

**COROLOGICAL NOTES ON SOME SPECIES OF
Pygopleurus (COLEOPTERA: GLAPHYRIDAE)
FROM THE GREEK ISLAND OF LESBOS**

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ABSTRACT: The authors report the presence of five species of *Pygopleurus* from Lesbos Island (Greece), of which *Pygopleurus kareli* (Petrovitz, 1962), *Pygopleurus labaumei* (Petrovitz, 1971) and *Pygopleurus medius* (Petrovitz, 1957) are new for Greece and therefore for Europe. They also made some observations on intraspecific variability of *Pygopleurus labaumei* (Petrovitz, 1971), *Pygopleurus medius* (Petrovitz, 1957) and *Pygopleurus vulpes* (Fabricius, 1781).

KEY WORDS: *Pygopleurus*, Lesbos, taxonomy, chorology, Glaphyridae.

The Glaphyridae are one of the main components of the antophilous fauna of the Eastern Mediterranean islands during springtime, but, in spite of their abundance and ease of sampling, the faunistic composition of the Aegean islands is poorly known. Apart from occasional reports for single localities, and the description of a *Pygopleurus* from the island of Kos, so far only known from the type series (Piattella & Sabatinelli, 1992), no comprehensive data on the presence of members of this family in the area are available.

To the best of our knowledge, up to now only three species of *Pygopleurus* are recorded (Baraud, 1989) from the Island of Lesbos: *Pygopleurus foina* (Reitter, 1890), *Pygopleurus anemoninus* (Brullé, 1832), and *Pygopleurus vulpes* (Fabricius, 1781).

During a visit to Lesbos in the second half of March 2014, G. Ruzzante had the opportunity to sample the local populations of Glaphyridae, collecting 198 *Pygopleurus* specimens. The study of such specimens (presently preserved in the authors' collections, and in the collections of Guido Sabatinelli and Marco Uliana) allowed us to ascertain the presence of five species of the genus *Pygopleurus*, three of them being new to Aegean Greece and therefore to Europe.

The species are listed below in alphabetical order, without consideration of the groups proposed by Baraud (1989).

***Pygopleurus foina* (Reitter, 1890)** (plate 1: A)

This species was previously recorded from the Island (Baraud, 1989). Only a few specimens were collected in central Lesbos: Halinados archeological site, ~ 39°13'N 26°18'E, 19-20.III.2014 – m 70 (2♂♂); near Polichnitos, ~ 39°04'N 26°10'E, 22.III.2014 – m 100 (2♂♂, 1♀). The low frequency of this usually common species is probably related to its late phenology compared to that of other collected species.

***Pygopleurus kareli* (Petrovitz, 1962)** (plate 1: B)

This species had never been recorded from Lesbos, while the sibling species

Pygopleurus anemoninus (Brullé, 1832) was reported from this Island by Baraud (1989). After study of a long series of both taxa from various localities of Greece and Turkey, we noticed that the two taxa are quite close morphologically in the color of the integuments and setae, while the subjective evaluation of the shape of the parameres, especially when compared with the drawings by Baraud (1989), may cast doubts on the identification of some specimens and their records. However, as observed with other Glaphyridae species (Uliana & Sabatinelli 2010), we noticed that the structure of the endophallus shows a more stable species-specific shape, thus permitting an unambiguous identification. Applying the Berti-Vachon method (Bontems, 2013) we obtained a full eversion of the endophallus of Greek specimens of *Pygopleurus anemoninus* (Fig. 1) and of Turkish specimens of *Pygopleurus kareli* (Fig. 2). Comparing them with the same structure of specimens from Lesbos (Fig. 3), we concluded that the specimens from the Greek Island belong to the Anatolian taxon *P. kareli*. In fact, the endophallus of *Pygopleurus* species, when fully everted, consists of multiple diverticula whose shape is diagnostic at species level. The most important species-specific characters are found in the dorsal and flagellar (or apical) diverticula, while the lateral and apico-ventral ones are usually, but not always, less diagnostic. In the case of *Pygopleurus kareli* and *P. anemoninus*, the dorsal diverticulum of *P. kareli* shows, in lateral view, a quadrangular shape, while in *P. anemoninus* the same diverticulum is subtriangular.

When we had to decide which term should be used to indicate the genitalic everted structure, we realized that the same is indicated by different authors in at least two ways: "endophallus" and "internal sac".

