# A new species of genus *Agapanthia* Audinet-Serville, 1835 (Coleoptera Cerambycidae) from Lampedusa Island (Sicily Channel, Italy)

Pierpaolo Rapuzzi<sup>1</sup> & Ignazio Sparacio<sup>2</sup>

<sup>1</sup>Via Cialla 48, 33040 Prepotto, Udine, Italy; e-mail: info@ronchidicialla.it <sup>2</sup>Via Principe di Paternò 3, 90144 Palermo, Italy; e-mail: edizionidanaus@gmail.com

### **ABSTRACT**

In this paper, a new species of *Agapanthia* Audinet-Serville, 1835, subgenus *Epoptes* Gistel, 1857 (Coleoptera Cerambycidae) from Lampedusa Island (Sicily Channel, Italy) is described. This new species belongs to the *A. asphodeli* (Latreille, 1804) species group. Taxonomic, biological and geonemic notes on *A. lopadusae* n. sp. are provided.

**KEY WORDS** 

Coleoptera; Cerambycidae; Agapanthia; Epoptes; new species; Lampedusa, Italy.

Received 26.11.2017; accepted 18.12.2017; printed 30.12.2017

# INTRODUCTION

The *Agapanthia asphodeli* (Latreille, 1804) group consists of many species widespread in the Mediterranean basin and it was made up of 8 species until now (Hernández, 1992; Sama, 2008; Löbl & Smetana, 2010).

- A. asphodeli (Latreille, 1804) spread from Spain and Portugal to Southern Russia, West Kazakhstan, Balcan Peninsula and Asia Minor (locus typicus: Bordeaux, France);
- Agapanthia schurmanni Sama, 1979 from Southern Balcans;
  - A. nicosiensis Pic, 1927 is endemic of Cyprus;
- *A. cretica* Bernhauer, 1978 is endemic of Kriti (Greece):
- *A. renatae* Steiner et Schmidt, 2013 from Peloponnese (Greece);
- *A. kindermanni* Pic, 1905 is endemic of South Turkey;
- *A. fadli* Sama et Rapuzzi, 2006 is endemic of North Egypt;

- *A. zappi* Sama, 1987 spread in North Africa from Lybia to Morocco.

It is very likely that, after a deeper study on this species-group, other populations can be separated from *A. asphodeli* as distinct species.

In Italy, *A. asphodeli* (Sama, 1988; 1994; 2002; 2007; Löbl & Smetana, 2010; Sama & Rapuzzi, 2011) is reported and it is also present in Sicily (Ragusa, 1924; Vitale, 1936; Sama & Schurmann, 1980; Sparacio, 1999; Sama, 2005; Baviera et al., 2017).

Particularly, *A. asphodeli* was reported to be from Lampedusa Island by Pisciotta et al. (2008). However, the study of further material from this island has allowed us to understand that these populations belong to a new species that is described below.

ACRONYMS. CB: Michele Bellavista collection (Palermo, Italy); CPR: Pierpaolo Rapuzzi collection (Prepotto, Udine, Italy); CS: Ignazio Sparacio collection (Palermo, Italy); MSNG: Museo Civico di Storia Naturale di Genova, Italy; ex/x: specimen/s.

### **RESULTS**

## **Systematics**

Ordo COLEOPTERA Linnaeus, 1758 Superfamilia CHRYSOMELOIDEA Latreille, 1802 Familia CERAMBYCIDAE Latreille, 1802 Subfamilia LAMIINAE Latreille, 1825 Tribus AGAPANTHIINI Mulsant, 1839 Genus *Agapanthia* Audinet-Serville, 1835 Subgenus *Epoptes* Gistel, 1857

# Agapanthia lopadusae n. sp. (Figs. 1–5)

EXAMINED MATERIAL. Holotype: Italy, Sicilian Channel, Lampedusa Island, 18.II.2017, legit T. La Mantia (MSNG). Paratypes: same data of holotype, 30.III.2009, 5 exx (CS); idem, 12.III.2015, 3 exx (CS); idem, 1 ex (CB); idem, 10.III.2016, 12 exx, legit G. Maraventano (CPR); idem, 18.II.2017, legit T. La Mantia and G. Maraventano, 12 exx (CS).

