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New species and records of *Pseudobium* MULSANT & REY (Insecta: Coleoptera: Staphylinidae: Paederinae)

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A b s t r a c t : *Pseudobium hellenicum* sp.n. (Greece) and *P. anatolicum* sp.n. (southwestern Turkey) are described and illustrated. Additional records of *Pseudobium* species from the Mediterranean and Middle Asia are presented. *Pseudobium peyerimhoffi* JARRIGE and *P. cypriacum* JARRIGE are for the first time reported from Tunisia and Turkey, respectively. The distribution of *P. cypriacum* is mapped.

K e y w o r d s : Coleoptera, Staphylinidae, Paederinae, *Pseudobium*, Palaearctic region, Greece, Turkey, Cyprus, Tunisia, Tajikistan, taxonomy, new species, new records.

1. Introduction

In the Palaearctic region, the genus *Pseudobium* MULSANT & REY 1878 is represented by 19 species and subspecies, 12 of which occur in the Mediterranean region (LÖBL & SMETANA 2004). *Pseudobium* species are inhabitants of the banks of rivers and streams.

In the course of an examination of recently collected material from Tunisia, Greece, Cyprus, Turkey, and Tajikistan two additional species were discovered, one from Turkey and one from Greece. Also, the material yielded first records from Tunisia and Turkey.

2. Material and measurements

The material referred to in this study is deposited in the following public institutions and private collections:

MNHUB.....Museum für Naturkunde der Humboldt-Universität Berlin (J. Frisch)

cAss.....author's private collection

cRosprivate collection A. Rose, Wardenburg

cSch.....private collection M. Schülke, Berlin

cWun.....private collection P. Wunderle, Mönchengladbach

The following abbreviations are used for the measurements, which are given in mm:

AL: length of antenna; HL: head length from anterior margin of clypeus to posterior margin of head; HW: head width (including eyes); PW: maximal width of pronotum; PL: length of pronotum along median line; EL: length of elytra from apex of scutellum to posterior margin; EW: combined width of elytra; AW: maximal width of abdomen; TiL: length of metatibia; TaL: length of metatarsus; ML: length of aedeagus from apex of ventral process to base; TL: total length.

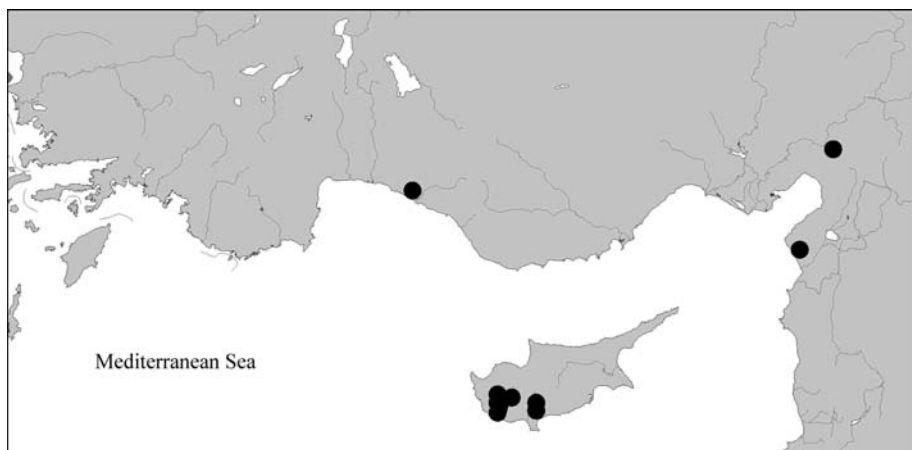
The map was generated using the online generic mapping tool (GMT) of the Geomar website at www.aquarius.geomar.de/omc.

