

The new Checklist of the Italian Fauna: Heteroptera

Fabio CIANFERONI^{1,2,*}, Attilio CARAPEZZA^{3,4}, Franco FARACI^{5,6}

¹ *Research Institute on Terrestrial Ecosystems (IRET), National Research Council of Italy (CNR),
Via Madonna del Piano 10, I-50019 Sesto Fiorentino FI (Italy)*

² *Zoology, “La Specola”, Natural History Museum, University of Florence,
Via Romana 17, I-50125 Florence (Italy)*

³ *SSSN, Museo Geologico “G. G. Gemmellaro”, University of Palermo,
Corso Tukory 131, I-90134 Palermo (Italy)*

⁴ *Via Sandro Botticelli 15, I-90144 Palermo (Italy)*

⁵ *Museo Civico di Storia Naturale di Verona, Lungadige Porta Vittoria 9, I-37129 Verona VR (Italy)*

⁶ *Via Vasco de Gama 33, I-37011 Bardolino VR (Italy)*

** corresponding author, email: fabio.cianferoni@cnr.it*

Keywords: aquatic bugs, terrestrial bugs, distribution, Italy, species list

SUMMARY

An updated version of the ‘Checklist of the Italian Fauna’ for the suborder Heteroptera (Insecta: Hemiptera) is presented here. The list reflects the state of art of chorological knowledge of both aquatic and terrestrial Italian Heteroptera in November 2020. The checklist records 1395 species-group taxa belonging to 6 infraorders and 48 families. The total number of species-group taxa includes 44 taxa currently considered endemic to Italy, 12 subendemic, 13 introduced and 10 cryptogenic. The distribution of Italian Heteroptera in the new checklist is based on the subdivision of Italy in two macro-regions, Continental Italy and Peninsular Italy, and two major islands, Sicily and Sardinia. Compared to the previous Checklist by Faraci & Rizzotti Vlach, published in 1995, the new one contains nomenclatural changes, additions and exclusions of species based on the perusal of 220 literature sources. The main changes concern the families Miridae (21 synonymies, 26 exclusions and 34 additions), Rhyparochromidae (15 exclusions and 14 additions) and Pentatomidae (13 exclusions and 5 additions). Explanatory notes are provided for all the updates of the new checklist. The full data set is attached to this paper as supplementary files, while a simplified version is freely accessible from the LifeWatch Italy Data Portal (<https://dataportal.lifewatchitaly.eu/data>) where it is expected to be regularly updated.

INTRODUCTION

Nearly 30 years ago Italy was the first country to achieve a complete checklist of its fauna in 110 issues (Minelli et al. 1993–1995) with some subsequent updates (Stoch et al. 2004). About ten years later another very relevant project was launched, the “Checklist and distribution of the Italian fauna” (“CKmap” project), which updated and mapped distribution data for about 10,000 terrestrial and inland water species (Ruffo & Stoch 2005; 2007). A new update of the Checklist of the Italian Fauna started in 2020 and it is still in progress (Bologna et al. 2022).

Heteroptera is a suborder of the large order Hemiptera, including more than 45,000 described species in the world (Henry 2017). This group has had the most successful radiation within non-holometabolous insects and occupied a wide range of habitats (terrestrial, freshwater, marine, and transition zones) with as many different adaptations: phytophagous, mycetophagous, zoophytophagous, predaceous, or hematophagous (see Schuh & Slater 1995; Weirauch & Schuh 2011; Schuh & Weirauch 2020).

Traditionally the Heteroptera have always been treated as a separate suborder within the order Hemiptera and were treated as a separate order for a time as well. However, the monophyly of both the Hemiptera and the Heteroptera is now well established, as well as the status of Heteroptera as suborder of Hemiptera (Li et al. 2017; Carapezza et al. 2023b).

The first Italian checklist of Heteroptera was compiled by Garbiglietti (1869, 1870) who listed 737 species. A subsequent catalogue, including also the suborder Auchenorrhyncha, was published almost a century later by Servadei (1967). This latter contribution considerably increased the number of Heteroptera known for Italy, listing 1376 species. More recently, in the context of the project “Checklist of the Italian Fauna”, Faraci & Rizzotti Vlach (1995) raised the number of the Heteroptera, including taxa whose validity had to be confirmed, to 1405

species and 108 subspecies. Some updates were published within the “CKmap” project (see above), but they were limited only to aquatic and some terrestrial Heteroptera (Bacchi & Rizzotti Vlach 2005, 2007; Carapezza & Faraci 2005, 2007).

The aim of this contribution is to provide information and details on the updated checklists concerning the Heteroptera (Carapezza 2021; Cianferoni 2021a-d; Faraci 2021a,b), referring to the state of the art of the updated dataset as it was available in November 2021 on the LifeWatch website.

MATERIALS AND METHODS

Study area

The new checklist of the Italian Fauna (Bologna et al. 2022) follows the subdivision of Italy in macro-regions (Fig. 1) used in the previous version of the checklist (Minelli et al. 1993–1995). This first version of the new checklist of the Heteroptera provides the occurrence for three macro-regions: continental, peninsular, and insular Italy. Continental Italy (as in 1995’s checklist indicated as ‘N’ - North) is the sum of eight administrative regions of Northern Italy (listed from north to south and from west to east: Aosta Valley, Piedmont, Lombardy, Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Liguria, Emilia-Romagna); Peninsular Italy (indicated as ‘S’ - South) includes the remaining ten peninsular regions of Central and Southern Italy (Tuscany, Umbria, Marche, Lazio, Abruzzo, Molise, Campania, Basilicata, Apulia, Calabria). Insular Italy groups the administrative regions of Sardinia and Sicily. The occurrences for Sardinia (‘Sa’) and Sicily (‘Si’) are, however, provided separately. All macro-regions include the administratively belonging minor islands.

Literature data

This update is exclusively based on data published until November 2020. Distribution records or nomenclatural changes were verified

directly by examining and evaluating the information within each paper.

Data set organization

The data set is available as a simplified version in the on-line version from the LifeWatch website. A full version is provided in the Supplementary files 1–7.

The checklist contains 22 out of the 62 columns that are available for all animal groups. The first columns are dedicated to the systematic classification of each species, from phylum rank to family/subfamily, genus/sub-genus, species and subspecies, including the authorship of the last two. They are followed by two columns describing its status as either endemic (e), subendemic (s), introduced (a) or cryptogenic (?). Finally, two columns contain references for the nomenclatural or distribution changes compared to the checklist by Faraci & Rizzotti Vlach (1995) or to the partial updates by Bacchi & Rizzotti Vlach (2005, 2007) and Carapezza & Faraci (2005, 2007).



Figure 1. Study area: Italy is divided into four macro-regions following Faraci & Rizzotti Vlach (1995) and the general framework of the project for a new Checklist of the Italian Fauna.

The Supplementary files contain also lists of taxa included in the previous edition of the Checklist of the Italian Fauna (Faraci & Rizzotti Vlach 1995, and the updates listed above) but that were excluded from the updated checklist owing to nomenclatural changes/synonymies occurred or because, after careful examination, their presence in Italy was found to be unsupported by reliable records. Furthermore, two species of Pentatomidae erroneously cited for Italy in the "Catalogue of the Heteroptera of the Palaearctic Region" (Aukema & Rieger 2006) were excluded.

Data set information

Object name: Checklist of the Italian Fauna: Heteroptera.

Characters encoding: Unicode (UTF-8).

Data sets citations: Cianferoni F., 2021. Insecta Hemiptera Heteroptera Dipsocoromorpha. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

Cianferoni F., 2021. Insecta Hemiptera Heteroptera Gerromorpha. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

Cianferoni F., 2021. Insecta Hemiptera Heteroptera Nepomorpha. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

Cianferoni F., 2021. Insecta Hemiptera Heteroptera Leptopodomorpha. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

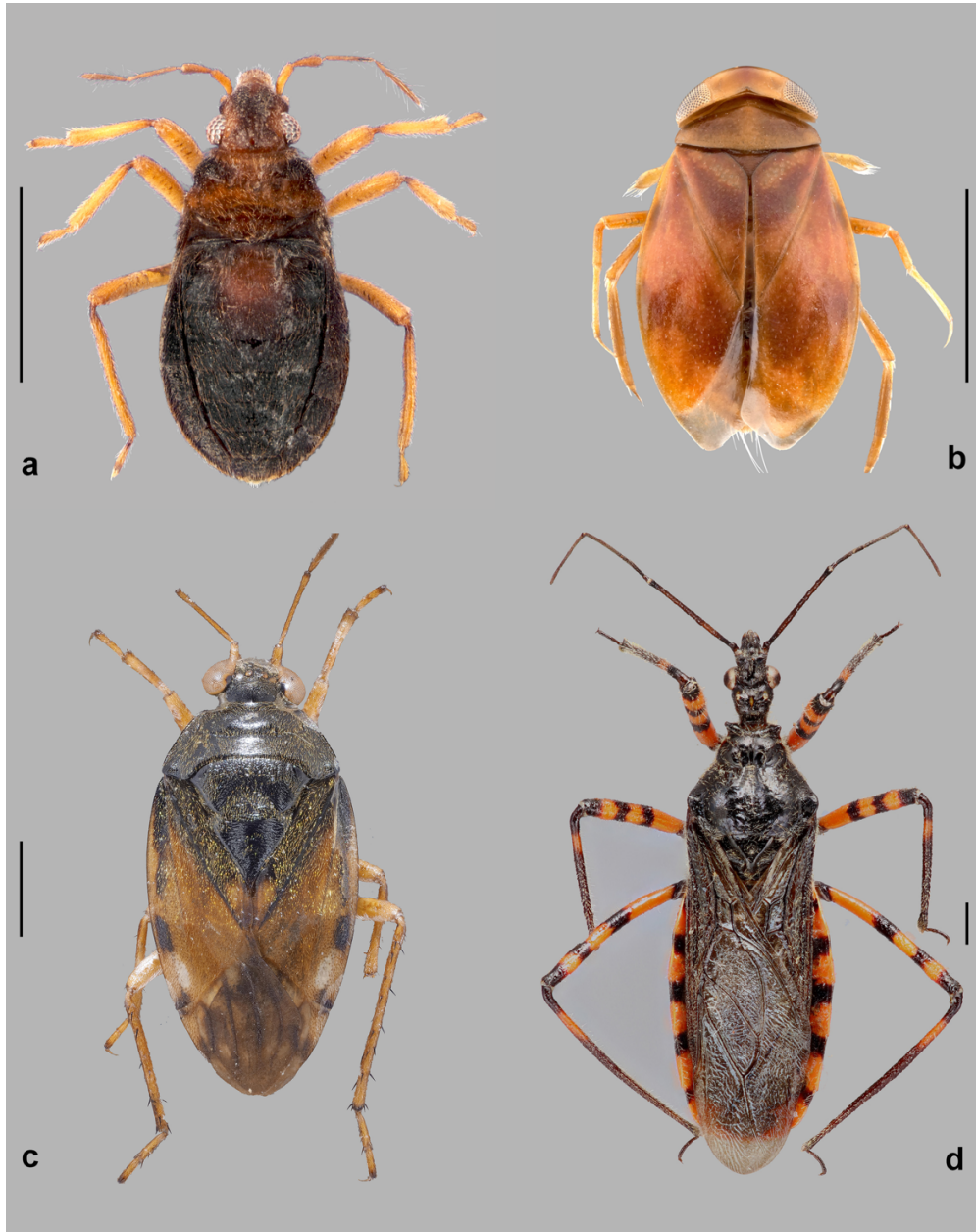


Figure 2. Examples of Italian Heteroptera: a) apterous female of *Hebrus franzi* (Wagner, 1957) (Gerromorpha, Hebridae), endemic of Apennines and living along running water bodies; b) brachypterous female of *Micronecta leucocephala* (Spinola, 1837) (Nepomorpha, Micronectidae), endemic of Sardinia, Corsica, and Balearic Islands; c) macropterous male of *Saldula sardoa* Filippi, 1957 (Leptopodomorpha, Saldidae), halophilous, endemic of the coastal saltmarshes of Sardinia; d) female of *Sphedanolestes cingulatus* (Fieber, 1864) (Cimicomorpha, Reduviidae), endemic of peninsular Italy and Sicily, living on various species of *Quercus*. Scale bars: 1.0 mm. Photos: (a) Harald Bruckner (© NHMW Hemiptera Image Collection), modified from Cianferoni et al. (2016, Zootaxa 4132: 127–134); (b–d) A. Carapezza.

