

Revision of the *Apimela* species of the Palaearctic Region II. The first records of the genus from South Korea (Coleoptera: Staphylinidae: Aleocharinae)

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ASSING V. 2022: Revision of the *Apimela* species of the Palaearctic Region. II. The first records of the genus from South Korea (Coleoptera: Staphylinidae: Aleocharinae). *Acta Musei Moraviae, Scientiae biologicae* 107(1–2): 1–6. – The oxypodine genus *Apimela* Mulsant et Rey, 1874 was previously unknown from South Korea. *Apimela koreana* sp. nov. (South Korea: Gangwon-do) is described, illustrated, and distinguished from other representatives of the *A. macella* group distributed in the East Palaearctic region. *Apimela ussurica* Assing, 2020, a species originally described from the Ussuri region in the Russian Far East, is reported from South Korea for the first time. The previously unknown spermatheca of *A. ussurica* is illustrated. The distributions of the two species recorded from South Korea are mapped. Additional records of *A. macella* (Erichson, 1839) are reported. *Apimela* is now represented in the Palaearctic region by 30 species in two distinct lineages.

Keywords. Coleoptera, Staphylinidae, Aleocharinae, Oxypodini, Meoticina, *Apimela*, South Korea

Introduction

According to a recent revision (ASSING 2020), the oxypodine genus *Apimela* Mulsant et Rey, 1874 was previously represented in the Palaearctic region by 29 species belonging two distinct lineages, the *A. macella* (seven species) and the *A. mutata* groups (22 species). Seven of these species are distributed in the West Palaearctic (including Middle Asia) and the remainder in the East Palaearctic region. The genus had never been recorded from South Korea (SCHÜLKE & SMETANA 2015, ASSING 2020).

Apimela material recently made available to me by György Makranczy (Budapest) was composed of three species, two of them collected in South Korea: *A. ussurica* Assing, 2020, a species previously known only from the Ussuri region in the Russian Far East, and an undescribed species of the *A. macella* group.

Material and methods

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

HNHM Hungarian Natural History Museum, Budapest (G. Makranczy)
cAss author's private collection

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss), a Discovery V12 microscope (Zeiss), and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Nikon Coolpix 995, Axiocam ERc 5s), as well as Labscope and Picolay stacking software. The maps were created using Map-Creator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles 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).

Results

Apimela macella (Erichson, 1839)

Material examined. SLOVAKIA: 1♀, Vyšné Matiašovce, 680 m, 49°10'18"N, 19°34'22"E, 680 m, 24.VI.2017, leg. Mantič (HMHM); 1♂, NE od Podbanské, Tichá dolina, 49°09'18"N, 19°55'21"E, 1000 m, 26.VI.2017, leg. Mantič (HMHM). ROMANIA: 1♀, Braşov, P.N. Piatra Craiului, 0.3 km SSW Plaiul Foi, 45°33'33"N, 25°11'40"E, 850 m, stream bank, 14.VI.2011, leg. Makranczy (HNHM); 3♂♂, 3♀♀, Hunedoara, Munții Retezat, W Nucşoara, wide rocky bed of Nucşorul river, 45°28'37"N, 22°54'23"E, 680 m, sand and gravel floated, 2.VI.2008, leg. Makranczy (HNHM, cAss).

Remarks. The distribution of *A. macella* ranges from the Pyrenees across the mountain ranges of southern Central and South Europe eastwards to the Carpathians and northern Balkans (ASSING 2020). The above specimens from Slovakia represent the first confirmed records from this country.

Apimela koreana sp. nov.

(Figs 1–7, Map 1)