New records and species descriptions

Pseudobium peyerimhoffi JARRIGE 1949

Material examined: **Tunisia:** 3 exs., Kasserine, 700 m, 29.IV.1996, leg. Frisch (MNHUB, cAss); 1 ex., road Sbeitla-Dahmani, Sbiba, 620 m, 30.IV.1996, leg. Frisch (MNHUB); 5 exs., road Haffouz-Makthar, 3.V.1996, leg. Frisch (MNHUB, cAss); 2 exs., El Kef, Oued Mellegue, 750 m, 4.V.1996, leg. Frisch (MNHUB, cAss); 2 exs., El Kef, Bahra, 500 m, 5.V.1996, leg. Frisch (MNHUB); 2 exs., Aïn Draham, 800 m, 6.V.1996, leg. Frisch (MNHUB, cAss); 5 exs., road Kairouan-Siliana, Ouesslatia, 400 m, 28.IV.1996, leg. Frisch (MNHUB); 1 ex., road Kairouan-El Fahs, Oued Nekhana, 8.V.1996, leg. Frisch (MNHUB); 4 exs., Bou Saadia, 9.V.1996, leg. Frisch (MNHUB); 1 ex., Siliana, Bou Saadia, 500 m, 7.V.1996, leg. Frisch (cAss). **Canary Islands:** 1 ex., Gran Canaria, Presa López, 21.VI.1989, leg. García (cAss); 1 ex., Gran Canaria, Chira reservoir, 800 m, 15.V.1997, leg. Hieke & Wendt (cSch).

Comment: The species was previously known from the Canary Islands, Morocco, and Algeria (LÖBL & SMETANA 2004). It is here recorded from Tunisia for the first time.



Map 1: Distribution of *Pseudobium cypricum* in southern Turkey and Cyprus, based on examined records.

***Pseudobium cypricum* JARRIGE 1949** (Map 1)

Material examined: **Cyprus:** 1 ex., Choletria, Xeros Potamos, 150 m, 8.III.1996, leg. Frisch (MNHUB); 1 ex., Agios Georgios, Diarizos river, 150 m, 14.III.1996, leg. Frisch (MNHUB); 9 exs., Mamonía, Diarizos river, 100 m [no date], leg. Frisch (MNHUB, cAss); 13 exs., Sarama, 250 m, 15.III.1996, leg. Frisch (MNHUB, cAss); 2 exs., Limnastis river, 200 m, 5.III.1996, leg. Frisch (MNHUB); 3 exs., road Amargeti-Agia Marina, 400 m, 8.III.1996, leg. Frisch (MNHUB); 6 exs., Korfi, Limnastis river, 350 m, 11.III.1996, leg. Frisch (MNHUB, cAss); 10 exs., road Nikokleia-Mamonía, Diarizos river, 4.III.1996, leg. Frisch (MNHUB, cAss); 2 exs., Kidasi, Diarizos river, 250 m, 14.III.1996, leg. Frisch (MNHUB); 3 exs., Kannaviou, Ezousa river, 350 m, 10.III.1996, leg. Frisch (MNHUB). **Turkey, Antalya:** 4 exs., Alanya, S Taşgesigi [ca. 36°45N, 31°37E], bank of Karpuz river, 50 m, 17.III.2000, leg. Rose (cRos, cAss). **Osmaniye:** 2 exs., 6 km NE Osmaniye, 37°07N, 36°19E, 130 m, river bank, 10.IV.2004, leg. Assing & Schülke (cAss, cSch). **Antakya:** 1 ex., 20 km W Antakya, NW Teknepinar, 36°13N, 35°57E, 300 m, stream bank, 3.IV.2004, leg. Assing (cAss).

Comments: *Pseudobium cypricum* was previously known only from Cyprus and is here reported from Turkey for the first time (Map 1). The specimens from southern Anatolia are of paler coloration – some even almost uniformly reddish yellow – than those seen from Cyprus.

***Pseudobium alanyense* FAGEL 1969**

Material examined: **Turkey, Antalya:** 1 ex., Alanya, S Taşgesigi [ca. 36°45N, 31°37E], bank of Karpuz river, 50 m, flood debris sifted, 13.III.2000, leg. Rose (cAss).