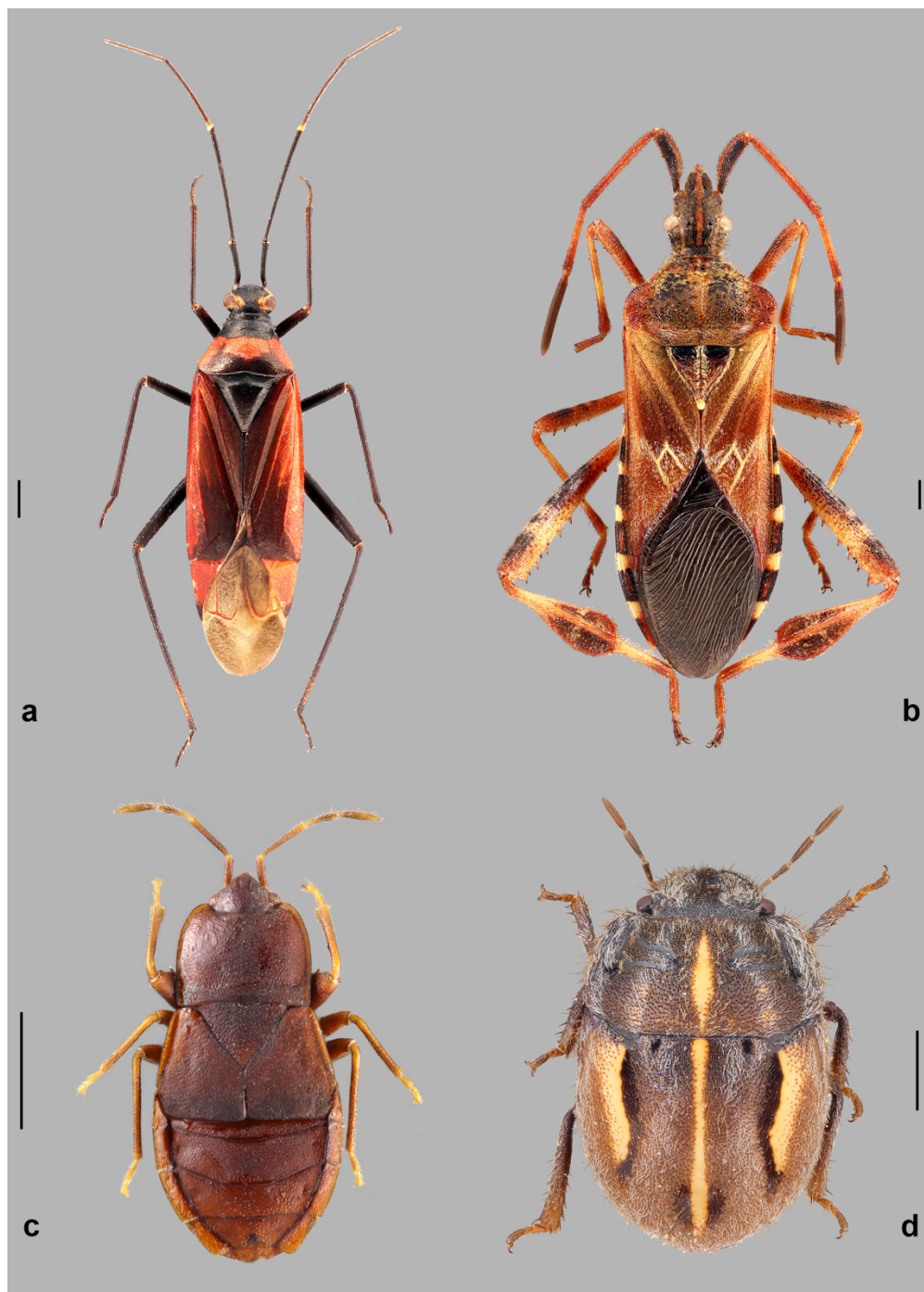


Figure 3. Examples of Italian Heteroptera: a) male of *Miris nebrodensis* Carapezza, 1991 (Cimicomorpha, Miridae), endemic of Sicily, found on the mountains of the northern range at an altitude of 1.200-1.600 m a.s.l., living on hawthorn (*Crataegus monogyna* Jacq.) and preying on small arthropods; b) female of *Leptoglossus occidentalis* Heidemann, 1910 (Pentatomomorpha, Coreidae), a highly successful invasive species of Nearctic origin, discovered in Europe for the first time near Vicenza in northern Italy in 1999, which - after a very rapid spread - became one of the commonest Coreidae all over the country; c) female of *Plinthisus heteroclitus* Matocq & Pluot-Sigwalt, 2013 (Pentatomomorpha, Rhyparochromidae), a recently described species of which only five specimens are known, endemic of a restricted area of Ligurian Alps on both sides of the border between Italy and France, isolated among the Palearctic species of the genus for its unique morphological features (it could not be placed in any of the existing subgenera of *Plinthisus*); d) male of *Odontoscelis signata* Fieber, 1861 (Pentatomomorpha, Scutelleridae), endemic of Sicily and surrounding islands (including Malta). Scale bars: 1.0 mm. All photos by A. Carapezza.

Carapezza A., 2021. Insecta Hemiptera Heteroptera Cimicomorpha Microphysidae, Miridae. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-05-31.

Faraci F., 2021. Insecta Hemiptera Heteroptera Cimicomorpha (excl. Microphysidae, Miridae). In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

Faraci F., 2021. Insecta Hemiptera Heteroptera Pentatomomorpha. In: Bologna M.A., Zapparoli M., Oliverio M., Minelli A., Bonato L., Cianferoni F., Stoch F. (eds.), Checklist of the Italian fauna. Version 1.0. Last update: 2021-03-31.

Format name: xml, Extensible Markup Language, for the online version at LifeWatch Italy.

Format version: 1.0

Distribution: <https://dataportal.lifewatchitaly.eu/view/urn%3Aurn%3Aac1f2ab37-61e4-48e9-b3a9-15bdbf002f9d>

Date of creation: November 2nd, 2020.

Date of publication: July 23rd, 2021.

Language: English.

License of use: Creative Commons Attribution 4.0 International License.

Metadata language: English.

Metadata managers: Marco Bologna, Lucio Bonato, Fabio Cianferoni, Alessandro Minelli, Marco Oliverio, Fabio Stoch, Marzio Zapparoli & LifeWatch Italy.

Management details

Project title: The new Checklist of the Italian Fauna: Heteroptera.

Database managers: Attilio Carapezza, Fabio Cianferoni, Franco Faraci; Marco Bologna, Lucio Bonato, Alessandro Minelli, Marco

Oliverio, Fabio Stoch, Marzio Zapparoli & LifeWatch Italy.

Temporal coverage: Anything published until November 2020.

Record basis: Published records in the scientific literature.

Funding grants: No funding was specifically available for the project on Heteroptera.

Geographic information

General description: The dataset includes records from Italy in its internationally recognized political borders.

Geographic units: The geographical units within Italy refer to two macro-regions and two major islands, as indicated in Material and methods.

Bounding box: All areas falling under Italian administration from 35° 25' to 47° 06' N and from 6° 35' to 19° 20' E (WGS84 reference system) were included.

Sampling design: We did not perform any additional sampling to collect new records, but we used only published data.

Biogeographic region: Within the Palaearctic realm, according to the definitions of the European Environmental Agency (2017), the dataset covers three European biogeographical regions: Alpine, Continental, and Mediterranean.

Countries: Italy.

Quality control for geographic data: We checked that the published localities matched the geographical units used for the checklist at the level of administrative regions.

Literature records

General description: Only published records are included.

Literature list: The 220 papers that provided nomenclatural changes or distribution novelties or exclusions to the previous checklists or mentioned in the notes are: Abenaim et al. (2020), Alma et al. (2009), Andersen & Weir

(2003), Aukema & Constant (2016), Aukema et al. (2013), Bacchi & Rizzotti Vlach (2000, 2007), Balvín et al. (2015), Bazzato et al. (2013), Belousova (2007), Bernardinelli & Zandigiacomo (2000), Buzzetti (2000), Carapezza (1981, 1988, 1995, 1997, 1999, 2001, 2014a, 2014b), Carapezza & Cusimano (2014), Carapezza & Faraci (2005, 2007), Carapezza & Kerzhner (1996, 2005), Carapezza & Lo Verde (2017), Carapezza et al. (1999, 2020), Carvalho (1952, 1959), Castiglione et al. (2020), Chérot (1997), Chérot & Malipatil (2016), Cianferoni (2011, 2013), Cianferoni & Cianfanelli (2015), Cianferoni & Mazza (2012), Cianferoni & Nardi (2013), Cianferoni & Pinna (2012), Cianferoni & Terzani (2013), Cianferoni et al. (2009, 2011, 2015, 2016, 2017), Colombo & Limonta (2001), Cornara et al. (2016), Costa (1881), Covassi & Poggesi (1986), Deckert (1995), Del Bene & Pluot-Sigwalt (2005), Derjanschi & Péricart (2005), Dioli (1995, 2012, 2013, 2014), Dioli & Grazioli (2012), Dioli & Lai (2018), Dioli & Zanetti (2019), Dioli et al. (2015, 2016, 2019, 2020, 2021), Dolling (2006a, 2006b, 2006c), Dolling & Moulet (1996), Drapolyuk (1993), Dusoulier & Lupoli (2016), Elov & Kerzhner (1977), Fancello et al. (2019), Faraci (2019), Faraci & Rizzotti Vlach (1992, 1994, 1995), Ferrari (1888), Fieber (1860), Gadalla (2003), Gapon (2018), Garbiglietti (1869), Göllner-Scheiding (2006a, 2006b), Goula & Ribes (1995), Günther & Schuster (1990), Heiss (1998, 2001, 2003, 2004, 2008, 2015), Heiss & Péricart (1997, 2007), Heiss & Scudder (2019), Ingegno et al. (2008), Isakov (2000, 2005), Jansson (1986), Josifov (1986, 1989, 1990, 1993), Kerzhner (1964, 1969, 1973, 1981, 1993, 1996), Kerzhner & Jaczevski (1964), Kerzhner & Josifov (1999), Kerzhner & Matocq (1994), Kment & Banar (2010), Kment et al. (2020), Kückler & Strauss (2010), Labina (2003), Laterza & Dioli (2021), Laudonia & Sasso (2012), Linnavuori (1984), Lis (2006), Lo Parrino (2019), Luciano & Pantaleoni (1997), Luthi & Dioli (2020), Maistrello & Dioli (2014), Maltese et al. (2009), Mancini (1958), Masini et al. (2019), Matocq (1993, 2004a, 2004b), Matocq & Pluot-Sigwalt (2005, 2012), Mazza et

al. (2012, 2020), Melber (1991, 1993), Menke (1963), Moulet (1995, 2005), Neimorovets (2020), Norbiato et al. (2019), Olivieri (2004, 2011), Opinion 1325 (1985), Pagola-Carte & Rieger (2017), Pedata et al. (2013), Perez Goodwyn (2006), Péricart (1972, 1990, 1996a, 1996b, 1996c, 1997, 1999a, 1999b, 1999c, 2001a, 2001b, 2002, 2004, 2010), Péricart & Golub (1996), Pluot-Sigwalt & Péricart (2003), Pluot-Sigwalt et al. (2009, 2014), Popov (2004), Puton (1880), Putshkov & Moulet (2010), Putshkov & Putshkov (1996), Rabitsch (2008, 2010), Ragusa (1887, 1907), Rattu & Casalini (2018), Rattu & Dioli (2018, 2020), Rattu et al. (2014), Reuter (1883, 1890, 1895, 1896, 1907), Ribes & Gapon (2006), Ribes & Pagola-Carte (2013), Ribes & Ribes (1997), Ribes et al. (2006, 2007, 2008), Rider (2006), Rieger (2011), Rieger & Rabitsch (2006), Rizzotti Vlach (1995, 1998a, 1998b, 2000), Rizzotti Vlach & Zerbini (1989), Rizzotti Vlach et al. (1996), Roca-Cusachs & Jung (2019), Rosenzweig (1997), Russo et al. (2004), Salvetti & Dioli (2014), Samy (1969), Sasso et al. (2014), Schuh (2001), Schuh et al. (1995), Seidenstücker (1962), Servadei (1967), Signoret (1860), Stichel (1957), Swanson (2017), Tamanini (1955, 1961, 1964, 1979, 1981, 1982), Taylor et al. (2001), Vicidomini & Pignataro (2007), Wagner (1955, 1959), Yasunaga et al. (2002).

Quality control for literature data: Only original references were considered, excluding papers reporting previously published data.

Taxonomic information

General description: Only records reporting species or subspecies were included, disregarding records identified only at higher levels like genus, family, etc.

Taxonomic coverage: class Insecta, order Hemiptera, suborder Heteroptera (Figs. 2, 3).

Taxonomic rank: Only species and subspecies are reported; the dataset reports higher taxa for each species, including Phylum, Class, Order, Family and Subfamily, Genus and Subgenus.

Taxon specialists: Attilio Carapezza, Fabio Cianferoni, Franco Faraci.