Without claiming to be exhaustive, the term "endophallus" is used in reference to the Carabidae (Berlov, 1992, Angus et al., 2000), Cerambycidae (Danilevsky et al., 2005; Dascalu & Fusu, 2012), Curculionoidea (Hamilton, 1979; Van Dam, 2014), Chrysomelidae (De Monte, 1948; Dúngelhoef & Schmitt, 2006; Leonardi & Sassi, 2001), Glaphyridae (Uliana & Sabatinelli, 2010), Lucanidae (Imura, 2007) and Scarabaeidae (Sabatinelli, 1984; Montreuil, 2000; Coca-Abia, 2007), while the term "internal sac" is used to refer to Curculionidae (Anderson, 1988), Cerambycidae (Kasatkin, 2006), Chrysomelidae (Bontems, 2013) and Glaphyridae (Li, Wang & Chen, 2011). The use of one of the two terms by multiple authors and for the same families led us to assume that "endophallus" and "internal sac" can be regarded as synonyms of the same structure. By applying, although in a very improper sense, the principle of the maintenance of prevailing usage, we decided to use the term endophallus.

Lastly, the presence of *Pygopleurus kareli* on Lesbos is more likely, due to the strict faunistic affinities between the Island and the Anatolian landmass. On the other hand, we are tempted to exclude the presence in the same area of *Pygopleurus anemoninus*, which is most likely restricted to Peloponnesus (Bollino, Uliana & Sabatinelli, in prep.).

Specimens of both sexes were collected in central and southern Lesbos: near church 1 km W of Keramia, ~ 39°07'N 26°24'E, 22.III.2014 – m 25 (10♂♂, 10♀♀); Agios Efstratios, ~ 39°06'N 26°22'E, 22.III.2014 – m 170 (3♀♀); Tarti, ~ 38°58'N 26°29'E, 24.III.2014 – m 10 (9♂♂, 7♀♀).

New to Aegean Greece, and the European fauna.

***Pygopleurus labaumei* (Petrovitz, 1971) (plate 1: C)**

P. labaumei is another species rarely present in collections, and is apparently restricted to Western Turkey. The species seems to have an early phenology: in early May only few worn females were collected near Aphrodisia (Turkey, Denizli

Prov.), leading to the assumption that the Turkish specimens were found well past the peak of emergence of the species.

As underlined by Baraud (1989), males have a truncated elytral apex without any trace of a sutural tooth, while females have a well marked sutural tooth. We noticed some variability in the shape of the apical edge of the females' elytras, being truncated or concave in various degrees (Fig. 4).

Several specimens of both sexes were collected in three localities in central and southern Lesbos: near church 1 km W of Keramia, ~ 39°07'N 26°24'E, 22.III.2014 – m 25 (1♀); Agios Efstratios, ~ 39°06'N 26°22'E, 22.III.2014 – m 170 (4♂♂, 4♀♀); Tarti, ~ 38°58'N 26°29'E, 24.III.2014 – m 10 (45♂♂, 24♀♀). The species had already been collected in Lesbos, although no records have been published: Hagiasos S., 500m, 7/8.5.1933, leg. A. d'Orchymont (2♂♂, 1 ♀, coll. G. Sabatinelli); Mt Olimbos, 1200m, 15.4.65, leg. Cerruti & Henrot, det. Baraud 1991 (1 ♂, coll. G. Sabatinelli); env. Sikounda, 120-205 m, 39°06.2' N 26°24.5'E, in olive orchard, 21.IV.2007, leg. T. Ruzicka (1♂, 1♀, coll. M. Uliana).

New to Aegean Greece, and to the European fauna.

***Pygopleurus medius* (Petrovitz, 1957)** (plate 1: D-E)

P. medius is a rarely collected species, which is known only from a few scattered localities in Southern and Western Turkey (Petrovitz, 1957, 1962; Rozner & Rozner, 2009). The species was described from “Kleinasien: Cilic. Taurus, Smyrna”. To the best of our knowledge, *Pygopleurus* species ranging from “Cilician Taurus” (Adana province) to NW Turkey (Aydin, Izmir, Manisa provinces, among others) are rare. Moreover none of the females collected on Lesbos correspond to the original description, since the apical third of their elytras are blackish in color, thus fitting the infrasubspecific female form *nigroapicalis* described by Petrovitz (1962) from Cilician Taurus. For such reasons we were hesitant to refer the population from Lesbos to *Pygopleurus medius*, but, on the other hand, the male genitalia perfectly match the drawing by Petrovitz (1957: pg 54, fig. 18), so we concluded that our specimens belong to this taxon. At last, Uliana (pers. comm.) directly compared the specimens from Lesbos with the holotype of *Pygopleurus medius*, and confirms that the former perfectly match the type.