Comment: The species had not been recorded since its original description, which is based on specimens from the surroundings of Alanya.

***Pseudobium hellenicum* sp.n.** (Figs 1-10)

Holotype ♂: GR. Fokis, 640 m, 13, 25 km SW Lamia, Stromi, river bank, 38°41'24N, 22°12'54E, 06.IV.2001, V. Assing / Holotypus ♂ *Pseudobium hellenicum* sp. n. det. V. Assing 2005 (cAss). **Paratypes:** 2 ♀♀: GR. Fthiotis, 470 m, 9, 38°49'31N, 22°04'58E, SW Samia, Inachos river bank, 05.IV.2001, Assing & Wunderle (cAss, cWun).

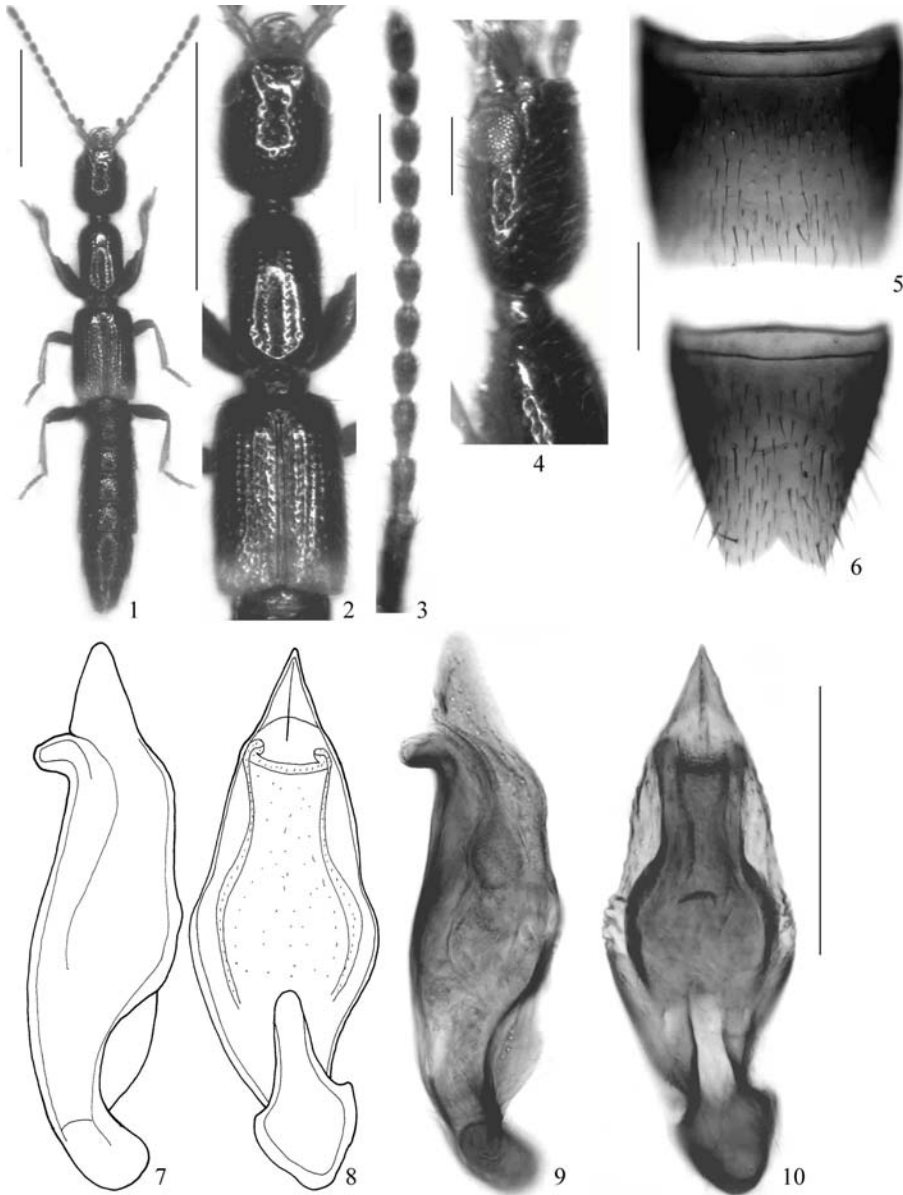
Description: Measurements (in mm) and ratios (range; n=3): AL: 1.37-1.45; HL: 0.60-0.63; HW: 0.45-0.51; PW: 0.39-0.45; PL: 0.63-0.69; EL: 0.71-0.76; EW: 0.56-0.63; AW: 0.50-0.57; TiL: 0.47-0.50; TaL: 0.33-0.35; ML: 0.42; TL: 4.3-5.0; HL/HW: 1.24-1.33; PW/HW: 0.85-0.91; PW/PL: 0.62-0.65; EL/PL: 1.09-1.12; EW/PW: 1.37-1.45; AW/EW: 0.89-0.90; TiL/TaL: 1.41-1.50.