Nomenclature: The nomenclature followed the Catalogue of the Heteroptera of the Palaearctic Region (Aukema & Rieger, 1995–2006; Aukema et al. 2013) except for Lygaeidae *s.l.* which are divided into families as proposed by Henry (1997).

Taxonomic remarks: Explanations are given for all taxonomic changes that occurred since the publication of the previous checklists (Faraci &

Rizzotti Vlach 1995; Bacchi & Rizzotti Vlach 2005, 2007; Carapezza & Faraci 2005, 2007). Species that were included in the previous checklists and are now considered not present in Italy, are excluded from the dataset. A list of these species can be found in the “Excluded taxa” section of the complete Checklist.

Quality control for taxonomic data: Taxonomic data were checked and updated to include revision of names, synonyms, delimitation of genera and higher taxa.

Table 1. Number of species-group taxa recorded for Italy, grouped by family (CL 2021). As a comparison, values from the 1995 Checklist are given too (CL 1995). The numbers, part of the totals, of the taxa whose presence in Italy still needs confirmation are indicated in brackets. In the last four columns, the taxa included in the new checklist are grouped by the 4 macro-areas (N, S, Si, Sa).

Family/ Infraorder	CL 1995 tot.	CL 2021 tot.	CL 2021 N	CL 2021 S	CL 2021 Si	CL 2021 Sa
Ceratocombidae	1	1	1	1	1	
Dipsocoridae	4	4	4	2		
Dipsocoromorpha	5	5	5	3	1	
Gerridae	14	13	12	11	8 (1)	7
Veliidae	11	11	9	7	5 (1)	3
Hebridae	4	4	3	4	2	1
Hydrometridae	2	2	2	2	1	1
Mesoveliidae	2	2	2	1	1	1
Gerromorpha	33	32	28	25	17 (2)	13
Corixidae	35 (6)	32 (1)	24 (1)	19	13	13
Micronectidae	5	5	4	4	1	2
Aphelocheiridae	1	1	1	1		
Naucoridae	3	3	2	3 (1)	2 (1)	2
Belostomatidae		1		1		
Nepidae	3	3	2	2	2	2
Notonectidae	9	7	6	5	6	5
Ochteridae	1	1	1	1	1	
Pleidae	1	1	1	1	1	1
Nepomorpha	58 (6)	54 (1)	41 (1)	37 (1)	26 (1)	25
Leptopodidae	4	4	4	4	4	2
Saldidae	27	28	24	20 (1)	11 (1)	12
Leptopodomorpha	31	32	28	24 (1)	15 (1)	14
Anthocoridae	51 (3)	51 (1)	47 (3)	35	30 (1)	16 (5)
Cimicidae	4 (1)	5 (2)	4 (1)	3 (1)	1	1
Nabidae	23	23	16	15	14	12
Microphysidae	11 (1)	11 (1)	7	8 (1)	2	2 (1)
Miridae	509 (45)	496 (21)	356 (19)	265 (11)	228 (4)	134 (11)
Reduviidae	51 (5)	55 (3)	38 (4)	42 (2)	37 (1)	26 (2)
Thaumastocoridae		1		1	1	1
Tingidae	81 (4)	88 (4)	73 (5)	57	32 (1)	29 (4)
Cimicomorpha	730 (59)	730 (32)	541 (32)	426 (15)	345 (7)	221 (23)
Aradidae	26	31	24	20 (1)	5	8 (1)

Alydidae	7	7	5	4	5	2
Coreidae	37	37	31	32	30	24
Rhopalidae	21 (1)	21	18 (1)	21	16	15
Stenocephalidae	5	5	5	5	4	4
Artheneidae	4	4	3	2	3	2
Berytidae	22	22	18	21 (1)	14	11 (1)
Blissidae	8 (1)	8 (1)	6 (1)	4 (1)	5 (1)	2
Cymidae	5	5	5 (1)	4	3	3
Geocoridae	12	14	10	10	9 (1)	5 (1)
Heterogastridae	6	6	6	6	5	2
Lygaeidae	37 (2)	36	28	32	27 (3)	22 (1)
Oxycarenidae	22 (1)	22	14 (2)	17	16	13 (1)
Piesmatidae	7	7	5	4	3	3
Rhyparochromidae	145 (3)	144 (1)	110 (3)	112 (2)	94	80 (1)
Acanthosomatidae	7	7	7	7 (1)	2	
Cydnidae	31	35 (1)	26	29 (2)	26 (2)	20 (1)
Pentatomidae	107 (6)	99 (8)	85 (7)	76 (3)	65 (3)	54 (5)
Plataspidae	2 (1)	1	1	1	1	
Scutelleridae	24	25 (1)	16 (1)	18	17	12 (3)
Thyreocoridae	2	2	2	2		
Pyrhcoridae	4 (1)	4	3	3	3	2
Pentatomomorpha	541 (16)	542 (12)	428 (16)	430 (11)	353 (10)	284 (15)
Grand totals	1398 (81)	1395 (45)	1071 (49)	945 (28)	757 (21)	557 (38)

Table 2. Number of (sub-) endemic species-group taxa recorded for Italy. For each family, the total number of endemic and subendemic species-group taxa is indicated in the first two columns. The following columns group both categories according to the four macro-areas while the last four columns illustrate how many species-group taxa are found in more than one macro-area.

Family/Infraorder	total endem.	total subend.	total N	total S	total Si	total Sa	N+S+ Si+Sa	N+S+ Si	N+S	S+Si
Veliidae		4	3	3	1	1		1	2	
Hebridae	1		1	1					1	
Gerromorpha	1	4	4	4	1	1		1	3	
Corixidae	2	2	2	2		2			2	
Micronectidae		1				1				
Nepidae		1				1				
Nepomorpha	2	4	2	2		4			2	
Saldidae	1	1			1	1				
Leptopodomorpha	1	1			1	1				
Anthocoridae	2		2	1	1			1		
Miridae	34	2	6	10	7	7	1	2	1	2
Tingidae	1				1					
Cimicomorpha	37	2	8	11	9	7	1	3	1	2
Aradidae	1			1						
Rhyparochromidae	2		1?	1	2					1
Cydnidae		1				1				
Pentatomomorpha	3	1	1?	2	2	1				1
Grand totals	44	12	14	19	13	14	1	4	6	3

Table 3. Number of allochthonous species recorded for Italy. For each family, the total number of alien and cryptogenic species is indicated in the first two columns. The following columns group both categories according to the four macro-areas while the last six columns illustrate how many species are found in more than one macro-area.

Family/Infraorder	total alien	total crypto.	total N	total S	total Si	total Sa	N+S+ Si+Sa	N+S+ Si	N+S	S+Si	S+Sa	S+Si+ Sa
Belostomatidae		1		1								
Nepomorpha		1		1								
Saldidae		1				1						
Leptopodomorpha		1				1						
Anthoridae		1	1	1					1			
Cimicidae	1?			1?								
Reduviidae	1	3	1	4	1	1			1	1	1	
Thaumastocoridae	1			1	1	1						1
Tingidae	5	1	6	4	2	2	2		2			
Cimicomorpha	7	5	8	10	4	4	2		4	1	1	1
Alydidae	1				1							
Coreidae	1		1	1	1	1	1					
Geocoridae	1			1								
Lygaeidae	1	2	2	1	2			1				
Rhyparochromidae	1					1						
Pentatomidae	1		1	1	1	1	1					
Scutelleridae		1			1							
Pentatomomorpha	6	3	4	4	6	3	2	1				
Grand totals	13	10	12	15	10	8	4	1	4	1	1	1

RESULTS

Summary statistics

The checklist records 1395 species group taxa belonging to 6 infraorders and 48 families. The distribution is summarized in Table 1, in which the data are compared with those of the previous checklist (Faraci & Rizzotti 1995; see also Faraci et al. 2022). The total number of these taxa in each of the four macro-regions is the following: N: 1071; S: 945; Si: 757; Sa: 557.

A total of 44 taxa is currently considered endemic to the Italian territory, while 12 are considered subendemic. Distribution of the endemic taxa is detailed in Table 2. The overwhelming majority of endemic taxa belong to the Miridae family where 6.7% of the mirids represent 77.3% of all Italian endemic heteropterans.

In Italy 13 species were introduced, while 10 are reported as cryptogenic since their origin is still dubious. The distribution of the introduced and cryptogenic taxa is presented in Table 3.

No threat assessment lists (e.g., the global IUCN red list) exist for the Heteroptera.

DISCUSSION

The main changes compared to the previous checklists (Faraci & Rizzotti Vlach, 1995; Bacchi & Rizzotti Vlach 2005, 2007; Carapezza & Faraci 2005, 2007) concern the families Miridae (with 21 synonymies, 26 exclusions and 34 additions), Rhyparochromidae (15 exclusions and 14 additions) and Pentatomidae (13 exclusions and 5 additions).

After the version of the checklist presented here, some new country records (e.g., Dioli et al. 2021, 2022; Cianferoni 2023; Cianferoni & Pintar 2024), other distribution novelties (e.g., Bella 2020; Dioli & Salvetti 2021; Bracalini et al. 2023; Cianferoni & Mazza 2023), nomenclatural changes (e.g. Aukema et al. 2021; Cianferoni 2024), and new species descriptions were published or are expected to be published (see e.g., Carapezza et al. 2023a). And, as often happens despite all the attention paid, some relevant publications were overlooked (e.g., Fancello et al. 2016).

ACKNOWLEDGEMENTS

The authors are grateful to the two anonymous reviewers who helped improving the early version of the manuscript and to the editors Diego Fontaneto and Lucio Bonato for their kind assistance. One of the authors (FF) wishes to thank Paride Dioli (Sondrio, Italy) for providing some literature, David Rider (North Dakota State University, Fargo, ND, USA) for the correspondence exchanged, and Attilio Carapezza (Palermo, Italy) for the extensive information provided which led to the exclusion of numerous species from Sicily.

REFERENCES

- Abenaim, L., Rossi, E., Rizzo, D. & Guilbert, E. (2020) First report of *Stephanitis lauri* Rietschel, 2014 (Heteroptera, Tingidae) in Italy. *Bollettino della Società entomologica italiana*, 152 (3), 111–114. DOI: 10.4081/bollettinosei.2020.111
- Alma, A., Bocca, M., Čermak, V., Chen, P.-P., D'urso, V., Exnerová, A., Goula, M., Guglielmino, A., Kunz, G., Lauterer, P., Malenovski, I., Mazzoglio, P. J., Nicoli Aldini, R., Ouvrard, D., Remane, R., Rintala, T., Seljak, G., Söderman, G., Soulier-Perkins, A., Štys, P., Tavella, L., Tedeschi, R. & Wilson, M. (2009) Insecta Hemiptera collected in the Mont Avic Natural Park (Aosta Valley, Northwest Italy). *Revue Valdôtaine d'Histoire Naturelle*, 63, 109–124.
- Andersen, N.M. & Weir, T.A. (2003) The genus *Microvelia* Westwood in Australia (Hemiptera: Heteroptera: Veliidae). *Invertebrate Systematics*, 17 (2), 261–348. DOI: 10.1071/IS02001
- Aukema, B. & Constant, J. (2016) The taxonomic status of *Sehirus aeneus* Walker, 1867 (Hemiptera: Heteroptera: Cydnidae: Sehiriinae). *Entomologica Americana*, 122 (1–2), 42–46. DOI: 10.1664/15-RA-055
- Aukema, B. & Rieger, Chr. (eds.) (1995–2006) *Catalogue of the Heteroptera of the Palaearctic Region*. Vols. 1–5. The Netherlands Entomological Society, Amsterdam.
- Aukema, B., Gapon, D. & Heijerman, T. (2021) To the nomenclature of two species of the genus *Adomerus* (Heteroptera: Cydnidae). *Zootaxa*, 4969 (2), 392–400. DOI: 10.11646/zootaxa.4969.2.10
- Aukema, B., Rieger, Chr. & Rabitsch, W. (2013) *Catalogue of the Heteroptera of the Palaearctic Region*. Volume 6. Supplement. The Netherlands Entomological Society, Amsterdam.
- Bacchi, I. & Rizzotti Vlach, M. (2000) *Amphiareus obscuriceps* in Italia: note morfologiche, ecologiche e corologiche (Heteroptera Anthocoridae). *Bollettino della Società entomologica italiana*, 132 (2), 99–103.
- Bacchi, I. & Rizzotti Vlach, M. (2005) Insecta Heteroptera Nepomorpha e Gerromorpha. In: *Checklist e distribuzione della fauna italiana*. (ed. by S. Ruffo and F. Stoch, F.), *Memorie del Museo Civico di Storia Naturale di Verona*, 2ª serie, Sezione Scienze della Vita, 16, 147–149 + CD-ROM.
- Bacchi, I. & Rizzotti Vlach, M. (2007) Insecta Heteroptera Nepomorpha and Gerromorpha. In: *Checklist and Distribution of the Italian Fauna*. (ed. by S. Ruffo and F. Stoch). *Memorie del Museo Civico di Storia Naturale di Verona*, 2ª Serie, Sezione Scienze della Vita, 17 (2006), pp. 147–149 + CD-ROM.
- Balvín, O., Roth, S. & Vilímová, J. (2015) Molecular evidence places the swallow bug genus *Oeciocatus* Stål within the bat and bed bug genus *Cimex* Linnaeus (Heteroptera: Cimicidae). *Systematic*

