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DESCRIPTION OF *PYGOPLEURUS KEITHI*, N. SP. FROM NORTH SYRIA
(INSECTA, COLEOPTERA, SCARABAEOIDEA, GLAPHYRIDAE)

Riassunto. Descrizione di *Pygopleurus keithi*, n. sp. della Siria. (Insecta, Coleoptera, Scarabaeoidea, Glaphyridae). Viene descritta e illustrata una nuova specie di *Pygopleurus* raccolta in Siria nordoccidentale e appartenente al "gruppo 1" di Baraud. Vengono discusse inoltre le specie morfologicamente affini.

Summary. A new species of *Pygopleurus* collected in North West Syria and belonging to the "group-1" of Baraud is here described and figured. The closest morphological species are discussed.

Key Words: Scarabaeoidea, Glaphyridae, Taxonomy, Distribution, *Pygopleurus keithi*, Middle East, Syria.

INTRODUCTION

Taking advantage of the long permanence of one of the Authors (GS) in the Near East, our field entomological research includes the periodical collection of Glaphyridae (Scarabaeoidea) in selected stations, both to investigate their faunistic composition and document the phenological sequence of species pollinating flowers from February to June, as performed in previous surveys conducted in Israel (DAFNI *et al.*, 1990).

In one of the northernmost locality monitored (20-30 km NW of Aleppo, Syria), we detected on *Ranunculus asiaticus* and *Anemone coronaria*, the first flowers blossoming in fields of the Near East, the early pollinators usually missed by entomologists performing occasional trips, usually scheduled in late spring.

The study of these Glaphyridae revealed the presence of a new species of *Pygopleurus* here described.

Pygopleurus keithi n. sp. (figs 1-7, 9)

Diagnosis

A species of *Pygopleurus* belonging to Baraud's "group-1" (BARAUD, 1989), characterized by finely granulated pronotum without wrinkles and truncated apex of the elytra.

Head, pronotum and scutellum ranging in colour from red to fuchsia with dense, erected, soft, light-yellow to grey hairs and a few long black hairs mainly along the sides of pronotum. Elytra uniformly light brown with a faint metallic shine more evident in the female, suture and lateral margins black; adpressed hair mostly black; long erected setae on the humeral region and along the lateral margin and the sutural depression, black. Male's abdomen covered by yellow hairs, the two last terminal segments mostly orange in colour; female's abdomen completely black, covered by white hairs that turn to black in the last two segments. Legs green-golden and metallic. Clypeus of the male without longitudinal carina, posterior angles

of the pronotum largely rounded, elytra slightly dehiscent, in the female toothed at the sutural angle. Metafemora not enlarged, metatarses as long as the metatibiae in the male, shorter in the female, first tarsomerus slightly longer than the second, claws short, strongly curved.

Type locality: Syria, 27 km NW Aleppo, Qala'at Samaan, 525 m, 36°20'N 36°51'E.

Type series: Holotype, male: Syria, 27 km NW Aleppo, Qala'at Samaan, 525 m, 36°20'N 36°51'E, 21.III.2009, leg. G. Sabatinelli (coll. Museum d'Histoire Naturelle de Genève). Paratypes: same data of the holotype, 4♂ 42♀ (25♂ 20♀ coll. GS, 14♂ 14♀ coll. MU, 1♂ 1♀ coll. Museo di Storia Naturale di Venezia, 1♂ 1♀ coll. Museo civico di Storia Naturale di Verona, 1♂ 1♀ coll. Oberösterreichischen Landesmuseen, Biologiezentrum, Linz); Syria, 10 KM W Aleppo, Noor-St. Simeon, 430 m, 36°14'N 36°59'E, 21.III.2007, leg. G. Sabatinelli: 4♂ 6♀ (2♂ 3♀ coll. GS, 2♂ 3♀ coll. MU); Syria, St. Simeon archeol. remains, (Qala'at Samaan), 460 m, 36°20'N, 36°50'E, 22.IV.2007, leg. G. Sabatinelli, 2♀ (coll GS); Syria, 22 km NW Aleppo, Dar Ezze, 466 m, 36°15'N 36°53'E, 21.III.2009, leg. G. Sabatinelli, 6♂ 3♀ (4♂ 1♀ coll. GS, 2♂ 2♀ coll. MU).