Relatively small species; habitus as in Fig. 1. Coloration: body blackish, with the posterior 1/4-1/5 of the elytra and the posterior 2/3 of the elytral suture yellowish to reddish yellow; legs with tibiae and tarsi yellowish to reddish yellow, and with the femora dark brown; antennae rufous to reddish brown.

Head distinctly oblong (Fig. 2), of quadrangular shape, lateral margins subparallel, posterior angles relatively well-marked; puncturation rather coarse and well-delimited, interstices in central dorsal area on average approximately twice as wide as diameter of punctures; microsculpture absent; eyes large and projecting from lateral outline of head (Figs 2, 4), approximately half the length of postocular region in dorsal view; antenna as in Fig. 3.

Pronotum narrower than head and subparallel (Fig. 2); dorsal rows composed of 15-20 punctures; microsculpture absent.

Elytra distinctly wider and at suture longer than pronotum; punctures of similar size as those of pronotum and arranged in distinct rows. Hind wings fully developed.



Figs 1-10: *Pseudobium hellenicum* sp.n. (holotype). (1) habitus; (2) forebody; (3) antenna; (4) head in lateral view; (5) ♂ sternite VII; (6) ♂ sternite VIII; (7-10) aedeagus in lateral and in ventral view. Scale bars: 1-2: 1.0 mm; 3-10: 0.2 mm.

Abdomen narrower than elytra, widest at segment VII; puncturation of tergites III-VI coarse and rather dense, with the interstices on average narrower than diameter of punctures; puncturation of tergites VII and VIII sparser and shallower, with the interstices wider than diameter of punctures; tergites III-VI in anterior transverse impressions with pronounced microreticulation and in posterior area without or with indistinct microsculpture; tergites VII-VIII with distinct microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII with weakly concave posterior margin, pubescence unmodified (Fig. 5); sternite VIII as in Fig. 6; aedeagus of highly distinctive shape (Figs 7-10).

E t y m o l o g y : The name (Lat., adj.) refers to the fact that the species has become known only from Greece.

C o m p a r a t i v e n o t e s : *Pseudobium hellenicum* is most similar and – as can be inferred from the similarly highly derived morphology of the aedeagus – also most closely related to *P. cypriacum*. From this species, it is best distinguished by the different morphology of the aedeagus and additionally by the more distinctly quadrangular shape of the head (i. e. the more pronounced posterior angles), the less extensive yellowish margination of the elytra, as well as by the coarser puncturation of tergites III-VI. For illustrations of the aedeagus of *P. cypriacum*, as well as those of other *Pseudobium* species see COIFFAIT (1982).

D i s t r i b u t i o n a n d b i o n o m i c s : The type localities are situated in the southeast of mainland Greece, where the type specimens were collected by washing river banks.

