienna (2005)) and Trapani (Ragusa 1892).

Acritus (Pycnacritus) homoeopathicus Wollaston, 1857

Chorotype – CEM

Morpho-ecological group – MI

New records – **Palermo**: Madonie, Geraci, 790 m a.s.l., 1.VI.2013, Baviera C. (BCPC); Sicani, Ficuzza, bosco Fanuso, 700 m, under *Q. ilex*, 1.V.2000, Angelini F. (FAMC).

Notes. A species known in Sicily from Palermo (Sicani, Ficuzza; Madonie, Isnello, Castelbuono, Gibilmanna: Lundberg *et al.* (1987); Penati and Vienna, 2005) and Siracusa (Palazzo Acreide: Penati and Vienna (2005)).

Aeletes (Aeletes) atomarius (Aubé, 1842)

Chorotype – EUM

Morpho-ecological group – MI

Notes. A widespread species, from Italy reported only recently from Sicily in Madonie (Gibilmanna: Lundberg *et al.* (1987)). Not reported from Sicily in Fauna Europaea (Lackner and Yélamos 2019).

Halacritus punctum (Aubé, 1842)

Chorotype – MED

Morpho-ecological group – MI

New records – **Messina**: Mortelle, Canale degli Inglesi, in pitfall traps, 19.IV-3.V.2004, Baviera C. (BCPC); Timpazzi, Lido Spiaggia d'oro, 02-19.IV.2004, Baviera C. (BCPC); ditto, 19.IV-3.V.2004, Baviera C. (BCPC); **Catania**: Simeto mouth, 11.V.1996, Silluzio G. (FAMC).

Notes. A widespread but uncommon species in Sicily. Reported from Agrigento, Catania, Messina, Siracusa, Palermo and Trapani provinces, but uncommon everywhere (Rottenberg 1870; Ragusa 1892; Penati and Vienna 2005). Recorded until now only from “Messina” based on specimens preserved in Dodero collection (Penati and Vienna 2005).

Plegaderini* Portevin, 1929Eubrachiium hispidulum* (Breimi-Wolf, 1855)

Chorotype – MED

Morpho-ecological group – DE

New records – **Palermo**: Madonie, Baita del Faggio, 1400 m a.s.l., 18.V.2013, sifting under *Ilex aquifolium*, Baviera C. (BCPC).

Notes. A rare species in Sicily, only recorded from Messina (Peloritani, Montalbano Elicona; Nebrodi, Raccaia and Ucria: Vitale (1929); Caronia: Vienna and Baviera (2007) and Ragusa (1892) and Palermo (Madonie, Isnello, Pizzo Antenna Grande: Penati and Vienna (2005)).

Plegaderus (Plegaderus) dissectus Erichson, 1839

Chorotype – EUR

Morpho-ecological group – DE

New records – **Palermo:** Madonie, Baita del Faggio, 1400 m a.s.l., 18.V.2013, sifting under *Ilex aquifolium*, Baviera C. (BCPC); Pintorna, str. Castelbuono–Geraci, 10.V.1996, Angelini F. (FAMC).

Notes. A species reported from Palermo (Madonie: Ragusa (1892)) and afterwards collected by Vitale in Sicani (Ficuzza Woods: Vienna and Baviera (2007)) and by Baviera in Nebrodi (Biviere di Cesaró: Baviera (2009)).

***Teretriini* Bickhardt, 1914**

Teretrius (Teretrius) fabricii Mazur, 1972

Chorotype – SIE

Morpho-ecological group – DE

Notes. A very rare species in Sicily, from where it was reported only once from Nebrodi (Caronia: Luigioni (1929)). Considered an “Urwald relict species” in Germany (Müller *et al.* 2005); this species was assessed as “Vulnerable” (VU) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015).

***Dendrophilinae* Reitter, 1909**

***Anapleini* Olexa, 1982**

Anapleus wewalkai Olexa, 1982

Chorotype – MED

Morpho-ecological group – SA

New records – **Messina:** Peloritani, Portella Mandrazzi 1150 m, 11.V.2013 sifting under *Castanea*, Baviera C. (BCPC).

Notes. A species recently described from Turkey from where it is actually known only from two localities (Lackner 2003) and after reported from southern Italy (Calabria, Campania) and Sicily (Gomy and Vienna 2001; Baviera and Vienna 2018), Syria (Tishechkin 2002) and Cyprus (Lackner 2003). The new locality is the second known from Sicily from where it was previously reported only from Madonie (Castelbuono: Gomy and Vienna (2001)).

Dendrophilini* Reitter, 1909**Dendrophilus (Dendrophilus) punctatus punctatus* (Herbst, 1792)**

Chorotype – WME

Morpho-ecological group – SA

New records –**Messina**: Peloritani, Bosco di Malabotta, 1200 m a.s.l., 24.V-25.VII.2006, in pitfall trap in *Quercus* sp., Baviera C. (BCPC); ditto, 14.V-02.VII.2005, Baviera C. (BCPC); ditto, 03.VII.2014, in *Quercus* sp., Baviera C. (BCPC); Nebrodi, Biviere di Cesaró, 02.VII-05.VIII.2005, in pitfall trap in *Quercus* sp., Baviera C. (BCPC); **Catania**: Etna Est, Milo, Fornazzo, 900 m a.s.l., 06.IV.2013, Baviera C. (BCPC).

Notes. A very rare species in Sicily, reported, by the nominal subspecies, only from Palermo (Madonie: Penati and Vienna (2005)) and thereafter collected in Messina (Malabotta Wood: Baviera (2009)). Not reported from Sicily in Fauna Europaea (Lackner and Yélamos 2019). Previously not recorded from Nebrodi and Catania province.

***Kissister minimus* (Laporte, 1840)**

Chorotype – MED

Morpho-ecological group – SA

New records – **Messina**: Milazzo, Capo, sifting under *Olea*, 10.X.2009, Baviera C. (CBPC); ditto, 27.XII.2014, Baviera C. (BCPC); Patti, Capo Tindari, sifting *Olea*, 10.XII.2010, Baviera C. (CBPB); Brolo, Ficarra, 176 m a.s.l., Baviera C. and Belló C. (BCPC); M. Nebrodi, L. Quattrocchi, 1030 m 7.V.2007, Angelini F. (FAMC); **Catania**: Castiglione di Sicilia, Cuba Bizantina, 04.XI.2010, Baviera C. (CBPC); Etna, Piedimonte, S. Gerardo, 23.V.2010, Baviera C. (CBPC); Mazzarrone, sifting *Olea*, 10.XII.2014, Baviera C. and Belló C. (BCPC); **Caltanissetta**: Niscemi, Sughereta di Niscemi, sifting under *Q. suber*, 19.III.2010, Baviera C. and Belló C. (CBPC); ditto, 02.III.2013, Baviera C. and Belló C. (BCPC); Niscemi, str. for Terme Segestane, 300 m, 10.XII.2014, Baviera C. and Belló C. (BCPC); ditto, 20.III.2016, Baviera C. and Belló C. (BCPC); Monte Capodarso, 15.IV.2010, Baviera C. and Belló C. (CBPC); **Enna**: Nicosia RNO Monte Sambughetti, 03.XI.2010, Baviera C. and Belló C. (CBPC); Agira, 500 m a.s.l., 18.III.2013, Baviera C. and Belló C. (BCPC) Agira, Vallone Piano della Corte, sifting under *Q. ilex*, 27.XI.2015, Baviera C. and Belló C. (CBPC); **Agrigento**: Mineo, 18.III.2016, leg. Belló (BCPC); **Ragusa**: Giarratana, S. Rosalia Lake, 15.IV.2010, Baviera C. and Belló C. (CBPC); Acate, under stones, 21.XII.2013, Baviera C. and Belló C. (BCPC); Acate, Museo del Carrubbo, 236 m a.s.l., 21.XII.2013, Baviera C. and Belló C. (BCPC); **Siracusa**: Portopalo di Capo Passero, 02.XI.2010, Baviera C. and Belló C. (CBPC); M.ti Iblei, Buccheri, Moncibella, 1.III.1997, Silluzio G. (FAMC); Iblei Florida, Climiti, 19.XII.2013, Baviera C. and Belló C. (CBPC); Sortino, "Oasi ecologica", sifting *Olea*, 26.IV.2016, Baviera C. (BCPC); **Palermo**: Madonie, Piano Zucchi, sifting under *Q. ilex*, 25.IV.2008, Baviera C. and Rando A. (CBPC); ditto, 17.V.2008, Baviera C. and Rando A. (CBPC); ditto, 24.IX.2010, Baviera C. (CBPC); Baita del Faggio, 1400 m a.s.l., 18.V.2013, under *Ilex aquifolium*, Baviera C. (BCPC); Bosco della Ficuzza, 30.VI.2000, Angelini F. (FAMC); ditto, 740 m, 04.III.2013, Baviera C. (BCPC); ditto, Laghetti "Coda di riccio", sub *Quercus suber*, 18.III.2017, Baviera C. (BCPC); Ficuzza, Vallone Fanuso, 18.III.1997, Silluzio G. (FAMC); **Trapani**: Erice, 8.III.2014, Baviera C. and Belló C. (CBPC); Castello di Baida, 5.XII.1996, Angelini F. (FAMC); Baida, 5.XII.1996, Silluzio G. (FAMC).

Notes. A widespread species in Sicily, reported from Agrigento (Valle dei Templi), Caltanissetta (Biviere di Gela, Gela), Catania (Rottenberg 1870)), Palermo (Ficuzza), Siracusa (Melilli) and Trapani (Castellammare del Golfo, Monte Sparagio) provinces (Penati and Vienna 2005). Also reported from Favignana and Pantelleria (Ratti 1984; Vienna and Ratti

1998; Penati and Vienna 2005). Newly recorded from Madonie and Agrigento, Messina, Ragusa and Enna provinces.

***Paromalini* Reitter, 1909**

Carcinops (Carcinops) pumilio (Erichson, 1834)

Chorotype – COS

Morpho-ecological group – SA

New records – **Messina**: Peloritani, Itala, Monte Scuderi, 1200 m a.s.l., in pitfall traps, 22.V-25.VI.2005, Baviera C. (BCPC); ditto, 25.VI-29.IX.2005, Baviera C. (BCPC); Monte Antennammare, 1133 m a.s.l., in pitfall traps, 07.VI-07.VII.2002, Baviera C. (BCPC); ditto, 17.X.1998, Baviera C. (BCPC); **Palermo**: Capaci, city, 28.VI.1969, Romano M. (BCPC); ditto, 07.X.1970, Romano M. (BCPC); ditto, 26.IV.1968, Romano M. (BCPC).

Notes. A rare species in Sicily known from Palermo, Siracusa (Vendicari) and Pantelleria (Vienna and Ratti 1998; Penati and Vienna 2005). Previously never reported from Messina province.

Paromalus (Paromalus) filum Reitter, 1884

Chorotype – MED

Morpho-ecological group – DE

New records – **Palermo**: Madonie, Gibilmanna, 1000 m, 28.V.1996, Angelini F. (FAMC); Bosco Pomieri, 1450 m, 13-20.VIII.2016, Windows Trap, Baviera C. (BCPC).

Notes. Reported from Sicily only from a singleton from Ficuzza preserved in Dodero collection (Penati and Vienna 2005). More specimens from Ficuzza are preserved in Vitale collection (Vienna and Baviera, 2007). A species assessed as “Vulnerable” (VU) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015)).