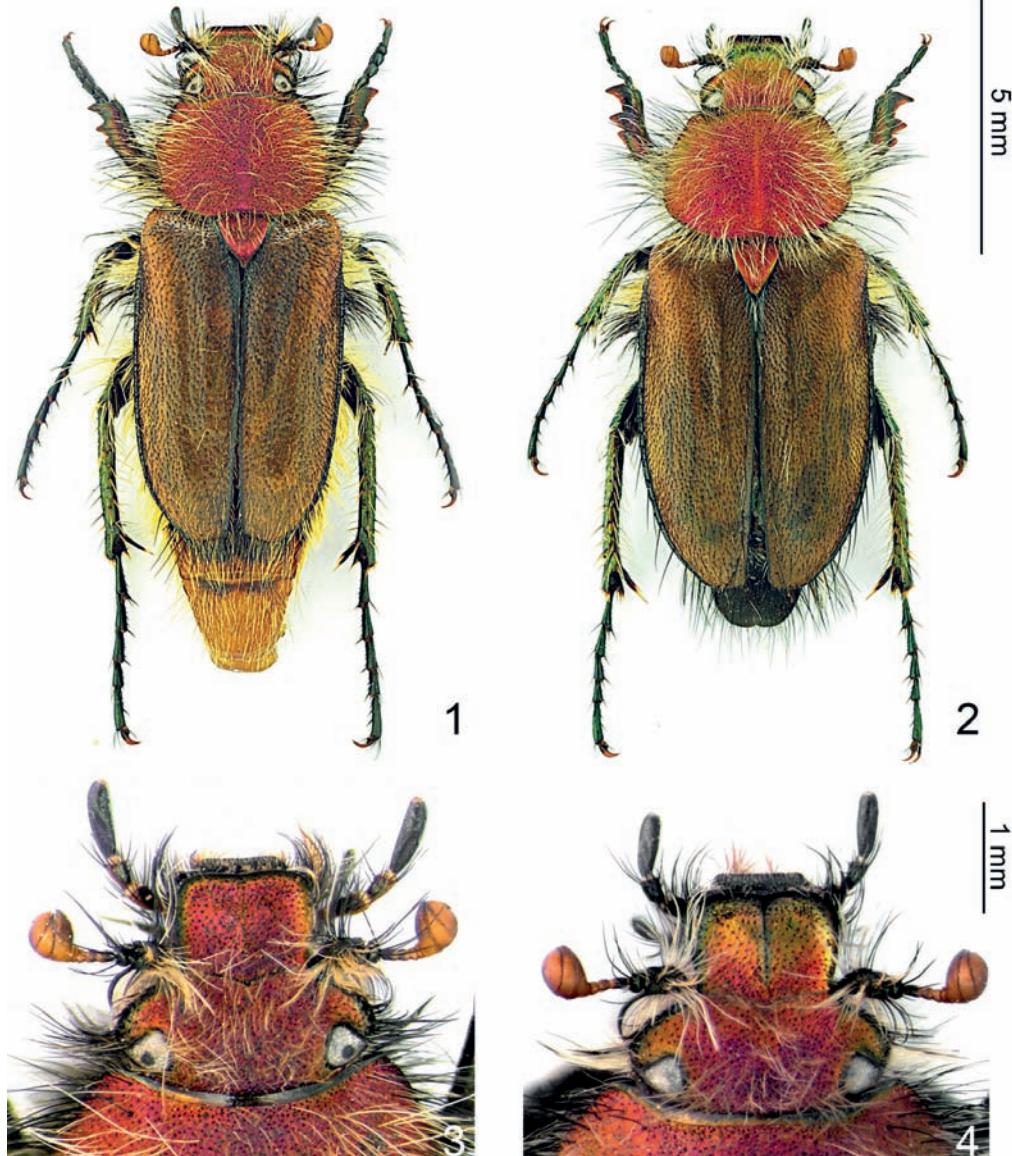
Description of males [holotype data in square brackets]

Body length: 9-12 mm [11.2 mm] from the anterior margin of the clypeus to the apex of the elytra; 10.2-13.2 mm [12.5 mm] including the apex of the abdomen. Maximum width 3.6-4.6 mm [4.2 mm] at humeri.

Colour of integuments: head, pronotum and scutellum metallic, red to fuchsia, with faint golden shine. Elytra brown, with suture and lateral margin (not the apex) black. Propygidium black in the basal half and orange in the distal one; pygidium orange. Antennal articles 1 and 2 black, article 3 and 4 orange with black base, the rest of the antenna orange. Legs: green-golden metallic, tarsi with faint blue-green metallic shine.

