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**On some *Oxytoda* species of the
subgenus *Sphenoma* MANNERHEIM
(Coleoptera: Staphylinidae: Aleocharinae)**

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A b s t r a c t : Three species of the subgenus *Sphenoma* MANNERHEIM 1830 and allied to *Oxytoda abdominalis* (MANNERHEIM 1830) are described and illustrated: *O. robustior* nov.sp. (Iran), *O. kirghisica* nov.sp. (Kyrgyzstan), and *O. barbarica* nov.sp. (Morocco). *Oxytoda luctifera* FAUVEL 1872, *O. referens* MULSANT & REY 1875, and *O. platyptera* FAIRMAIRE 1859, previously in *Sphenoma*, are moved to the subgenus *Thliboptera* THOMSON 1859.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, *Oxytoda*, *Sphenoma*, *Thliboptera*, Western Palaearctic region, taxonomy, new species, new subgeneric placement.

Introduction

According to SMETANA (2004), the subgenus *Sphenoma* MANNERHEIM 1830 is represented in the Western Palaearctic region and Middle Asia by 17 species. In the meantime, several species have been moved to the subgenus *Thliboptera* THOMSON 1859 (ASSING 2006), one to *Tectusa* BERNHAUER 1899 (ZERCHE 2007), and one additional species has been described (ASSING 2006). At present, the subgenus includes eleven species in the Palaearctic eastwards to Middle Asia. It should be noted, however, that the subgeneric affiliations and placement of numerous *Oxytoda* species are currently doubtful.

The most widespread and common *Sphenoma* species in the Western Palaearctic region is *O. abdominalis* (MANNERHEIM 1830). According to SMETANA (2004), its distribution ranges from Southwest Europe and Northwest Africa to Eastern Siberia and the Russian Far East. The species is wing-dimorphic; pre-imaginal development occurs during the cold season (ASSING 1992).

A study of the sexual characters of material previously identified as *O. abdominalis*, primarily based on external characters, revealed that several species may have been confounded under this name and that the distribution of this species requires revision. In this paper, three species are described, all of them evidently closely allied to *O. abdominalis* and reliably distinguished from this species only based on the male primary sexual characters.

Material and methods

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

MNHUB..... Museum der Humboldt-Universität Berlin (J. Frisch, J. Willers)
OÖLL..... Oberösterreichisches Landesmuseum Linz (F. Gusenleitner)
cAss..... author's private collection
cFel private collection Benedikt Feldmann, Münster
cSch..... private collection Michael Schülke, Berlin
cWun..... private collection Paul Wunderle, Mönchengladbach

The morphological studies were carried out using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the clypeus to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra. The length of the median lobe of the aedeagus was measured from the apex of the ventral process to the base of the capsule.

Species descriptions

Oxypoda (Sphenoma) robustior nov.sp. (Figs 1-4, 13-14, 20)