Paromalus (Paromalus) flavicornis (Herbst, 1792)

Chorotype – SEU

Morpho-ecological group – DE

New records – **Messina**: Nebrodi, Biviere di Cesaró, 25.V-05.VII.2004, in pitfall trap in *Quercus* sp., Baviera C. (BCPC); Tre Arie Lake, sifting under *Quercus* sp., 23.X.2010, Baviera C. (BCPC); Nebrodi, Bosco Scavioli 2, 1250 m, 23.IV.2016, *Fagus* and *Hedera*, Baviera C. (BCPC); **Palermo**: Madonie, Pizzo Carbonara Nord, Piano Pomo, sifting in *Ilex aquifolium*, 1400 m a.s.l., 07.VI.2014, Baviera C. (BCPC).

Notes. An uncommon species in Sicily, known only from Catania (Etna, Nicolosi: Rottenberg, 1870), Palermo (Madonie, Gibilmanna: Lundberg *et al.* (1987)), and Messina (Vienna and Baviera 2007), recorded from “Madonie and Nebrodi parks” by Sabella and Sparacio (2004).

Paromalus (Paromalus) parallelepipedus (Herbst, 1792)

Chorotype – PAL

Morpho-ecological group – DE

New records – **Messina**: Peloritani, Bosco di Malabotta, 1200 m a.s.l., 15.VI-14.V.2005, in pitfall

trap in *Quercus* sp., Baviera C. (BCPC); ditto, 14.V-02.VII.2005, Baviera C. (BCPC); ditto, 02.VII-05.VIII.2005, Baviera C. (BCPC).

Notes. A widespread species in Italy, known from Sicily from Messina (Nebrodi: Ragusa (1892), Palermo (Madonie: Ragusa (1892) and Lundberg *et al.* (1987) Sicani, Ficuzza: Vitale (1929).

Platylomalus complanatus (Panzer, 1797)

Chorotype – TEM

Morpho-ecological group – DE

Notes. A very rare species in Sicily reported only from Palermo (Piana Albanesi, Scanzano Lake: Penati and Vienna (2005)). Also recorded from Nebrodi and Madonie parks (Sabella and Sparacio 2004). A specimen from Nebrodi (Ucria) is preserved in Vitale collection (Vienna and Baviera 2007).

Haeteriinae Marseul, 1857

Haeterius ferrugineus (Olivier, 1789)

Chorotype – TUE

Morpho-ecological group – MY

New records – **Messina:** Nebrodi, Monte Soro, 08.III.2016, Colacurcio L. (BCPC) (PVPC).

Notes. This species is from Sicily only known from a specimen preserved in Vitale collection (Porto Empedocle: Vienna and Baviera (2007)). We could confirm the presence of this species in Sicily and firstly report it from the east.

Sternocoelis puberulus (Motschulsky, 1858)

Chorotype – SICI

Morpho-ecological group – MY

New records – **Messina:** Fiumedinisi, Castello, 750 m a.s.l., 14.XII.2013, Baviera C. (BCPC); **Catania:** San Cono, 21.IV.2015, sifting under *Quercus ilex*, Baviera C. (BCPC); **Caltanissetta:** Mazzarino, San Giovanni, 9.IV.2010, Sottile S. (PVPC); **Palermo:** Sicani, Palazzo Adriano, Casale Borgia, 900 m, sifting under *Olea*, 22.XII.2013, Baviera C. (BCPC); **Trapani:** Castellammare del Golfo street for Terme Segestane, sifting under *Olea*, 10.III.2009, Baviera C. and Belló C. (BCPC).

Notes. This species, only recently excluded from fauna of Sardinia (Penati 2009), is the only Sicilian Histeridae endemic species. A rare species, widespread in Palermo province (Sicani, Ficuzza; Madonie, Castelbuono, Casteldaccia, Altofonte: Ragusa (1892) and Yélamos (1995)), also known from Messina (Peloritani, Castanea delle Furie, Gesso: Vitale (1909)) and Egadi Islands (Favignana and Levanzo: Vienna (1971) and Penati and Vienna (2005)), previously not reported from Trapani (on mainland), Caltanissetta and Catania provinces.

Histerinae Gyllenhal, 1808***Histerini* Gyllenhal, 1808***Atholus bimaculatus* (Linnaeus, 1758)

Chorotype – COS

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, Floresta, Monte Pojummoru 1400 m a.s.l., 14.VIII.1998, Baviera C. (BCPC).**Notes.** A common species in Sicily, found in Palermo, Trapani and Messina provinces, also reported from Pantelleria, Vulcano, Marettimo, Levanzo and Favignana (Vienna 1971; Ratti 1984; Penati and Vienna 2005; Lo Cascio *et al.* 2006).*Atholus corvinus* (Germar, 1817)

Chorotype – CEM

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, San Fratello, 1100 m a.s.l., 27.XI.2005, Baviera C. (BCPC); **Catania**: Linguaglossa, Catena, 26.IV.2000, Angelini F. (FAMC).**Notes.** An uncommon species in Sicily, known from Catania (Rottenberg, 1870), Messina (Taormina: Rottenberg (1870); Nebrodi, Mistretta: (Penati and Vienna 2005) and Palermo (Gibilmanna, Monte Pellegrino: Penati and Vienna (2005)).*Atholus duodecimstriatus duodecimstriatus* (Schrank, 1781)

Chorotype – WPA

Morpho-ecological group – SA

New records – **Palermo**: Capaci, city, 31.V.1970, Romano M. (BCPC); ditto, 06.III.1973, Romano M. (BCPC); Isola delle Femmine, 09.III.1976, Romano M. (BCPC); Geraci, 14.VI.1999, Ziani S. (MSG); **Trapani**: Isola Favignana, 7.VI.1999, Ziani S., (MSNG).**Notes.** A very common and widespread species in Italy and Sicily in Agrigento, Catania, Messina, Palermo and Siracusa provinces (Vienna 1971; Vienna and Ratti 1998; Penati and Vienna 2005). Also known from Ustica (Ragusa 1892) and Vulcano (Vienna 1971). Firstly recorded from Egadi Islands.*Atholus praetermissus* (Peyron, 1856)

Chorotype – PAL

Morpho-ecological group – SA

Notes. A rare species in Sicily, known only from Messina in Nebrodi (Mistretta: Fiori (1915) and Vienna (1980); Quattrocchi Lake: Penati and Vienna (2005); Ucria: Vienna and Baviera (2007)) and Palermo (“città dintorni”: Ragusa (1892); Madonie: Fiori (1915)).*Atholus scutellaris* (Erichson, 1834)

Chorotype – AFM

Morpho-ecological group – SA

Notes. A very rare species in Sicily known only from “Sicily” (Penati and Vienna 2005) and Palermo (“città dintorni”: Ragusa (1892)).

Atholus siculus Tournier, 1869

Chorotype – TUE

Morpho-ecological group – SA

New records – **Messina:** Torre Faro, Contrada Granatari, 40 m a.s.l., 21.VIII.1999, Baviera C. (BCPC); ditto, 28.IV.2010, Baviera C. (BCPC).

Notes. A rare species, in Italy, known only from Sicily. Only recently excluded from fauna of Sardinia (Penati 2009). Reported only from Messina (Tindari), Palermo (Madonie), Siracusa (Comiso) (Penati and Vienna 2005).

Hister grandicollis Illiger, 1807

Chorotype – WME

Morpho-ecological group – SA

Notes. A very rare species from Italy reported only from Sicily by Ragusa (1892) (Palermo: Pellegrino Mount), and never reported thereafter.

Hister illigeri illigeri Duftschmid, 1805

Chorotype – WME

Morpho-ecological group – SA

New records – **Messina:** Peloritani, Colle San Rizzo, 600 m a.s.l., 05.IV.1998, Baviera C. (BCPC); Villafranca, Serro, 14.IV.2003, Baviera C. (BCPC); Monte Scuderi, 1100 m a.s.l., 14.IV.2004, Baviera C. (BCPC); ditto, 31.V.2005, Baviera C. (BCPC); Nebrodi, Biviere di Cesaró, 14.V.2004, Baviera C. (BCPC); ditto, 03.VII.1999, Baviera C. (BCPC); **Palermo:** Sicani, Godrano Gorgo del Drago, 11.IV.1968, Romano M. (BCPC); **Trapani:** Castellammare del Golfo, RNO Zingaro, 23–24.IV.2003, Baviera C. (BCPC).

Notes. A widespread and common species in Sicily (Penati and Vienna, 2005). Also reported from Vulcano (Lo Cascio *et al.* 2006). Firstly reported from Trapani province on mainland.

Hister mediterraneus Lundgren, 1991

Chorotype – WME

Morpho-ecological group – SA

Notes. This species is reported from Italy only by De Bertolini (1904) who listed “Sicilia” without more data. Never reported thereafter from Sicily.

Hister pustulosus Gén , 1839

Chorotype – SISR

Morpho-ecological group – SA

New records – **Messina:** Peloritani, Colle San Rizzo, 600 m a.s.l., 05.IV.1998, Baviera C. (BCPC); Musolino dint. 800 m a.s.l., 28.IV.2001, Baviera C. (BCPC); Portella Chiarino 600 m a.s.l., 06.VI.2004, Baviera C. (BCPC); Sentiero Giras , 30.X.2004, Baviera C. (BCPC); Monte Scuderi, 1100 m a.s.l., 31.V.2005, Baviera C. (BCPC); ditto, 25.VI.2005, Baviera C. (BCPC); Nebrodi, Biviere di Cesar ,

11.IV–09.VI.2002, in pitfall traps, Baviera C. (BCPC); Tre Arie Lake, 15.IV.2005, Baviera C. (BCPC); San Fratello, 17.V.2002, Baviera C. (BCPC); Caronie di Mistretta, loc. Medda, 25.IV.1970, Romano M. (BCPC); **Palermo**: Madonie, Piano Battaglietta, 1600 m a.s.l., 24.IV.2008, Baviera C. (BCPC).

Notes. This species was from Italy, recorded only from Sicily and Sardinia. In Sicily a very common and widespread species. Known from Enna (Sambughetti: Penati and Vienna (2005)), Messina (Peloritani and Nebrodi: Vitale (1929) and Penati and Vienna (2005)), Palermo (Ficuzza and Madonie: Penati and Vienna (2005) and Vienna and Baviera (2007)), Trapani (Castelvetrano: Vitale (1929)). Also reported from Madonie, Nebrodi and Alcantara parks (Sabella and Sparacio (2004)).

Hister quadrimaculatus Linnaeus, 1758

Chorotype – TEM

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, Biviere di Cesaró, 14.V-01.VII.2005, in pitfall traps, Baviera C. (BCPC); **Palermo**: Sicani, Godrano, Bosco Ficuzza, Valle Maria, 23.III.1972, Romano M. (BCPC); **Trapani**: Castellammare del Golfo, RNO Zingaro, 23-24.IV.2003, Baviera C. (BCPC).

Notes. A quite common and widespread species in Sicily where it was recorded from Messina (Peloritani: Antennammare, Pizzo Bottino, Montalbano; Nebrodi: Rocche del Crasto, Monte Soro), Enna (Pergusa Lake), Palermo (Madonie: Pizzo Antenna, Piano Battaglia, Gratteri) and Trapani (Castelvetrano) provinces (Vienna 1971; Penati and Vienna 2005; Vienna and Baviera 2007).