***Pseudobium anatolicum* sp.n.** (Figs 11-18)

H o l o t y p e ♂: TR - Muğla, NW Fethiye, Kargi, gravel river bank, 25 m, 36°43'21N, 20°03'08E, 31.III.2002, V. Assing / Holotypus ♂ *Pseudobium anatolicum* sp. n. det. V. Assing 2005 (cAss).
Paratypes: 1 ♀: same data as holotype (cAss); 2 ♀ ♀: TR - Muğla, No. 22, NW Fethiye, Kargi, 31.III.2002, 25 m, 36°43'21N, 20°03'08E, V. Assing & P. Wunderle (cWun); 1 ♀ [teneral?]: S-Türkei: Region Alanya, Karpuz-Ostufer südl. Tasgesigi, 50 m, 18b1) unter Kieseln, auf fr. Spülsaum-Sand über Hohlräumen, 17.III.2000, leg. Rose (cRos).

D e s c r i p t i o n : Measurements (in mm) and ratios (range; n=5): AL: 1.78-1.87; HL: 0.76-0.82; HW: 0.60-0.66; PW: 0.50-0.54; PL: 0.79-0.85; EL: 0.85-0.94; EW: 0.71-0.77; AW: 0.63-0.71; TiL: 0.57-0.62; TaL: 0.42-0.45; ML: 0.54; TL: 5.7-6.4; HL/HW: 1.20-1.29; PW/HW: 0.80-0.83; PW/PL: 0.60-0.64; EL/PL: 1.05-1.11; EW/PW: 1.42-1.46; AW/EW: 0.89-0.92; TiL/TaL: 1.31-1.39.

Relatively large species; habitus as in Fig. 11. Coloration of mature specimens somewhat variable: head dark reddish brown to blackish; pronotum blackish; elytra dark reddish brown to blackish brown, with the posterior area more or less extensively yellowish; abdomen blackish; legs with tibiae and tarsi yellowish to reddish yellow, and with the femora dark brown; antennae rufous to reddish brown.

Head of somewhat variable shape, posteriorly weakly tapering or almost subparallel, with broadly rounded posterior angles (Fig. 12); puncturation rather coarse and well-delimited, interstices in central dorsal area on average 1-2 times as wide as diameter of punctures; microsculpture absent; eyes large and projecting from lateral outline of head (Figs 12, 14), at least half the length of postocular region in dorsal view; antenna long and slender (Fig. 13).

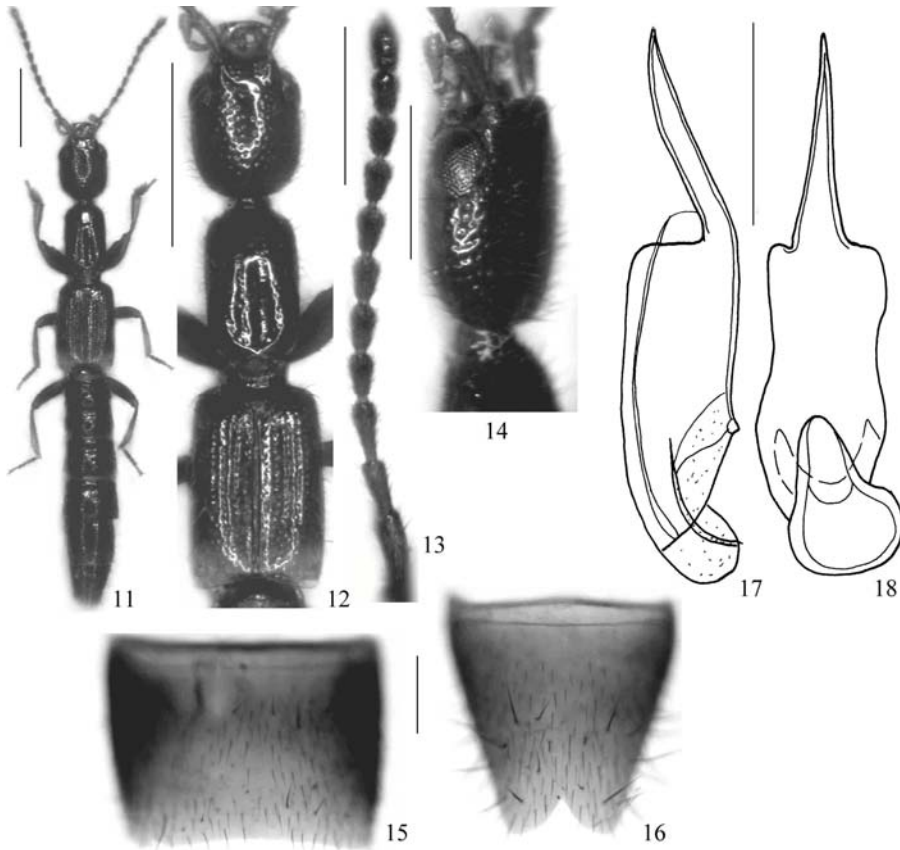
Pronotum narrower than head and subparallel (Fig. 12); dorsal rows composed of approximately 20 punctures; microsculpture absent.