- Entomology, 40 (3), 652–665. DOI: 10.1111/syen.12127
- Bazzato, E., Rattu, A. & Cillo, D. (2013) Segnalazioni faunistiche italiane. 567 - *Caenocoris nerii* (Germar, 1847) (Hemiptera Lygaeidae). Bollettino della Società entomologica italiana, 145 (2), 5–6. DOI: 10.4081/BollettinoSEI.2013.v
- Bella, S. (2020) The Nearctic bug *Zelus renardii* (Kolenati) (Hemiptera, Reduviidae) in Northern Italy and Sicily. Redia, 103, 87–88. DOI: 10.19263/REDIA-103.20.14
- Belousova, E.N. (2007) Revision of the Shield-bug Genera *Holcostethus* Fieber and *Peribalus* Mulsant et Rey (Heteroptera, Pentatomidae) of the Palearctic Region. Entomological Review, 87 (6), 701–739. DOI: 10.1134/S0013873807060085
- Bernardinelli, I. & Zandigiacomo, P. (2000) Prima segnalazione di *Corythucha arcuata* (Say) (Heteroptera, Tingidae) in Europa. Informatore Fitopatologico, 50 (12), 47–49.
- Bologna, M.A., Bonato, L., Cianferoni, F., Minelli, A., Oliverio, M., Stoch, F. & Zapparoli, M. (2022) Towards the new Checklist of the Italian Fauna. Biogeographia – The Journal of Integrative Biogeography, 37, ucl001. DOI: 10.21426/B637156271
- Bracalini, M., Rizzo, D. & Panzavolta, T. (2023) Updates on the invasive oak lace bug, *Corythucha arcuata*, in Italy. Bulletin of Insectology 76 (1), 37–43.
- Buzzetti, F.M. (2000) Gli Eterotteri acquatici e semiacquatici dell'Alta Valle del Chiampo, Monti Lessini, Vicenza. Natura Vicentina, 4, 5–18.
- Carapezza, A. (1981) *Saldula sardoa* Fil. specie propria e *Pentacora sphacelata* (Uhler) in Sardegna. Bollettino della Società Sarda di Scienze Naturali, 20 [1980], 49–54.
- Carapezza, A. (1988) Settanta eterotteri nuovi per la fauna siciliana (Insecta, Heteroptera). Il Naturalista Siciliano s. IV, 12(3-4), 107–126.
- Carapezza, A. (1995) Heteroptera. In: Arthropoda di Lampedusa, Linosa e Pantelleria (Canale di Sicilia, Mar Mediterraneo) (ed. by B. Massa). Il Naturalista Siciliano, S. IV, 19 (Suppl.), 199–278.
- Carapezza, A. (1997) Heteroptera of Tunisia. Il Naturalista Siciliano, S. IV, 21 (Suppl. A), 1–312.
- Carapezza, A. (1999) Gli Eterotteri del Museo di Terrasini (Palermo) (Insecta Hemiptera). Il Naturalista Siciliano, S. IV, 23 (3–4): 531–585.
- Carapezza, A. (2001) First Italian record of *Oncocephalus putoni* Reuter, 1882, collected on Lampedusa Island (Heteroptera, Reduviidae). Il Naturalista Siciliano, S. IV, 25 (Suppl.), 91–94.
- Carapezza, A. (2014a) The arrival of one more Eucalyptus pest in Sicily: *Thaumastocoris peregrinus* Carpintero et Dellapé, 2006 (Hemiptera Heteroptera Thaumastocoridae). Il Naturalista Siciliano, S. IV, 38 (1), 127–129.
- Carapezza, A. (2014b) *Corythauma ayyari* (Drake, 1933) new pest of jasmine in Italy (Heteroptera Tingidae). Il Naturalista Siciliano, S. IV, 38 (2), 381–384.
- Carapezza, A. (2021) Insecta Hemiptera Heteroptera Cimicomorpha Microphysidae, Miridae. In: Checklist of the Italian Fauna. Version 1.0 (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-05-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Carapezza, A. & Cusimano, C. (2014) Heteroptera in the aeroplankton of Palermo town, with two new records for Italy (Hemiptera Heteroptera). Il Naturalista Siciliano, S. IV, 38 (2), 367–380.
- Carapezza, A. & Faraci, F. (2005) Insecta Heteroptera Leptopodidae, Saldidae, Miridae (partim), Tingidae. In: Checklist e distribuzione della fauna italiana (ed. by S. Ruffo and F. Stoch), pp. 151–153 + CD-ROM. Memorie del Museo Civico di Storia Naturale di Verona, 2^a serie, Sezione Scienze della Vita, 16.
- Carapezza, A. & Faraci, F. (2007) Insecta Heteroptera Leptopodidae, Saldidae, Miridae (partim), Tingidae. In: Checklist and Distribution of the Italian Fauna (ed. by S. Ruffo and F. Stoch), pp. 151–153 + CD-ROM. [2006] Memorie del Museo Civico di Storia Naturale di Verona, 2^a Serie, Sezione Scienze della Vita, 17.
- Carapezza, A. & Kerzhner, I.M. (1996) On the Italian species of the genus *Dionconotus* Reuter

- (Heteroptera: Miridae). *Il Naturalista Siciliano* s. IV, 20, 305–311.
- Carapezza, A. & Kerzhner, I.M. (2005) Species of the subgenus *Psacasta* s. str. (Heteroptera: Scutelleridae). *Zoosystematica Rossica*, 14 (1), 55–60. DOI: 10.31610/zsr/2005.14.1.55
- Carapezza, A. & Lo Verde, G. (2017) First record of *Halyomorpha halys* (Stål, 1855) (Hemiptera Pentatomidae) in Sicily. *Il Naturalista Siciliano*, S. IV, 41 (2), 139–145.
- Carapezza, A., Kerzhner, I.M. & Rieger, Chr. (1999) On the subspecies of *Scantius aegyptius* (Linnaeus) (Heteroptera; Pyrrhocoridae). *Zoosystematica Rossica*, 8 (1), 129–131.
- Carapezza, A., Zafarana, M.A. & Zafarana, S. (2020) First Italian record of *Nemausus sordidatus* (Stål, 1858) collected in southern Sicily: accidental introduction or expansion of range? (Hemiptera Heteroptera Alydidae). *Il Naturalista Siciliano*, S. IV, 44 (1–2), 155–160. DOI: 10.5281/zenodo.4095295
- Carapezza, A., Cianferoni, F., Faraci, F. & Loru, L. (2023a) Synopsis and novelties on the Heteropterofauna of Sardinia. XXVII Italian National Congress of Entomology, 12–16 June 2023, Session IV, Faunistics, Biogeography and Insularity, Oral presentation, Book of Abstracts, 117.
- Carapezza, A., D’Urso, V., Guglielmino, A., Rapisarda, C., Barbagallo, S., Cocuzza, G.M., Pellizzari, G., Russo, A., Porcelli, F. & Mazzeo, G. (2023b) Capitolo 23 Hemiptera. In: *Sistematica ed Evoluzione degli Esapodi* (ed. by A. Minelli and M.A. Bologna). *Entomologia. Collana dell’Accademia Nazionale di Entomologia*. Liguori, Napoli, pp. 231–299
- Carvalho, J.C.M. (1952) On the major classification of the Miridae (Hemiptera) (With keys to subfamilies and tribes and a catalogue of the world genera). *Anais da Academia Brasileira de Ciências*, 24, 31–110.
- Carvalho, J.C.M. (1959) A catalogue of the Miridae of the world. Part IV. *Arquivos do Museu Nacional*, Rio de Janeiro, 48, 1–384.
- Castiglione, E., Manti, F. & Bonsignore, C.P. (2020) First record from Calabria (southern Italy) of the “bronze bug” *Thaumastocoris peregrinus* Carpintero & Dellapé, 2006, alien *Eucalyptus* pest native to Australia (Hemiptera: Heteroptera: Thaumastocoridae). *Journal of Entomological and Acarological Research*, 52 (8879), 15–18. DOI:10.4081/jear.2020.8879
- Chérot, F. (1997). Révision du genre *Horistus* Fieber, 1861 (Heteroptera: Miridae). *Bulletin et Annales de la Société Royale Belge d'Entomologie*, 133, 113–196.
- Chérot, F. & Malipatil, M.P. (2016) A review of *Adelphocoris-Creontiades-Megacoelum* complex (Hemiptera: Heteroptera: Miridae: Mirini), with descriptions of two new genera and four new species. *Zootaxa*, 4126(2), 151–206. DOI: 10.11646/zootaxa.4126.2.1
- Cianferoni, F. (2011) Notes on Gerromorpha, Nepomorpha and Leptopodomorpha from Sardinia (Hemiptera, Heteroptera). In: *Biodiversity of Marganai and Montimannu (Sardinia)* (ed. by G. Nardi, D. Whitmore, M. Bardiani, D. Birtele, F. Mason, L. Spada and P. Cerretti). *Research in the framework of the ICP Forests network. Conservazione Habitat Invertebrati*, 5. Cierre Edizioni, Sommacampagna, Verona, pp. 255–268.
- Cianferoni, F. (2013) Distribution of *Cymatia rogenhoferi* (Fieber, 1864) (Hemiptera, Heteroptera, Corixidae) in the West-Palaearctic Region, with the first record for the Italian mainland. *North-Western Journal of Zoology*, 9 (2), 245–249.
- Cianferoni, F. (2021a) Insecta Hemiptera Heteroptera Dipsocoromorpha. In: *Checklist of the Italian Fauna. Version 1.0* (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Cianferoni, F. (2021b) Insecta Hemiptera Heteroptera Gerromorpha. In: *Checklist of the Italian Fauna. Version 1.0* (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Cianferoni, F. (2021c) Insecta Hemiptera Heteroptera Leptopodomorpha. In: *Checklist of the Italian Fauna. Version 1.0* (ed. by M.A.

- Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Cianferoni, F. (2021d) Insecta Hemiptera Heteroptera Nepomorpha. In: Checklist of the Italian Fauna. Version 1.0 (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Cianferoni, F. (2023) First record of *Saldula setulosa* (Puton, 1880) for Italy (Insecta: Hemiptera: Heteroptera: Saldidae), an eastward range extension. *Zootaxa*, 5346 (2), 197–200. DOI: 10.11646/zootaxa.5346.2.7
- Cianferoni, F. (2024) Nomenclatural remarks on the subgeneric classification of *Zelus* Fabricius, 1803 (Hemiptera: Heteroptera: Reduviidae), with a new replacement name. *Zootaxa*, 5418 (4), 399–400. DOI: 10.11646/zootaxa.5418.4.8
- Cianferoni, F. & Cianfanelli, S. (2015) First records of aquatic Heteroptera from Friuli-Venezia Giulia (Italy). *Acta Entomologica Slovenica*, 23 (2), 143–146.
- Cianferoni, F. & Mazza, G. (2012) The aquatic Heteroptera (Insecta: Hemiptera) of the “Foreste Casentinesi, Monte Falterona e Campigna” National Park (Central Italy). *Zootaxa*, 3568, 36–52. DOI: 10.11646/zootaxa.3568.1.2
- Cianferoni, F. & Mazza, G. (2023) The giant water bug *Lethocerus* (Hemiptera Heteroptera Belostomatidae) is spreading in Italy: the first record for Campania. *Redia*, 106, 161–165. DOI: 10.19263/REDIA-106.23.20
- Cianferoni, F. & Nardi, G. (2013) *Lethocerus patruelis* (Stål, 1855) in Italy: a recent introduction or a natural westward spread? (Hemiptera: Heteroptera: Nepomorpha: Belostomatidae). *Zootaxa*, 3664 (1), 78–84. DOI: 10.11646/zootaxa.3664.1.6
- Cianferoni, F. & Pinna, A. (2012) Segnalazioni faunistiche italiane. 529 - *Anisops sardeus sardeus* Herrich-Schäffer, 1849 (Hemiptera Heteroptera Notonectidae). *Bollettino della Società entomologica italiana*, 144 (1), 44–48. DOI: 10.4081/BollettinoSEI.2012.44
- Cianferoni, F. & Pintar, M. (2024) Review of *Nychia marshalli* in the Western Palaearctic, with new records and distributional notes (Hemiptera: Heteroptera: Notonectidae). *Zootaxa* 5448 (1), 135–142. DOI: 10.11646/zootaxa.5448.1.9
- Cianferoni, F. & Terzani, F. (2013) Nuovi dati su Gerromorpha e Nepomorpha in Italia (Hemiptera Heteroptera). *Bollettino della Società entomologica italiana*, 145 (2), 51–57. DOI: 10.4081/BollettinoSEI.2013.51
- Cianferoni, F., Buzzetti, F.M. & Zettel, H. (2016) The “Italian hebrid”, *Hebrus franzi* (Wagner, 1957): disentangling a half-century dilemma (Hemiptera: Heteroptera: Gerromorpha). *Zootaxa*, 4132 (1), 127–134. DOI: 10.11646/zootaxa.4132.1.11
- Cianferoni, F., Dell’Olmo, L. & Lastrucci, L. (2015) Review of *Hydrometra gracilentata* Horváth, 1899 (Hemiptera: Heteroptera: Hydrometridae) in Italy, with notes on its general distribution. *Zootaxa*, 3980 (4), 584–590. DOI: 10.11646/zootaxa.3980.4.8
- Cianferoni, F., Norbiato, M. & Dogliotti, M. (2017) First records in Italy of the red-listed shore bug *Salda henschii* (Reuter, 1891) (Hemiptera: Heteroptera: Saldidae). *Zootaxa*, 4238 (4), 597–598. DOI: 10.11646/zootaxa.4238.4.9
- Cianferoni, F., Terzani, F., Rocchi, S., Mazza, G. & Carano, G. (2011) Segnalazioni faunistiche italiane. 505 - *Microvelia (Microvelia) reticulata* (Burmeister, 1835) (Hemiptera Heteroptera Veliidae). *Bollettino della Società Entomologica Italiana*, 143 (2), 40–41.
- Cianferoni, F., Zinetti, F., Mazza, G. & Zoccola, A. (2009) Segnalazioni faunistiche n. 94-98. 96 - *Micronecta (Micronecta) minuscula* Poisson, 1929 (Insecta Hemiptera Heteroptera Micronectidae). *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 28, 193–194.
- Colombo, M. & Limonta, L. (2001) Presenza di *Stephanitis takeyai* Drake & Maa (Heteroptera Tingidae) su *Pieris japonica* (Thunb.) D. Don introdotta in Italia. *Bollettino di Zoologia Agraria e Bachicoltura* (Ser. II), 33 (2), 139–142.
- Cornara, D., Nocera, A., Corrado, I., Verrastro, V., Lamaj, F., El Kenawy, A., Russo, V. & Porcelli,

