

**On the taxonomy of *Anomognathus* Solier, 1849:
the first records of the genus from Laos and a new synonymy
(Coleoptera: Staphylinidae: Aleocharinae)**

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ASSING V. 2020: On the taxonomy of *Anomognathus* Solier, 1849: the first records of the genus from Laos and a new synonymy (Coleoptera: Staphylinidae: Aleocharinae). *Acta Musei Moraviae, Scientiae biologicae* 105(2): 163–170. – *Anomognathus laoticus* sp. nov. (Northwest Laos: Bokeo province) and *A. triangularis* sp. nov. (Northeast Laos: Houa Phan province), the first representatives of the genus to be recorded from Laos, are described and illustrated. A new synonymy is proposed: *Placusa nitida* Fauvel, 1900 = *Anomognathus ispartaensis* Örgel, Avci et Özek, 2019; *Placusa nitida* is reported from Spain, Turkey, and Israel for the first time. The genus *Anomognathus* Solier, 1849 currently includes 27 valid species distributed in all major zoogeographic regions, except for the Afrotropical region.

Keywords. Coleoptera, Staphylinidae, Aleocharinae, Homalotini, *Anomognathus*, taxonomy, new species, new synonymy, Oriental region, Palaearctic region, Laos

Introduction

According to NEWTON (2019), the homalotine genus *Anomognathus* Solier, 1849 includes 26 species distributed in the Oriental (eight species), Palaearctic (ten), Oriental and Palaearctic (one), Pacific (two), Australian (three), Nearctic (one), and Neotropical (one) regions, with one of the Palaearctic species reported also from North America. Four of the species reported from the Palaearctic region have been recorded from the West Palaearctic. One of them, *A. ispartaensis*, was described only recently based on type material from Turkey by ÖRGEL *et al.* (2019). The original descriptions leaves no doubt that this species does not belong to *Anomognathus*, but to *Placusa* Erichson, 1837.

Material of Staphylinidae from Laos made available to me by Matthias Borer, Naturhistorisches Museum Basel, included three specimens of *Anomognathus*. An examination of this material revealed that they represented two undescribed species, one of them with a conspicuous sexual dimorphism of the abdominal tergite VIII.

Material and methods

The material treated in this study is deposited in the following collections:

NHMB Naturhistorisches Museum Basel (M. Borer)
cAss author's private collection

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axiocam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software.

Body length was measured from the anterior margin of the labrum to the posterior margin of tergite VIII, the length of the forebody from the anterior margin of the labrum to the posterior margin of the elytra, head length from the anterior margin of the clypeus to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The “parameral” side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

The limits of the zoogeographic regions are in accordance with those mapped in SCHÜLKE & SMETANA (2015).

Taxonomy

Anomognathus laoticus sp. nov.

(Figs 1–9)

Type material examined. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28’N, 100°45’E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Anomognathus laoticus* sp. n., det. V. Assing 2020” (NHMB). Paratype ♀: same data as holotype (cAss).

Description. Body length 2.2–2.3 mm (abdomen fully extended); length of forebody 1.0 mm. Habitus as in Fig. 1. Coloration: head brown to dark-brown; pronotum reddish-yellow, strongly contrasting with the darker head; elytra pale-brown; abdomen reddish-yellow with tergites V–VI and the anterior portion of tergite VII infuscate; legs yellow; antennae with antennomeres I–III yellow, IV–X gradually darker, and the apical antennomeres blackish-brown; maxillary palpi yellow.

Head (Fig. 2) approximately 1.1 times as broad as long; punctation coarse and very dense; interstices with microsculpture. Eyes strongly convex, longer than postocular region in dorsal view. Antenna approximately 0.5 mm long and distinctly incrassate apically; antennomeres IV–X strongly transverse, disc-shaped; IV more than twice as broad as long, V–X of gradually increasing width and increasingly transverse, and X approximately three times as broad as long.

Pronotum (Fig. 2) 1.05–1.08 times as broad as long and 1.02–1.05 times as broad as head, extensively but shallowly impressed along middle; punctation very fine and very dense; interstices with distinct microsculpture.

Elytra (Fig. 2) approximately 1.15 times as long as pronotum; punctation very dense and fine, but more distinct than that of pronotum; interstices with microsculpture. Hind wings fully developed.

Abdomen (Fig. 3) slender, broadest at segment VI; tergites III–VI with shallow anterior impressions; punctation fine, denser on anterior than on posterior tergites; interstices with distinct microreticulation; posterior margin of tergite VII broadly concave and with palisade fringe.