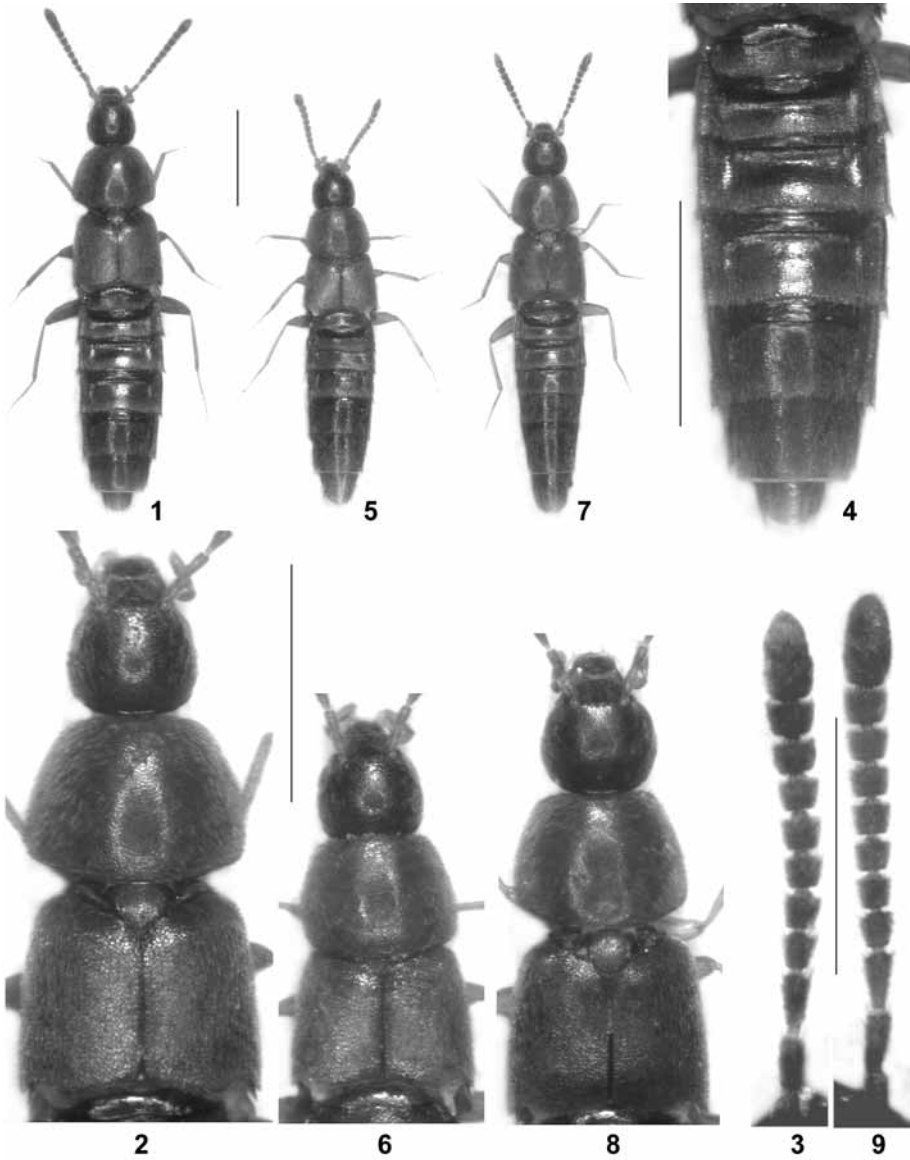
Type material: Holotype ♂: "Iran, Semnan province, Shahrud-Mojen road: 2 km SE Tash, 2190 m, N 36°33'44", E 054°40'06", 24.05.2006, lg. Frisch & Serri / Holotypus ♂ *Oxypoda robustior* sp. n. det. V. Assing 2009" (MNHUB). Paratypes: 1 ♂, 2 ♀ ♀, 1 sex?: same data as holotype (MNHUB, cAss).

Description: Habitus as in Fig. 1. Body length: 3.8-4.7 mm. Coloration: head dark-brown to blackish-brown; pronotum reddish-brown with paler margins; elytra yellowish to yellowish-brown, with the scutellar region and the suture weakly infuscate; abdomen dark-brown to blackish-brown, with the posterior margins of segments III-VI, the posterior half of segment VII, and segments VIII-X dark-yellowish to reddish; legs yellowish-brown to reddish; antennae dark-brown, with the basal three antennomeres paler yellowish to reddish.