Hair: antennal article 1-2 with black hairs except for light yellow hairs on the upper basal half of first article. Head, pronotum and scutellum with dense, erected, soft, light-yellow to grey hairs except for some long black hairs on the canthus, on the head and along the sides of the pronotum. Elytra with adpressed hairs mostly black, except for a few light hairs at the apex, and along the suture (in front of the scutellum and in the apical part). Long erected setae are present along the lateral margin, on the humeral region, in two irregular rows along the sutural depression reaching the apex, and on the internal costa fading with the costa itself. All erected setae black but for few lighter ones at the base of the humeral callus. Abdominal tergites with light hairs. Foretibiae with a row of light hairs on the dorsal surface. Mid and hind legs with long, light hairs; spines light brown with lighter apex; apical spurs dark brown with lighter apex. Ventral side mostly with light hairs, but for black hairs on the mouthparts, the coxae and the distal part of the femora.

Morphology: clypeus trapezoidal, enlarged distally, anterior angles rounded, without medial carina but with a blunt longitudinal bump in the middle (fig. 3). Integument finely, densely and evenly covered by piliferous punctuation, spaces among punctures with size similar to that of the punctures near the anterior margin, slightly smaller near the posterior margin. The rest of the head (frons and vertex) with denser punctuation, spaces smaller than



Figs. 1-4. *Pygopleurus keithi* n. sp. (paratypes) 1: male, habitus. 2: female, habitus. 3: male, detail of the head. 4: female, detail of the head. Photos M. Uliana.

punctures diameter, the punctures often touching each other; microreticulation clearly visible through the punctuation on the whole head. Pronotum sub-ovoid, much larger [4 mm] than long [2.8 mm], with anterior angles visible, rounded and obtuse; posterior angles not visible, evenly rounded with the sides and the base of pronotum; base slightly concave in the middle; surface finely and evenly covered with piliferous punctuation, punctures of different size are mixed together, with larger points having about twice the size of smaller points (fig. 5); punctuation less dense than that of the head, with spaces among punctures as large as the punctures themselves or even larger, slightly denser in the distal part of the pronotum, much denser close to the anterior margin.



Figs. 5-10. 5: *Pygopleurus keithi* n. sp., male (paratype), details of the pronotal sculpturing in the basal half (arrow indicates the midline of the pronotum). 6: *Pygopleurus keithi* n. sp., female (paratype). Apex of the right elytron. 7: *Pygopleurus keithi* n. sp., male (paratype). Left paramere, lateral view. 8: *Pygopleurus rufovillosus nigropubescent* (Petrovitz) (Hatay, Akbes; male, paratype). Left paramere, lateral view. 9: *Pygopleurus keithi* n. sp., female (paratype), left genital sclerites. 10: *Pygopleurus gordyenensis* (Petrovitz), female (paratype), left genital sclerites (redrawn from BARAUD, 1989). Photos G. Sabatinelli and M. Uliana.

Scutellum triangular with arcuate lateral sides; about as long as wide, with a sculpturing similar to that of the pronotum; punctures absent along the edges. Elytra slightly dehiscent, more rounded at the external side than along the suture, apex truncated, external angle rounded, sutural angle sharp but obtuse (fig. 6); two narrow and faint longitudinal depressions, parting two blunt costae, are present: one along the suture reaching the apex and one along the midline fading about half way down; piliferous punctuation very fine, much more spaced than on the forebody, well visible only near the humeral callus, fading toward the apex. Foreclaws short and strongly curved, fore tarsi short [combs of articles 1 to 5 respectively 12, 10, 8, 5, 3 toothed], comb of the first article with teeth regularly growing in length from base to the apex, the last two apical teeth abruptly shortened. Claws of meso- and meta-legs similar to that of forelegs, slightly slender. Metatarsi quite short, their length [7.5 mm] subequal to that of the metatibia [7.7 mm].

Parameres: fig. 7.

Description of females

Body length: 10.6-12.5 mm from the anterior margin of the clypeus to the apex of the elytra; 12-13 mm including the apex of the abdomen (measured on collapsed dried specimens). Maximum width 4.5-5.2 mm in the posterior third of elytra.

Morphology: similar to the male but for the following characters: clypeus with longitudinal carina (fig. 4), elytra well more flattened at sides, elongated and a little raised upwards after the apical callus, toothed at the sutural angle (fig. 6); pygidium apically grooved along the midline, apex bent and gently impressed, but without sharp apical pit; abdomen completely black, hairs of the dorsal side black, last sternite with a row of black, long and stiff hairs at sides.