DESCRIPTION OF HOLOTYPE Length: 17.2 mm. Black with bronze lustre. Head with dark and short pubescence and long and black hairs; vertex with longitudinal and large stripe of yellow pubescence; lower eyes lobes about as long as the cheeks. Pronotum a bit transverse, 1.16 as wide as it is long, wider at the base than in front, arched on the lateral sides, with big and very dense punctures and small wrinkles towards the base; covered by numerous black erect hairs and three longitudinal stripes (two on the sides and a central one) of dense yellowish pubescence. Elytra wider than the pronotum, slightly convex, elongated, 2.7 as long as it is wide, about 4 times longer than the pronotum, subparallel to the lateral sides and narrow in the apical fifth, with big and very dense punctures; they are irregularly and not densely covered by short yellow pubescence isolated or arranged in small groups and with long erect black hairs shorter at the apex; two longitudinal stripes of short and yellow pubescence are present on the sides. Scutellum rounded and interely covered by short and yellow pubescence. Apex rounded. Antennae longer than body, surpassing the elytra with the last five segments; first segment black, densely covered with appressed short pubescence black on the dorsal surface, yellow an the ventral surface; segments 3-12 predominantly reddish, blackened apically 3–5, in the apical half 6–12; segments 1–5 with long, erect and black hairs, sparse or absent from the sixth onwards. Legs relatively short and strong, tibiae arched, tarsi longer of the tibiae with third segment of anterior tarsi very elongated. Ventral surface of the body densely covered by yellow and short pubescence and long, sparse and black hairs.

Genitalia (tegmen) as in figure 4 with the manubrium divided into two separated basal apodems (subgenus *Epoptes*: see Sama, 2008); the lateral lobes are elongate, little wide, apex convex with numerous and long bristles. The endophallous shows little dense sclerifications, the paramers are elongate with the apex short.

VARIABILITY. Paratypes have no substantial morphological differences from the holotype. Length: 15.2–19 mm. The females, usually, have a broader body and shorter antennae surpassing the elytral apex with the last three segments. The valvae of ovipositor are elongate and acuminate (Fig. 5).

ETYMOLOGY. The specific epithet refers to the Latin name of type locality, Lampedusa.

DISTRIBUTION AND BIOLOGY. The new species is only known from the type locality in Lampedusa Island. This island is an emergence of the African Continental platform and is located 195 Km from the Sicilian coast and 120 Km from Tunisia (Agnesi & Federico, 1995). Lampedusa includes numerous endemic species; they are differentiated by geographical isolation and often have clear North African affinities (Muscarella & Baragona, 2017).

Agapanthia lopadusae n. sp. have been captured on Asphodelus ramosus L. subsp. ramosus stems and, like others species of this group, the larva develops especially on this plant. The A. asphodeli species group also live on other plants like Carduus, Thapsia and Ferula. Agapanthia lopadusae n. sp. probably develops also on Ferula.

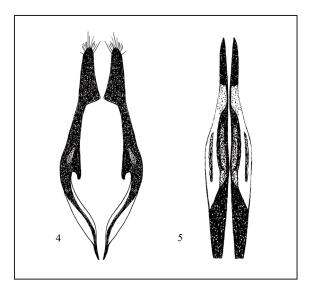
Comparative notes. Taking into account the very elongated third segment of the front tarsi, the new species belongs to the *A. asphodeli* species group (see Sama, 1994; 2008). It is easy to distinguish from other species of this group by the darker antennae in which the color, from the third segment, is dark-brown and not more or less light yellow. The closest known species to *A. lopadusae* n. sp. is *A.* 



Figures 1–3. Agapanthia lopadusae n. sp. from Lampedusa Island. Figs. 1, 2: paratype male. Fig. 3: paratype female.

