

New data on Coleoptera species in Nature Reserve “Torre Salsa” (Sicily, Italy)

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ABSTRACT

In this paper we report on the presence of some Coleoptera species, new or interesting for Nature Reserve “R.N.O. Torre Salsa” located in the territory of Siculiana (Agrigento province, Sicily, Italy) including: *Eurynebria complanata* (Linnaeus, 1767) (Carabidae), *Bolbelasmus vaulogeri* (Abeille de Perrin, 1898) (Geotrupidae), *Zonitis (Zonitis) bellieri* Reiche, 1860 (Meloidae), *Probaticus (Helopotrichus) tomentosus* Reitter, 1906 (Tenebrionidae), *Parmena subpubescens* Hellrigl, 1971 (Cerambycidae), and *Chrysolina (Centoptera) bicolor* (Fabricius, 1775) (Chrysomelidae). Additional biological, faunistic and taxonomic notes are provided.

KEY WORDS

New data; Coleoptera; Sicilian coasts; Torre Salsa.

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INTRODUCTION

Nature conservation in Sicily is subject of discussion since a very long time. However, because of many conflicting interests, actions and politics have been very slow and little effective on this item and, in the meantime, we all have witnessed, in recent years, the disappearance of many natural environments and a general impoverishment of the island's biodiversity.

Aiming at protecting and managing natural habitats and biodiversity therein, several Nature Reserves have been instituted in Sicily. Among them, a particular attention goes to the “R.N.O. Torre Salsa”, located between Eraclea Minoa and Siculiana Marina (Agrigento, Sicily, Italy), in a Site of Community Importance (SCI ITA040003) in the Municipality of Siculiana. Considering the degradation of Sicilian coasts, the reserve, instituted in 2000 and managed by W.W.F., is one of the best preserved environments reflecting the original naturalness, importance and beauty of dune system of the Island.

In this paper we report on the presence of some Coleoptera species collected in this area, new or interesting for Torre Salsa, in the hope that this little contribution could be of any help in raising, in our modern society, awareness and willingness to protect and preserve this particular coastal environment.

MATERIAL AND METHODS

Study area

The Nature Reserve “R.N.O. Torre Salsa” (Figs. 1–3) extends for about 6 kilometers in length along the coast with an area of about 762 hectares and is characterized by sedimentary rocks belonging to the “Chalky-Solfifera series”, alternated to blue clay, calcareous chalky rocks and white marl. Near the beach of “Funcitedda” Salso Torrent and, more eastwards, two little torrents, Cannicella and Eremita, flow down to the sea.



Figure 1. Deep Valley of Cannicella torrent, Torre Salsa (Sicily, Italy).



Figure 2. Mediterranean scrub and Funcitedda beach, Torre Salsa (Sicily, Italy).



Figure 3. Dunes along the coast of Torre Salsa (Sicily, Italy).

The scenery is characterized by dunes and brackish environments along the last meander of Salso Torrent, joined to the Mediterranean scrub including: *Pistacia lentiscus* L., *Rhus coriaria* L., *Chamaerops humilis* L., *Euphorbia dendroides* L., *Rosmarinus officinalis* L., *Coridothymus capitatus* Reichb., *Olea oleaster* Hoffmanns. et Link, *Thymelaea hirsuta* (L.) Endl. Among important floristic elements there are *Juniperus turbinata* Guss., *Lavatera agrigentina* Tineo, and numerous species of orchids. The sandy coast shows a very well preserved dune topographical succession comprising beach, embryonic dunes, behind-dune area and stagnant-waters area. *Cakile maritima* Scop., *Salsola soda* L., *Eryngium maritimum* L., *Ammophila arenaria* ssp. *australis* (Mabille) Laínz, *Phragmites australis* (Cav.) Trin. ex Steud., *Typha latifolia* L., and *Tamerix* spp. are typical plants of this environment. Near the quagmire predominate *Ampelodesmos mauritanicus* (Poir.) Dur. et Schinz, *Lygeum spartum* L., *Hyparrhenia hirta* (L.) Stapf, *Stipa capensis* Thumb., and *Narcissus serotinus* L.