♂: tergite VI with small median keel posteriorly (Fig. 3); tergite VIII (Fig. 4) of distinctive shape, posterior margin laterally with a very long and slender spine-shaped process apically bent upwards on either side and in the middle with pronounced, slenderly V-shaped process; sternite VIII (Fig. 5) weakly oblong and with strongly convex posterior margin; median lobe of aedeagus 0.23 mm long and shaped as in Figs 6–7.

♀: tergite VIII (Fig. 8) of distinctive shape: posterior margin with lateral processes of similar shape as in male, in the middle with a pair of short processes; sternite VIII (Fig. 9) indistinctly transverse, posterior margin moderately concave and with short stout marginal setae.

Comparative notes. The new species is distinguished from other congeners recorded from the East Palearctic and Oriental regions by the distinctive shapes of the sexually dimorphic male and female tergites VIII, presumably also by the shape of the median lobe of the aedeagus (aedeagus of most species never illustrated), and additionally as follows:

- from *A. armatus* (Sharp, 1888) (China, Taiwan, Japan, South Korea) by smaller body size, paler coloration especially of the pronotum and the anterior abdominal segments, a relatively smaller pronotum, and more transverse antennomeres IV–X;
- from *A. bicuspis* (Fauvel, 1879) (Indonesia) by smaller body size and paler coloration;
- from *A. bohaci* Pace, 1992 (description based on unique female from Vietnam, subsequently recorded also from Hong Kong) by larger body size, the presence of distinct microsculpture on the head and pronotum, and the completely different shape of the female tergite VIII;
- from *A. brunneicollis* (Cameron, 1920) (Malaysia, Singapore) by larger body size and the much paler coloration of the pronotum;
- from *A. cingulatus* Cameron, 1939 (North India) by paler elytra;
- from *A. coloratus* Cameron, 1936 (Indonesia: Sumatra) by significantly larger body size (*A. coloratus*: body length 1.2 mm);
- from *A. franzi* Pace, 1982 (Kashmir) by darker antennae and a paler pronotum;
- from *A. gracilis* Cameron, 1936 (Indonesia: Sumatra) by larger body size (*A. gracilis*: body length 1.1 mm) and the coloration (*A. gracilis*: body dark brown);
- from *A. himalayicus* Cameron, 1939 (North India) by smaller size and much paler coloration (*A. himalayicus*: body black);
- from *A. laetus* Cameron, 1939 (North India) by smaller body size, darker antennae, and the coloration of the abdomen (*A. laetus*: antennae entirely yellow; only abdominal segment VI infuscate);
- from *A. masuriensis* Cameron, 1939 (North India) by much smaller body size and a distinctly bicoloured abdomen;
- from *A. minutus* Cameron, 1939 by larger body size and much paler coloration of the pronotum and the anterior abdominal segments;
- from *A. quadriceps* Cameron, 1928 (Indonesia: Sumatra) by smaller body size and a paler pronotum.

For illustrations of some of the above species see CAMERON (1939), KIM & AHN (2014), and PACE (1982, 1992).

Distribution and natural history. The type locality is situated in Bokeo province, Northwest Laos. The specimens were collected on the wing, probably with a Malaise trap, at an altitude of 500–700 m.

Etymology. The specific epithet is an adjective derived from Laos, where this species was discovered.

Anomognathus triangularis sp. nov.

(Figs 10–16)

Type material examined. Holotype ♂: “LAOS – Houa Phan prov. Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Vít Kubáň / Holotypus ♂ *Anomognathus triangularis* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 2.2 mm (abdomen fully extended); length of forebody 1.0 mm. Habitus as in Fig. 10. In size, habitus, and coloration similar to *A. laoticus*, except as follows: Pronotum of slightly, abdominal tergite V of distinctly darker colour. Head (Fig. 11) smaller in relation to pronotum and not dilated posteriorly. Pronotum (Fig. 11) distinctly tapering in posterior two-thirds.

♂: postero-median keel of tergite VI very indistinct (Fig. 12); tergite VIII (Fig. 13) posteriorly with a long lateral spine on either side, this spine strongly bent dorsad, and with a median process with a triangular base and a spine-shaped apex; sternite VIII oblong and shaped as in Fig. 14; median lobe of aedeagus 0.21 mm long and shaped as in Figs 15–16.