Hister thoracicus Paykull, 1811

Chorotype – WME

Morpho-ecological group – SA

Notes. A very rare species in Sicily, where it was recorded only from Palermo (Parco Favorita, Monte Pellegrino), Messina (Bausó) and Lampedusa (Luigioni 1929; Zavattari 1960; Vienna and Baviera 2007).

Hister unicolor unicolor Linnaeus, 1758

Chorotype – SIE

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, Floresta, Monte Pojummoru 1400 m a.s.l., 14.VIII.1998, Baviera C. (BCPC).

Notes. A rare species in Sicily where it was recorded only from Messina in Peloritani (Malabotta Wood) and Nebrodi (Penati and Vienna 2005; Vienna and Baviera 2007)).

Margarinotus (Grammostethus) ruficornis (Grimm, 1852)

Chorotype – EUR

Morpho-ecological group – SA

Notes. Reported from Sicily from “Palermo” by Ragusa (1892). Never reported thereafter. A species assessed as “Vulnerable” (VU) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015).

Margarinotus (Paralister) carbonarius carbonarius (Hoffmann, 1803)

Chorotype – SIE

Morpho-ecological group – SA

Notes. In Sicily reported only from Palermo (Oreto River: Ragusa (1892)) and Messina (Vitale 1929). In Vitale collection there is a single specimen labelled: “Orto Botanico, 1.V.1926, [leg.] F. Vitale” (Vienna and Baviera 2007).

Margarinotus (Paralister) ignobilis (Marseul, 1854)

Chorotype – EUM

Morpho-ecological group – SA

Notes. Reported only based on specimens labelled “Sicilia” in Müller collection (Penati and Vienna 2005).

Margarinotus (Paralister) neglectus (Germar, 1813)

Chorotype – PAL

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, Biviere di Cesaró, pitfall traps, 14.V-01.VII.2005, Baviera C. (BCPC); ditto, 13.X-27.XI.2005, Baviera C. (BCPC); ditto, 15.IV-14.V.2005, Baviera C. (BCPC); **Palermo**: Madonie, Castelbuono, La Liccia, 30.V.2007, Baviera C. (BCPC); Piano Battaglietta, 1600 m a.s.l., 16.V.2008, Baviera C. (BCPC).

Notes. A widespread species in Sicily, known from Nebrodi (Quattrocchi Lake), Agrigento (Porto Empedocle), Palermo (Ficuzza and Piana Albanesi in Sicani, and Gratteri in Madonie) (Penati and Vienna 2005).

Margarinotus (Paralister) purpurascens (Herbst, 1792)

Chorotype – SIE

Morpho-ecological group – SA

New records – **Messina**: Monte Antennammare, 1133 m a.s.l., 29.III.2008, Baviera C. (CBPC); ditto, 29.V.2011, Baviera C. (BCPC); ditto, 08.VI.2009, Baviera C. (BCPC); 29.V.2011, Baviera C. (BCPC); Gualtieri Sicaminó, Li Pantani, 700 m a.s.l., 09.I.2011, Baviera C. (BCPC); Nebrodi, Longi, Bosco di Mangalaviti, 17.VI.2011, Baviera C. (BCPC); Biviere di Cesaró, pitfall traps, 11.IV-19.VI.2002, Baviera C. (BCPC); 14.V-01.VII.2005, Baviera C. (BCPC); **Catania**: Etna est, Milo, Bosco Cerrita, 1500 m a.s.l., 01.VII.2004, Baviera C. (BCPC); **Palermo**: Madonie, Medda, 29.IV.1970, Romano M. (BCPC).

Notes. Considered as a rare species in Sicily, known only from Palermo (Sicani, Palazzo Adriano: Vienna and Baviera (2007)) and Siracusa (Lentini: Penati and Vienna, 2005); it has been recently confirmed from Messina (Nebrodi, Maulazzo Lake and Peloritani, Malabotta Wood: Baviera, 2009). Previously not recorded from Catania province and Madonie.

Margarinotus (Paralister) punctiventer (Marseul, 1854)

Chorotype – EUR

Morpho-ecological group – SA

Notes. Only recently recorded for the first time from Sicily (Messina, Peloritani: Baviera (2009)).

Margarinotus (Paralister) uncostratus (Marseul, 1854)

Chorotype – WME

Morpho-ecological group – SA

Notes. Reported from Italy only from a Sicilian singleton data (Palermo: Gobbi (1973)), and never reported thereafter.

Margarinotus (Paralister) ventralis (Marseul, 1854)

Chorotype – EUR

Morpho-ecological group – SA

New records – **Messina:** Monti Peloritani: Monte Antennammare 1133m, 27.VI.1997, Leg. Baviera C.; ditto, 23.VII.2000.

Notes. Recorded for the first time from Sicily only recently from two specimens from Porto Empedocle and Siracusa preserved in Vitale collection (Vienna and Baviera 2007).

Margarinotus (Ptomister) brunneus (Fabricius, 1775)

Chorotype – SIE

Morpho-ecological group – SA

New records – **Messina:** Nebrodi, Tortorici, Contr. Batana, 787 m, 20.III.2015, Baviera C. (BCPC); **Palermo:** Madonie, Piano Battaglietta, 1600 m a.s.l., 25.V.1974, Romano M. (BCPC); Piano Zucchi, lake, 1200 m a.s.l., 27.IX.2016, Baviera C. (BCPC).

Notes. A widespread species in Sicily, recorded from Messina (Peloritani, Moltabano, Campo Inglese: Vienna and Baviera (2007); Nebrodi, Floresta: Vienna (1971)), Ragusa (Vienna and Ratti (1998)), Trapani (Alcamo: Penati and Vienna (2005) and Palermo (Sicani and Isola delle Femmine: Penati and Vienna (2005)).

Margarinotus (Ptomister) merdarius (Hoffmann, 1803)

Chorotype – SIE

Morpho-ecological group – SA

Notes. Reported from “Sicily” only by Ragusa (1892) and never reported thereafter.

Margarinotus (Stenister) graecus graecus (Brullé, 1832)

Chorotype – EME

Morpho-ecological group – SA

New records – **Messina:** Isole Eolie: Stromboli, 0709.IV.2006, Leg. Baviera C.

Notes. Reported from Italy only from Messina (Messina and Bausò: Vitale (1929)). Recorded from Nebrodi Park by Sabella and Sparacio (2004). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Margarinotus (Stenister) obscurus (Kugelann, 1792)

Chorotype – CEM

Morpho-ecological group – SA

New records – **Messina**: Monte Antennammare, 1133 m a.s.l., 15.V.2008, Baviera C. (CBPC); ditto, 05.V.2009, Baviera C. (BCPC); Monte Scuderi, 1100 m a.s.l., 24.IV.2005, Baviera C. (CBPC); ditto, 22.V.2004, Baviera C. (CBPC); **Palermo**: Madonie, 20.V.1971, Romano M. (BCPB); **Agrigento**: City, V.1950, Lomi (MCST).

Notes. A widespread species in Sicily, recorded from Messina (Peloritani, Bausò; Nebrodi: Mount Soro, Portella di Femmina Morta) Palermo (Mondello and Ficuzza woods) and Siracusa (Lentini): Penati and Vienna (2005) and Vienna and Baviera (2007). Previously not recorded from Madonie and Agrigento province.

Merohister ariasi (Marseul, 1864)

Chorotype – SEU

Morpho-ecological group – SA

Notes. A saproxylic species on *Quercus* spp. Only recently recorded from Sicily from specimens from Messina (Patti: Baviera (2006)). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019). This species was assessed as “Endangered” (EN) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015).

Pachylister (Pachylister) inaequalis (Olivier, 1789)

Chorotype – CAE

Morpho-ecological group – SA

New records – **Messina**: Nebrodi, Floresta, Monte Pojummoru, 1400 m a.s.l., 14.VIII.1998, Baviera C. (BCPC).

Notes. A species recorded from Messina (Peloritani and Nebrodi) and Palermo (Sicani and Madonie). Also known from Vulcano (Vienna 1971; Vienna and Ratti 1998; Penati and Vienna 2005; Vienna and Baviera 2007).

Pactolinus major (Linnaeus, 1767)

Chorotype – MED

Morpho-ecological group – SA

New records – **Messina**: Peloritani, Itala, Torrente Lampiello, 370 m a.s.l., 03.X.2011, Baviera C. (BCPC); Oliveri, RNO Laghetti Marinello, 28.IV.2001, Baviera C. (BCPC); **Ragusa**: City, 17.VII.1987, Friscione N. (BCPC); **Palermo**: Termini Imerese, 28.VI.1973, Romano M. (BCPC).

Notes. A common and widespread species in Sicily. Recorded from Agrigento, Catania, Messina, Enna, Siracusa and Trapani provinces. Also reported from Salina, Lipari, Panarea, Marettimo, Favignana, Ustica, Lampedusa and Pantelleria (Ragusa 1892; Ratti 1984; Vienna 1995; Vienna and Ratti 1998; Penati and Vienna 2005; Lo Cascio *et al.* 2006). Newly reported from Ragusa province.

Eurosomides minor (Duftschmid, 1825)

Chorotype – PAL

Morpho-ecological group – DE

New records – **Messina**: Nebrodi, Monte Soro, 26.VII.1970, Romano M. (BCPC).

Notes. A rare species in Sicily, reported as *Eblisia minor* only from Agrigento (Licata), Messina (“Monti Nebrodi”: Ragusa (1892); Ucria: Vienna and Baviera (2007)) and Palermo (Gibilmanna: Lundberg *et al.* (1987) and Penati and Vienna (2005)). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Platylister (Popinus) algiricus (Lucas, 1849)

Chorotype – WME

Morpho-ecological group – DE

Notes. This species is in Italy known only from Sardinia and Sicily where it was recorded from Enna (Nicosia: Penati and Vienna (2005)) and Palermo (Mondello: Vitale (1929)). A species assessed as “Endangered” (EN) in the Italian Red List of saproxylic beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015).

Platysoma (Cylister) filiforme Erichson, 1834

Chorotype – MED

Morpho-ecological group – DE

Notes. From Sicily reported only from Nebrodi (Ucria: Vitale, 1929) and Pantelleria (Ratti 1984; Vienna and Ratti 1998). Also recorded from Nebrodi, Alcantara and Etna parks (Sabella and Sparacio 2004). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Platysoma (Cylister) elongatum elongatum (Thunberg, 1787)

Chorotype – MED

Morpho-ecological group – DE

New records – **Messina**: Peloritani, Monte Antennammare, 1133 m a.s.l., 15.VI.2009, Baviera C. (CBPC); Musolino dint. 800 m a.s.l., 06.VII.2002, Baviera C. (CBPC); ditto, 28.IV.2001, Baviera C. (CBPC); Monte Scuderi, 1200 m a.s.l., 22.V.2004, Baviera C. (CBPC); Nebrodi, Sella Tre Arie, 04.VI.2009, Baviera C. (CBPC); ditto, 03.VII.2009, Baviera C. (CBPC); **Catania**: Etna vers. Nord, Piano Provenzana, 1800 m a.s.l., 20.VI.2006, Baviera C. (CBPC).

Notes. A species only recently confirmed from Sicily, with the nominal subspecies, from specimens preserved in Vitale collection (Messina, Leone). Later reported also from Messina (Nebrodi, Moulazzo Lake) and Catania (Etna, Sant’Alfio) by Baviera (2006). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Platysoma (Platysoma) compressum (Herbst, 1783)

Chorotype – TUE

Morpho-ecological group – DE

Notes. An uncommon species in Sicily, reported only from Messina (Vienna and Baviera 2007); Nebrodi: (Ragusa 1892), Palermo (Madonie, Piano Battaglia), Ragusa (Comiso) (Penati and Vienna 2005).