Among invertebrates, there are the Lepidoptera *Danaus chrysippus* (Linnaeus, 1758), a migrant butterfly, *Brithys crinii* (Fabricius, 1775) feeding on *Pancreatium maritimum* L., and *Deilephila euphorbiae* (Linnaeus, 1756) and the Orthoptera *Ochrilidia sicula* Salfi, 1931.

Among vertebrates, a particular mention goes to turtles *Caretta caretta* (Linnaeus, 1758) commonly reported to lay eggs in these beaches during last years, and *Emys trinacris* Fritz, Fattizzo, Guicking, Triepi, Pennisi, Lenk, Joger et Wink, 2005. Birds nesting in this area include *Acrocephalus scirpaceus* (Hermann, 1804), *Luscinia megarhynchos* (Brehm, 1831), *Cettia cetti* (Temminck, 1820), *Galerida cristata* (Linnaeus, 1758), and *Falco peregrinus* Tunstall, 1771; for mammals it's reported *Hystrix cristata* Linnaeus, 1758.

Sampling methods

Coleoptera were found by direct search on the ground or under stones, debris and barks. Present data were integrated with those obtained from literature and from private collections.

The taxonomic order and nomenclatural arrangement follow the bibliography reported.

RESULTS

Systematics

Ordo COLEOPTERA Linnaeus, 1758
 Familia CARABIDAE Latreille, 1802
 Subfamilia Nebriinae Laporte, 1834
 Genus *Eurynebria* Ganglbauer, 1891

Eurynebria complanata (Linnaeus, 1767)

EXAMINED MATERIAL. Torre Salsa, on sandy coast, 04.V.2013, legit-collection I. Sparacio.

DISTRIBUTION. This species is distributed in the beaches along Western Mediterranean and Atlantic western Europe coasts (Magistretti, 1965; Löbl & Smetana, 2003; Vigna Taglianti, 2007). In Italy, *E. complanata* is found in the Tyrrhenian and Ionic coasts of the peninsula and main islands and on the Gargano, with discontinuous, strongly depleted populations because of the destruction of natural environments (Colombini & Chelazzi, 1996; Sforzi & Bartolozzi, 2001; Vigna Taglianti & Fattorini, 2002; Vigna Taglianti et al., 2002; Vigna Taglianti, 2005, 2007; Audisio & Vigna Taglianti, 2010; Sabella et al., 2015).

BIOLOGY. Eulittoral species, *E. complanata* inhabits the foreshore of the most unspoiled beaches. It is an active predator of Amphipoda Talitridae, particularly of the genera *Talitrus* Latreille et Bosc, 1802 and *Talorchestia* Dana, 1852. Skillful racer on the beaches, *E. complanata* specimens perform predatory activities during the night.

REMARKS. In Sicily, *E. complanata* was very common in sandy beaches (Ragusa, 1883; "si trova comunemente ..."; Palumbo, 1890: "non è raro il caso di trovarla in buon numero ..."); currently it is in strong depletion due to destruction of many natural environments (Alicata et al., 1982; Aliquò & Castelli, 1991; Sparacio, 1995; La Piana & Sparacio, 2009); in particular, La Piana & Sparacio (2008) clearly documented the decline of the species in Sicily in the last few years. Listed in Annex A of regional law 6 April 2000 n. 56 of Tuscany Region (Ballerio, 2004), it's considered the perfect marker of "biotic" quality of the "Italian sandy beach" ecosystem (cf. Brandmayr et al., 2005).

Familia GEOTRUPIDAE Latreille, 1802
 Subfamilia Bolboceratinae Mulsant, 1842
 Genus *Bolbelasmus* Boucomont, 1911

Bolbelasmus vaulogeri (Abeille de Perrin, 1898)

EXAMINED MATERIAL. R.N.O. Torre Salsa, in a trail near the beach called "Fungitedda", 03.XII.2016, legit A. Viviano, 1 specimen, R. Viviano collection.

DISTRIBUTION. The genus *Bolbelasmus* is known from the Holarctic Region with 27 species (see Hillert et al., 2016). *Bolbelasmus vaulogeri* live in Algeria, Tunisia and Sicily.

