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(Coleoptera: Scarabaeoidea) from Swat District
in northern Pakistan

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Amphicoma gandhara, a new species of Glaphyridae (Coleoptera: Scarabaeoidea) from Swat District in northern Pakistan

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Abstract. *Amphicoma gandhara* Nikodým and Sabatinelli (Coleoptera: Scarabaeoidea: Glaphyridae), a new species from Swat District of northern Pakistan, is described and illustrated. The new species is compared with related taxa, in particular with the most similar species, *A. schneideri* Nikodým, 2005.

Key words. New species, systematics.

Introduction

The genus *Amphicoma* Latreille, 1807 as currently defined by Bezděk et al. (2005), includes 47 species, one of which has three subspecies. Most of the species are mainly distributed in East and South East Asia. The first comprehensive work of the genus *Amphicoma* by Endrödi (1952) provided an overview of known species with a key for their identification, including description of five new species. Medvedev (1960) presented a partial overview of Chinese species. Other new species have since been described by Petrovitz (1965, 1972), Drioli (1980), Miyake (1982), Nikodým (2005, 2007, 2009a, 2009b), Keith (2007, 2008), and Chun-Lin et al. (2011). The latter includes an analysis of new character sets. The most recent key for identification of species by Nikodým (2005) divided the genus into four groups of species based on external characters of adult males for easier differentiation of the species. A checklist of Palaearctic species is provided by Nikodým and Bezděk (2016).

Recently, Mawlood et al. (2016) described *Amphicoma hirani* from Iraq – Kurdistan. One of us (GS), traveled to Erbil in May 2017 and October 2018 to examine the type series. However, the holotype nor any other specimens were available at the Museum in Erbil where they were reported to be deposited in the original description. In addition, one of us (GS) met personally Prof. Mawlood who was not able to provide any specimens that could be referred to the described species. According to the paramere illustrations in the original description, *A. hirani* probably belongs to the genus *Eulasia* Truqui, 1848 but in this case, the apex of the scutellum should be rounded and not pointed as indicated in the *A. hirani* description.

Materials and Methods

All three specimens of the new species were kindly provided by H.-P. Tauzin who obtained them from a Pakistani entomologist with an imprecise collecting locality of “Swat”.

We added red labels with name of the taxon n. sp., HOLOTYPUS or PARATYPUS, names of the authors and year 2019. The genitalia of each male specimen are mounted separately under each specimen. Complete label data are cited using the following symbols: / = different lines; // = different labels.

***Amphicoma gandhara* Nikodým and Sabatinelli n. sp.**

Fig. 1–6

Type series. Holotypus ♂, Paratypus ♂#1 and Paratypus ♂#2, labeled as follow: white label, printed, “ex H.-P. Tauzin / collection” // white label, printed “PAKISTAN - Khyber / Pakhtunkhwa Prov., Swat / District, July 2008, Arihta leg.” // red label printed: “HOLOTYPUS ♂ / *Amphicoma gandhara* n. sp. / M. Nikodým and G. Sabatinelli, 2019” // (deposited in Muséum d’Histoire Naturelle, Geneva, Switzerland). // “PARATYPUS ♂#1” // with other data as the holotype in G.Sabatinelli collection, Prévessin, France. // “PARATYPUS ♂#2” with other data as the holotype in M. Nikodým collection, Roztoky, Czech Republic.

Diagnosis. *Amphicoma gandhara* belongs to the “*A. dubia* group-species” (Nikodým 2005) based on the following characters: mesotibia with apical spur, antennal club more than 1.5 times longer than stalk and markedly out curved. The most similar species is *Amphicoma schneideri* Nikodým, 2005, having similar body length 14 mm, antennomeres 5–7 disc-shaped, elytra uniformly coppery green and terminal maxillary palpomere quite long. In *A. gandhara*, the elytra are rather dull with sutural angles right but with blunt angle while in *A. schneideri* elytra are shiny with sutural angles broadly rounded.

Description of the holotype (adult male). Body elongate, length (from clypeal anterior margin to apex of elytra) 13 mm, width across elytral humeri 5 mm (Fig. 1).

Color. Head from above dark green with irregular golden luster, pronotum black green with weak golden luster. Scutellum and elytra even darker, luster is irregular from golden green to dark purple. Pygidium yellowish brown without reflection. Antennae brown, legs black-brown, tarsi lighter brown.