Onthophilinae Macleay, 1819

Onthophilus globulosus (Olivier, 1789)

Chorotype – WME

Morpho-ecological group – SA

New records – **Enna**: Agira, 500 m, 18.III.2016, Baviera C. and Bellò C. (BCPC).

Notes. A rare species in Sicily, reported only from Palermo (Palermo and Monte Pellegrino: Ragusa (1892)). Specimens from “Palermo” and “Messina” are preserved in Vitale collection (Vienna and Baviera 2007). Also recorded from Pantelleria (Ratti 1984; Vienna and Ratti 1998). Newly recorded from Enna province.

Onthophilus punctatus punctatus (O.F. Müller, 1776)

Chorotype – EME

Morpho-ecological group – SA

Notes. Reported from Sicily from a specimen of the nominal subspecies now preserved in Vitale collection (Messina, Bausò: Vienna and Baviera (2007)). Thereafter a single specimen of the rare subspecies *O. punctatus cicatricosus* Reitter in Brenske and Reitter, 1884, also known from Italy only from Apulia (Penati and Vienna 2005), was collected on Peloritani (Malabotta Wood: Baviera (2009)).

Onthophilus striatus striatus (Forster, 1771)

Chorotype – EUR

Morpho-ecological group – SA

New records – **Messina**: Peloritani, Monte Ciccìa, sifting under *Quercus* sp., 25.XI.2009, Baviera C. (BCPC); Bosco di Malabotta, 1200 m a.s.l., pitfall traps under *Populus* sp., 16.IV-12.XI.2005, Baviera C. (BCPC); San Pier Niceto, Torrente Niceto, Area Liarusa, 245 m a.s.l., 02.VI.2009, Baviera C. (BCPC); Gualtieri Sicaminò, Li Pantani, 700 m a.s.l., 20.VI.2010, Baviera C. (BCPC); Nebrodi, San Fratello, 1100 m a.s.l., sifting under *Quercus ilex*, 13.X.2005, Baviera C. (BCPC); ditto, 1200 m, 13.V.2016, Baviera C. (BCPC); Cesarò, 12.VI.1999, Ziani S. (MSNG); **Catania**: Etna nord, Piedimonte, San Gerardo, 23.V.2010, Baviera C. (BCPC); **Agrigento**: Sicani, Burgio, 750 m a.s.l., 18.III.2008, Baviera C. and Bellò C. (BCPC); **Palermo**: Pintorna, str. Castelbuono Geraci, 10.V.1996, Angelini F. (FAMC); Sicani, Bosco Ficuzza, 740 m, 04.III.2013, Baviera C. (BCPC); ditto, Laghetti “Coda di riccio”, sifting under *Quercus suber*, 18.III.2017, Baviera C. (BCPC); **Siracusa**: Grotta Monello, pitfall trap, 28.VIII.1991, Sabella G. (FAMC); **Trapani**: Erice, 6.XII.1996, Silluzio G. (FAMC).

Notes. The commonest species of this genus in Sicily mainly known from the north (Madonie and Nebrodi) and from a single locality in Catania province (Barriera del Bosco: Penati and Vienna (2005)). Previously not reported from Agrigento, Palermo, Trapani provinces and Peloritani.

Saprininae Blanchard, 1845

Chalcionellus aemulus (Illiger, 1807)

Chorotype – MED

Morpho-ecological group – SA

Notes. A widespread species in Sicily known from Agrigento (Rottenberg 1870), Messina (Nebrodi), Palermo (Sicani and Madonie: Reichardt (1932) and Vienna (1980)), and Ragusa provinces and from Favignana and Vulcano (Penati and Vienna 2005; Lo Cascio *et al.* 2006).

Chalcionellus decemstriatus decemstriatus (Rossi, 1792)

Chorotype – COS

Morpho-ecological group – SA

New records – **Messina:** Nebrodi, Biviere di Cesarò, 11.IV.2002, Baviera C. (BCPC); **Agrigento:** City, IV.1952, Lomi (MCST).

Notes. A very common and widespread species in Sicily (Penati and Vienna, 2005). Previously not reported from Nebrodi.

Chalcionellus prolixus Reichardt, 1932

Chorotype – WME

Morpho-ecological group – SA

Notes. A species known from Italy only from the citation of Reichardt (1932) from “Sicily”, without further data. Never reported thereafter. Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Exaesiopus grossipes (Marseul, 1855)

Chorotype – SEU

Morpho-ecological group – PS

Notes. Only reported, from “Sicilia” in Luigioni (1929) and never reported thereafter.

Gnathoncus nannetensis (Marseul, 1862)

Chorotype – PAL

Morpho-ecological group – PH

Notes. Only recently firstly reported from Sicily from “Messina” by specimens preserved in Vitale collection (Vienna and Baviera 2007) and after confirmed from Messina (Malabotta Wood: Baviera (2009)).

Gnathoncus rotundatus (Kugelann, 1792)

Chorotype – COS

Morpho-ecological group – PH

New records – **Messina:** Nebrodi, Randazzo, Maniace Portella Segheria, 04.IV.2013 in *Acer*, Baviera C. (BCPC).

Notes. A rare species in Sicily, reported only from Agrigento (Rottenberg 1870), Palermo (“Città, Villa Alliata”: Ragusa (1892)), Trapani (Santa Ninfa: Ragusa (1892)) and Pantelleria (Ratti 1984). Never reported before from Messina province.

Hypocacculus (Colpellus) praecox (Erichson, 1834)

Chorotype – AFM

Morpho-ecological group – PS

Notes. A rare species in Sicily, reported only from Agrigento (Gela: Rottenberg (1870)), Palermo (Ragusa 1892)).

Hypocacculus (Hypocacculus) elongatulus elongatulus (Rosenhauer, 1856)

Chorotype – WME

Morpho-ecological group – PS

Notes. Another very rare species in Sicily known only from Palermo (Mondello: Ragusa (1925) and Reichardt (1932)). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Hypocacculus (Hypocacculus) metallescens (Erichson, 1834)

Chorotype – COS

Morpho-ecological group – SA

New records – **Palermo:** Terrasini, Capo Rama, 22.VIII.1993, Sparacio I.

Notes. Another rare species in Sicily known only from Messina (Oliveri: Vitale (1929)), Catania (Rottenberg 1870), Caltanissetta (Gela: Penati and Vienna (2005)) and Palermo (Ciaculli: Ragusa (1892) and Vienna (1980)).

Hypocacculus (Hypocacculus) spretulus (Erichson, 1834)

Chorotype – INM

Morpho-ecological group – SA

New records – **Agrigento:** City, V.1953, Lomi (MCST).

Notes. An uncommon species in Sicily known only from Catania (Reichardt 1932) and Palermo (Ficuzza: Reichardt, 1932 and Corleone: Penati and Vienna, 2005).

Hypocaccus (Nessus) ascendens (Reichardt, 1932)

Chorotype – ASE

Morpho-ecological group – PS

Notes. A species only recently reported for the first time from Italy (Sardinia: Secq and Vienna (1998) and thereafter from Sicily: “Messina” (Vienna and Baviera 2007)). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Hypocaccus (Nessus) interpunctatus interpunctatus (Schmidt, 1855)

Chorotype – AFM

Morpho-ecological group – PS

Notes. A species recorded from Messina (Bausò: Vitale (1929)) and Palermo (Modello: Ragusa (1892)).

Hypocaccus (Nessus) curtus (Rosenhauer, 1847)

(= *Hypocaccus (Nessus) puncticollis* (Küster, 1849))

Chorotype – MED

Morpho-ecological group – PS

Notes. Lackner and Seres (2018) recently synonymized *H. puncticollis* with *H. curtus* and recorded the species from “Sicily”. Ragusa (1892) and Reichardt (1932) recorded from “Sicily” *H. (N.) puncticollis*.

Hypocaccus (Nessus) rubripes (Erichson, 1834)

Chorotype – COS

Morpho-ecological group – PS

New records – **Messina:** Santo Saba, 30.VIII-16.IX.2004; ditto, 16.IX-01.X.2004, in pitfall trap, Baviera C. (BCPC); ditto, 02-19.IV.2004; Timpazzi, Lido Spiaggia d’oro, 01-19.X.2004, in pitfall trap, Baviera C. (BCPC).

Notes. A common and widespread species in Sicily known from Messina, Catania, Agrigento, Ragusa, Siracusa, Palermo and Trapani provinces (Vienna 1971; Vienna and Ratti 1998; Penati and Vienna 2005).

Hypocaccus (Baeckmanniolus) dimidiatus dimidiatus (Illiger, 1807)

Chorotype – MED

Morpho-ecological group – PS

New records – **Messina:** Santo Saba, 02-19.IV.2004, in pitfall trap, Baviera C. (BCPC); Casabianca, Lido Sabbia d’oro, 16.IX-01.X.2004, in pitfall trap, Baviera C. (BCPC); ditto, 16-30.VIII.2004.

Notes. A very common and widespread species in Sicily. Reported from Agrigento, Catania, Messina, Palermo, Ragusa, Siracusa and Trapani provinces, also known from Vulcano (Penati and Vienna 2005; Lo Cascio *et al.* 2006).

Hypocaccus (Hypocaccus) brasiliensis (Paykull, 1811)

Chorotype – COS

Morpho-ecological group – PS

New records – **Messina:** Santo Saba, 15.VI-02.VII.2004, in pitfall trap, Baviera C. (BCPC); ditto, 16-30.VIII.2004; ditto, 02-21.VII.2004; Casabianca, Lido Sabbia d’oro, 16-30.VIII.2004, in pitfall trap, Baviera C. (BCPC); ditto, 30.VIII-16.IX.2004; ditto, 02-16.VIII.2004.

Notes. A very common and widespread species in Sicily. Reported from Agrigento, Caltanissetta, Catania, Messina and Palermo provinces, also known from Pantelleria and Lampedusa (Ragusa 1892); Vienna:1995. Until now only cited from “Messina” in Messina province (Penati and Vienna 2005).

Hypocaccus (Hypocaccus) crassipes (Erichson, 1834)

Chorotype – EUM

Morpho-ecological group – PS

Notes. An uncommon even if widespread species in Sicily. Recorded from Agrigento, Caltanissetta, Palermo, Ragusa, Siracusa (Vienna 1980; Penati and Vienna 2005). Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Hypocaccus (Hypocaccus) rugiceps (Duftschmid, 1805)

Chorotype – SIE

Morpho-ecological group – PS

Notes. Reported only from specimens labelled “Sicilia” preserved in Müller collection (Penati and Vienna 2005).

Hypocaccus (Hypocaccus) rugifrons rugifrons (Paykull, 1798)

Chorotype – SIE

Morpho-ecological group – PS

New records – **Messina:** Santo Saba, 20.VII-02.VIII.2004, in pitfall trap, Baviera C. (BCPC); ditto, 02-21.VII.2004; ditto 20.VII-02.VIII.2004; 30.VIII-16.IX.2004; 02-19.IV.2004; Timpazzi, Lido Spiaggia d’oro, 20.VII-02.VIII.2004, in pitfall trap, Baviera C. (BCPC); ditto, 16.IX-01.X.2004; ditto, 01-19.X.2004; ditto, 02-19.IV.2004; ditto, 02-16.VIII.2004; ditto, 18.V-01.VI.2004; ditto, 02-19.IV.2004; ditto, 19.IV-03.V.2004; ditto, 01-15.VI.2004; ditto, 16.IX-01.X.2004; ditto, 19.XI- 02.XII.2004; ditto, 03-18.V.2004; ditto, 30.VIII-16.IX.2004; Mortelle, Canale degli Inglesi, 18.V-01.VI.2004; ditto, 02-16.VIII.2004; ditto, 18.V-01.VI.2004; ditto, 15.VI-02.VII.2004; ditto, 20.VII-02.VIII.2004; ditto, 30.VIII-16.IX.2004 (BCPC).