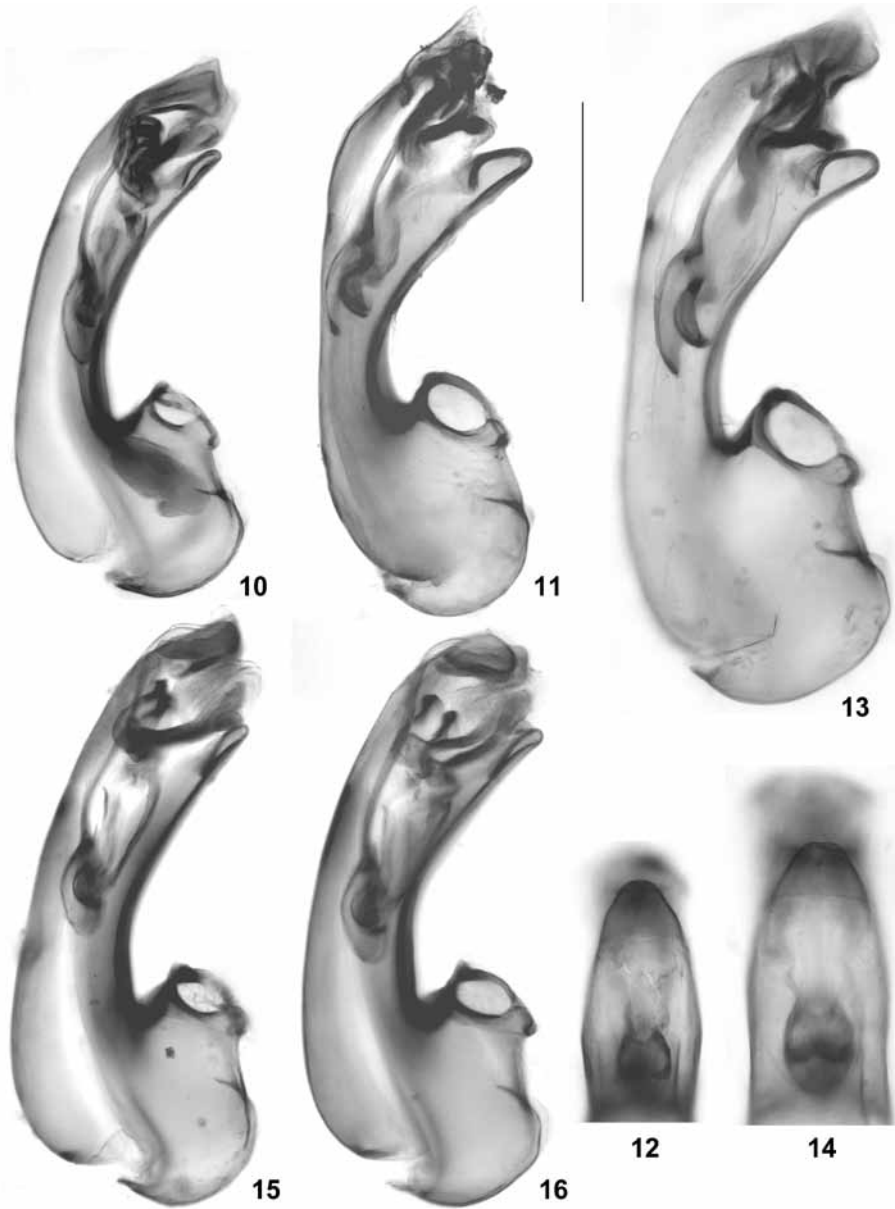
Head approximately as long as wide or indistinctly oblong, widest behind eyes; punctation extremely fine, barely noticeable in the pronounced microreticulation. Eyes weakly convex, not distinctly projecting from lateral contours of head, approximately as long as postocular region in dorsal view (Fig. 2). Antennae weakly incrassate apically; antennomere IV approximately as long as wide or weakly oblong; V-X weakly transverse and gradually increasing in width; X less than 1.5 times as wide as long (Fig. 3). Maxillary palpus slender, palpomere III approximately 4 times as long as wide.

Pronotum 1.26-1.35 times as wide as long and 1.6-1.7 times as wide as head, widest in posterior half; punctation dense, but extremely fine and barely noticeable; surface with pronounced microreticulation (Fig. 2).