Vestiture. Dorsal setation yellow-brown, erect on clypeus and scutellum. Head setation longer, light brown and oblique toward apex. Elytra setation as long as on pronotum, irregularly inclined or erect and with solitary long brown setae in posterior quarter. Ventral setation yellow, legs setation light yellowish brown.

Head. Anterior margin of labrum slightly emarginate medially. Clypeus 1.1 × wider than long, lateral margins slightly rounded, anterior angles rounded, clypeofrontal suture fine but clearly distinct. Head strongly and densely punctuate. Clypeal punctation clearly weaker and not closely spaced. Antenna consisting of 10 antennomeres; 5, 6 and 7 disc-shaped; antennal club markedly out-curved, more than 2 × longer than wide. Terminal maxillary palpomere long, slightly widened in the middle, truncate at the end, without impression and with several punctures in apical quarter.

Pronotum. Width 1.1 × length, widest medially, narrowing anteriorly. Anterior angles produced and 90°, posterior angles obtuse. Basal margin markedly emarginate medially. Punctation dense and coarse, distance between punctures. With median longitudinal depression.

Scutellum. Triangular, elongate with slightly rounded apex, punctation similar to pronotum.

Elytra. Punctation finer than that of pronotum, slightly irregularly wrinkled. Posterolateral angles broadly rounded, sutural angles 90° but with blunt angles. Sutural margin distinctly raised apically from second third of elytra.

Legs. Protibia tridentate, mesotibia with apical spur shorter, less than half of mesotarsomere length. Basal metatarsomere 1.6 × longer than second metatarsomere.

Aedeagus. Parameres asymmetrical with the right paramere larger than the left one (Fig. 4–6).

Relevant variability. The three specimens known so far show a remarkable difference in the integument color. Paratypus ♂#1 (Fig. 2) has the dorsal surface black violet and irregular golden luster. Paratypus ♂#2 (Fig. 3) has the dorsal surface black green and irregular golden luster. In Paratypus ♂#1 the antennal club is markedly deformed, segments are narrowed and distorted apically. This feature is also known in other species of the genus *Amphicoma*.

Type locality. Pakistan, Khyber Pakhtunkhwa Province, Swat District.

Female. Unknown.

Etymology. The specimens were collected in Swat, a valley and an administrative district in the Khyber Pakhtunkhwa province of Pakistan. Swat is renowned for its outstanding natural beauty and this region was also a major center of early Buddhist thought as part of the Gandhara kingdom. The new species

is named after this ancient Indo-Aryan kingdom. Noun in apposition.

Remarks. The genus *Amphicoma* is known from Europe (Spain, Italy, Switzerland, Greece and Albania) and Asia (China, Burma, Thailand, Laos, Vietnam, Taiwan, Japan and Ryukyu Islands). The new location from northern Pakistan is disjoint from all known localities for the genus *Amphicoma*. This indicates a potential for more species to be found in the Himalayan region: Glaphyridae can be expected from the eastern part of India (Nagaland, Manipur, Mizoram regions) or Cambodia.

For comparisons with the most similar species, we studied 47 specimens of *A. schneideri* from China: Sichuan, Guan Xian and Songpan and Shaanxi, Luoyang. The two species can be easily distinguished

Table 1. Comparative analysis of main characters in *Amphicoma gandhara* n. sp. and *Amphicoma schneideri* Nikodým.

<i>Amphicoma gandhara</i> n. sp.	<i>Amphicoma schneideri</i> Nikodým
Anterior margin of labrum slightly emarginate medially	Anterior margin of labrum straight
Clypeus with slightly rounded lateral margins	Clypeus parallel sided
Clypeofrontal suture fine but clearly distinct	Clypeofrontal suture slightly distinct
Head setation light brown	Head setation yellow and clearly longer
Pronotum with longitudinal, partly interrupted, median depression	Pronotum without depression or only partially and very weakly indicated
Pronotal basal margin markedly emarginated medially	Pronotal basal margin medially nearly straight
Elytra rather dull, sutural angles right but with a blunt angle	Elytra shiny, sutural angles broadly rounded
Basal metatarsomere 1.6 × longer than second metatarsomere	Basal metatarsomere 1.8 × longer than second metatarsomere
Right paramere shorter than left one (Fig. 5), right paramere slender in the half distal part (Fig. 4)	Parameres subequal in length (Fig. 8); right paramere not slender in the half distal part (Fig. 7)

by several characters as indicated in Table 1.