♀: unknown.

Comparative notes. The new species is characterized by the modifications of the abdominal tergite VIII and by the shape of the aedeagus. For differences separating it from the similar *A. laoticus* see the description above. It is additionally distinguished from other geographically close representatives of the genus as follows:

- from *A. armatus* by a distinctly smaller body, a much more slender habitus, paler coloration especially of the pronotum and the anterior abdominal segments, a relatively smaller pronotum, and finer punctation of the abdomen;
- from *A. bicuspis* by uniformly dark elytra (bicoloured in *A. bicuspis*) and reddish abdominal segments III–IV, and a shallowly impressed pronotum (deeply impressed in *A. bicuspis*);
- from *A. bohaci* by a much smaller head with relatively larger eyes and longer elytra;
- from *A. brunneicollis* by larger body size, paler coloration of the pronotum, and a dark abdominal segment V;
- from *A. cingulatus* (North India) by paler elytra;
- from *A. coloratus* by significantly larger body size (*A. coloratus*: body length 1.2 mm);

- from *A. franzi* by darker antennae and a paler pronotum;
- from *A. gracilis* by larger body size (*A. gracilis*: body length 1.1 mm) and the coloration (*A. gracilis*: body dark brown);
- from *A. himalayicus* by smaller size and much paler coloration (*A. himalayicus*: body black);
- from *A. laetus* by smaller body size, darker antennae, and the coloration of the abdomen (*A. laetus*: antennae entirely yellow; only abdominal segment VI infuscate);
- from *A. masuriensis* by much smaller body size and a distinctly bicoloured abdomen;
- from *A. minutus* by larger body size and much paler coloration of the pronotum and the anterior abdominal segments;
- from *A. quadriceps* by smaller body size and a paler pronotum.

For illustrations of some of the above species see CAMERON (1939), KIM & AHN (2014), and PACE (1982, 1992).

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The holotype was collected on the wing, probably with a Malaise trap, at an altitude of approximately 1750 m.

Etymology. The specific epithet (Latin, adjective) alludes to the triangular base of the median posterior process of the abdominal tergite VIII.