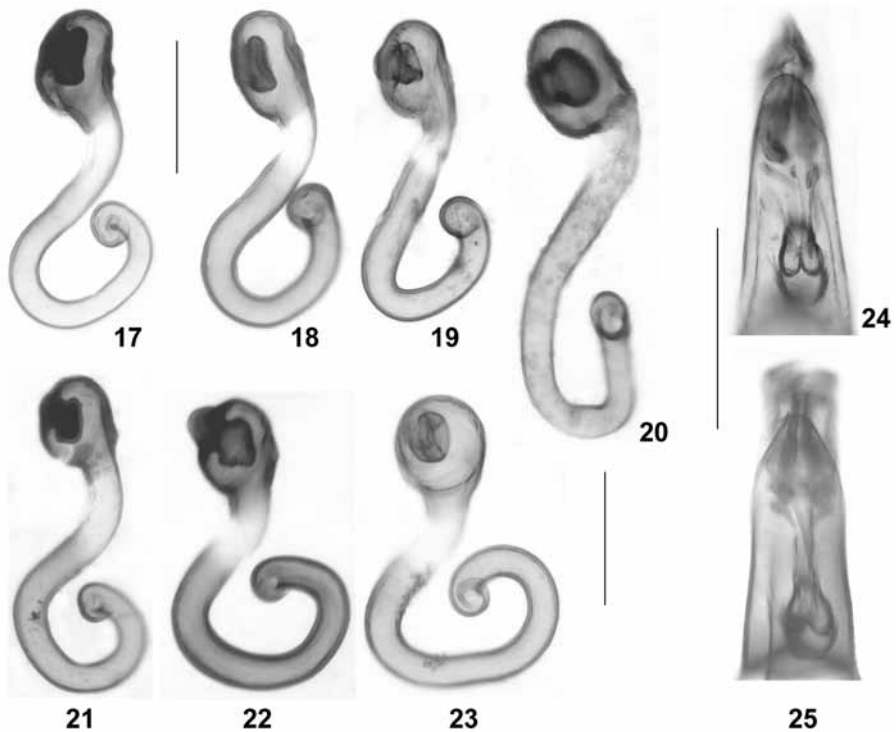
Elytra approximately 0.85 times as long as pronotum; punctation fine and dense; surface with distinct microsculpture (Fig. 2). Hind wings fully developed. Legs slender; metatarsomere I elongated, distinctly longer than the combined length of II-IV.



Figs 1-9: *Oxypoda robustior* nov.sp. (1-4), *O. kirghisica* nov.sp. (5-6), and *O. barbarica* nov.sp. (7-9): (1, 5, 7) habitus; (2, 6, 8) forebody; (3, 9) antenna; (4) abdomen. Scale bars: 1-2, 4-8: 1.0 mm; 3, 9: 0.5 mm.



Figs 10-16: *Oxypoda abdominalis* (MANNERHEIM) (10), *O. kirghisica* nov.sp. (11-12), *O. robustior* nov.sp. (13-14), and *O. barbarica* nov.sp. (15-16): (10-11, 13, 15-16) median lobe of aedeagus in lateral view; (12, 14) ventral process of median lobe in ventral view. Scale bar: 0.2 mm.



Figs 17-25: *Oxypoda abdominalis* (MANNERHEIM) (17, 24), *O. kirghisica* nov.sp. (18-19), *O. robustior* nov.sp. (20), and *O. barbarica* nov.sp. (21-23, 25; 21-22: Morocco; 23: S-Spain): (17-23) spermatheca; (24-25) ventral process of median lobe of aedeagus in ventral view. Scale bar: 0.2 mm.

Abdomen widest at base, gradually tapering posteriad; punctuation fine and very dense, as dense on tergite VII as on tergite III (Fig. 4); interstices with distinct microsculpture; posterior margin of tergite VII with distinct palisade fringe; posterior margin of tergite VIII strongly convex in both sexes.

♂: posterior margin of sternite VIII obtusely pointed; median lobe of aedeagus approximately 0.55 mm long, shaped as in Figs 13-14; apical lobe of paramere very long and slender, similar to that of *O. abdominalis*.

♀: posterior margin of sternite VIII broadly convex; spermatheca as in Fig. 20, distal portion of capsule with large cuticular invagination.

Comparative notes: Based on the primary and secondary sexual characters, as well as external characters (habitus, punctuation, microsculpture), *O. robustior* is undoubtedly closely related to *O. abdominalis*. It is distinguished from this species by somewhat larger size and more robust habitus, the darker coloration particularly of the head and pronotum, the longer antennae with less transverse antennomeres V-X, as well as by the larger size and different shape of the median lobe of the aedeagus, the differently shaped internal structures of the aedeagus, and the morphology of the spermatheca. For illustrations of the primary sexual characters of *O. abdominalis* see Figs 10, 17, 24.