Several specimens of both sexes were collected in two localities in central Lesbos: Halinados archeological site, ~ 39°13'N 26°18'E, 19-20.III.2014 – m 70 (17♂♂, 21♀♀); near Polichnitos, ~ 39°04'N 26°10'E, 22.III.2014 – m 100 (3♂♂, 2♀♀). Also this species had already been collected in Lesbos, although no records have been published: Mt Olimbos, 1200m, 15.4.65, leg. Cerruti & Henrot, det. Baraud 1991 (1 ♂, 1 ♀, coll. G. Sabatinelli).

New to Aegean Greece, and to the European fauna.

***Pygopleurus vulpes* (Fabricius, 1781)** (plate 1: F)

P. vulpes is a widespread but usually localized species, which was reported from Lesbos by Baraud (1989). Within the genus, *Pygopleurus vulpes* is perhaps the species with the widest distribution, ranging from Macedonia and North-Eastern Greece eastward to Central Asia (Kazakhstan) (Nikodym & Bezdek, 2006). The species shows little variability of integuments and setae, an exception being their occasional tendency to be of reddish color instead of the straw-yellow color observed in most specimens. So we were a little bit surprised in finding that all our specimens from Lesbos have the same dark orange color. We are not in the position to establish if the populations of the Island always and everywhere show

the same pattern or not, so we only report the pattern of our specimens.

The species was observed in northern and central Lesbos: Andissa – cross road to Eresos, ~ 39°13'N 25°57'E, 17.III.2014 – m 300 (1♂); Halinados archeological site, ~ 39°13'N 26°18'E, 19-20.III.2014 – m 70 (31 ♂♂, 1♀).

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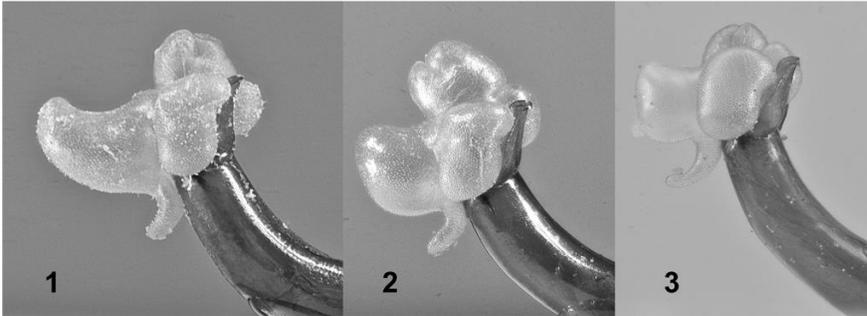
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Figures 1-3. 1. *Pygopleurus anemoninus* (Greece, Peloponnesus), endophallus in lateral view; 2. *Pygopleurus kareli* (Turkey, Aydin), endophallus in lateral view; 3. *Pygopleurus kareli* (Lesbos), endophallus in lateral view.

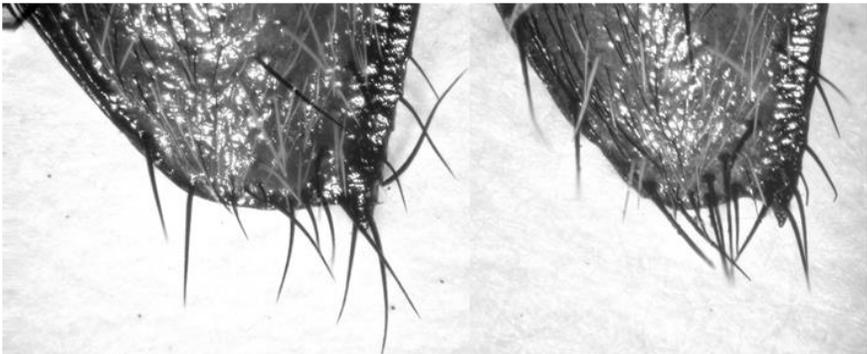


Figure 4. Different shape of elytral apex in *Pygopleurus labaumei* females.



Plate 1 - A: *Pygopleurus foina* male; B: *Pygopleurus kareli* male; C: *Pygopleurus labaumei* male; D: *Pygopleurus medius* male; E: *Pygopleurus medius* female; F: *Pygopleurus vulpes* male. Specimens A-D-E-F with data: Greece, Lesbos Island, Halinados archeological site, ~ 39°13'N 26°18'E, 19-20.III.2014 – m 70; specimen B with data: Greece, Lesbos Island, near church 1 km W of Keraamia, ~ 39°07'N 26°24'E, 22.III.2014 – m 25; specimen C with data: Greece, Lesbos Island, Tarti, ~ 38°58'N 26°29'E, 24.III.2014 – m 10.