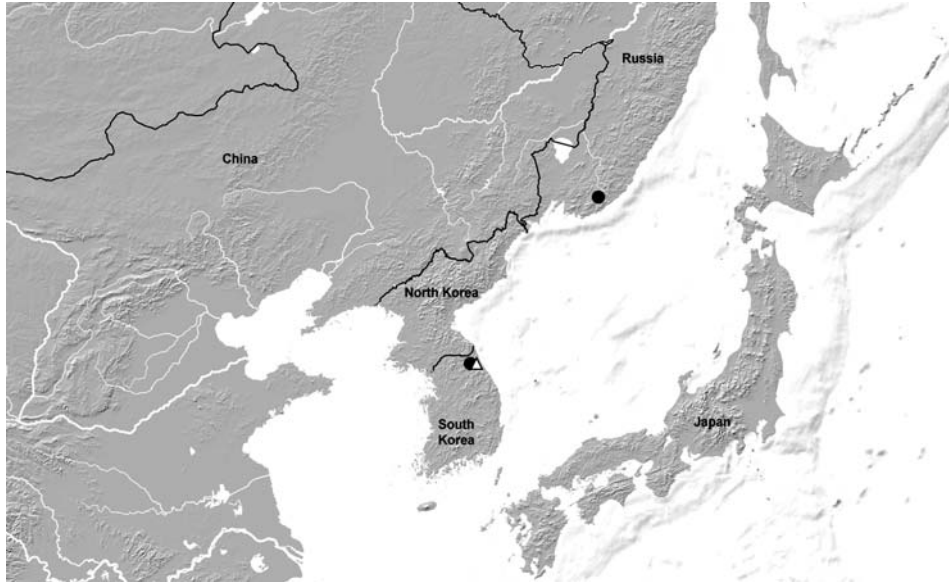
Type material. Holotype ♂: “S-KOREA, Gangwon-do, Seorak-san, Osaek-Oncheon, N branch of Osaekcheon stream, stony bank, 370 m / rough sand partly under stones, flotation (4A), 38°04'48"N, 128°26'58"E, 09.IX.2010, Makranczy et al. / Holotypus ♂ *Apimela koreana* sp. n., det. V. Assing 2021” (HNHM). Paratype ♀: same data as holotype (cAss).

Description. Body length 2.8–2.9 mm; length of forebody 1.4–1.5 mm. Habitus as in Fig. 1. Colouration: head and pronotum brown to dark-brown; elytra yellow; abdomen yellowish-red; legs yellow; antennae dark-brown with the basal three antennomeres reddish-yellow.

Head (Fig. 2) approximately as broad as long, with shallow, but extensive median impression; punctuation fine and dense; interstices with microreticulation. Eyes relatively small, approximately half as long as postgenae in dorsal view. Antenna (Fig. 3) 0.9–1.0 mm long and rather massive; antennomeres IV–X weakly transverse.

Pronotum (Fig. 2) approximately as broad as long and indistinctly broader than head, very shallowly impressed along middle; punctuation and microsculpture similar to those of head.

Elytra (Fig. 2) slightly shorter than pronotum; punctuation very fine and dense. Hind wings fully developed. Metatarsomere I approximately as long as the combined length of metatarsomeres II and III.



Map 1. Distributions of *Apimela koreana* sp. nov. (white triangle) and *A. ussurica* Assing (black circles), based on examined records.

