

NOTA / NOTE

Echoes from the past: rediscovering *Isoscelipteron fulvum* Costa, 1863 (Neuroptera: Berothidae) in Italy.

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Abstract: A male and a female of *Isoscelipteron fulvum* Costa, 1863 (Neuroptera: Berothidae) have been collected in the Catena Costiera mountains (Calabria, Cosenza province). This represents the rediscovery of that species in Italy after the description of the taxon made by Achille Costa in 1863. Aspects of the morphological variability of this species are discussed.

Key words: Neuroptera, Berothidae, *Isoscelipteron fulvum*, morphological variability, faunistics, new record, Italy.

Resumen: **Ecós del pasado: redescubriendo *Isoscelipteron fulvum* Costa, 1863 (Neuroptera: Berothidae) en Italia.** Se han capturado un macho y una hembra de *Isoscelipteron fulvum* Costa, 1863 (Neuroptera: Berothidae) en los montes de la Catena Costiera (Calabria, provincia de Cosenza). Esto representa el redescubrimiento de dicha especie en Italia después de la descripción llevada a cabo por Achille Costa en 1863. Se discuten algunas cuestiones relacionadas con la variabilidad morfológica de la especie.

Palabras clave: Neuroptera, Berothidae, *Isoscelipteron fulvum*, variabilidad morfológica, faunística, nueva cita, Italia.

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Introduction

In 1859 one of the keenest Italian naturalists, Achille Costa (1823-1898) collected in southern Calabria (in the Aspromonte mountain region) a specimen of a new genus of Neuroptera, described in his paper on entomological aspects of southern Calabria (Costa, 1863; see also Pantaleoni, 2012). Due to the shape of wings of that new species (similar to an isosceles triangle), Costa named the genus *Isoscelipteron* and the species *fulvum* (i.e. tawny). Only few remains (hind-wings, one fore-wing and some legs) are now in Costa's collection (Pantaleoni, 1999, 2005). After that, no more specimens of beaded lacewings have been reported from Italy up to now, though a vicariant w-Mediterranean species, *Isoscelipteron glaserellum* (Aspöck, Aspöck & Hölzel, 1979), has been recently reported from Corsica (France) (Letardi *et al.*, 2008), a central Mediterranean island very similar to Sardinia (Italy) from a biogeographical point of view.

The controversy concerning the presence or the extinction of beaded lacewings in Italy has been discussed for a long time (Letardi, 1998), but it is now solved thanks to two recently collected specimens in the northern part of Calabria region.

Materials

Isoscelipteron fulvum Costa, 1863

Italy: Calabria, Montalto Uffugo (CS), Vallone Argentino, 565 m, light trap, 39,4082°N 16,1209°E, 22.VII.2015, 1♂, Scalercio & S. Infusino M. leg., Collezione Museo Scienze Naturali di Bergamo (A. Letardi det.).

Italy: Calabria, Fuscaldo (CS), fiumara Lavandaia, 30 m, light trap, 39,449°N 15,994°E, 18-24.VIII.2017, 1♀, Valle N. & M. leg., Collezione Museo Scienze Naturali di Bergamo (A. Letardi det.).

The male specimen was collected during a research conducted to study moth communities in chestnut woodlands of the Catena Costiera mountains, Calabria (Italy). The Catena Costiera is a mountain chain that stretches about 70 km on the northern Tyrrhenian coast of Calabria, between the Orsomarso mountains and the mouth of the Savuto river. The location of the mountain chain, combined with the system of winds that blow mainly from the west loads of humidity, create a microclimate characterized by persistent fog for most of the year, with high rainfall and cool temperatures. These characteristics favor the development of forest vegetation with the presence on the Tyrrhenian side of beech forests from very low altitudes. The East slope is characterized by the abundant presence of chestnut (*Castanea sativa* L.) and other mesophilic species (e.g. *Quercus* spp., *Alnus* spp. or *Salix* spp.).

In order to monitor the local entomofauna (Greco *et al.*, 2016), insects were sampled using UV-LED traps powered by a 12V battery (Fig. 1). Traps were positioned at 1.30 m above ground level and equipped with a timer that turned on at the sunset and turned off at the sunrise. Traps were activated one night per month from May to November 2015.

