

***Ascalaphus festivus* (Rambur, 1842) in Sardinia, a new genus of Ascalaphidae for Europe (Neuroptera)**

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ABSTRACT

Ascalaphus festivus (Rambur, 1842), a widespread polytypic species in Africa and Middle East, was collected for the first time in southern Sardinia in the 1990s in two independent occasions. Subsequent specific surveys proved the existence of a stable breeding population in at least one coastal locality of Sardinia, thus allowing to fully consider this genus a member of the European fauna.

KEY WORDS

Faunistic; Biogeography; Mediterranean; Owl-flies.

Received 6.11.2012; accepted 18.1.2013; printed 30.03.2013

The European Ascalaphidae are usually considered to be well known, at least from a faunistic point of view (Aspöck H. et al., 1980). Therefore it was very unexpected when several years ago three of us (R.A.P., H.A., and U.A.) independently and almost simultaneously received two specimens of a species belonging to the genus *Ascalaphus* Fabricius, 1775, collected in two localities (su Feraxi: Muravera and Porto Pino: Sant'Anna Arresi) in Sardinia (Italy) (Fig. 1). V. Haeseler found a specimen in Porto Pino in 1994 which he gave to H.A. a few years later. Moreover, a second specimen, communicated to R.A.P., was collected near Muravera in 1999 during a sampling carried out by a team of orthopterists led by Paolo Fontana (then University of Padua). These were the first records of *Ascalaphus* in Europe. Due to the importance of the

findings, extensive and accurate field research was repeatedly performed in su Feraxi: Muravera between 1999 and 2004 by R.A.P. and in 2005 by R.A.P., H.A. & U.A., although no other specimen of this interesting species was further observed in this locality. Instead a specific survey conducted in 2005 in Porto Pino, successfully verified the actual presence of this owl-fly in Southern Sardinia.

In the following years, 2007 and 2009 respectively, subsequent field research conducted in the same area confirmed again the existence of a stable breeding population in Sardinia and dismissed the hypothesis of the arrival of single specimens there by wind dispersal from Tunisia, where the genus is known (Aspöck H. et al., 2001; Güsten, 2003).

In both the Sardinian sites, the owl-flies were observed in coastal salt-marshes in back dunal en-

vironment with luxuriant *Juncus* vegetation. Almost all the specimens were collected with an entomological net; light trapping does not seem to be particularly effective on this species.

List of known specimens from Sardinia

DATA LABELS

ITALY: S-Sardinien, 15 km W Teluada: Salz-wiesen bei Pto. Pino, 24.9.1994, Haeseler, 1 female (H. Aspöck & U. Aspöck coll.); Stagno d. Feraxi-S // 8-VIII-1999-2 // UTM 05515/43529 // leg. R. Kleukers, 1 female (R. A. Pantaleoni coll.); S. A. Arresi: Porto Pino (CA) // 25.VIII.2005 R. A. Pantaleoni legit, 1 female (R. A. Pantaleoni coll.); Italia, Sardinia, Porto Pino, SAR 05/5, 25.8.2005, A. Molinu leg., 1 female (NHM Vienna coll.); Italia, Sardinia, Porto Pino, SAR 05/5, 25.8.2005, A. Molinu leg. 1 male (H. Aspöck & U. Aspöck coll.); S. A. Arresi: Porto Pino (CA) // alla luce (at light) 29.VIII.2005 A. Sassu legit, 1 male (R. A. Pantaleoni coll.); Sardegna, Porto Pino, 29.VIII. 2005, A. Molinu leg. 1 male (H. Aspöck & U. Aspöck coll.); S. A. Arresi: Porto Pino (CA) // retroduna (back dune) 30.VIII.2005 A. Molinu legit, 1 male (R. A. Pantaleoni coll.); Italia, Sardinia, Porto Pino, SAR 05/ 6, 26.8. -30.8. 2005, H. & U. Aspöck leg., 2 males (H. Aspöck & U. Aspöck coll. and NHM Vienna coll.) Sant'Anna Arresi: Porto Pino (CA) // 28.VIII.2007 A. Molinu legit, 1 male 1 female (R. A. Pantaleoni coll.); IT - SARDEGNA - Sant'Anna Arresi: Porto Pino // 2.IX.2009 R. A. Pantaleoni, D. Badano, A. Letardi legit, 1 female (D. Badano coll.).