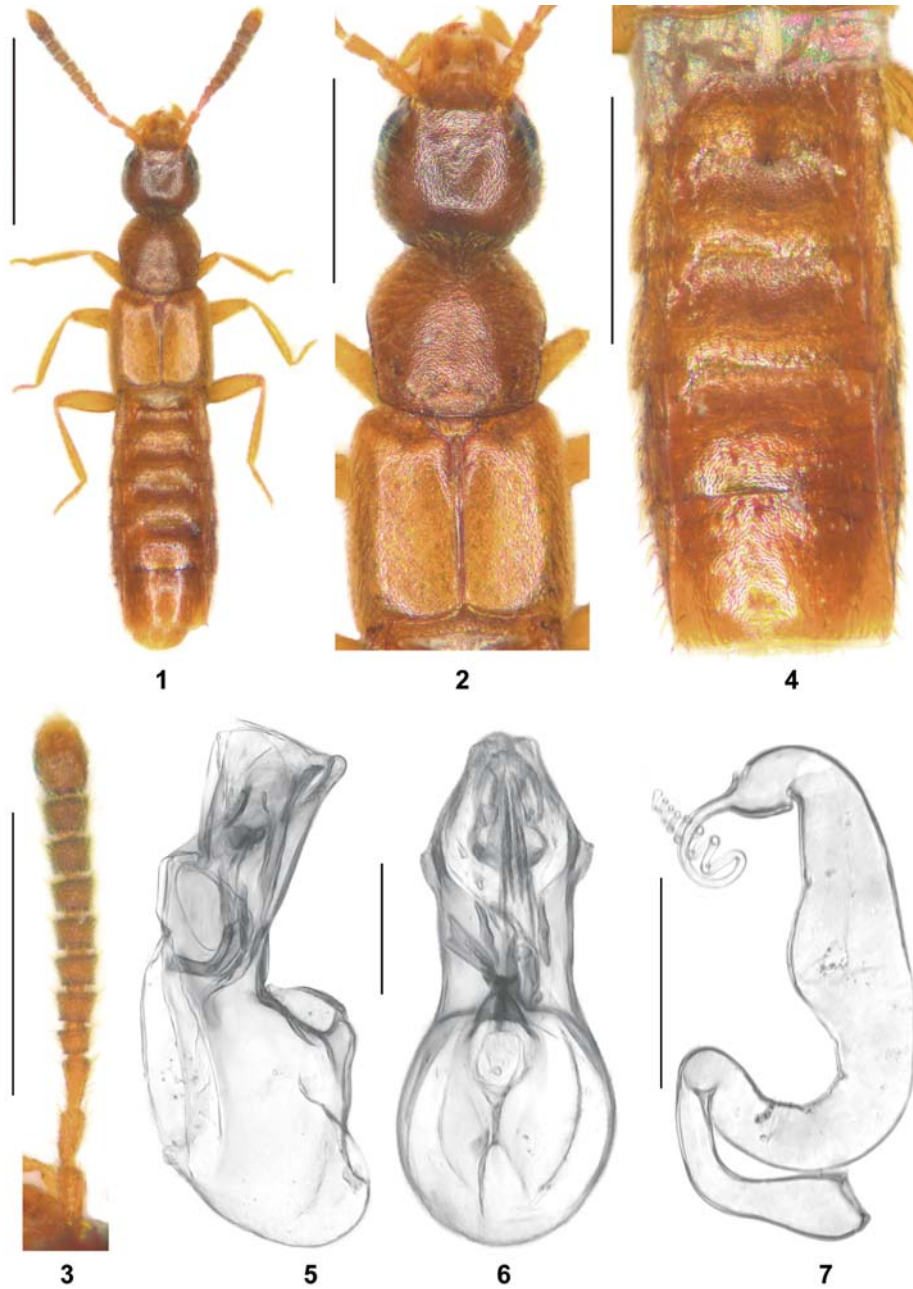
Abdominal tergites III–VI with distinct anterior impressions, these impressions with pronounced microsculpture (Fig. 4); tergite III with sexual dimorphism; punctuation dense on anterior tergites, gradually becoming sparser towards posterior tergites; tergite VII with very sparse punctuation; posterior margin of tergite VII with palisade fringe.

♂: tergite III (Fig. 4) with posterior margin produced in the middle and with spine-shaped postero-median process; median lobe of aedeagus 0.38 mm long and shaped as in Figs 5–6.

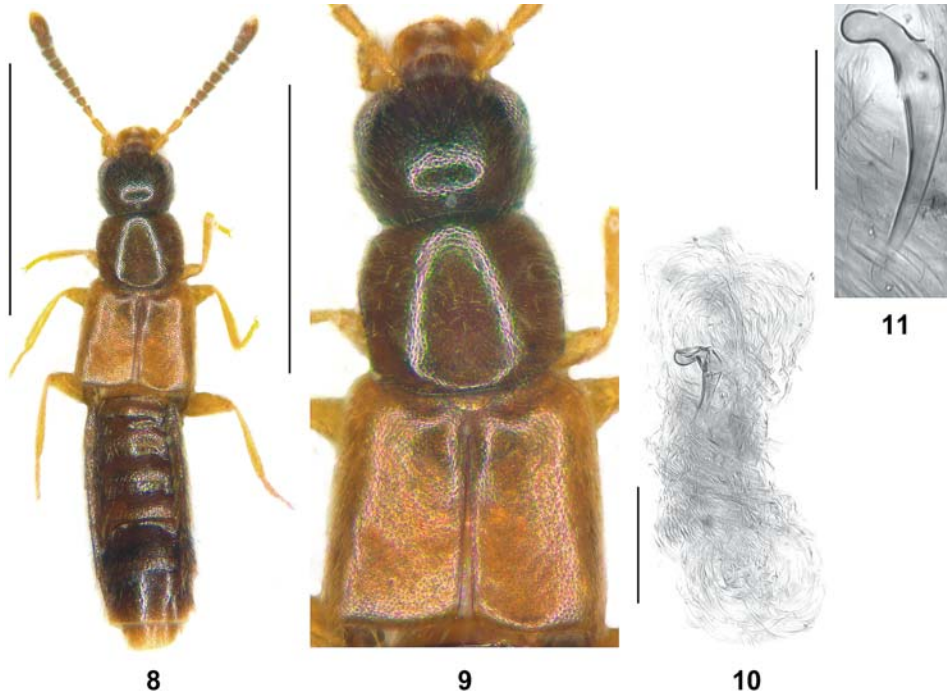
♀: spermatheca as in Fig. 7.