Genital sclerites: fig. 9.

Variability

In spite of the large number of specimens collected (>100) over 3 years, this species shows a relatively low variability of the colour of the integument and of the hair compared to other species of *Pygopleurus*. The colour of the pronotum ranges from red-orange to fuchsia; the anterior margin of clypeus and the clypeal carina of female may be golden or green. The sculpturing of the base of the pronotum may have a small area along the midline with a very faint vermiculated surface.

COMPARATIVE DIAGNOSIS

As already indicated, *Pygopleurus keithi* n. sp. may be ascribed to the “group-I”, as defined by BARAUD (1989). It is important to note again that the partition in groups by Baraud, as clearly stated by him, does not group species according to systematic affinities but it is only a useful instrument for their identification. In fact, in species like *P. syriacus* (Linnaeus, 1758) the male and female are included into different groups. Moreover, in some species it is even difficult to decide whether the apex of elytra is truncated or not and whether the pronotum is wrinkled or not.

However, for *P. keithi* n. sp. the two mentioned key-characters are clear enough to attribute it to group-1, which includes: *P. koniae* (Petrovitz, 1957), *P. rufovillosus* (Reitter, 1907) and its subspecies, *P. angulatus* (Fairmaire, 1884), *P. medius* (Petrovitz, 1957) and *P. gordyenensis* (Petrovitz, 1971). Aside from the characteristic shape of the parameres, according to the identification key provided by Baraud (1989), *P. keithi* differs from *P. koniae* because its hair do not densely cover the integument and are instead scattered, and differs from *P. angulatus* and *P. medius* because the hairs on the pronotum are yellowish instead of black.

P. gordyenensis and *P. rufovillosus* appear to be the closest species to *P. keithi*. *P. gordyenensis*, which is known only by two females collected from Eastern Turkey at the border with Iran (Hakkari), differs from *P. keithi* for lacking any shine on the elytra, for having black hairs among the dominant light hairs of the pronotum and for having a different conformation of the female genital sclerites (see figs. 9-10).

P. rufovillosus and its two subspecies *undolfi* Keith, 2000 and *nigropubescens* (Petrovitz, 1963) present in the Near East are easily differentiated from *P. keithi* by the particular shape of the parameres. The taxon *nigropubescens*, described from Hatay, is currently regarded as synonym of *P. rufovillosus* (NIKODÝM & BEZDEK, 2006). Thanks to the courtesy of Aleš Bezdek and Jiri Hajek (Natural History Museum Prague, Czech Republic) we could study two paratypes of this taxon. The morphology of the parameres seems to be significantly different between *nigropubescens* (fig. 8) and its supposed synonym *P. rufovillosus*. However, we refrain to propose here any taxonomic change, since we could only study a scant number of specimens referable to the *P. rufovillosus* complex, which seem to be composed by several forms of unclear taxonomic value.

DERIVATIO NOMINIS

This species is dedicated to our friend and colleague Denis Keith from Muséum des Sciences Naturelles et de Préhistoire de Chartres (France), specialist of Palaearctic scarabs who greatly contributed to the knowledge of these groups in the Near East.

ECOLOGICAL NOTES

Pygoleurus keithi n. sp. was found for the first time by one of the authors (GS) accompanied by his colleague Sandro Bruschi, 20-30 km North West of Aleppo in clay grassland hills (about 400 m s.l.m.) in March-April 2007 and 2009. Typical landscapes inhabited by this species are represented in figs 11-12. Most of the specimens collected at the end of March were active day fliers feeding on pollen of *Anemone coronaria* and *Ranunculus asiaticus* (Ranuncolacee), associated with *Pygopleurus ponticus* (Petrovitz, 1957). Fewer specimens were found at the end of April-early May, on *Papaver* sp. and associated with very few specimens of *Pygopleurus ponticus* and many specimens of *Eulasia harmonia* (Petrovitz, 1968) and *Eulasia genei* Truqui, 1848. No specimens of *Pygopleurus keithi* were found in two subsequent surveys carried out in the same area in mid May of 2007 and 2008.



Figs. 11-12: Collecting sites of *P. keithi*. 11: Syria, 27 km NW Aleppo, Qala'at Samaan, 525m, 36°20'N 36°51'E, 21 March 2009. 12: Syria, 22 km NW Aleppo, Dar Ezze, 466 m, 36°15'N 36°53'E. 21 March 2009. Photos G. Sabatinelli.

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