zappii from North Africa. The North African populations of A. zappii differ greatly depending on the location. It is very likely that they constitute a group of different species. For this study, we used specimens of A. zappii from Algeria (Ouarsenis: Teniet el Had). This place is close to the type locality (Batna). The specimens of A. lopadusae n. sp. have been compared to the type series preserved in Sama's collection (Cesena, Italy). The new species differs from the North African species for the denser and longer erect black hairs on elytra and pronotum, the color of the pubescence is darker and the yellow strips on pronotum and lateral sides of the elytra are made by darker pubescence as well. The punctuation of the pronotum shows denser and deeper points. The space between each point is thinner and sometimes the single points are fused with the closest one in A. lopadusae n. sp. This punctuation is made by sparser and less deep points in A. zappii. From the other North African species like A. fadli (Sama & Rapuzzi, 2006), known only from few localities close to Alexandria in Northern Egypt, the

new species is easy to distinguish by the denser long erect hairs on the inner side of all the antennal segments, from the third to the fifth. These hairs are missing in the Egyptian species and are very scattered in A. zappii from Algeria. Following this morphological characteristic, this new species is closer to A. asphodeli, described from Bordeaux (France). Nonetheless, it can be easily distinguished by the darker color of the antennal segments, the darker pubescence of the body and for the stronger punctuation on elytra and pronotum. The points on the elytral base are arranged in more or less evident wrinkles in the new species and they are perfectly separated in A. asphodeli. The erect black hairs on the whole body are longer and denser in the Lampedusean species than in any other species. The sclerites of the endophallous are less dense and sclerificated than in any other species of this group, the paramers are long with the apex shorter than in A. zappii, but a little longer and stouter than in A. asphodeli and A. fadli, being more closely related to A. nicosiensis from Cyprus and resembling A. zappii from North Africa. Agapanthia nicosiensis differs from the new species by the absence of the longitudinal stripe of grey pubescence along the lateral margin of elytra, the absence of transverse wrinkles on pronotal disc, which is more or less irregularly and deeply punctate, the elytra more densely covered with recumbent pubescence and



Figures 4, 5. Genitalia of *Agapanthia lopadusae* n. sp. from Lampedusa Island. Fig. 4: tegmen of the male. Fig. 5: female ovipositor.

with erect hairs up to the apex. Agapanthia zappii differs from the new species by the puncturation of pronotum, the conspicuously denser elytral ground pubescence (like in A. asphodeli), the antennae, except the scape, are very sparsely ciliate on their inferior side, the third segment has no tuft of hairs at the apex. Because of the elytral lateral stripe of grey pubescence, A. fadli was confused with A. lateralis Ganglbauer, 1884. This species, that lives only in Turkey, is easily distinguishable by the third segment of the front legs that is transverse, not longer than it is wide, and by the pronotal disc without transverse wrinkles. Agapanthia pustulifera Pic, 1905 (from the Near East), which has the pronotal disc transversely wrinkled like the new species, is easily recognizable by the transverse third segment of the front tarsi, pronotum with a short median tubercle on each side, elytra covered with much shorter and sparser ground pubescence and without a lateral stripe of grey pubescence.

# **ACKNOWLEDGEMENTS**

We would like to thank: Vincenzo Billeci, Giuseppe Maraventano, Elena Prazzi, Francesco Sanguedolce, Gerry Sorrentino and the Director Angelo Dimarca of "Riserva Naturale Orientata Isola di Lampedusa" (Sicily, Italy) managed by Legambiente, for the assistance and the logistic support. We also thank Tommaso La Mantia, Dipartimento SAAF - Scienze Agrarie, Alimentari e Forestali Università degli Studi di Palermo (Italy) for helping in these researches.

## REFERENCES

Agnesi V. & Federico C., 1995. Aspetti geografico-fisici e geologici di Pantelleria e delle Isole Pelagie (Canale di Sicilia). In: Massa B. (Ed.), Arthropoda di Lampedusa, Linosa e Pantelleria (Canale di Sicilia, Mar Mediterraneo). Il Naturalista siciliano, 19 (Suppl.): 1–22.