Notes. A very common and widespread species, in Sicily recorded from Agrigento, Caltanissetta, Catania, Messina, Palermo, Ragusa, Siracusa and Trapani provinces. Reported from Messina province only from Acquarone (Rottenberg 1870; Penati and Vienna 2005). Also known from Pantelleria (Dahlgren 1962).

Hypocaccus (Hypocaccus) specularis (Marseul, 1855)

Chorotype – SEU

Morpho-ecological group – PS

Notes. Reported from Sicily only by Vitale (1929) from Messina (Catarratti).

Saprinus (Saprinus) acuminatus (Fabricius, 1798)

Chorotype – CEM

Morpho-ecological group – SA

Notes. An uncommon species in Sicily reported from Palermo (Madonie) and Messina (Milazzo, Nebrodi, Monte Soro: Vienna (1971)) also known from Stromboli (Penati and Vienna 2005).

Saprinus (Saprinus) aegialius Reitter, 1884

Chorotype – TEM

Morpho-ecological group – SA

New records – **Messina:** Peloritani, Bosco di Malabotta, 23.VI.2006, Baviera C. (BCPC).

Notes. An uncommon species in Sicily, reported only from “Messina” and Palermo (Gibil-manna) (Lundberg *et al.* 1987; Penati and Vienna 2005).

Saprinus (Saprinus) algericus (Paykull, 1811)

Chorotype – TEM

Morpho-ecological group – SA

Notes. An uncommon species in Sicily, reported only from Caltanissetta, Catania (Caltagirone: Vitale (1929), Palermo: Ragusa (1892)).

Saprinus (Saprinus) beduinus Marseul, 1862

Chorotype – WME

Morpho-ecological group – SA

Notes. An uncommon species in Sicily, reported from Enna (Piazza Armerina: Vitale (1929)), Messina (Nebrodi, Mistretta: Ragusa (1892)) and Palermo (Lercara Friddi: Vitale (1929)); Balestrate: Aliquò (1975) and Vienna (1980) provinces (Penati and Vienna 2005). Listed from Madonie and Nebrodi Park by Sabella and Sparacio (2004).

Saprinus (Saprinus) caerulescens caerulescens (Hoffmann, 1803)

Chorotype – CAM

Morpho-ecological group – SA

New records – **Trapani.** Saline, 10.IX.1973, Romano M. (CBPC).

Notes. An uncommon species in Sicily, reported from Sicilian mainland only from Messina, Catania, Siracusa, Trapani (Marsala), and from islands of Lampedusa, Isola dei Conigli, Stromboli, Lipari and Favignana (Penati and Vienna 2005; Lo Cascio *et al.* 2006).

Saprinus (Saprinus) calatravensis Fuente, 1899

Chorotype – CAM

Morpho-ecological group – SA

New records – **Messina:** Luppineria, 650 m, 11.III.2015, Baviera C. (BCPC); **Trapani:** Isole Egadi, Favignana, Cala Rossa, 40 m a.s.l., sifting under Teucrium sp., 06.XI.2010, Bellò C. and Chemello S. (CBPC).

Notes. An uncommon species in Sicily, recorded from Palermo (Corleone: Vienna (1980)), Trapani (Marinella, Selinunte), Ragusa (Spiaggia Macconi) and Lampedusa (Penati and Vienna 2005). Never reported before from Messina province and Egadi Archipelago.

Saprinus (Saprinus) chalcites (Illiger, 1807)

Chorotype – AIM

Morpho-ecological group – SA

New records – **Messina:** Peloritani, Castanea delle Furie, 400 m a.s.l., 21.V.2000, Baviera C. (CBPC).

Notes. A very common and widespread species in Sicily, reported from Agrigento, Caltanissetta, Catania, Messina, Palermo, Ragusa, Siracusa and Trapani provinces, also recorded from Favignana and Lipari (Penati and Vienna 2005; Lo Cascio *et al.* 2006). Never reported before from Peloritani.

Saprinus (Saprinus) detersus (Illiger, 1807)

Chorotype – WME

Morpho-ecological group – SA

New records – **Messina**: Peloritani, Villafranca, Serro, 14.IV.2003, Baviera C. (CBPC).

Notes. An uncommon, even if widespread species in Sicily recorded from Agrigento (Ribera), Palermo (Ragusa 1892), Trapani (Marsala: Vienna, 1980) and Ragusa (Ispica, Pozzallo) provinces, also known from Lampedusa and Pantelleria (Ratti 1984; Vienna 1995). Firstly reported from Messina province. Not reported from Sicily in Fauna Europaea Checklist (Lackner and Yélamos 2019).

Saprinus (Saprinus) furvus Erichson, 1834

Chorotype – MED

Morpho-ecological group – SA

New records – **Trapani**: Isole Egadi, Favignana, Cala Rossa, 40 m a.s.l., sifting under *Teucrium* sp., 06.XI.2010, Bellò C. and Chemello S. (CBPC).

Notes. A species recorded only from Messina and Palermo provinces, also known from Stromboli, Lipari and Alicudi (Penati and Vienna 2005; Lo Cascio *et al.* 2006; Vienna and Baviera 2007). Never reported before from the Egadi Archipelago.

Saprinus (Saprinus) georgicus Marseul, 1862

Chorotype – CEM

Morpho-ecological group – SA

Notes. A common and widely distributed species in Sicily (Penati and Vienna 2005).

Saprinus (Saprinus) immundus (Gyllenhal, 1827)

Chorotype – PAL

Morpho-ecological group – SA

Notes. This species was reported from Sicily from Messina (Peloritani: Monte Scuderi) and Palermo (Madonie: Piano Battaglietta) for the first time only recently (Baviera 2006).

Saprinus (Saprinus) maculatus (Rossi, 1792)

Chorotype – TUE

Morpho-ecological group – SA

New records – **Messina**: Peloritani, Villafranca, Serro, 14.IV.2003, Baviera C. (CBPC).

Notes. A very rare species in Sicily, until now recorded only from “Palermo” by Ragusa (1892) and Favorita, Piano Torre and “Messina” by specimens preserved in Vitale collection (Vienna and Baviera 2007).

Saprinus (Saprinus) planiusculus Motschulsky, 1849

Chorotype – PAL

Morpho-ecological group – SA

Notes. A very rare species in Sicily, reported only from Catania and Siracusa (Dahlgren 1962).

Saprinus (Saprinus) politus (Brahm, 1790)

Chorotype – TUE

Morpho-ecological group – SA

New records – **Enna**: Agira, Vallone Piano della Corte 28.XI.2015, Baviera C. and Bellò C. (CBPC).

Notes. A widespread and very common species in Sicily. Recorded from Agrigento, (Rottenberg 1870; Müller 1955; Dahlgren 1968); Caltanissetta (Vienna 1980); Catania (Dahlgren 1968); Messina (Vitale 1929); Ragusa (Vienna 1980), Siracusa (Dahlgren 1968); Palermo and Trapani (Penati and Vienna 2005), also reported from Vulcano (Lo Cascio *et al.* 2006) and Favignana (Penati and Vienna 2005). Never reported before from Enna province.

Saprinus (Saprinus) semistriatus (Scriba, 1790)

Chorotype – PAL

Morpho-ecological group – SA

Notes. A common and widespread species in Italy (mainly in the north), reported from Sicily only from “Messina” by Binaghi and Moro (1946).

Saprinus (Saprinus) subnitescens Bickhardt, 1909

Chorotype – CEM

Morpho-ecological group – SA

New records – **Messina**: Sperone, 17.VII.2011, Baviera C. (BCPC); Peloritani, Castanea delle Furie, 400 m a.s.l., 21.V.2000, Baviera C. (CBPC); Peloritani, Portella Croce Cumia, 02.I.2009, Baviera C. (BCPC); **Palermo**: Montemaggiore Belsito, Dint stazione, 27.V.2011, Muscarella C. (FEI); **Trapani**: Stagnone di Marsala, Isola di Mozia, 7.VI.2011, Muscarella C. (FEI); Isole Egadi, Marettimo, 14-16.V.2006, Baviera C. (BCPC).

Notes. A very common and widespread species in Sicily, reported also from Lampedusa, Isola dei Conigli, Alicudi, Stromboli, Lipari and Vulcano. Never reported from Egadi Islands and Peloritani (Penati and Vienna 2005; Lo Cascio *et al.* 2006).

Saprinus (Saprinus) tenuistrius sparsutus Solsky, 1876

Chorotype – CAE

Morpho-ecological group – SA

New records – **Agrigento**: City, VII. 1948, Lomi (MCST).

Notes. A rarely recorded species in Sicily, with the subspecies *S. tenuistrius sparsutus* Solsky, 1876, known, until now, only from Messina (Penati and Vienna 2005) and Palermo (Madonie, Castelbuono: Penati (1999)).

Xenonychus tridens (Jacquelin-Duval, 1852)

Chorotype – SAS)

Morpho-ecological group – PS

Notes. A common and widespread species in Sicily (Palermo, Agrigento, Catania, Ragusa and Siracusa provinces) (Penati and Vienna 2005).

Tribalinae Bickhardt, 1914

Epierus comptus Erichson, 1834

Chorotype – SEU

Morpho-ecological group – DE

Notes. A very rare species in Sicily, reported only from Messina (Nebrodi: Ragusa (1892) and Palermo (Madonie: Penati and Vienna (2005)). It feeds on fungal spores.

Pseudepierus italicus (Paykull, 1811)

Chorotype – SEU

Morpho-ecological group – DE

New records – **Messina:** Peloritani, San Pier Niceto, 400 m, above Fonte Paola, sifting in *Quercus* sp., 01.IV.2013, Baviera C. (BCPC); Montalbano Elicona, Bosco di Malabotta, *Quercus* sp., 5.V.2000, Angelini F. (FAMC); Nebrodi, street among Maulazzo and Biviere di Cesarò, in *Fagus* sp., 1300 m a.s.l., 27.IV.2016, Baviera C. (BCPC); **Palermo:** Madonie, Piano Zucchi, sifting in *Q. ilex*, 25.IV.2008, Baviera C. and Rando A. (CBPC).

Notes. This rare species in Sicily, which feeds on fungal spores, was reported until now only from Sicani (Ficuzza woods, Palazzo Adriano), Nebrodi (Caronia, Moglia) and Peloritani (Malabotta Wood) (Penati and Vienna 2005; Vienna and Baviera 2007). Previously not reported from Madonie.

Tribalus (Tribalus) maroccanus Olexa, 1980

Chorotype – WME

Morpho-ecological group – SA

Notes. From Sicily, this species was recorded only from Siracusa (Lentini: Olexa (1980)).

Tribalus (Tribalus) minimus (Rossi, 1790)

Chorotype – TUE

Morpho-ecological group – SA

Notes. In Sicily reported only from “Messina” (Vienna and Baviera 2007), Palermo (Sicani, Ficuzza: Luigioni (1929) and Vienna and Baviera (2007); Palazzo Adriano: Vitale (1929)) and Catania (Nicolosi: Vitale (1929)).

