

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

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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 geonomic notes on *A. lopadusae* n. sp. are provided.

KEY WORDS

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

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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 Balcan;

- *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 *Epopetes* 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 on 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 apodemes (subgenus *Epopetes*: 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.

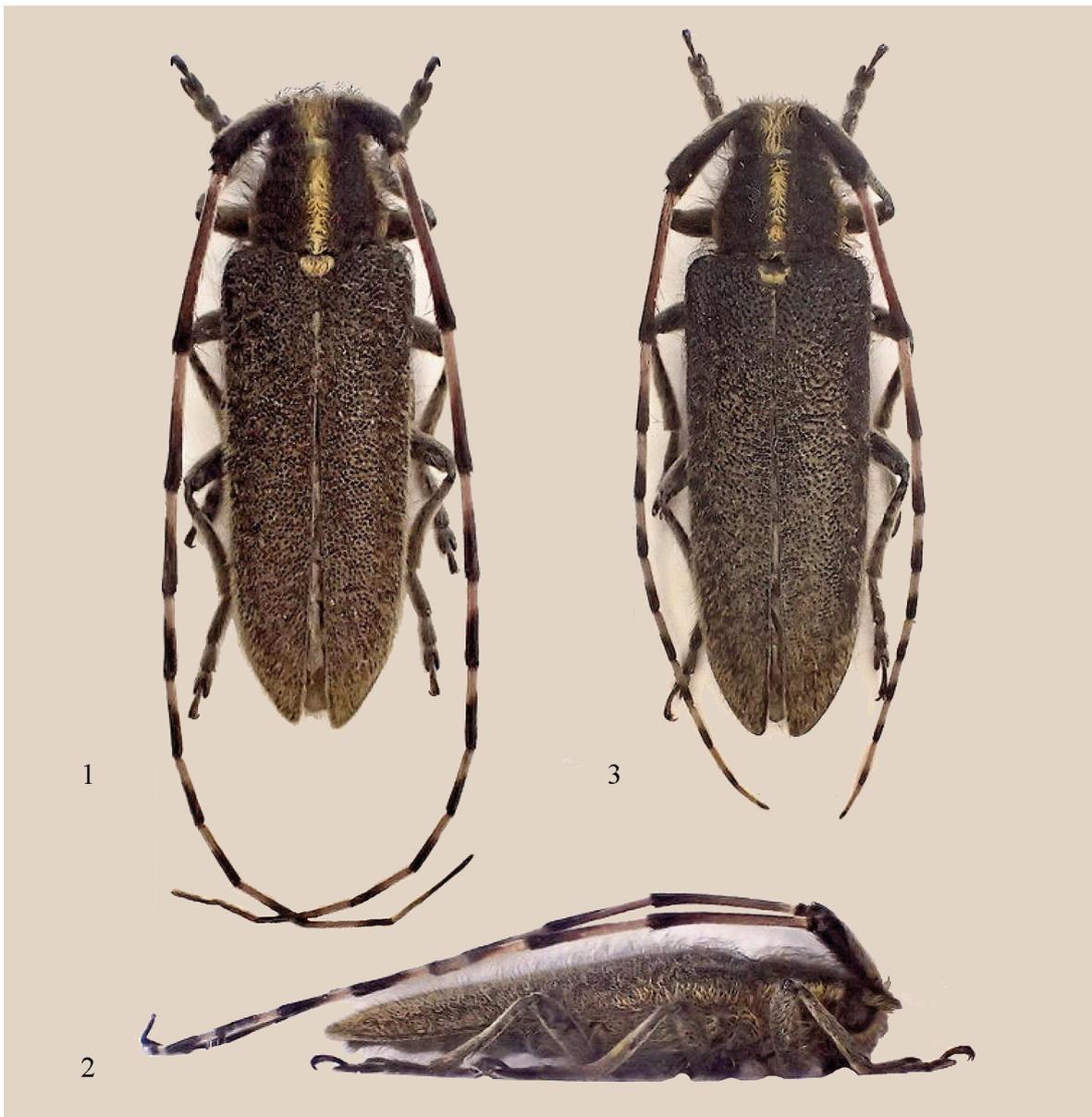
VARIABILITY. Paratypes have no substantial morphological differences from the holotype. Length: 15.2–19 mm. The females, usually, have a broader body and shorter antennae surpassing the elytral apex with the last three segments. The valvae of ovipositor are elongate and acuminate (Fig. 5).

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

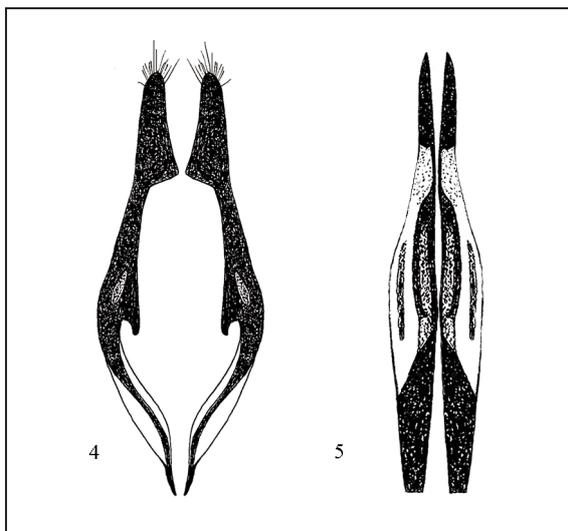
with erect hairs up to the apex. *Agapanthia zappii* differs from the new species by the punctuation of pronotum, the conspicuously denser elytral ground pubescence (like in *A. asphodeli*), the antennae, except the scape, are very sparsely ciliate on their inferior side, the third segment has no tuft 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.

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

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