- F. (2016) *Zelus renardii* (Kolenati, 1857) (Heteroptera Reduviidae): un promettente predatore di *Macrohomotoma gladiata* (Kuwayama, 1908) (Psylloidea Homotomidae) su *Ficus microcarpa* Hort. Berol. ex Walp. (Moraceae) ornamentali del verde urbano a Bari. Atti XXV Congresso nazionale italiano di Entomologia, Padova, 20-24 giugno 2016, 266.
- Costa, A. 1881. Relazione di un viaggio nelle Calabrie per ricerche zoologiche fatto nella state del 1876. Atti della Reale Accademia delle Scienze Fisiche e Matematiche, Napoli, 9 (4), 1–63. DOI: 10.5962/bhl.title.13626
- Covassi, M. & Poggesi, G. (1986) Notizie sulla presenza e l'ecologia di *Elatophilus pini* (Bar.) in Italia (Heteroptera, Anthocoridae). Redia, 69, 1–10.
- Deckert, J. (1995) Die Arten der Lygaeinae-Gattung *Apterola* Mulsant & Rey (Heteroptera, Lygaeidae). Deutsche entomologische Zeitschrift (N F), 42 (1), 1–16. DOI: 10.1002/mmnd.19950420102
- Del Bene, G. & Pluot-Sigwalt, D. (2005) *Stephanitis pyrioides* (Scott) (Heteroptera Tingidae): a lace bug new to Italy. Bollettino di Zoologia agraria e Bachicoltura (Ser. II), 37 (1), 71–76.
- Derjanschi, V. & Péricart, J. (2005) Hémiptères Pentatomoidea Euro-méditerranéens. Volume 1. Généralités, systématique: première partie. Faune de France, 90. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Dioli, P. (1995) Eterotteri del Ferrarese. 1. La fauna terrestre (Heteroptera Cimicomorpha et Pentatomorpha). Quaderni della Stazione di Ecologia del Museo Civico di Storia Naturale di Ferrara, 8, 7–49.
- Dioli, P. (2012) *Schidium (Jordischidium) ribesi*, nuova specie di un nuovo sottogenere paleartico (Hemiptera: Heteroptera: Reduviidae). Giornale italiano di Entomologia, 13 (57), 1–8.
- Dioli, P. (2013) Segnalazioni faunistiche. 133 - *Zelus renardii* (Kolenati, 1856) (Insecta Heteroptera Reduviidae). Quaderno di Studi e Notizie di Storia Naturale della Romagna, 38, 232–233.
- Dioli, P. (2014) Presenza in Italia di *Nagusta goedelii* (Kolenati, 1857) e note sulla sua biologia ed ecologia (Hemiptera: Heteroptera: Reduviidae) [2013]. Onychium, 10, 32–39.
- Dioli, P. & Grazioli, L. (2012) Prime segnalazioni di *Lygaeus creticus* Lucas, 1854 per il Veneto e altre regioni dell'Italia peninsulare (Insecta, Heteroptera, Lygaeidae). Bollettino del Museo di Storia Naturale di Venezia, 63, 19–25.
- Dioli, P. & Lai, G. (2018) Prima segnalazione per la Sardegna di *Pinalitus conspurcatus* (Reuter, 1875) e note sulla sua distribuzione e biologia (Hemiptera: Heteroptera: Miridae). Onychium, 14, 39–42. DOI: 10.5281/zenodo.1218923
- Dioli, P. & Salvetti, M. (2021) Ligeidi nuovi per la Liguria e nuove segnalazioni in Italia e Portogallo (Madera). Annali del Museo Civico di Storia Naturale “G. Doria”, Genova. 114, 367–376.
- Dioli, P. & Zanetti, A. (2019) Presenza nelle Prealpi venete e nella Penisola italiana di *Empicoris xambeui* (Montandon, 1885), il più piccolo reduvide europeo (Heteroptera, Reduviidae). Bollettino del Museo Civico di Storia Naturale di Verona, Botanica Zoologia, 43, 13–17.
- Dioli, P., Brizio, S. & Salvetti, M. (2019) *Spilostethus furcula* (Herrich-Schaeffer, 1850) nuovo per l'Italia, su coltivazione di Pomodoro “Pollicino ibrido” (Heteroptera, Lygaeidae). Revista gaditana de Entomología, 10 (1), 127–134
- Dioli, P., Brizio, S. & Salvetti, M. (2021) New host plant for *Plinactus imitator* (Reuter, 1891) found for the first time in Northern Italy (Hemiptera, Coreidae). Doriana, 9 (412), 1–6.
- Dioli, P., Çerçi, B. & Pititto, F. (2020) First record of *Holotrichius spinicollis* Reuter, 1891 in Italy (Heteroptera, Reduviidae). Revista Gaditana de Entomología, 11, 85–92.
- Dioli, P., Lenzini, L. & Salvetti, M. (2021) Sulla presenza in Italia, Spagna e Portogallo di *Tempyra biguttula* Stål, 1874 (Hemiptera, Rhyparochromidae). Rivista del Museo Civico di Scienze Naturali “Enrico Caffi”, Bergamo, 34, 41–43
- Dioli, P., Leo, P. & Maistrello, L. (2016) Prime segnalazioni in Spagna e in Sardegna della specie aliena *Halyomorpha halys* (Stål, 1855) e note sulla sua distribuzione in Europa (Hemiptera, Pentatomidae). Revista Gaditana de Entomología, 7 (1), 539–548.
- Dioli, P., Mauri, E.M. & Salvetti, M. (2022) *Corythucha marmorata* (Uhler, 1878), nuova

- specie aliena in Europa, trovata nel Nord-Italia (Hemiptera, Tingidae). *Revista Gaditana de Entomología*, 13 (1), 119–125.
- Dioli, P., Pascotto, E. & Uliana, M. (2021) *Amnestus pusillus* Uhler, 1876 new to Europe found in Italy (Heteroptera: Cydnidae). *Fragmenta Entomologica*, 53 (2), 419–422. DOI: 10.13133/2284-4880/535
- Dioli, P., Salvetti, M. & Forini Giacalone, I. (2015) Presenza di *Stephanitis pyrioides* (Scott, 1874) e *Stephanitis takeyai* Drake & Maa, 1955 (Hexapoda: Heteroptera: Tingidae) in Lombardia (Italia settentrionale) e Canton Ticino (Svizzera meridionale). *Il Naturalista Valtellinese*, 26, 13–24.
- Dolling, W.R. (2006a) Family Rhopalidae Amyot & Serville, 1843. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 8–27.
- Dolling, W.R. (2006b) Family Alydidae Amyot & Serville, 1843. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 28–42.
- Dolling, W.R. (2006c) Family Coreidae Leach, 1815. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 43–101.
- Dolling, W.R. & Moulet, P. (1996) *Heegeria* Reuter, 1881, rétabli en lieu et place de *Sjoestedtina* Schouteden, 1912 (Heteroptera, Alydidae) [1995]. *Bulletin de la Société entomologique de France*, 100 (5), 526. DOI: 10.3406/bsef.1995.17202
- Drapolyuk, I.S. (1993) Review of the capsid bugs of the genus *Lepidargyrus* (Heteroptera: Miridae). *Zoosystematica Rossica*, 2, 107–119.
- Dusoulier, F. & Lupoli, R. (2016) Les Pentatomoidea de France: clarifications taxinomiques et mises à jour nomenclaturales et biogéographiques (Hemiptera Heteroptera) [2015]. *L'Entomologiste*, 71 (6), 353–366.
- European Environmental Agency (2017) Biogeographical regions in Europe. European Topic Centre on Biological Diversity (ETC/BD). Digital resource available at <https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-2>. Last visited: May 27th, 2024
- Elov, E.S. & Kerzhner, I.M. (1977) [Bugs of the families Anthocoridae, Cimicidae and Microphysidae (Heteroptera) of the Mongolian People's Republic] (in Russian). *Nasekomye Mongolii*, 5, 203–220.
- Fancello, L., Cillo, D. & Bazzato, E. (2016) *Cephalocteinae* Mulsant et Rey, 1866 (Hemiptera, Heteroptera), a subfamily of Cydnidae new for the Italian fauna: first record of *Cephalocteus scarabaeoides* (Fabricius, 1807) from Sardinia. *Zootaxa*, 4067 (4), 465–468. DOI: 10.11646/zootaxa.4067.4.4
- Fancello, L., Cillo, D. & Rattu, A. (2019) Prima intercettazione in Sardegna dell'emittero “alieno” *Corythauma ayyari* (Drake, 1933), specie potenzialmente invasiva dannosa a piante ornamentali (Insecta, Hemiptera, Heteroptera, Tingidae). *Naturalistica*, ed. *Mediterraneanonline*, Cagliari, 2, 56–59.
- Faraci, F. (2019) Ritrovamento di *Corythucha arcuata* (Say, 1832) (Hemiptera, Tingidae) a Verona con note sulla morfologia e diffusione del genere *Corythucha* Stål, 1873 nella regione paleartica. *Bollettino del Museo Civico di Storia Naturale di Verona, Botanica Zoologia*, 43, 19–24.
- Faraci, F. (2021a) Insecta Hemiptera Heteroptera Cimicomorpha (excl. Microphysidae, Miridae). In: *Checklist of the Italian Fauna*. Version 1.0 (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Faraci, F. (2021b) Insecta Hemiptera Heteroptera Pentatomomorpha. In: *Checklist of the Italian Fauna*. Version 1.0 (ed. by M.A. Bologna, M. Zapparoli, M. Oliverio, A. Minelli, L. Bonato, F. Cianferoni and F. Stoch). Last update: 2021-03-31. Digital resource available at <https://www.lifewatchitaly.eu/en/initiatives/checklist-fauna-italia-en/checklist/>
- Faraci, F. & Rizzotti Vlach, M. (1992) I Leptopodomorpha italiani. *Catalogo topografico con considerazioni ecologiche, fenologiche e zoogeografiche* (Heteroptera). *Memorie della*