Tribalus (Tribalus) scaphidiformis (Illiger, 1807)

Chorotype – WME

Morpho-ecological group – SA

New records – **Agrigento:** Aragona, San Biagio, 11.XII.2014, Baviera C. and Bellò C. (BCPC).

Notes. In Sicily until now reported only from Messina (Taormina: Vienna and Penati, 2005), Catania (Foce Simeto: Vienna (1971)) and Trapani (Castelvetrano: Vitale (1929) and Vienna and Baviera (2007)).

4. Conclusions and final remarks

With 104 taxa the clown beetles of Sicily constitute approximately 62% of the Italian Histerid fauna (Penati and Vienna 2005, 2006; Penati 2009). If we exclude the nine species unreported for many years (*Hypocaccus rugiceps*, *Exaesiopus grossipes*, *Margarinotus ignobilis*, *Margarinotus merdarius*, *Margarinotus ruficornis*, *Chalcionellus prolixus*, *Hypocacculus elongatulus*, *Hister grandicollis* and *Hister mediterraneus*) the number of species present in Sicily amounts to 57% despite the very low number of endemic or subendemic taxa (2 species only) and the absence of endogean species. Therefore histerid beetle fauna of Sicily and islands comprises more than half of all the known Italian histerid beetle fauna (168) even though Sicily covers less than 10%. The Sicilian results are, as expected, higher than the 44.8% (74 spp) recently published for Sardinia, where the endemic and subendemic species (5 species, 6.8% of the total) belong mainly to the endogean Morphoecological group, and obviously higher than the 21 spp reported from the Maltese Islands (Vienna 1983). Twenty different chorotypes and endemic distribution types are represented; 42% of the total species show a widespread distribution in the Palaearctic Region (PAL s.l.), including mainly the Sibero-European chorotype (9 species; 8.7% of the total) (see Figs. 1 and 2).

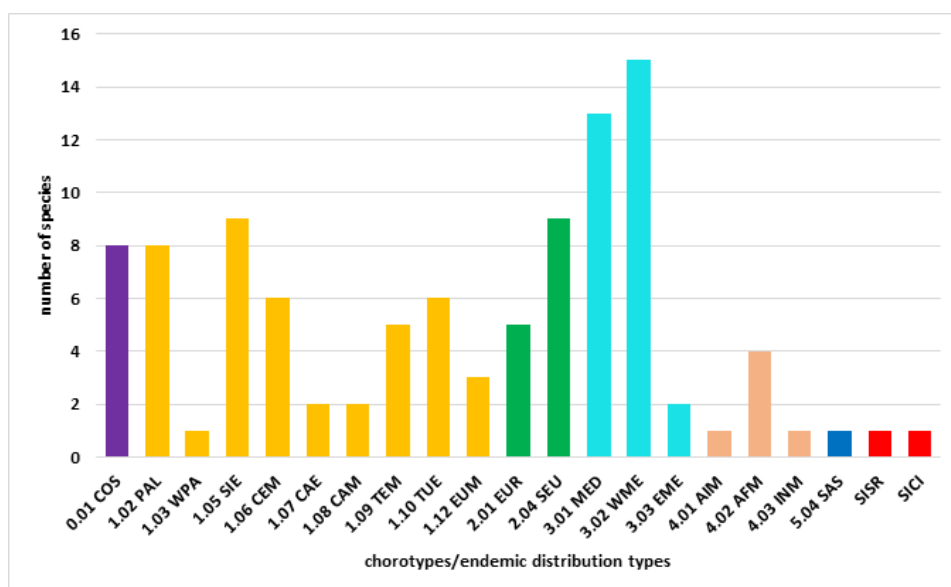


FIGURE 1. Numbers of Sicilian clown-beetles species/subspecies subdivided in the different chorotype or endemic distribution type categories (see Sect. 2 for abbreviations)

The Mediterranean component (MED s.l. 27%) and the European distribution types (EUR s.l. 14%) are well represented, in particular only two Mediterranean chorotypes (MED and WME) considered together, represent more than 26%. There are eight cosmopolitan

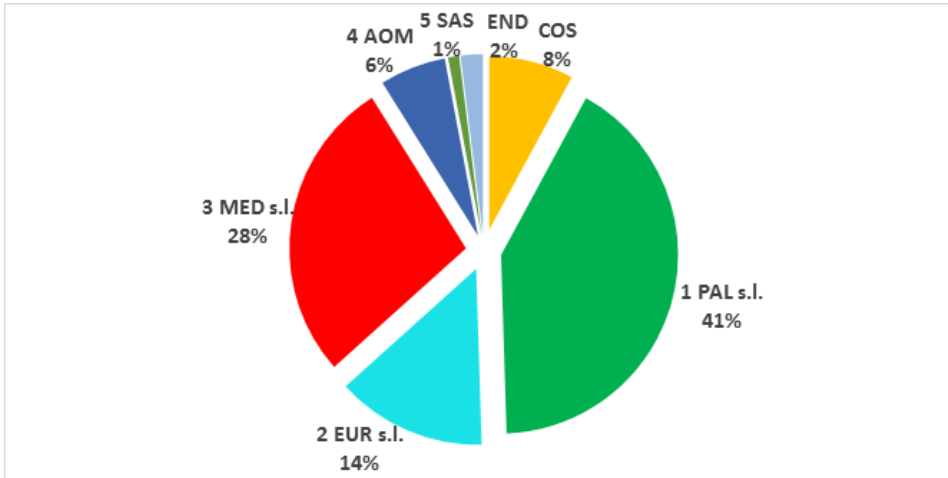


FIGURE 2. Percentages of Sicilian clown-beetles species/subspecies with chorotype categories without cosmopolite taxa (see Sect. 2 for abbreviations)

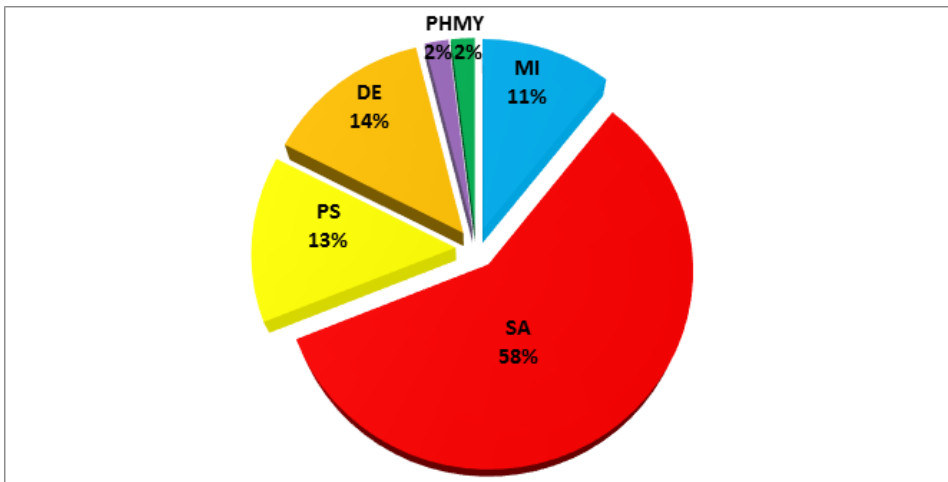


FIGURE 3. Percentages of Sicilian clown-beetles species/subspecies per morpho-ecological group (see Sect. 2 for abbreviations)

species in Sicily (six in Sardinia), six Afrotropical and Oriental species also present in the Mediterranean area (five in Sardinia with the same chorotypes). Just like in Sardinia only a single species shows a widespread Saharo-Sindian distribution occurring only in marginal areas of the Mediterranean (SAS). This data suggests that the origins of the Histeridae fauna in Sicily were influenced by two main factors: firstly the range shifts of nordic species caused by cyclic climatic changes during the Pleistocene glaciations which permitted the

survival of those species (SIE) on isolated Mediterranean mountain massifs and, secondly, the Mediterranean component from Western and Central Mediterranean Countries.

After analyzing morpho-ecological groups, it emerges that the Saprophiles represent more than half the Sicilian species (SA, 59%) followed by the Dendrophiles and Psammophiles species (DE and PS respectively, 14%). There are 10 species of the so called micro-histerids (10%) and only two species of Phloeophiles and Myrmecophiles (see Fig. 3). There is a similarity to the group distribution observed for Sardinian species (with the exception of endogean species, which are absent in Sicily) with 50% saprophiles, 16.2% psammophiles, 13% dendrophiles, 9.5% of “micro-histerids”, 5.4% phloeophiles, 4.1% endogean and 1.3% myrmecophile. Eight species reported from Sicily in the Fauna Europaea Checklist (Lackner and Yélamos 2019) should be excluded: *Hister quadrinotatus* Scriba, 1790, *Hister moerens* Erichson, 1834, *Margarinotus (Eucalohister) kurdistanus kurdistanus* (Marseul, 1857), *Margarinotus (Paralister) ventralis* (Marseul, 1854), *Gnathoncus communis* (Marseul, 1862), *Hypocaccus (Hypocaccus) metallicus* (Herbst, 1792), *Hypocaccus (Hypocaccus) erosus* (Wollaston, 1864), *Saprinus (Saprinus) godet* (Brullé, 1832). Six Sicilian Histeridae species were reported as at risk categories in the most recent Red List of Saproxyllic Beetles (Audisio *et al.* 2014; Carpaneto *et al.* 2015), one, *Abraeus (Postabraeus) parvulus*, at “Critically Endangered” (CR), two, *Merohister ariasi* and *Platylister (Popinus) algiricus*, at “Endangered” (EN) and three, *Margarinotus (Grammostethus) ruficornis*, *Paromalus (Paromalus) filum*, and *Teretrius (Teretrius) fabricii*, at “Vulnerable” (VU).

Acknowledgments

The authors thank Cesare Bellò for his great help during the field researches.

References

- Aliquò, V. (1975). “Quarto contributo alla conoscenza della fauna coleotterologica della regione sicula (Clavigeridae, Histeridae, Chrysomelidae)”. *Bollettino dell'Associazione Romana di Entomologia*. **30**(1-4), 17–18.
- Audisio, P., Baviera, C., Carpaneto, G. M., Biscaccianti, A. B., Battistoni, A., Teofili, C., and Rondinini, C., eds. (2014). Roma: Comitato italiano IUCN e Ministero dell’Ambiente e della Tutela del Territorio e del Mare. URL: http://www.iucn.it/pdf/Comitato_IUCN_Lista_Rossa_dei_coleotteri_saproxilici_italiani_2014.pdf. (Coleoptera Histeridae: a cura di P. Vienna, C. Baviera e P. Audisio).
- Baviera, C. (2006). “Coleotteri nuovi o poco noti di Sicilia III (*Carabidae*, *Histeridae*, *Cerambycidae*, *Chrysomelidae*, *Anobiidae*, *Bothrideridae*, *Tenebrionidae*, *Curculionidae*, *Scolytidae*)”. *Il Naturalista Siciliano*. 4th ser. **30**(1), 21–28. URL: http://www.ssn.it/PDF/PDF%20Nat.Sic.%201%202006/Baviera_21-28.pdf.
- Baviera, C. (2007). “First record of *Gonioctena* (Coleoptera Chrysomelidae, Chrysomelinae) in Sicily, with the description of *Gonioctena theae* n. sp.” *Italian Journal of Zoology* **74**(4), 389–393. DOI: [10.1080/11250000701650719](https://doi.org/10.1080/11250000701650719).
- Baviera, C. (2008). “Prima segnalazione del genere *Aesalus*, Fabricius, 1801 in Sicilia con descrizione di *Aesalus scarabaeoides siculus* n. ssp. (Coleoptera Lucanidae: Aesalinae)”. *Revue Suisse de Zoologie* **115**(3), 585–592. DOI: [10.5962/bhl.part.80447](https://doi.org/10.5962/bhl.part.80447).
- Baviera, C. (2009). “Coleotteri nuovi o poco noti di Sicilia IV (*Carabidae*, *Histeridae*, *Cholevidae*, *Elateridae*, *Cerambycidae* et *Raymondionymidae*)”. *Il Naturalista Siciliano*. 4th ser. **33**(1-2), 149–156. URL: <http://www.ssn.it/PDF/PDF%20NS%2033/149-156.pdf>.