Elytra distinctly wider and at suture longer than pronotum; punctures of similar size as those of pronotum and arranged in distinct rows. Hind wings fully developed.

Abdomen narrower than elytra, widest at segment VII; puncturation of tergites III-VI moderately coarse and rather dense, with the interstices on average as wide as diameter of punctures; puncturation of tergites VII and VIII sparser and finer, with the interstices distinctly wider than diameter of punctures; tergites III-VI in anterior transverse impressions with pronounced microreticulation and in posterior area without microsculpture; tergites VII-VIII at most with indistinct microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII with weakly concave posterior margin, pubescence unmodified (Fig. 15); sternite VIII as in Fig. 16; aedeagus with very long and acute apex (Figs 17-18).

E t y m o l o g y : The name (Lat., adj.) is derived from Anatolia.



Figs 11-18: *Pseudobium anatolicum* sp.n. (holotype). (11) habitus; (12) forebody; (13) antenna; (14) head in lateral view; (15) ♂ sternite VII; (16) ♂ sternite VIII; (17-18) aedeagus in lateral and in ventral view. Scale bars: 11-12: 1.0 mm; 13-14: 0.5 mm; 15-18: 0.2 mm.

Comparative notes: From all its congeners, the new species is best separated by the distinctive morphology of the aedeagus. In other species with a long and acute apex of the aedeagus (*P. labile* (ERICHSON), *P. gridellii* JARRIGE, *P. peyerimhoffi*), this apex is more slender, curved, or apically dilated; in addition, these species are of smaller size. For illustrations of their aedeagi see COIFFAIT (1982). *Pseudobium alanyense*, which, too, occurs in southern Anatolia, is smaller, of darker coloration, has a more slender head, even larger eyes, shorter antennae, a finer puncturation of the pronotum and elytra, a distinctly microsculptured and almost completely matt abdomen, and an aedeagus of different morphology.

Distribution and bionomics: The type localities are situated in southwestern Anatolia (Muğla and Antalya provinces). The specimens from the surroundings of Fethiye were collected by washing a river bank; the paratype from the environs of Alanya is apparently teneral.

***Pseudobium asiaticum* GUSAROV 1994**

Material examined: Tajikistan: 2 exs.: Penjakend, Seravshan river plain, Kolkhozchion env. [39°28N, 36°37E, 23.V.1984, leg. Michailov (cSch, cAss)]

Comment: The original description of this species is based on material from Kazakhstan, Uzbekistan, and Kirghizia.

Acknowledgements

I am indebted to the colleagues indicated in the material section for the loan and gift of material, respectively. Benedikt Feldmann (Münster) proof-read the manuscript.

Zusammenfassung

Pseudobium hellenicum sp.n. (Griechenland) and *P. anatolicum* sp.n. (Südwest-Türkei) werden beschrieben und abgebildet. *Pseudobium peyerimhoffi* JARRIGE und *P. cypriacum* JARRIGE werden erstmals für Tunesien bzw. die Türkei nachgewiesen. Für *P. cypriacum* wird eine Verbreitungskarte erstellt.

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