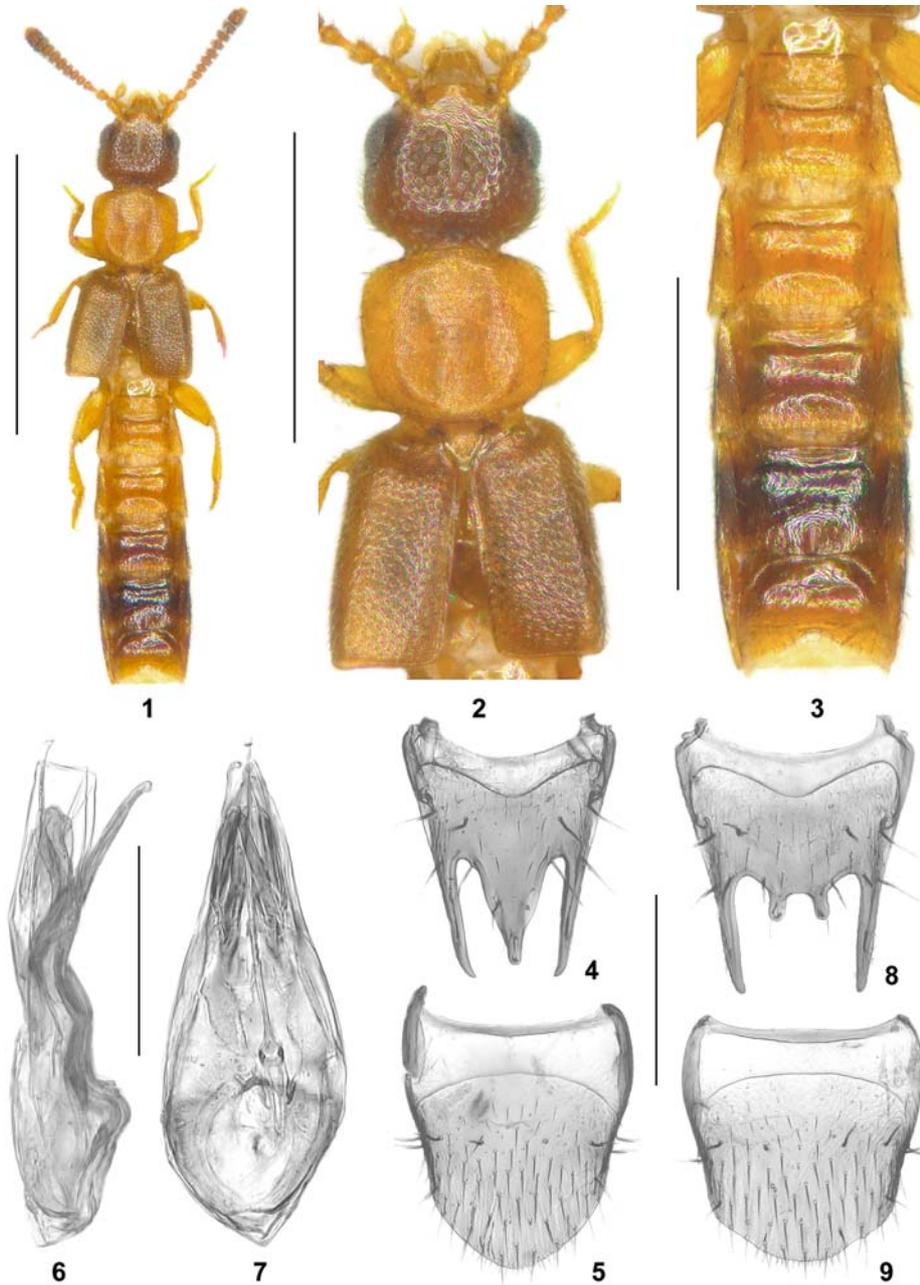
Placusa nitida Fauvel, 1900

Anomognathus ispartaensis Örgel, Avci et Özek, 2019: 108; **syn. nov.**

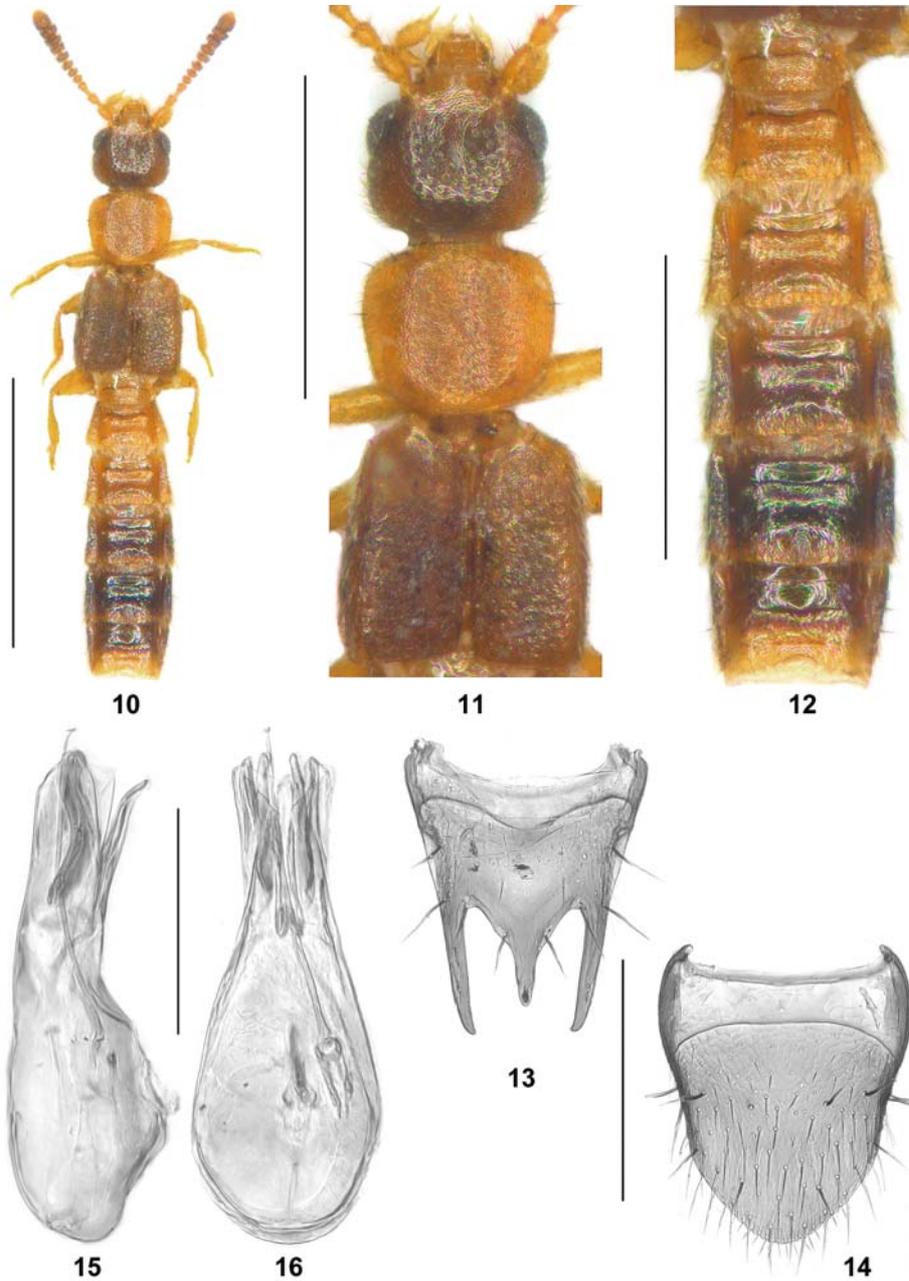
Material examined. Spain: 1♂, Andalucía, Algeciras, Garganta de la Fuente Santa, 36.14°N, 5.50°W, 13.V.2014, leg. Shavrin (cAss). **Turkey:** 1♀, Muğla, SE Fethiye, Baba Dağ, above Ovacık, 36°33'N, 29°11'E, 1170 m, 30.III.2002, leg. Assing (cAss). **Israel:** 5 exs. [identified as *P. nitida* by B. Feldmann], 10 km E Haifa, Fourties, 32°45'N, 35°02'E, flight interception trap *Quercus calliprinos*, 8–29.VI.2007, leg. Buse (cFel); 4 exs. [identified by B. Feldmann], Upper Galilee, Meron env. 33°01'N, 35°23'E, flight interception trap *Quercus calliprinos*, 16.V.–6.VI.2007, leg. Buse (cFel); 1 ex. [identified by B. Feldmann], Upper Galilee, Meron env., 33°01'N, 35°23'E, flight interception trap *Pinus brutia*, 15.V.–5.VI.2007, leg. Buse (cFel).