- Baviera, C. (2010). “*Alaocyba ientilei* n. sp. (Coleoptera: Curculionoidea, Raymondionymidae) dell’Isola di Marettimo (Isole Egadi, Sicilia)”. *Revue Suisse de Zoologie* **117**(1), 11–16. DOI: [10.5962/bhl.part.117584](https://doi.org/10.5962/bhl.part.117584).
- Baviera, C. (2015). “A review of the genus *Solariola* Flach, 1908 (Coleoptera: Curculionidae: Entiminae, Peritelini)”. *Zootaxa* **3920**(3), 401–430. DOI: [10.11646/zootaxa.3920.3.1](https://doi.org/10.11646/zootaxa.3920.3.1).
- Baviera, C. and Audisio, P. (2014). “The Nitidulidae and Kateretidae (Coleoptera: Cucujoidea) of Sicily: recent records and updated checklist”. *Atti della Accademia Peloritana dei Pericolanti. Classe di Scienze Fisiche, Matematiche e Naturali* **92**(2), A1 [32 pages]. DOI: [10.1478/AAPP.922A1](https://doi.org/10.1478/AAPP.922A1).
- Baviera, C., Bellavista, M., Altadonna, G., Turrisi, G., and Bella, S. (2017). “The Cerambycidae (Coleoptera: Chrysomeloidea) of Sicily: Recent records and updated checklist.” *Atti della Accademia Peloritana dei Pericolanti. Classe di Scienze Fisiche, Matematiche e Naturali* **95**(1), A1 [79 pages]. DOI: [10.1478/AAPP.951A2](https://doi.org/10.1478/AAPP.951A2).
- Baviera, C. and Biondi, M. (2015). “The Alticini (Coleoptera: Chrysomelidae, Galerucinae) of Sicily: recent records and updated checklist”. *Atti della Accademia Peloritana dei Pericolanti. Classe di Scienze Fisiche, Matematiche e Naturali* **93**(2), A2 [50 pages]. DOI: [10.1478/AAPP.932A2](https://doi.org/10.1478/AAPP.932A2).
- Baviera, C. and Liberti, G. (2010). “Dasytidae of the Egadi Archipelago (Coleoptera, Cleroidea) with description of *Danacea hierena* n. sp.” *Zootaxa* **2351**, 49–57. URL: <http://www.mapress.com/zootaxa/2010/f/z02351p057.pdf>.
- Baviera, C. and Magnano, L. (2010). “Contribution to the knowledge of the weevil subgenus *Aramichnus* Gozis, genus *Otiorrhynchus* Germar (Coleoptera, Curculionidae) from Sicily and the Sicilian islands.” *Zootaxa* **2432**, 45–58. URL: <http://www.mapress.com/zootaxa/2010/f/z02432p058.pdf>.
- Baviera, C. and Platia, G. (2018). “The Elateridae (Coleoptera: Elateroidea) excl. Cebrionini and Drilini of Sicily: recent records and updated checklist”. *Atti della Accademia Peloritana dei Pericolanti. Classe di Scienze Fisiche, Matematiche e Naturali* **96**(2), A1 [33 pages]. DOI: [10.1478/AAPP.962A1](https://doi.org/10.1478/AAPP.962A1).
- Baviera, C. and Sparacio, I. (2002). “Coleotteri nuovi o poco noti di Sicilia. II”. *Il Naturalista Siciliano*. 4th ser. **26**(1-2), 79–94.
- Baviera, C. and Vienna, P. (2018). “Nuovi dati su *Anapleus wewalkai* Olexa, 1982 in Italia. (Coleoptera Histeridae Anapleini)”. *Il Naturalista Siciliano*. 4th ser. **42**(2), 337–338. URL: <http://www.sssn.it/PDF/PDF%20NS%2042/337-338.pdf>.
- Bellò, C. and Baviera, C. (2011). “On the Sicilian species of *Pseudomeira* Stierlin (Coleoptera: Curculionidae: Entiminae)”. *Zootaxa* **3100**, 35–68. URL: <http://www.mapress.com/zootaxa/2011/f/z03100p068.pdf>.
- Bellò, C., Osella, G., and Baviera, C. (2017). “A taxonomic monograph of the genus *Dodomeira* Bellò & Baviera, a new genus of Peritelini from Sicily (Coleoptera: Curculionidae: Entiminae)”. *Zootaxa* **4334**(1), 1–138. DOI: [10.11646/zootaxa.4334.1.1](https://doi.org/10.11646/zootaxa.4334.1.1).
- Binaghi, G. and Moro, G. B. (1946). “Il *Saprinus semistriatus* Scriba e specie affini in Italia (Col. Histeridae)”. *Bollettino della Società Entomologica Italiana* **76**(7-8), 59–63.
- Biondi, M., Urbani, F., and D’Alessandro, P. (2013). “Endemism patterns in the Italian leaf beetle fauna (Coleoptera, Chrysomelidae)”. *ZooKeys* **332**, 177–205. DOI: [10.3897/zookeys.332.5339](https://doi.org/10.3897/zookeys.332.5339).
- Caldara, R., Casalini, R., and Baviera, C. (2012). “Taxonomic and nomenclatural notes on the *Rhinusa tetra* (Fabricius) species complex (Coleoptera: Curculionidae)”. *Zootaxa* **3329**, 31–40. URL: <http://www.mapress.com/zootaxa/2012/f/z03329p040f.pdf>.
- Carpaneto, G. M., Baviera, C., Biscaccianti, A. B., Brandmayr, P., Mazzei, A., Mason, F., Battistoni, A., Teofili, C., Rondinini, C., Fattorini, S., and Audisio, P. (2015). “A Red List of Italian Saproxyllic Beetles: taxonomic overview, ecological features and conservation issues (Coleoptera)”. *Fragmenta*

- entomologica* **47**(2), 53–126. DOI: [10.4081/fe.2015.138](https://doi.org/10.4081/fe.2015.138). (Family Histeridae: compilation by P. Vienna and C. Baviera).
- Dahlgren, G. (1962). “Über einige *Saprinus*-Arten (Col. Histeridae)”. *Opuscula Entomologica* **27**(3), 237–248.
- Dahlgren, G. (1968). “Beiträge zur Kenntnis der Gattung *Saprinus* (Col. Histeridae) II”. *Opuscula Entomologica* **33**(1-2), 82–94.
- De Bertolini, S. (1904). “Catalogo dei Coleotteri d’Italia”. *Rivista Italiana di Scienze Naturali*, 47–49.
- Fiori, A. (1915). “Appunti sulla fauna coleotterologica dell’Italia meridionale e della Sicilia.” *Rivista Coleotterologica italiana* **13**(4-9), 57–84.
- Gobbi, G. (1973). “Aggiunte inedite di Paolo Luigioni al Catalogo ‘I Coleotteri d’Italia’”. *Bollettino della Società Entomologica Italiana* **105**(1-3), 29–35.
- Gomy, Y. and Vienna, P. (2001). “*Anapleus wewalkai* Olexa, 1982 specie nuova per l’Italia (Coleoptera Histeridae).” *Bollettino del Museo Civico di Storia Naturale di Venezia* **51**, 129–130.
- Johnson, P. J. (2002). “Elateridae”. In: *American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea*. Ed. by R. H. Arnett, M. C. Thomas, P. E. Skelley, and J. H. Frank. Vol. 2. Boca Raton, Florida: CRC Press.
- Kryzhanovskij, O. L. (1989). “On system of living forms of the coleopterous family Histeridae.” *Proceedings of the Zoological Institute (Leningrad)* **202**, 87–105.
- Lackner, T. (2003). “First record of *Anapleus wewalkai* Olexa, 1982 for Cyprus (Insecta, Coleoptera, Histeridae).” *Il Naturalista Valtellinese. Atti del Museo Civico di Storia Naturale di Morbegno* **14**, 55–56. URL: [http://associazioni.provincia.so.it/museomorbegno/naturalista%20valtellinese_files/PDF%20Naturalista/Nat%20Valt%2014_2003/2003_14\(55-56\)_Note%20Brevi_Lackner.pdf](http://associazioni.provincia.so.it/museomorbegno/naturalista%20valtellinese_files/PDF%20Naturalista/Nat%20Valt%2014_2003/2003_14(55-56)_Note%20Brevi_Lackner.pdf).
- Lackner, T., Mazur, S., and Newton, A. (2015). “Catalogue of Palaearctic Coleoptera, volume 2. Revised and updated version. Hydrophiloidea - Staphylinoidea”. In: pp. 76–130.
- Lackner, T. and Seres, G. (2018). “Revision of the subgenus *Nessus* of the genus *Hypocaccus* from Central Europe, with description of a new species (Coleoptera: Histeridae).” *Acta Entomologica Musei Nationalis Pragae*. **58**(2), 419–439. DOI: [10.2478/aemmp-2018-0033](https://doi.org/10.2478/aemmp-2018-0033).
- Lackner, T. and Yélamos, T. (2019). *Fauna Europaea: Histeridae*. Version 2.4. In: Alonso-Zarazaga, M. A., *Fauna Europaea: Hydrophiloidea*. URL: https://fauna-eu.org/cdm_dataportal/taxon/6a08aed-bb27-42ac-8a42-576a697dd7bf (visited on 11/12/2019).
- Lo Cascio, P., Cecchi, B., Abbazzi, P., and Arnone, M. (2006). “A contribution to the knowledge of the Coleoptera of the Aeolian Islands (Insecta Coleoptera)”. *Il Naturalista Siciliano*. S. IV **30**(2), 315–341. URL: http://www.ssn.it/PDF/PDF%20Nat.%20Sic.%202%202006/Lo%20Cascioetalii_315-341.pdf.
- Luigioni, P. (1929). “I coleotteri d’Italia. Catalogo sinonimico topografico bibliografico”. *Memorie della Pontificia Accademia delle Scienze. Nuovi Lincei*. 2nd ser. **13**, 1–1160.
- Lundberg, S., Palm, T., and Trottestam, O. (1987). “Skalbaggsstudier på Siciliens norkust. I. Ekskog vid Gibilmanna”. *Entomologisk Tidskrift* **108**, 45–54.
- Magrini, P. (2005). “Un nuovo *Neobacanius* anoftalmo del Lazio, (Insecta, Coleoptera: Histeridae)”. *Aldrovandia* **1**, 55–62. URL: <http://www.museodizooologia.it/wp-content/uploads/2017/02/un-nuovo-neobacanius-anoftalmo-del-lazio-insecta-coleoptera-histeridae.pdf?9db3a3>.
- Magrini, P. and Baviera, C. (2011). “Note sulle *Typhloreicheia* (Holdhaus, 1924) siciliane del gruppo *praecox* con descrizione di una nuova specie (Coleoptera Carabidae: Scaritinae)”. *Revue Suisse de Zoologie* **118**(2), 329–343. DOI: [10.5962/bhl.part.117813](https://doi.org/10.5962/bhl.part.117813).
- Müller, G. (1955). “Ricerche zoologiche sul Massiccio del Pollino (Lucania - Calabria). XVI. Coleoptera. - 6. Histeridae”. *Annuario dell’Istituto e Museo di Zoologia dell’Università di Napoli*. **7**(13), 1–7.
- Müller, J., Bubler, H., Bense, U., Brustel, H., Flechtner, G., Fowles, A., Kahlen, M., Möller, G., Mühle, H., Schmidl, J., and Zabransky, P. (2005). “Urwald relict species. Saproxyllic beetles