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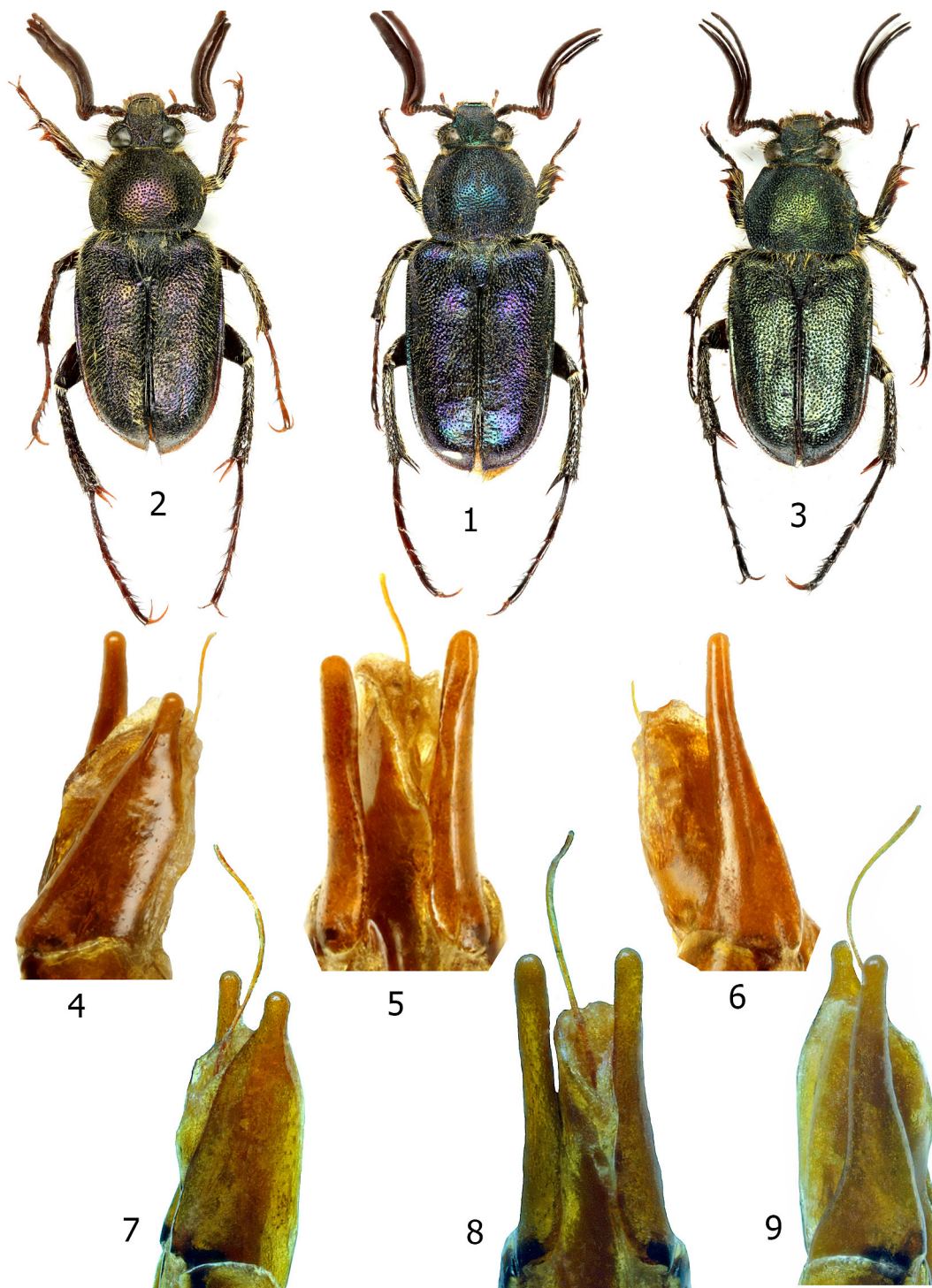
Literature Cited