Baviera C., Bellavista M., Altadonna G., Turrisi G.F., Bella S., Muscarella C. & Sparacio I., 2017. The Cerambycidae (Coleoptera: Chrysomeloidea) of Sicily: recent records and updated checklist. Atti della Accademia Peloritana dei Pericolanti Classe di Scienze Fisiche, Matematiche e Naturali, 95: 1–79.

Hernández J.M., 1992. Study of the female genitalia of the genera *Agapanthia* Serville, 1835 in the Iberian Peninsula and its taxonomical application (Coleop-

- tera, Cerambycidae, Lamiinae). Actas do V Congresso Ibérico de Entomologia, Supl. 3. Boletim da Sociedade Portuguesa de Entomologia, 2: 499-
- Löbl I. & Smetana A. (Eds.), 2010. Catalogue of Paleartic Coleoptera. Volume 6. Chrysomeloidea. Apollo Books, Stenstrup, 924 pp.
- Muscarella C. & Baragona A., 2017. The endemic fauna of the Sicilian islands. Biodiversity Journal, 8: 249-278.
- Pisciotta S., Sajeva M. & Sparacio I., 2008. New records of Coleoptera Cerambycidae for Lampedusa Island (Pelagian Is., Sicily). Il Naturalista siciliano, 32: 405-
- Ragusa E., 1924. I Cerambycidae della Sicilia. Bollettino della Reale Accademia delle Scienze, Lettere e Belle Arti di Palermo, 14: 1-33.
- Sama G., 1994. Deuxième note sur les Cerambycides de Chypre. Revision de la collection du Department of Agriculture de Chypre avec description d'un nouveau Leiopus Serville et de deux Trichoferus Wollaston du Ciste. Biocosme Mésogéen, 11: 37-47.
- Sama G., 1988. Coleoptera Cerambycidae. Catalogo Topografico e Sinonimico. Fauna d'Italia, XXV. Bologna, Calderini, 216 pp.
- Sama G., 1994. Coleoptera Polyphaga XIV (Cerambycidae). In: Minelli A., Ruffo S. & La Posta S. (Eds.), Checklist and distribution of the Italian fauna. Vol. 59. Calderini, pp. 1–12.
- Sama G., 2002. Atlas of the Cerambycidae of Europe and the Mediterranean Area. Volume 1: Northern, West-

- ern, Central and Eastern Europe. British Isles and Continenal Europe from France (excl. Corsica) to Scandinavia and Urals. Nakladatelstvi Kabourek: pp. 1-173.
- Sama G., 2005. Insecta Coleoptera Cerambycidae. In: Checklist e distribuzione della fauna italiana. Ed. by S. Ruffo and F. Stoch. Memorie del Museo Civico di Storia Naturale di Verona, 2. Serie, Sezione Scienze della Vita 16, pp. 219–222.
- Sama G., 2007. Fauna Europea: Coleoptera, Cerambycidae. In: Audisio P., Fauna Europaea: Coleoptera: 2. Fauna Europaea version 1.3, http://www.fauna-
- Sama G., 2008: Notes on the genus Agapanthia Serville, 1835. Boletin Sociedad Entomologica Aragonesa, 42:
- Sama G. & Schurmann P., 1980. Coleotteri Cerambicidi di Sicilia. Animalia, 7: 189-230.
- Sama G. & Rapuzzi P., 2006. Preliminary report on a recent survey of the Egyptian Cerambycidae, with description of three new species. (Insecta Coleoptera Cerambycidae). Quaderno di Studi e Notizie di Storia Naturale della Romagna, 23: 179-194.
- Sama G. & Rapuzzi P., 2011. Una nuova Checklist dei Cerambycidae d'Italia. Quaderno di Studi e Notizie di Storia Naturale della Romagna, 32: 121-164.
- Sparacio I., 1999. Coleotteri di Sicilia. Parte III. L'Epos, Palermo.
- Vitale F., 1936. I longicorni siciliani. Atti della Reale Accademia Peloritana. Classe di Scienze Fisiche, Matematiche e Biologiche, 14: 75-101.