- Società Entomologica Italiana, 70 (2) (1991), 33–102.
- Faraci, F. & Rizzotti Vlach, M. (1994) Osservazioni corologiche e sistematiche sul genere *Coranus* in Italia (Heteroptera, Reduviidae). *Fragmenta Entomologica*, 25 (2), 265–274.
- Faraci, F. & Rizzotti Vlach, M. (1995) Heteroptera. In: Checklist delle specie della fauna italiana (ed. by A. Minelli, S. Ruffo and S. La Posta S.), Vol. 41. Calderini, Bologna.
- Faraci, F., Carapezza, A. & Cianferoni, F. (2022) The Heteropterofauna of Italy, an update. 7th Meeting of the International Heteropterists' Society, Barcelona, 4–8 July 2022, Program, Oral Presentations and Posters, Abstract ID 25, Poster, p. 59.
- Ferrari, P.M. (1888) Elenco dei Rincoti Sardi che si trovano nella Collezione del Museo Civico di Genova. *Annali del Museo Civico di Storia Naturale di Genova*, 26, 545–570.
- Fieber, F.X. (1860) Die europäischen Hemiptera. Halbflügler. (Rhynchota Heteroptera.). Carl Gerold's Sohn, Wien, VI + 112 pp. DOI: 10.5962/bhl.title.47533
- Gadalla, S.M. (2003) A contribution to the taxonomic study of subfamily Henestariinae, family Lygaeidae (Hemiptera, Heteroptera) from Egypt. *Bulletin of the Entomological Society of Egypt*, 80, 87–98.
- Gapon, D.A. (2018) Morphology of male and female terminalia and taxonomic revision of the burrower bugs genus *Canthophorus* (Heteroptera: Cydnidae). *Annales de la Société entomologique de France* (N S), 54 (3), 183–228. DOI: 10.1080/00379271.2018.1467788
- Garbiglietti, A. (1869) *Catalogus methodicus et synonymicus Hemipterorum Heteropterorum* (Rhyngota Fabr.) Italiae indigenarum. Accedit descriptio aliquot specierum vel minus vel nondum cognitarum. *Bullettino della Società Entomologica Italiana*, 1, 41–52, 105–124, 181–198, 271–281.
- Garbiglietti, A. (1870) Additamenta et emendationes ad Catalogum methodicum et synonymicum Hemipterorum Heteropterorum Italiae indigenarum. *Bullettino della Società Entomologica Italiana*, 2, 160–163.
- Göllner-Scheiding, U. (2006a) Family Acanthosomatidae Signoret, 1864. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 166–181.
- Göllner-Scheiding, U. (2006b) Family Scutelleridae Leach, 1815. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 190–227.
- Goula, M. & Ribes, J. (1995) Lista de especies de los Miridae de Cataluña (Insecta, Heteroptera). *Boletín de la Asociación Española de Entomología*, 19, 175–217.
- Günther, H. & Schuster, G. (1990) Verzeichnis der Wanzen Mitteleuropas (Heteroptera). *Deutsche entomologische Zeitschrift* (N.F.), 37, 361–396.
- Heiss, E. (1998) Taxonomische Studien an palaearktischen Aneurinae (Heteroptera, Aradidae). *Linzer biologische Beiträge*, 30 (1), 311–320.
- Heiss, E. (2001) Family Aradidae Brullé, 1836. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 4. *Pentatomomorpha I*, pp. 3–34.
- Heiss, E. (2003) Taxonomische Notizen zu europäischen Aradiden und Beschreibung von *Aradus maghrebinus* spec. nova (Heteroptera, Aradidae). *Linzer biologische Beiträge*, 35 (2), 869–876.
- Heiss, E. (2004) Taxonomische Notizen zu europäischen Aradiden II. (Heteroptera, Aradidae). *Zeitschrift der Arbeitsgemeinschaft der Österreichischen Entomologen*, 56 (3–4), 111–113.
- Heiss, E. (2008) *Aradus dembickyi* sp.n. from Northern India (Insecta: Heteroptera: Aradidae). *Annalen des Naturhistorischen Museums in Wien, Serie B*, 109, 77–81.
- Heiss, E. (2015) New taxonomic assignments of Calisiinae with description of two new genera (Hemiptera, Heteroptera, Aradidae). *Zootaxa*, 4000 (3), 363–376. DOI: 10.11646/zootaxa.4000.3.3
- Heiss, E. & Péricart, J. (1997) Revised taxonomic status of some Old World Piesmatidae (Heteroptera). *Zeitschrift der*

- Arbeitsgemeinschaft der Österreichischen Entomologen, 49 (3–4), 119–120.
- Heiss, E. & Péricart, J. (2007) Hémiptères Aradidae, Piesmatidae et Dipsocoromorphes euro-méditerranéens. Faune de France, 91. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Heiss, E. & Scudder, G.E. (2019) Aradidae (Heteroptera) new to North America and Canada, with some additional provincial and state records for Canada and the USA. Linzer biologische Beiträge, 51 (2), 821–829.
- Henry, T.J. (1997) Phylogenetic analysis of family groups within the infraorder Pentatomomorpha (Hemiptera: Heteroptera), with emphasis on the Lygaeoidea. Annals of the Entomological Society of America, 90 (3), 275–301. DOI: 10.1093/aesa/90.3.275
- Henry, T.J. (2017) Biodiversity of Heteroptera. In: Insect Biodiversity: Science and Society (ed. by R.G. Foottit and P.H. Adler), Volume I, Second Edition, pp. 279–335. John Wiley & Sons, Hoboken, NJ. DOI: 10.1002/9781118945568.ch10
- Ingegno, B.L., Goula, M., Navone, P. & Tavella, L. (2008) Distribution and host plants of the genus *Dicyphus* in the Alpine valleys of NW Italy. Bulletin of Insectology, 61, 139–140.
- Isakov, Yu.M. (2000) [Notes on the taxonomy and bionomics of *Stagonomus bipunctatus* (Heteroptera, Pentatomidae)] (in Russian). Vestnik Zoologii, 34 (3), 83–88.
- Isakov, Yu.M. (2005) [About pentatomid bug genus *Menaccarus* (Heteroptera, Pentatomidae) on the territory former USSR. Communication 1. Imago] (in Russian). Vestnik Zoologii, 39 (4), 15–27.
- Jansson, A. (1986) The Corixidae (Heteroptera) of Europe and some adjacent regions. Acta Entomologica Fennica, 47, 1–94.
- Josifov, M.V. (1986) Verzeichnis der von der Balkanhalbinsel bekannten Heteropterenarten (Insecta, Heteroptera). Faunistische Abhandlungen - Staatliches Museum für Tierkunde Dresden, 14 (6), 61–93.
- Josifov, M. (1989). Beitrag zur Taxonomie der europäischen *Pilophorus*-Arten (Insecta, Heteroptera: Miridae). Reichenbachia, 27 (2), 5–12.
- Josifov, M. (1990) Über die Verbreitung mancher Heteropterenarten auf der Balkanhalbinsel. III (Insecta). Acta Zoologica Bulgarica, 40, 3–11.
- Josifov, M. (1993) Ein kleiner Beitrag zur Systematik der Miriden (Insecta: Heteroptera). Reichenbachia, 30, 9–15.
- Kerzhner, I.M. (1964) Fam. Isometopidae, Fam. Miridae (Capsidae). In: Opredelitel' nasekomykh evropeiskoi chasti SSSR [Keys to the Insects of the European Part of the U.S.S.R.] (ed. by G.Ya. Bei-Bienko). Nauka, Moskva & Leningrad, pp. 700–765. [in Russian]
- Kerzhner, I.M. (1969) Zur Nomenklatur einiger europäischer Blindwanzen (Heteroptera, Miridae). Acta Entomologica Musei Nationalis Pragae, 38, 141–145.
- Kerzhner, I.M. (1973) New and little known Heteroptera from the Far East of the USSR. Trudy Zooloogicheskogo Instituta Akademii Nauk SSSR, 52(1972), 276–295.
- Kerzhner, I.M. (1981) *Capsus ater* Jakovlev, 1889 and *Lygaeus quadripunctatus* Fabricius, 1794 (Insecta, Hemiptera, Heteroptera): proposed nomenclatural validation Z. N. (S.) 2148. Bulletin of Zoological Nomenclature, 38(4), 288–291.
- Kerzhner, I.M. (1993) Notes on synonymy and nomenclature of Palearctic Heteroptera. Zoosystematica Rossica, 2, 97–105.
- Kerzhner, I.M. (1996) Family Nabidae A. Costa, 1853. In: Catalogue of the Heteroptera of the Palearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 2. Cimicomorpha I, pp. 84–107.
- Kerzhner, I.M. & Jaczevski, T.L. (1964) Order Hemiptera (Heteroptera). In: Keys to the insects of the European U.S.S.R (ed. by G.Ya. Bei-Bienko). Nauka, Moskva & Leningrad pp. 655–845.
- Kerzhner, I.M. & Josifov, M. (1999). Miridae. In: Catalogue of the Heteroptera of the Palearctic Region, 3 (ed. by B. Aukema & Chr. Rieger), pp. 1–576. The Netherlands Entomological Society, Amsterdam.
- Kerzhner, I.M. & Matocq, A. (1994) Type specimens of Palearctic Miridae and Nabidae in the collection of the Museum Nationale d'Histoire

- Naturelle, Paris (Heteroptera). *Zoosystematica Rossica*, 3, 55–68.
- Kment, P. & Banar, P. (2010) On the taxonomy and distribution of the genus *Maccevethus* (Hemiptera: Heteroptera: Rhopalidae. *Acta Musei Moraviae, Scientiae Biologicae*, 95 (1), 15–47.
- Kment, P., Carapezza, A. & Jindra, Z. (2020) Taxonomic catalogue of the family Ochteridae with description of *Ochterus papaceki* sp. nov. from Socotra Island and Tanzania (Hemiptera: Heteroptera). *Acta Entomologica Musei Nationalis Pragae*, 60 (1), 23–64. DOI: 10.37520/aemnp.2020.003
- Küchler, S. & Strauss, G. (2010) *Belonochilus numenius* (Say, 1832) (Heteroptera: Lygaeidae) – bald auch in Mitteleuropa?. *Beiträge zur Entomofaunistik*, 11, 27–33.
- Labina, E.S. (2003) Species of the genus *Stygnocoris* from Russia and adjacent countries (Heteroptera: Lygaeidae). *Zoosystematica Rossica*, 12 (1), 109–115. DOI: 10.31610/zsr/2003.12.1.109
- Laterza, I. & Dioli, P. (2021) New record of *Ellipsocoris kalashiani* Carapezza 2009 in Europe, found in Apulia, Italy (Heteroptera: Scutelleridae) [2020]. *Journal of Entomological and Acarological Research*, 52 (9529), 50–53. DOI: 10.4081/jear.2020.9529
- Laudonia, S. & Sasso, R. (2012) The bronze bug *Thaumastocoris peregrinus*: a new insect recorded in Italy, damaging to *Eucalyptus* trees. *Bulletin of Insectology*, 65 (1), 89–93.
- Li, H., Leavengood, J.M., Chapman, E.G., Burkhardt, D., Song, F., Jiang, P., Liu, J., Zhou, X. & Cai, W. (2017) Mitochondrial phylogenomics of Hemiptera reveals adaptive innovations driving the diversification of true bugs. *Proceedings of the Royal Society B*, 284, 20171223 (1–10). DOI: 10.1098/rspb.2017.1223
- Linnavuori, R.E. (1984) New species of Hemiptera Heteroptera from Iraq and the adjacent countries. *Acta Entomologica Fennica*, 44, 1–59.
- Lis, J.A. (2006) Family Cydnidae Billberg, 1820. In: *Catalogue of the Heteroptera of the Palaearctic Region* (ed. by B. Aukema and Chr. Rieger) - Volume 5. *Pentatomomorpha II*, pp. 119–147.
- Lo Parrino, E. (2019) Is *Lethocerus patruelis* (Stål, 1855) range expanding westward? a new record for Italy might suggest this trend (Hemiptera: Belostomatidae). *Aquatic Insects*, 40 (4), 375–379. DOI: 10.1080/01650424.2019.1646918
- Luciano, P. & Pantaleoni, R.A. (1997) La protezione del verde urbano. *Atti della Giornata sulle strategie bio-ecologiche di lotta contro gli organismi nocivi*. Sassari, 11 aprile 1997, 115–132.
- Luthi, F. & Dioli, P. (2020) Gli eterotteri negli strati bassi dell'atmosfera in un sobborgo di Bologna (Insecta: Hemiptera: Heteroptera). *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 51, 127–166.
- Maistrello, L. & Dioli, P. (2014) *Halyomorpha halys* Stål 1855, trovata per la prima volta nelle Alpi centrali italiane (Insecta: Heteroptera: Pentatomidae). *Il Naturalista Valtellinese*, 25, 51–58.
- Maltese, M., Caleca, V. & Carapezza, A. (2009) Primi reperti in Sicilia su diffusione e biologia di *Leptoglossus occidentalis* Heidemann (Heteroptera: Coreidae), cimice americana dei semi delle conifere. *Atti del III Congresso Nazionale di Selvicoltura*. Taormina (ME), 16-19 ottobre 2008. *Accademia Italiana di Scienze Forestali*, Firenze, 1413–1418.
- Mancini, C. (1958) *Corologia emitterologica italiana*. Nota IV - Emitteri della Valle D'Aosta. *Memorie della Società Entomologica Italiana*, 37(2), 132–148.
- Masini, P., Zampetti, S., Miñón Llera, G., Biancolini, F., Moretta, I., Romani, R., Tramontana, M., Hansel, K. & Stingeni, L. (2019) Infestation by the tropical bedbug *Cimex hemipterus* (Hemiptera: Cimicidae): first report in Italy. *Journal of the European Academy of Dermatology and Venereology*, 34 (1), e28–e30. DOI: 10.1111/jdv.15876
- Matocq, A. (1993) Révision du genre *Tinicephalus* Fieber, 1858 (Heteroptera, Miridae). *Bulletin de la Société entomologique de France*, 98, 381–396. DOI: 10.3406/bsef.1993.17911
- Matocq, A. (2004a) Revue des espèces attribuées au genre *Megalocoleus* Reuter, 1890 (Heteroptera: Miridae). *Annales de la Société entomologique de*