- Bezděk, A., M. Nikodým, and S. J. Hawkins. 2005. Nomenclatural notes on the genera *Amphicoma* and *Anthypna* (Coleoptera: Scarabaeoidea: Glaphyridae). *Folia Heyrovskyana* 12: 205–211.
- Drioli, G., 1980. *Anthypna iberica*, nuova specie (Coleoptera, Scarabaeidae). *Fragmenta Entomologica* 15: 345–352.
- Endrődi, S. 1952. Monographie der Gattung *Anthypna* Latr. *Folia Entomologica Hungarica* (N. S.) 5: 1–40.
- Keith, D. 2007. Une nouvelle *Amphicoma* du Laos (Coleoptera Glaphyridae). *L'Entomologiste* 63(1): 3–4.
- Keith, D. 2008. A new species of the genus *Amphicoma* Latreille, 1807 from China (Coleoptera, Scarabaeoidea, Glaphyridae). *Kogane* 9: 23–26.
- Li, C.-L., C.-C. Wang, and H.-J. Chen. 2011. Synopsis of the genus *Amphicoma* Latreille (Coleoptera: Glaphyridae) of Taiwan with special reference to the male genitalia. *Zootaxa* 2790: 23–34.
- Mawlood, N. A., S. A. Hazim, and B. K. Nawzad. 2016. A new species of bumble bee scarab beetles,

- Amphicoma* Latreille 1807 (Coleoptera: Glaphyridae) from Kurdistan region-Iraq. ZANCO Journal of Pure and Applied Sciences ZJPAS 28(1): 26–28.
- Medvedev, S. I. 1960.** *Plastinchatousye* (Scarabaeidae), podsem. Euchirinae, Dynastinae, Glaphyrinae, Trichiinae. Fauna SSSR, zhestkokrylye, tom 10, vyp. 4. Izdatelstvo Akademii Nauk SSSR; Moscow – St. Petersburg. 398 p. (in Russian).
- Miyake, Y. 1982.** On the *Amphicoma*-species of the Ryukyu-Islands and Taiwan. (Coleoptera: Glaphyridae). Kita-kyûshû no Konchû 29: 171–175.
- Nikodým, M. 2005.** New species of the genus *Amphicoma* from China, Vietnam, Laos and Thailand (Coleoptera: Scarabaeoidea: Glaphyridae). *Animma.X* (Plzeň) 10: 1–35.
- Nikodým, M. 2007.** New species of the genus *Amphicoma* from China (Coleoptera: Scarabaeoidea: Glaphyridae). *Animma.X* 20: 21–24.
- Nikodým, M. 2009a.** A new species of the genus *Amphicoma* Latreille 1807 from the Sichuan province, China (Coleoptera: Scarabaeoidea: Glaphyridae). *Animma.X* 28: 25–29.
- Nikodým, M. 2009b.** Two new species of the genus *Amphicoma* Latreille 1807 from Greece and China – Fujian province (Coleoptera: Scarabaeoidea: Glaphyridae). *Animma.X* 30: 14–21.
- Nikodým, M., and A. Bezděk. 2006.** Glaphyridae. p. 97–103. *In*: I. Löbl and A. Smetana (eds.). Catalogue of Palaearctic Coleoptera, volume 3. Apollo Books; Stenstrup. 690 p.
- Nikodým, M. and A. Bezděk. 2016.** Glaphyridae. p. 87–97. *In*: I. Löbl and D. Löbl (eds.). Catalogue of Palaearctic Coleoptera, volume 3. Brill; Leiden. 983 p.
- Petrovitz, R. 1965.** Coleoptera, Scarabaeidae, Glaphyrinae. *Bonner zoologische Beiträge* 16: 350–351.
- Petrovitz, R. 1972.** Paläarktische und orientalische Glaphyrinae-formen (Coleoptera, Scarabaeidae). *Mitteilungen aus dem Zoologischen Museum in Berlin* 48: 26–30.

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Figures 1–9. *Amphicoma* spp. 1-3) *Amphicoma gandhara*, new species, dorsal habitus. 1) Holotypus ♂. 2) Paratypus ♂#1. 3) Paratypus ♂#2. 4-6). *Amphicoma gandhara*, new species, parameres. 4) Right view. 5) Dorsal. 6) Left. 7-9) *Amphicoma schneideri* Nikodým, parameres. 7) Right view. 8) Dorsal. 9) Left.