According to the present sense, the genus *Ascalaphus* comprises over fifteen species from Africa and Asia, five of which are reported from North Africa and Middle East in areas still included in the Western Palearctic biogeographic region (Aspöck H. et al., 2001). However, this taxon is in need of revision and it is possible that a split into different genera will necessarily result. In any case, the genus was previously unknown from the Northern coasts of the Mediterranean Sea. The Sardinian specimens coincide largely with *A. festivus* (Rambur, 1842) (Fig. 2), a polytypic species reported from almost all of the African continent, including Madagascar, the Middle East (Israel, Saudi Arabia and Oman) and the Cape Verde Islands. Nevertheless,

the exact distribution of this species now appears to be uncertain and in need of confirmation due to the complex taxonomic history of this taxon. Originally, van der Weele (1907; 1909) considered it a single, very variable and widespread species, afterwards Kimmins (1949) demonstrated the presence of several, previously confused, related African species; this was also confirmed by Tjeder (1980) and Prost (2011).

For definite clarification, a revision of *A. festivus* in the present sense from various ecologically different areas is necessary. The Sardinian populations are apparently confined to salt-marshes with *Juncus* vegetation (Fig. 3), while in Africa it is mainly recorded in savannah-like biotopes. The species is very difficult to detect in the field: the adults are present for few weeks at the end of summer and are markedly crepuscular, being observed only for a brief period during sunset, moreover they are seldom attracted to light. Exceptionally the specimen collected in Muravera was observed flying with two other individuals at midday with a very hot and dark cloudy weather (Fontana, pers. comm.). It is worth noting that these reports represent the most remarkable discovery of the European Ascalaphidae since the description of *Bubopsis andromache* Aspöck U., Aspöck H. et Hölzel, 1979 and the rediscovery of *Puer maculatus* (Olivier, 1789) in the 1980s (Aspöck U. & Aspöck H., 1987).

ACKNOWLEDGEMENTS

Grateful thanks to Prof. Dr. Volker Haeseler (University Oldenburg, Germany), Dr. Roy Kleukers (European Invertebrate Survey - The Netherlands / Naturalis Biodiversity Center Leiden, Holland), Dr. Baudewijn Odé (Amsterdam, Holland) and Dr. Paolo Fontana (Fondazione Edmund Mach, Casalino di Pergine Valsugana, Italy) who found the first two specimens and initiated field work and the clarification of the occurrence of *Ascalaphus* in Europe several years later. Special thanks are due to Alessandro Molinu, Antonio Sassu and Agostino Letardi for their participation in the field research, Bruno Michel for interesting discussions on African Ascalaphidae and André Prost for precious suggestions. Finally we thank Dr. John Plant (Vienna) for the linguistic improvement.



Figures 1-4. *Ascalaphus festivus* (Rambur, 1842). Fig. 1: Localities of Sardinia (Italy) where the species has been recorded: Porto Pino, Sant'Anna Arresi (south-west coast) and su Feraxi, Muravera (east coast). Fig. 2: Habitus of a male specimen (Porto Pino, Sant'Anna Arresi, Sardinia, Italy), photo Davide Badano/ISE CNR. Fig. 3: Female specimen resting on a *Juncus* twig in its natural environment, a coastal salt marsh, at sunset (Porto Pino, Sant'Anna Arresi, Sardinia, Italy), photo Alessandro Molinu/ISE CNR. Fig. 4: Local newspaper (L'Unione Sarda, Cagliari) reporting the presence of the species in Southern Sardinia, published on occasion of the 2009 expedition conducted by R. A. Pantaleoni, D. Badano and A. Letardi.

Notice

The finding of *Ascalaphus* in Sardinia was the subject of an official press release of the National Research Council (CNR) picked up by some major Italian news-agencies in October 2005. As a result, the news appeared many times in newspapers (Fig. 4), magazines and web (Pantaleoni, 2005). The first scientific communication on this topic was a poster exposed during the XI International Symposium on Neuropterology in 2011 mentioned in the index of the “Book of Abstracts” and in few cases cited as Pantaleoni et al. (2011). However, this note is the first complete, technical article published on the presence of *Ascalaphus* in Sardinia.

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