The original description of *Placusa nitida* is based on type material from Corsica and mainland France. The species was subsequently reported from Algeria (PEYERIMHOFF, 1918), who repeatedly observed it in considerable numbers in pine cones and in detail discusses its biology. This information was also cited by COIFFAIT (1939) in a study of the *Placusa* species of France. According to FELDMANN (pers. comm.), who studied type material and forwarded photographs of the habitus and the sexual characters to me, *P. nitida* has also been recorded from Israel, suggesting that the species is distributed in the whole of the Mediterranean region.

As can be concluded from the illustrations provided in the original description of *Anomognathus ispartaensis*, this species undoubtedly belongs to *Placusa* Erichson, 1837. The type material was collected from the cones of *Pinus brutia* in a locality in the Turkish



Figs 1–9. *Anomognathus laoticus* sp. nov. 1 – habitus; 2 – forebody; 3 – abdomen; 4 – male tergite VIII; 5 – male sternite VIII; 6–7 – aedeagus in lateral and in ventral view; 8 – female tergite VIII; 9 – female sternite VIII. Scale bars: 1: 1.0 mm; 2–3: 0.5 mm; 4–5, 8–9: 0.2 mm; 6–7: 0.1 mm.



Figs 10–16. *Anomognathus triangularis* sp. nov. 10 – habitus; 11 – forebody; 12 – abdomen; 13 – male tergite VIII; 14 – male sternite VIII; 15–16 – aedeagus in lateral and in ventral view. Scale bars: 10: 1.0 mm; 11–12: 0.5 mm; 13–14: 0.2 mm; 15–16: 0.1 mm.

province Isparta (ÖRGEL *et al.* 2019). Based on the figures of external and sexual characters, there is little doubt that the type material is in fact conspecific with *P. nitida*, a conclusion also confirmed by the habitat data. Hence the synonymy proposed above.

Placusa nitida is here reported from Spain, Turkey, and Israel for the first time.

Acknowledgements

The type specimens of the new species were found among Staphylinidae from Laos made available by Matthias Borer (NHMB). Benedikt Feldmann (Münster) provided unpublished data on *Placusa nitida*, photographs of type material, and helpful suggestions on literature references. The comments and suggestions of two anonymous reviewers are appreciated.

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