The female specimen was collected two years later, by a UV-LED trap positioned on the ground (Fig. 2) near the coastal Tyrrhenian area between the sea and the Catena Costiera mountains, in a riparian dense vegetation zone adjacent to a small creek characterized by the abundant presence of alder trees (*Alnus* spp.).

Discussion

The two European species of the genus *Isoscelipteron* Costa, 1863 seem to present a vicariant distribution (Aspöck *et al.*, 2015). *Isoscelipteron glaserellum* is a w-Mediterranean species recorded for Ibero-Balearic region, Morocco and Corso-Sardinian subregion: a comprehensive review of the knowledge of that species is due to Monserrat (2014). The knowledge concerning *I. fulvum* is more or less the same summarized by Aspöck (1987): the species has a Pontomediterranean distribution and it is known from Southern Italy to Iran. Its biology is entirely unknown. No photos of specimens in nature are available: the only way found to illustrate that species in a recent photographic atlas of Italian Neuropterida (Letardi, 2016) has been using a photo of a pinned male from Bulgaria (Fig. 3). This taxon seems to present a high variability of morphological characters and it is worth of mention that Aspöck (1987) reported that: "the only known record of the *I. fulvum* from (southern) Italy dates back to the original description of the species, there is no further evidence. Whether the Italian phenon differs from the eastern mediterranean phenon cannot be decided at present". Nothing is changed after that sentence till now: remains of lectotype in Costa's collection (Pantaleoni, 1999) can not contribute to the study of the morphological variability of *I. fulvum*. The recent discovery of a new population of this species in Calabria confirms the presence of the Berothidae family in Italy and can also contribute to future analysis of the variability of some morphological characters of this peculiar, charming and cryptic insect.

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References

- Aspöck, U. 1987. What we know and what we don't know about *Isoscelipteron fulvum* (Neuroptera: Planipennia: Berothidae), a peculiar insect of the European fauna. *Biologia gallo-hellenica* **13**: 91-98.
- Aspöck, U.; Aspöck, H.; Letardi, A. & de Jong, Y. 2015. Fauna Europaea: Neuropterida (Raphidioptera, Megaloptera, Neuroptera). *Biodiversity Data Journal* **3**: e4830. doi: 10.3897/BDJ.3.e4830
- Costa, A. 1863. Nuovi studii sulla entomologia della Calabria ulteriore. *Atti della Reale Accademia delle Scienze Fisiche e Matematiche, Serie prima* **1**[2]: 1-80.
- Greco, S.; Infusino, M.; Bernardini, V.; Turco, R. & Scalercio, S. 2016. Timber vs. Fruit Production: partitioning of moth diversity within a mosaic-like chestnut forest. *Contemporary Engineering Sciences* **9**(28): 1387-1402.
- Letardi, A. 1998. Present knowledge of Italian Neuropterida: history, distribution and current problems. *Acta Zoologica Fennica* **209**: 145-149.
- Letardi, A. 2016. Atlante fotografico dei Neuropterida della fauna italiana. ENEA editor, Roma, 208 pp.
- Letardi, A.; Thierry, D.; Tillier, P. & Canard, M. 2008. Mise à jour de la faune des neuropterida de Corse (Raphidioptera & Neuroptera). *Revue de l'Association Roussillonnaise d'Entomologie* **17**(3): 95-105.
- Monserat, V.J. 2014. Los berótidos de la Península Ibérica (Insecta: Neuropterida: Neuroptera: Berothidae). *Heteropterus Revista de Entomología* **14**(1): 31-54.
- Pantaleoni, R.A. 1999. Neuropterida described by A. Costa with type designation. *Deutsche Entomologische Zeitschrift (N.F.), Berlin* **46**(2): 249-261.
- Pantaleoni, R.A. 2005. Interpretation of Achille Costa's data on Neuropterida. *Bulletin of Insectology* **58**: 71-92.
- Pantaleoni, R.A. 2012. Achille Costa (1823-1898), entomologo naturalista esploratore: tratteggio biografico. *Il Naturalista Siciliano* **36**(1): 3-17.



Fig. 1.- Sampling trap used for monitoring moth communities in chestnut woodlands of the Catena Costiera mountains in 2015.



Fig. 2. - Sampling trap and micro-habitat in which the female specimen was collected in 2017.



Fig. 3. - Male of *Isoscelipteron fulvum* from Bulgaria; photo made by Georgi in 2015 (see Letardi, 2016: 76).