Aside from *O. abdominalis*, the only other species currently attributed to the subgenus *Sphenoma* and reported from Middle Asia is *O. aulica* PACE, 1984 which was originally described from the Karakorum range, and subsequently reported also from Nepal, Kashmir, and Kazakhstan (SMETANA 2004). From this species, *O. robustior* is distinguished by larger size (*O. aulica*: approximately 3 mm), darker coloration of the head and pronotum, and the primary sexual characters. For illustrations of *O. aulica* see PACE (1984).

E t y m o l o g y : The name (Latin, comparative of the adjective robustus: robust) refers to the shape of the body, one of the characters separating *O. robustior* from the similar *O. abdominalis*.

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 locality is situated in Semnan province, Elburz mountain range, northeastern Iran. The specimens were collected at an altitude of approximately 2200 m.

***Oxypoda (Sphenoma) kirghisica nov.sp.* (Figs 5-6, 1-12, 18-19)**

T y p e m a t e r i a l : Holotype ♂: "Kyrgyzstan/Naryn, Moldo-Too Ch., Suulu-Kurtka pass, 31.VII.2006, 41°40'09"N, 75°02'11"E, 3250 m, I. L. Schmidt / Holotypus ♂ *Oxypoda kirghisica* sp. n. det. V. Assing 2009" (cAss). **Paratypes:** 4♂♂, 4♀♀: same data as holotype (cAss); 1♀: "Kyrgyzstan/ Naryn, Moldo-Too Ch., Suulu-Kurtka river, 30.-31.VII.2006, 41°38'20"N, 75°02'10"E, 2350 m, I. L. Schmidt" (cAss).

D e s c r i p t i o n : Habitus and forebody as in Figs 5-6. Body length: 3.0-4.0 mm. External characters as in *O. abdominalis*, except for the sometimes darker coloration of the pronotum, distinguished only by the primary sexual characters:

♂: median lobe of aedeagus stout and rather short, 0.45-0.50 mm long, shaped as in Figs 11-12; paramere as in *O. abdominalis*, with long and slender apical lobe.

♀: spermatheca as in Figs 18-19; distal portion of capsule with smaller cuticular invagination, proximal portion stouter and shorter than in *O. abdominalis*.

C o m p a r a t i v e n o t e s : *Oxypoda kirghisica* is reliably distinguished from *O. abdominalis* and allied species only based on the primary sexual characters. For illustrations of the primary sexual characters of *O. abdominalis* see Figs 10, 17, 24. *Oxypoda robustior*, whose internal structures of the aedeagus are of rather similar morphology, is of darker coloration, has a larger and more robust body, longer antennae, a distinctly larger aedeagus, and a larger and differently shaped spermatheca (Figs 13-14, 20). The aedeagus of *O. kirghisica* is also similar to that of *O. aulica*, the only other *Sphenoma* species reported from Middle Asia, but the proximal portion of the spermathecal capsule is distinctly shorter in the former than in the latter. For illustrations of *O. aulica* see PACE (1984).

E t y m o l o g y : The name (adjective) is derived from the ancient name of the region where the species was discovered.

D i s t r i b u t i o n a n d b i o n o m i c s : *Oxypoda kirghisica* is known only from two localities in Naryn province, central Kyrgyzstan. The type specimens were collected by sifting at altitudes of 2350 and 3250 m.