- France (N.S.), 40, 69–101. DOI: 10.1080/00379271.2004.10697407
- Matocq, A. (2004b) Une nouvelle espèce de *Rhabdoscytus* de Sardagne (Hemiptera, Miridae). *Revue Française d'Entomologie* (N.S.), 26, 175–178.
- Matocq, A. & Pluot-Sigwalt, D. (2005) Réexamen du genre *Lopus* Hahn, 1831 (Heteroptera, Miridae, Phylinae). *Bulletin de la Société entomologique de France*, 110, 249–258. DOI: 10.3406/bsef.2005.16230
- Matocq, A. & Pluot-Sigwalt, D. (2012) Révision des *Amblytylus* et essai de mise au point sur les genres *Amblytylus* Fieber et *Megalocoleus* Reuter (Heteroptera: Miridae: Phylinae). *Annales de la Société entomologique de France* (N.S.), 48, 123–154. DOI: 10.1080/00379271.2012.10697760
- Mazza, G., Aquiloni, L., Bellavita, M., Cianfanelli, S., Cianferoni, F., Orioli, G., Palombi, A., Piazzai, M., Rocchi, S., Terzani, F. & Gherardi, F. (2012) Ricerche faunistiche negli habitat stagnatili (trosce) della Riserva Naturale Monte Rufeno (Lazio, Italia Centrale). *Studi Trentini di Scienze Naturali*, 92, 21–32.
- Mazza, G., Nerva, L., Strangi, A., Mori, E., Chitarra, W., Carapezza, A., Mei, M., Marianelli, M., Roversi, P., Campanaro, A. & Cianferoni, F. (2020) Scent of Jasmine Attracts Alien Invaders and Records on Citizen Science Platforms: Multiple Introductions of the Invasive Lacebug *Corythauma ayyari* (Drake, 1933) (Heteroptera: Tingidae) in Italy and the Mediterranean Basin. *Insects*, 11 (9) 620, 1–9. DOI: 10.3390/insects11090620
- Melber, A. (1991) Beitrag zur kenntnis der heteropteren-fauna des Parco Nazionale del Circeo, Lazio, Italien (Insecta, Heteroptera). *Redia*, 74 (2), 371–408.
- Melber, A., (1993) Beitrag zur Kenntnis der Heteropterenfauna des Toskanischen Apennins. *Bollettino del Museo civico di Storia Naturale di Verona*, 17 (1990), 293–356.
- Menke, A.S. (1963) An overlooked old world species of *Lethocerus* (Hemiptera: Belostomatidae). *Journal of the Kansas Entomological Society*, 36 (4), 258–259.
- Minelli, A., Ruffo, S. & La Posta, S. (eds.) (1993–1995) Checklist delle specie della fauna italiana. Calderini, Bologna, issues 1–110.
- Moulet, P. (1995) Hémiptères Coreoidea (Coreidae, Rhopalidae, Alydidae), Pyrrhocoridae, Stenocephalidae Euro-méditerranéens. Faune de France, 81. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Moulet, P. (2005) Contribution a l'étude du genre *Sphedanolestes* Stål, 1867 (Heteroptera, Reduviidae, Harpactorinae). *Biocosme Mésogéen*, 22 (3), 105–116.
- Neimorovets, V.V. (2020) Review of the genus *Eurygaster* (Hemiptera: Heteroptera: Scutelleridae) of Russia. *Zootaxa*, 4722 (6), 501–539. DOI: 10.11646/zootaxa.4722.6.1
- Norbiato, M., Dioli, P. & Cianferoni, F. (2019) Annotated checklist of the Hemiptera Heteroptera of the Site of Community Importance and Special Area of Conservation “Alpi Marittime” (NW Italy). *Zoosystema*, 41(15), 269–312. DOI: 10.5252/zoosystema2019v41a15
- Olivieri, N. (2004) Segnalazioni faunistiche italiane. 426 - *Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera Coreidae). (Prima segnalazione per l'Abruzzo). *Bollettino della Società entomologica italiana*, 136 (1), 75.
- Olivieri, N. (2011) Segnalazioni faunistiche italiane. 504 - *Nagusta goedelii* (Kolenati, 1857) (Heteroptera Reduviidae). *Bollettino della Società entomologica italiana*, 143 (1), 40.
- Opinion 1325 (1985) *Capsus ater* Jakovlev, 1889 (Insecta, Hemiptera, Heteroptera): not rejected as a junior homonym of *Cimex ater* Linnaeus, 1758. *Bulletin of Zoological Nomenclature*, 42, 188–189.
- Pagola-Carte, S. & Rieger, Chr. (2017) *Phytocoris* (*Exophytocoris*) *diversitatis* n. sp. from Calabria, southern Italian Peninsula (Hemiptera: Heteroptera: Miridae). *Heteropterus*, 17, 1–7.
- Pedata, P.A., Guilbert, É., Nugnes, F. & Mancini, D. (2013) Rinvenimento di una popolazione di *Corythauma ayyari* (Heteroptera Tingidae) su *Jasminum officinale* (Oleaceae): un nuovo fitofago per l'Italia. *Protezione delle colture*, CNR, 3, 36–39.

- Perez Goodwyn, P.J. (2006) Taxonomic revision of the subfamily Lethocerinae Lauck and Menke (Heteroptera: Belostomatidae). *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)*, 695, 1–71.
- Péricart, J. (1972) Hémiptères Anthocoridae, Cimicidae et Microphysidae de l'Ouest-Paléarctique. Faune de l'Europe et du Bassin Méditerranéen, 7. Masson et C^{ie} Éditeurs, Paris.
- Péricart, J. (1990) Hémiptères Saldidae et Leptopodidae d'Europe occidentale et du Maghreb. Faune de France. 77. Fédération française des Sociétés des Sciences naturelles, Paris.
- Péricart, J. (1996a) Family Anthocoridae Fieber, 1836. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 2. Cimicomorpha I, pp. 108–140.
- Péricart, J. (1996b) Family Cimicidae Latreille, 1802. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 2. Cimicomorpha I, pp. 141–144.
- Péricart, J. (1996c) Lygaeidae euro-méditerranéens: synonymies, notes diverses et description de deux espèces nouvelles de Rhyparochrominae (Heteroptera) [1995]. *Bulletin de la Société entomologique de France*, 100 (5), 501–510. DOI: 10.3406/bsef.1995.17198
- Péricart, J. (1997) Mélanges lygadiens: synonymies et observations diverses (Heteroptera, Lygaeidae). *Bulletin de la Société entomologique de France*, 102 (5), 481–490. DOI: 10.3406/bsef.1997.17376
- Péricart, J. (1999a) Hémiptères Lygaeidae euro-méditerranéens. Vol 1. Généralités, systématique: première partie [1998]. Faune de France, 84A. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Péricart, J. (1999b) Hémiptères Lygaeidae euro-méditerranéens. Vol 2. Systématique: seconde partie, Oxycareninae, Bledionotinae, Rhyparochrominae (1) [1998]. Faune de France, 84B. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Péricart, J. (1999c) Hémiptères Lygaeidae euro-méditerranéens. Vol 3. Systématique: troisième partie, Rhyparochrominae (2) [1998]. Faune de France, 84C. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Péricart, J. (2001a) Family Lygaeidae Schilling, 1829. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 4. Pentatomomorpha I, pp. 35–220.
- Péricart, J. (2001b) Family Berytidae Fieber, 1851. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 4. Pentatomomorpha I, pp. 230–242.
- Péricart, J. (2002) Note sur le genre *Sciocoris* Fallén, 1829, et ses représentants euro-méditerranéens (Heteroptera, Pentatomidae). *Bulletin de la Société entomologique de France*, 107 (4), 435–448. DOI: 10.3406/bsef.2002.16889
- Péricart, J. (2004) Note sur quelques espèces de Strachiini (Heteroptera, Pentatomidae). *Bulletin de la Société entomologique de France*, 109 (4), 367–374. DOI: 10.3406/bsef.2004.16139
- Péricart, J. (2010) Hémiptères Pentatomoidea Euro-Méditerranéens, volume 3: Podopinae et Asopinae. Faune de France, 93. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Péricart, J. & Golub, V.B. (1996) Family Tingidae Laporte, 1832. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 2. Cimicomorpha I, pp. 3–78.
- Pluot-Sigwalt, D. & Péricart, J. (2003) The spermatheca of the Dipsocoridae with special reference to the strange “loculus capsulae” in Harpago species (Heteroptera, Dipsocoromorpha) *Annales de la Société entomologique de France*, 39 (2), 129–138. DOI: 10.1080/00379271.2003.10697368
- Pluot-Sigwalt, D., Matocq, A. & Carapezza, A. (2014) Première mention en Italie de *Plinthisus heteroclitus* Matocq & Pluot-Sigwalt, 2013 et description de la femelle (Heteroptera, Rhyparochromidae, Plinthisinae). *Bulletin Mensuel de la Société Linnéenne de Lyon*, 83 (7–8), 205–207. DOI: 10.3406/linly.2014.13914
- Pluot-Sigwalt, D., Streito, J.-C. & Matocq, A. (2009) Is *Montandoniola moraguesi* (Puton, 1896) a mixture of different species? (Hemiptera:

- Heteroptera: Anthocoridae). *Zootaxa*, 2208, 25–43. DOI: 10.11646/zootaxa.2208.1.2
- Popov, Yu. A. (2004). New microphysids (Heteroptera: Cimicomorpha, Microphysidae) from Baltic amber and taxonomy of this family. *Prace Muzeum Ziemi*, 47, 97–107.
- Puton, A. (1880) Synopsis des Hémiptères-Hétéroptères de France. 3^e partie. Reduviides, Saldides, Hydrocorises. Auguste Puton, Remiremont, pp. 160–245.
- Putshkov, P.V. & Moulet, P. (2010) Hémiptères Reduviidae d'Europe occidentale [2009]. Faune de France, 92. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Putshkov P.V. & Putshkov V.G. (1996) Family Reduviidae Latreille, 1807. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 2. Cimicomorpha I, pp. 148–265.
- Rabitsch, W. (2008) Alien True Bugs of Europe (Insecta: Hemiptera: Heteroptera). *Zootaxa*, 1827, 1–44. DOI: 10.11646/zootaxa.1827.1.1
- Rabitsch, W. (2010) True Bugs (Hemiptera, Heteroptera). Chapter 9.1 In: Alien terrestrial arthropods of Europe (ed. by A. Roques et al.). *BioRisk* 4 (1), 407–433. DOI: 10.3897/biorisk.4.44
- Ragusa, E. (1887) Emitteri raccolti in Sicilia. *Il Naturalista Siciliano*, 6, 119–125, 153–157, 183–187.
- Ragusa, E. (1907) Catalogo degli Emitteri di Sicilia. *Il Naturalista Siciliano*, 19, 209–237.
- Rattu, A. & Casalini, R. (2018) Primer registro de *Megalonotus mixtus* (Horváth, 1887) en Italia (Hemiptera, Rhyparochromidae). *Revista Gaditana de Entomología*, 9 (1), 237–240.
- Rattu, A. & Dioli, P. (2018) *Tempyra biguttula* Stål, 1874, una specie esotica di origine americana, nuova per l'Italia (Hemiptera: Rhyparochromidae). *Revista Gaditana de Entomología*, 9 (1), 315–320.
- Rattu, A. & Dioli, P. (2020) Prima segnalazione di *Zelus renardii* (Kolenati, 1856) in Sardegna (Hemiptera, Reduviidae). *Revista Gaditana de Entomología*, 11, 119–125.
- Rattu, A., Bazzato, E. & Cillo, D. (2014) Reperti. Hemiptera, Thaumastocoridae. *Thaumastocoris peregrinus* Carpintero & Dellapé, 2006. *Bollettino dell'Associazione Romana di Entomologia*, 69 (1–4), 85–96.
- Reuter, O.M. (1883) Hemiptera Gymnocerata Europae. Hémiptères Gymnocérates d'Europe, du bassin de la Méditerranée et de l'Asie Russe. III. *Acta Societatis Scientiarum Fennicae* 13 (1884): 313–496. DOI: 10.5962/bhl.title.8546
- Reuter, O.M. (1890) Adnotationes Hemipterologicae. *Revue d'Entomologie*, Caen, 9, 248–254.
- Reuter, O.M. (1895) Zur Kenntniss der Capsiden-Gattung *Fulvius* Stål. *Entomologisk Tidskrift*, 16, 129–154.
- Reuter, O.M. (1896) Hemiptera Gymnocerata Europae. Hémiptères Gymnocérates d'Europe, du bassin de la Méditerranée et de l'Asie Russe. V. *Acta Societatis Scientiarum Fennicae*, 23 (1897), 1–392.
- Reuter, O.M. (1907) Ad cognitionem Capsidarum Aethiopicarum. IV. Öfversigt af Finska Vetenskapssocietetens Förhandlingar, 49 (7), 1–27.
- Ribes, J. & Gapon, D. (2006) Taxonomic review of the genus *Holcogaster* Fieber, 1860 (Heteroptera: Pentatomidae) with the description of the male and female genitalia. *Russian Entomological Journal*, 15 (2), 189–195.
- Ribes, J. & Pagola-Carte, S. (2013) Hémiptères Pentatomoidea Euro-Méditerranéens, Volume 2. Systématique: deuxième partie, sous-famille Pentatominae (suite et fin). Faune de France, 96. Fédération Française des Sociétés de Sciences Naturelles, Paris.
- Ribes, J. & Ribes, E. (1997). El complejo *Tuponia mixticolor* (Costa, 1862) (Heteroptera, Miridae, Phylinae). *Butlletí de la Institució Catalana d'Història Natural*, 64 (1996), 111–121.
- Ribes, J., Gapon, D.A. & Pagola-Carte, S. (2007) On some species of *Carpocoris* Kolenati, 1846: new synonymies (Heteroptera: Pentatomidae: Pentatominae). *Mainzer Naturwissenschaftliches Archiv*, 31 (Suppl.), 187–198.
- Ribes, J., Pagola-Carte, S. & Valcárcel, J.P. (2006) Una sinonimia restituida en el género