- indicating structural qualities and habitat tradition". *Waldökologie Online* **2**, 106–113. URL: https://www.afsv.de/download/literatur/waldoekologie-online/waldoekologie-online_heft-2-9.pdf.
- Olexa, A. (1980). "Revision der westpaläarktischen Arten der Gattung *Tribalus* (Coleoptera, Histeridae)." *Acta Entomologica Bohemoslovaca* **77**, 97–106.
- Penati, F. (1999). "Nuovi dati sulla distribuzione degli Histeridae italiani (Coleoptera)." *Bollettino della Società Entomologica Italiana*. **131**(3), 219–229.
- Penati, F. (2009). "An updated catalogue of the Histeridae (Coleoptera) of Sardinia, with faunistic, zoogeographical, ecological and conservation remarks." *Zootaxa* **2318**(1), 197–280. DOI: [10.11646/zootaxa.2318.1.8](https://doi.org/10.11646/zootaxa.2318.1.8).
- Penati, F. and Vienna, P. (2005). "Insecta Coleoptera Histeridae". In: *Checklist e Distribuzione della Fauna Italiana*. Ed. by S. Ruffo and F. Stoch. Vol. 16 (2). Verona: Memorie del Museo Civico di Storia Naturale di Verona. 2. Serie. Sezione Scienze della Vita, pp. 173–175. URL: https://museodistorianaturale.comune.verona.it/media/_Musei/_StoriaNaturale/_Allegati/Biblioteca/Memorie%202.%20serie/Memorie%20A/Memorie_A_16_2005_Checklist_fauna_italiana.pdf.
- Penati, F. and Vienna, P. (2006). "Prima segnalazione per l'Italia di *Saprinus* (*Saprinus*) *cruciatu*s (Fabricius, 1792) (Insecta, Coleoptera, Histeridae)". *Il Naturalista Valtellinese. Atti del Museo Civico di Storia Naturale di Morbegno* **17**, 3–10. URL: [http://associazioni.provincia.so.it/museomorbegno/naturalista%20valtellinese_files/PDF%20Naturalista/Nat%20Valt%2017_2006/2006_17\(3-10\)_Penati.pdf](http://associazioni.provincia.so.it/museomorbegno/naturalista%20valtellinese_files/PDF%20Naturalista/Nat%20Valt%2017_2006/2006_17(3-10)_Penati.pdf).
- Ragusa, E. (1892). "Catalogo ragionato dei Coleotteri di Sicilia". *Il Naturalista Siciliano* **11**, 258–269.
- Ragusa, E. (1925). "Coleotteri nuovi o poco conosciuti della Sicilia". *Il Naturalista Siciliano* **24**, 69–83.
- Ratti, E. (1984). "Ricerche faunistiche del Museo civico di Storia Naturale di Venezia nell'isola di Pantelleria. III - Coleoptera Histeridae". *Bollettino del Museo Civico di Storia Naturale di Venezia* **35**, 47–51.
- Reichardt, A. (1932). "Beiträge zu einer Monographie der Saprininae (Coleoptera, Histeridae). I. Teil. Gattungen *Chalcionellus* nov., *Zorius* nov., *Pholioxenus* nov. und *Hypocacculus* Bickh." *Mitteilungen aus dem Zoologischen Museum in Berlin* **18**(1), 1–169.
- Rottenberg, A. (1870). "Beiträge zur Coleopteren-Fauna von Sicilien. Zweites Stück". *Berliner Entomologische Zeitschrift* **14**, 235–260. URL: <https://biodiversitylibrary.org/page/8340861>.
- Sabella, G. and Sparacio, I. (2004). "Il ruolo dei parchi siciliani nella conservazione di taxa di insetti di particolare interesse naturalistico (Insecta Coleoptera et Lepidoptera Rhopalocera)". *Il Naturalista Siciliano*. 4th ser. **28**(1), 477–508. URL: http://www.sssn.it/PDF/PDF%20Nat.%20Sic%201%202004/Sabella&Sparacio_477-508.pdf.
- Secq, M. and Vienna, P. (1998). "*Hypocacculus* (*Nessus*) *ascendens* Reichardt, 1932: prima segnalazione per la Sardegna and per la fauna italiana (Coleoptera Histeridae)". *Bollettino del Museo Civico di Storia naturale di Venezia* **49**, 39–42.
- Slipinski, S. A., Leschen, R. A. B., and Lawrence, J. F. (2011). "Order Coleoptera Linnaeus, 1758. In: *Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness*. Ed. by Zhang, Z.-Q". *Zootaxa* **3148**, 203–208. URL: <http://www.mapress.com/zootaxa/2011/ft03148p208.pdf>.
- Tishechkin, A. (2002). "New data on the fauna of Palearctic Histeridae". In: *Advances in Modern Biology and Biological Education*. Ed. by V. M. Yurin. Minsk: Belarusian State University Press.
- Toševski, I., Caldara, R., Jović, J., Baviera, C., Hernández-Vera, G., Gassmann, A., and Emerson, B. C. (2014). "Revision of *Mecinus heydenii* species complex (Curculionidae): integrative taxonomy reveals multiple species exhibiting host specialization". *Zoologica Scripta* **43**(1), 34–51. DOI: [10.1111/zsc.12037](https://doi.org/10.1111/zsc.12037).
- Toševski, I., Caldara, R., Jović, J., Hernández-Vera, G., Baviera, C., Gassmann, A., and Emerson, B. C. (2015). "Host associated genetic divergence and taxonomy in the *Rhinusa pilosa* Gyllenhal species

- complex: an integrative approach”. *Systematic Entomology* **40**(1), 268–287. DOI: [10.1111/syen.12109](https://doi.org/10.1111/syen.12109).
- Toševski, I., Caldara, R., Jović, J., Hernández-Vera, G., Baviera, C., Gassmann, A., and Emerson, B. C. (2011). “Morphological, molecular and biological evidence reveal two cryptic species in *Mecinus janthinus* Germar (Coleoptera, Curculionidae), a successful biological control agent of Dalmatian toadflax, *Linaria dalmatica* (Lamiales, Plantaginaceae)”. *Systematic Entomology* **36**(4), 741–753. DOI: [10.1111/j.1365-3113.2011.00593.x](https://doi.org/10.1111/j.1365-3113.2011.00593.x).
- Vienna, P. (1971). “Gli Histeridae del Museo Civico di Storia Naturale di Verona”. *Memorie del Museo Civico di Storia Naturale di Verona* **19**, 267–301.
- Vienna, P. (1980). “Coleoptera Histeridae”. In: *Fauna d’Italia*. Bologna: Calderini.
- Vienna, P. (1983). “Note su alcuni Histeridae (Coleoptera) dell’Archipelago Maltese”. *Lavori della Società Veneziana di Scienze Naturali* **8**, 49–54.
- Vienna, P. (1995). “Coleoptera Histeridae”. In: *Arthropoda di Lampedusa, Linosa e Pantelleria (Canale di Sicilia, Mar Mediterraneo)*. Ed. by B. Massa. Vol. 19 (Suppl.) 4. Palermo, pp. 429–435. URL: <http://www.ssn.it/PDF/PDF%20NS%2019suppl/19suppl.pdf#page=215>.
- Vienna, P. and Baviera, C. (2007). “IV contributo alla revisione della collezione coleotterologica di Francesco Vitale: Coleoptera Histeridae”. *Il Naturalista Siciliano*. 4th ser. **31**(3-4), 229–239. URL: <http://www.ssn.it/PDF/PDF%20Nat.Sic.%203-4%202007/Vienna-Baviera.pdf>.
- Vienna, P. and Ratti, A. (1998). “I Coleotteri Sphaeritidae e Histeridae del Museo Civico di Storia Naturale di Venezia”. *Bollettino del Museo Civico di Storia Naturale di Venezia* **49**, 15–37. URL: http://www.istitutoveneto.org/venezia/documenti/articoli/bollettini/bollettino_49/boll_49_2/vienna_ratti.pdf.
- Vigna Taglianti, A., Audisio, P., Belfiore, C., Biondi, M., Bologna, M. A., Carpaneto, G. M., De Biase, A., De Felice, S., Piattella, E., Racheli, T., Zapparoli, M., and Zoia, S. (1993). “Riflessioni di gruppo sui corotipi fondamentali della fauna W-paleartica ed in particolare italiana”. *Biogeographia* **16**, 159–179. DOI: [10.21426/B616110375](https://doi.org/10.21426/B616110375).
- Vigna Taglianti, A., Audisio, P., Biondi, M., Bologna, M. A., Carpaneto, G. M., De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A., and Zapparoli, M. (1999). “A proposal for a chorotype classification of the Near East Fauna, in the framework of the Western Palearctic region”. *Biogeographia* **20**, 31–59. DOI: [10.21426/B6110172](https://doi.org/10.21426/B6110172).
- Vitale, F. (1909). “Coleotteri nuovi o rari per la Sicilia”. *Rivista Coleotterologica Italiana* **7**, 232–237.
- Vitale, F. (1929). “Fauna Coleotterologica Sicula - Scaphiidi ed Histeridi”. *Atti della Reale Accademia Peloritana* **39**, 107–146.
- Yélamos, T. (1995). “Revision of the genus *Sternocoelis* Lewis, 1888 (Coleoptera: Histeridae), with a proposed phylogeny”. *Revue Suisse de Zoologie* **102**(1), 113–174. DOI: [10.5962/bhl.part.80462](https://doi.org/10.5962/bhl.part.80462).
- Yélamos, T. (2002). “Coleoptera, Histeridae”. In: *Fauna Ibérica*. Vol. 17. Madrid: Museo Nacional de Ciencias Naturales. CSIC.
- Zavattari, E. (1960). “Biogeografia delle Isole Pelagie. Fauna”. *Rendiconti della Accademia Nazionale delle Scienze detta dei XL*. 4th ser. **11**, 263–435. URL: <http://media.accademiasl.it/memorie/S4-VXI-1960/Zavattari263-435.pdf>.

-
- ^a Università degli Studi di Messina
Dipartimento di Scienze Chimiche, Biologiche, Farmaceutiche e Ambientali
Contrada Papardo, 98166 Messina, Italy
- ^b Museo Civico di Storia Naturale
Santa Croce 1730, 30135 Venezia, Italy
- * To whom correspondence should be addressed | email: cbaviera@unime.it

Communicated 20 June 2018; manuscript received 2 October 2018; published online 6 December 2019



© 2019 by the author(s); licensee *Accademia Peloritana dei Pericolanti* (Messina, Italy). This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) (<https://creativecommons.org/licenses/by/4.0/>).