***Oxypoda (Sphenoma) barbarica nov.sp.* (Figs 7-9, 15-16, 21-23, 25)**

T y p e m a t e r i a l : Holotype ♂: "Morocco - Haut Atlas, NE Tizi-n-Test, edge of stream, 1710 m, No. 16, 30°54'12N, 08°18'39W, 29.XII.2002, V. Assing / Holotypus ♂ *Oxypoda barbarica* sp. n. det. V. Assing 2009" (cAss). **Paratypes:** 4 exs: same data as holotype (cAss);

32 exs.: same data, but "1540 m, No. 17, 30°54'39N, 08°17'21W" (OÖLL, cAss, cFel, cSch); 24 exs., same data, but leg. Wunderle (cWun); 9 exs.: same data, but "1500 m, 30°55'04N, 08°16'37W, 30.XII.2002" (cAss); 1 ex., same data, but leg. Wunderle (cWun); 1 ex: "Morocco - Haut Atlas, 20 km ENE Oukaimeden, SE Arhbalou, 1350 m, N. 9, 31°14'16N, 07°09'53W, 27.XII.2009, P. Wunderle" (cWun); 1 ♀: "E. Andalusien (GR), Sierra Nevada, Lanjaron, 600 m, 23.III.1994, Assing, 12" (cAss); 1 ♂, 3 ♀ ♀: "E-Andalusia (GR), Sierra Nevada, 28.09.93, Wunderle / Guejar Sierra, 1200 m, Genilufer/Gesiebe" (cWun, cAss).

A d d i t i o n a l m a t e r i a l e x a m i n e d : **Spain:** 1 ♀, 10 km W Madrid, Boadilla del Monte, Valdepastores, 25.II.-2.III.1999, leg. Wrase (cAss).

D e s c r i p t i o n : Habitus, forebody, and antenna as in Figs 7-10. Body length: 3.5-4.5 mm. Coloration: head dark-brown to blackish; pronotum reddish, usually more or less extensively infuscate in the middle, often leaving only the margins reddish; elytra dark reddish, with the scutellar region and the lateral margins usually more or less extensively infuscate, sometimes almost completely dark-brown; abdomen blackish, with the posterior margins of segments III-VI, the posterior 1/4 of segment VII, and segments VIII-X reddish; legs yellowish; antennae dark-brown, with the basal 1-2 antennomeres yellowish.

Elytra 0.90-0.97 times as long as pronotum; other proportions, punctation, and microsculpture as in *O. abdominalis*. Hind wings fully developed.

♂: posterior margin of sternite VIII strongly convex, but not angled or pointed; median lobe of aedeagus 0.48-0.50 mm long, apical internal structures distinctive (Figs 15-16; ventral process broad, basally parallel-sided, and apically acute in ventral view (Fig. 25); apical lobe of paramere very long and slender, shape and chaetotaxy as in *O. abdominalis*.

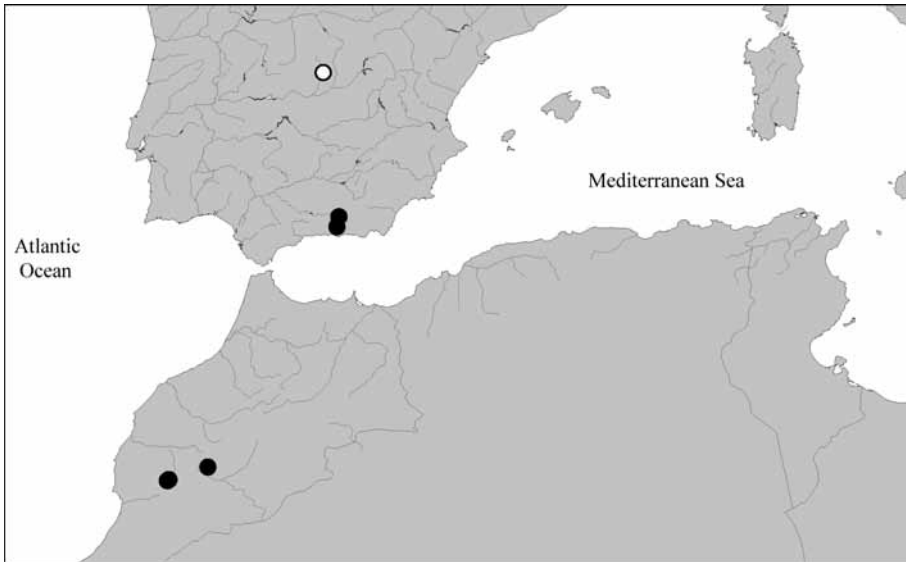
♀: posterior margin of sternite VIII truncate to weakly concave in the middle; spermatheca as in Figs 21-23.