- Holcostethus* Fieber, 1860 (Hemiptera: Heteroptera: Pentatomidae). Boletín Sociedad Entomológica Aragonesa, 39, 407–408.
- Ribes, J., Pagola-Carte, S. & Zabalegui, I. (2008) On some Palaearctic Carpocorini (Hemiptera: Pentatomidae: Pentatomini). Heteropterus Revista de Entomología, 8 (2), 155–169.
- Rider, D.A. (2006) Family Pentatomidae Leach, 1815. In: Catalogue of the Heteroptera of the Palaearctic Region (ed. by B. Aukema and Chr. Rieger) - Volume 5. Pentatomomorpha II, pp. 233–414.
- Rieger, Chr. (2011) What is *Eurygaster austriaca seabrai* China, 1938 (Hemiptera: Heteroptera: Scutelleridae)? Heteropterus Revista de Entomología, 11 (2), 339–343.
- Rieger, Chr. & Rabitsch, W. (2006) Taxonomy and distribution of *Psallus betuleti* (Fallén) and *P. montanus* Josifov stat. nov. (Heteroptera, Miridae). Tijdschrift voor Entomologie, 149, 161–166. DOI: 10.1163/22119434-900000196
- Rizzotti Vlach, M. (1995) *Geotomus petiti* Wagner, 1954 (Heteroptera, Cydnidae) in Italia: osservazioni morfologiche comparative e corologia [1993]. Studi Trentini di Scienze Naturali - Acta biologica, 70, 63–68.
- Rizzotti Vlach, M. (1998a) Due interessanti miridi in Alto Adige: *Lygus adspersus* (Schilling) e *Atractotomus marcoi* Carapezza. Atti dell'Accademia Roveretana degli Agiati, ser. VII, 8 B, 105–114.
- Rizzotti Vlach, M. (1998b) *Orthotylus cupressi* Reuter, 1883 in Italia: note morfologiche, ecologiche e corologiche. Doriana, 7(304), 1–4.
- Rizzotti Vlach, M. (2000) Una nuova specie di *Ochetostethus* della Sardegna e note sulla distribuzione del genere in Italia (Heteroptera, Cydnidae). Nouvelle Revue d'Entomologie (N.S.), 17, 69–76.
- Rizzotti Vlach, M. & Zerbini, C. (1989) Studi sulla Plaude del Busatello (Veneto-Lombardia). 8. Gli Eterotteri. In: Studi sulla Plaude del Busatello (Veneto-Lombardia) (ed. by M. Daccordi & A. Zanetti), pp. 67–88. Memorie del Museo Civico di Storia Naturale di Verona, 2ª serie, Sezione Scienze della Vita, 7.
- Rizzotti Vlach, M., Di Giovanni, M.V. & Sorice, M. (1996) *Sigara basalis* (Costa) (Heteroptera, Corixidae), a valid species: diagnostic characters and comparative observations. Italian Journal of Zoology, 63 (3), 261–269. DOI: 10.1080/11250009609356143
- Roca-Cusachs, M. & Jung, S. (2019) Redefining *Stagonomus* Gorski based on morphological and molecular data (Pentatomidae: Eysarcorini). Zootaxa, 4658 (2), 368–374. DOI: 10.11646/zootaxa.4658.2.10
- Rosenzweig, V.Ye. (1997) Revised classification of the *Calocoris* complex and related genera (Heteroptera: Miridae) Zoosystematica Rossica, 6, 139–169.
- Ruffo, S. & Stoch, F. (eds.) (2005) Checklist e distribuzione della fauna italiana. 10.000 specie terrestri e delle acque interne. Memorie del Museo Civico di Storia Naturale di Verona, 2. Serie, Sezione Scienze della Vita, 16.
- Ruffo, S. & Stoch, F. eds (2007) Checklist and distribution of the Italian fauna. 10,000 terrestrial and inland water species. Memorie del Museo Civico di Storia Naturale di Verona, 2. Serie, Sezione Scienze della Vita (2006), 17.
- Russo, A., Cocuzza, G.E. & Vasta, M.C. (2004) Life tables of *Xylocoris flavipes* (Hemiptera: Anthracoridae) feeding on *Tribolium castaneum* (Coleoptera: Tenebrionidae). Journal of Stored Products Research, 40, 103–112. DOI: 10.1016/S0022-474X(02)00082-6
- Salveti, M. & Dioli, P. (2014) *Aradus distinctus* Fieber, 1860 nuovo per l'Italia (Hemiptera, Heteroptera, Aradidae). Il Naturalista valtellinese, 24, 77–80.
- Samy, O. (1969) A revision of the African species of *Oxycarenus* (Hemiptera: Lygaeidae). Transactions of the Royal Entomological Society of London, 121 (4), 79–165. DOI: 10.1111/j.1365-2311.1969.tb00518.x
- Sasso, R., Mughini, G. & Laudonia, S. (2014) Primi dati su fenologia e distribuzione in Italia di *Thaumastocoris peregrinus* Carpintero and Dellapé (Heteroptera: Thaumastocoridae), la cimicetta della bronzatura dell'eucalipto. Forest@, 11, 105–115. DOI: 10.3832/efor1184-011

- Schuh, T. (2001) Revision of New World *Plagiognathus* Fieber, with comments on the Palearctic fauna and the description of a new genus (Heteroptera: Miridae: Phylinae). Bulletin of the American Museum of Natural History, 266, 1–267. DOI: 10.1206/0003-0090(2001)266<0001:RONWPF>2.0.CO;2
- Schuh, R.T. & Slater, J.A. (1995) True Bugs of the World (Hemiptera: Heteroptera). Classification and Natural History. Cornell University Press, Ithaca, New York.
- Schuh, R.T. & Weirauch, C. (2020) True Bugs of the World (Hemiptera: Heteroptera). Classification and Natural History (Second Edition). Siri Scientific Press. Monograph Series Volume 8, Manchester, UK.
- Schuh, T., Lindskog, P. & Kerzhner, I.M. (1995) *Europiella* Reuter (Heteroptera: Miridae): recognition as a Holarctic group, notes on synonymy, and description of a new species, *Europiella carvalhoi*, from North America. Proceedings of the Entomological Society of Washington, 97, 379–395.
- Seidenstücker, G. (1962) Über einige Miriden aus Kleinasien mit Beschreibung von zwei neuen Halticinen (Heteroptera). Reichenbachia, 17(1), 129–143.
- Servadei, A. (1967) Rhynchota (Heteroptera, Homoptera Auchenorrhyncha). Catalogo topografico e sinonimico. Fauna d'Italia, Vol. IX. Calderini, Bologna.
- Signoret, V. (1860) Faune entomologique de la Sicile. Hémiptères de Sicile recueillis par M. E. Bellier de la Chavignerie et nommes par M. le Dr. Signoret. Annales de la Société entomologique de France, (3) 8, 738–740.
- Stichel, W. (1957) Illustrierte Bestimmungstabellen der Wanzen. II. Europa (Hemiptera-Heteroptera Europae). Vol. 2. Part 46. W. Stichel, Berlin-Hermsdorf, pp. 641–672.
- Stoch, F., Minelli, A., Ruffo, S., La Posta, A. & Vigna Taglianti, A. (2004) Aggiornamenti alla Checklist delle specie della fauna italiana. Nuove norme. Bollettino della Società Entomologica Italiana, 136 (3), 251–256.
- Swanson, D.R. (2017) Five new replacement names in Reduviidae (Heteroptera). Zootaxa, 4341 (2), 291–295. DOI: 10.11646/zootaxa.4341.2.12
- Tamanini, L. (1955) IV Contributo alla studio del genere *Velia* Latr. con la descrizione di quattro nuove entità (Hem. Heter. Veliidae). Bollettino della Società Entomologica Italiana, 85 (3–4), 35–44.
- Tamanini, L. (1961) Interessanti reperti emitterologici nella Venezia Tridentina (Hemiptera Heteroptera). Studi Trentini di Scienze Naturali, 38 (2), 67–130.
- Tamanini, L. (1964) Eterotteri dell'isola di Pantelleria (Heteroptera). Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, 103 (1), 65–71.
- Tamanini, L. (1979) Eterotteri acquatici (Heteroptera: Gerromorpha, Nepomorpha). Guide per il Riconoscimento delle Specie Animali delle Acque Interne Italiane. Vol. 6. Consiglio Nazionale delle Ricerche, AQ/1/45.
- Tamanini, L. (1981) Gli Eterotteri della Basilicata e della Calabria (Italia meridionale) (Hemiptera Heteroptera). Memorie del Museo Civico di Storia Naturale di Verona (2), Sezione Scienze della Vita (A: Biologica), 3, 1–164.
- Tamanini, L. (1982) Gli eterotteri dell'Alto Adige (Insecta: Heteroptera). Studi Trentini di Scienze Naturali, Acta Biologica, 59, 65–194.
- Taylor, S.J., Tescari, G. & Villa, M. (2001) A Nearctic pest of Pinaceae accidentally introduced into Europe: *Leptoglossus occidentalis* (Heteroptera: Coreidae) in northern Italy. Entomological News, 112 (2), 101–103.
- Vicidomini, S. & Pignataro, C. (2007) *Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera: Coreidae) in provincia di Salerno (Italia meridionale). Il Naturalista Campano, 35, 1–5.
- Wagner, E. (1955) Eine Heteropteren-Ausbeute von Monte Aetna. Memorie della Società entomologica italiana, 33 [1954], 69–119.
- Wagner, E. (1959) Über einige Arten der Gattung *Capsodes* Dahlb. (Hem. Het. Miridae). Entomologische Berichten, 19, 57–62.
- Weirauch, C. & Schuh, R.T. (2011) Systematics and evolution of Heteroptera: 25 years of progress. Annual Review of Entomology, 56, 487–510. DOI: 10.1146/annurev-ento-120709-144833
- Yasunaga, T., Schwartz, M.D. & Chérot, F. (2002) New genera, species, synonymies, and

combinations in the "*Lygus* complex" from Japan, with discussion on *Peltidolygus* Poppius and *Warrisia* Carvalho (Heteroptera: Miridae: Mirinae). American Museum Novitates, 3378: 1–26.

Submitted: 12 June 2024

First decision: 26 July 2024

Accepted: 6 August 2024

*the Guest editors for the special section
“The new Checklist of the Italian Fauna”:
Marco A. Bologna, Lucio Bonato,
Fabio Cianferoni, Alessandro Minelli,
Marco Oliverio, Fabio Stoch, Marzio Zapparoli*