Comparative notes. Based on the sexual dimorphism of tergite III and the structure of the spermatheca, *A. koreana* belongs to the *A. macella* group, which previously included seven species in the Palaearctic region, three of the distributed in the West Palaearctic and four in the East Palaearctic regions. The new species is distinguished from all the East Palaearctic species by a less slender pronotum, shorter elytra, pronounced microsculpture of the forebody and of the anterior impressions of tergites III–VI, the shape of the aedeagus, and additionally as follows:

- from *A. indica* (Cameron, 1939) (North India) by smaller body size (*A. indica*: length of forebody 1.7–1.8 mm), shorter and less slender antennae, smaller eyes, a more pronounced anterior impression of the abdominal tergite VI, a smaller aedeagus (*A. indica*: median lobe 0.42–0.43 mm long), and the shape of the spermatheca;



Figs 1–7. *Apimela koreana* sp. nov.: 1 – habitus; 2 – forebody; 3 – antenna; 4 – male abdomen; 5–6 – median lobe of aedeagus in lateral and in ventral view; 7 – spermatheca. Scale bars: fig. 1: 1.0 mm; 2–4: 0.5 mm; 5–7: 0.1 mm.



Figs 8–11. *Apimela ussurica* Assing from South Korea: 8 – habitus; 9 – forebody; 10 – spermatheca; 11 – distal end of spermatheca. Scale bars: fig. 8: 1.0 mm; 9: 0.5 mm; 10: 0.1 mm; 11: 0.05 mm.

- from *A. sinica* (Pace, 2012) (Nepal; China: Sichuan, Yunnan) by shorter and less slender antennae, smaller eyes, the shape of the tubercle on the male tergite III (oblong and keel-shaped in *A. sinica*);
- from *A. persimilis* (Cameron, 1939) (North India) by less slender antennae, smaller eyes, a larger aedeagus (*A. persimilis*: median lobe 0.28 mm long), and the shape of the spermatheca;
- from *A. nepalicola* (Pace, 2006) by more massive antennae with less transverse antennomeres IV–X.

For illustrations of *A. indica*, *A. sinica*, *A. persimilis*, and *A. nepalicola* see ASSING (2020).

Distribution and natural history. The type locality is situated in Gangwon-do province in the northeast of South Korea (Map 1). The specimens were floated from coarse sand on a stony stream bank at an altitude of 370 m.

***Apimela ussurica* Assing, 2020**

(Figs 8–11, Map 1)

Material examined. South Korea: 14 exs., Gangwon-do, Injae-gun district, 2 km E Inje, Naerincheon river, 38°03'59"N, 128°11'34"E, 200 m, river bank, gravelly muddy sand under stones, floated, 8.IX.2021, leg. Makranczy et al. (HNHM, cAss).

Remarks. The original description of this recently described species is based on two males from a locality in the Ussuri region in the Russian Far East. The above specimens represent the first record from South Korea. The currently known distribution is illustrated in Map 1.

The specimens from South Korea differ from the type material by somewhat darker colouration of the head, pronotum, and abdomen (Figs 8–9). The aedeagus, however, is identical. The previously unknown spermatheca is illustrated in Figs 10–11.

Acknowledgements

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References

- ASSING V. 2020: Revision of the *Apimela* species of the Palaearctic Region with a focus on the West Palaearctic fauna, and with additional notes on the genus *Franzidota* (Coleoptera: Staphylinidae: Aleocharinae: Oxypodini). *Acta Musei Moraviae, Scientiae Biologicae* **105**: 27–90.
- SCHÜLKE M. & SMETANA A. 2015: *Staphylinidae*. pp. 304–1134. In: LÖBL I. & LÖBL D. (eds): *Catalogue of Palaearctic Coleoptera. Volume 2. Hydrophiloidea – Staphylinoidea. Revised and updated edition*. Brill, Leiden: xxvi + 1702 pp.