C o m p a r a t i v e n o t e s : Based on the primary and secondary sexual characters, as well as external characters (habitus, punctation, microsculpture), *O. barbarica* is undoubtedly closely related to *O. abdominalis*, with which it was previously confounded. It is distinguished from this species by apparently always fully developed hind wings (*O. abdominalis*: dimorphic, mostly brachypterous), slightly larger average size, darker average coloration of the forebody, the shape of the male sternite VIII (*O. abdominalis*: posterior margin usually somewhat angled in the middle), the slightly larger median lobe of the aedeagus, the broader and apically more acute ventral process (ventral view), the shape of the apical internal structures of the aedeagus, and the less slender proximal portion of the spermathecal capsule. For illustrations of the primary sexual characters of *O. abdominalis* see Figs 10, 17, 24.

E t y m o l o g y : The name (adjective) is derived from Barbar, the ancient Arab word for the people living in Northwest Africa.

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 specimens were collected in the Haut Atlas, Morocco, and in southern Spain. A female seen from Madrid probably refers to this species, but was not included in the type series. Previous records of *O. abdominalis* from Northwest Africa and the south of the Iberian peninsula may be based on a confusion with this species. Most of the material from Morocco was sifted from leaf litter (*Nerium*, *Populus*, *Salix*, *Rubus*) near a stream at altitudes of 1500-1710 m, one specimen from leaf litter in a ruderal deciduous forest near a river at an altitude of 1350 m. The specimens from the Sierra Nevada were sifted from deep leaf litter in a

stream valley at an altitude of 600 m and from litter on the bank of a stream at an altitude of 1200 m.



Map 1: Distribution of *Oxypoda barbarica* nov.sp. (filled circles); open circle: female-based record from Madrid.

Species excluded from the subgenus *Sphenoma*

C o m m e n t : According to SMETANA (2004), *Oxypoda luctifera* FAUVEL 1872 and *O. referens* MULSANT & REY 1875 refer to *Sphenoma*, of which *Thliboptera* THOMSON 1859 is a junior synonym. However, *Thliboptera* was recently recognised as a valid subgenus, characterised particularly by the evidently synapomorphic morphology of the aedeagus, and currently comprises some 15 species predominantly distributed in the Mediterranean region (ASSING 2006). The type material of *O. luctifera* and *O. referens* was examined and figured by TRONQUET (1999) and ZERCHE (1994), respectively. Based on the illustrations of the aedeagi, both species undoubtedly refer to *Thliboptera*.

The same is true of *O. platyptera* FAIRMAIRE 1859, a replacement name for the preoccupied *O. planipennis* FAIRMAIRE & LABOULBÈNE 1856, which was originally described based on material from "H.-Pyr., vallée de Campan" (FAIRMAIRE & LABOULBÈNE 1856). An examination of two male syntypes (labelled: "Haut-Pyrenaen, Südfrankreich / platyptera Fairm. Type, ded. Fairmaire") in the Bernhauer collection (FMNH) revealed that this species, too, refers to the subgenus *Thliboptera*. Remarkably, this species is listed only for Italy by SMETANA (2004), although it was described from France and subsequently also reported from northern Spain (BERNHAEUER 1902).

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Zusammenfassung

Drei Arten der Untergattung *Sphenoma* MANNERHEIM 1830, allesamt nah verwandt mit *Oxypoda abdominalis* (MANNERHEIM 1830), werden beschrieben und abgebildet: *O. robustior* nov.sp. (Iran), *O. kirghisica* nov.sp. (Kirgisistan) und *O. barbarica* nov.sp. (Marokko). Die bisher *Sphenoma* zugeordneten Arten *Oxypoda luctifera* FAUVEL 1872, *O. referens* MULSANT & REY 1875 und *O. platyptera* FAIRMAIRE 1859 werden in die Untergattung *Thliboptera* THOMSON 1859 gestellt.

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