BIOLOGY. Very little is known about the biology of this species. According to some sources (see Hillert et al., 2016) *Bolbelasmus* specimens seem to feed on subterranean fungi; on the top margin of the wings present a so-called "row of death" that, if rubbed, produces a small sound aimed at confusing their preys.

REMARKS. *Bolbelasmus vaulogeri* is a very rare species in Sicily (Arnone et Massa, 2010: sub *B. romanorum*; Hillert et al., 2016) and it is new for this locality.

Familia MELOIDAE Gyllenhal, 1810
 Subfamilia Nemognathinae Cockerell, 1910
 Genus *Zonitis* Fabricius, 1775

Zonitis (Zonitis) bellieri Reiche, 1860

EXAMINED MATERIAL. Torre Salsa, 4.V.2013, legit-collection C. Muscarella; idem, legit-collection I. Sparacio.

DISTRIBUTION. South Mediterranean species, recorded from Sicily and Morocco to Tripolitania; also reported for the Aegean area of Turkey (Bologna, 2009). It's known from several coastal areas of Sicily including: Lentini, Selinunte, Palermo, Vendicari, Sferracavallo (Ragusa, 1897; Luigioni, 1929; Bologna, 1991, Arnone, 1992).

BIOLOGY. *Zonitis bellieri* is found in April-May on dunes, in subcoastal- and internal hilly-areas, where it feeds mainly on Asteraceae (Bologna, 1991; Sparacio, 1997; Audisio et al., 2002).

REMARKS. This species, described for Monte Pellegrino near Palermo (Reiche, 1860), is now very rare in Sicily due to the destruction of its natural environment.

Familia TENEBRIONIDAE Latreille, 1802
Subfamilia Tenebrioninae Latreille, 1802
Genus *Probatiscus* Seidlitz, 1896

Probatiscus (Helopotrachus) tomentosus Reitter, 1906

EXAMINED MATERIAL. Torre Salsa, 20.VII.2011, 1 specimen, legit-collection C. Muscarella.

DISTRIBUTION. Endemic sicilian species.

BIOLOGY. Saproxyllic and subcorticicolous species. It can be found under bark of *Eucalyptus* (Sparacio, 1995) or may be collected in summer months immediately behind the dunes (F.E.I., 2011).

REMARKS. Uncommon species, known for some Sicilian localities (see Aliquò & Soldati, 2010). It is a new report for Nature Reserve of Torre Salsa.

Familia CERAMBYCIDAE Latreille, 1802
Subfamilia Lamiinae Latreille, 1825
Genus *Parmena* Dejean, 1821

Parmena subpubescens Hellrigl, 1971

EXAMINED MATERIAL. Torre Salsa, 03.XII.2016, legit R. Viviano, 2 specimens, collection R. Viviano.

DISTRIBUTION. Tyrrhenian (S-Italy, Sicily, Sardinia).

BIOLOGY. Larvae develop in dead branches of *Ficus carica* L., *Euphorbia* and *Nerium oleander* L. Adults flicker in May-June and September-October and, in the winter, may survive during the cold season by hiding in small groups inside larval galleries.

REMARKS. For biology and distribution in Sicily see also Sama (1988, 2005), Sama & Schurmann (1980), Sparacio (1999), Biscaccianti (2002, 2003), La Mantia et al. (2010). Two specimens from Torre Salsa were collected under the bark of a dead tree unacknowledged. It's a new record for the area.

Family CHRYSOMELIDAE Latreille, 1802
Subfamilia Chrysomelinae Latreille, 1802
Genus *Chrysolina* Motschulsky, 1860

Chrysolina (Centoptera) bicolor (Fabricius, 1775)

EXAMINED MATERIAL. R.N.O. Torre Salsa, 04.V.2013, 4.VI.2016 legit-collection C. Muscarella; idem, 04.V.2013, legit-collection I. Sparacio.

DISTRIBUTION. Mediterranean (Daccordi & Ruffo, 2005; Biondi, 2007).

BIOLOGY. It is found on plants of *Thymus* (including also during the larval stage) (Sparacio, 1999).

REMARKS. Uncommon in Sicily where it is reported only for Palermo, Catania, Caltanissetta (Luigioni, 1929; Daccordi & Ruffo, 2005) and San Vito Lo Capo (Sparacio *in verbis*).

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