

Studies on the genus *Condylops* REDTENBACHER, 1850 (Coleoptera: Melyridae): I. A specimen allocated to *C. okushimai* WITTMER, 1999 from Yunnan, China

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Abstract

A contribution to the taxonomy of *Condylops* REDTENBACHER, 1850 (Melyridae: Malachiinae: Malachiini: Illopina) is given, in which *C. okushimai* WITTMER, 1999 is recorded for the first time from Yunnan, China. A description of the Chinese specimen is provided and its terminalia are illustrated. Morphological differences to the description of the type are interpreted as intraspecific variability of a single morpho-species.

Key words. Malachiinae, faunistics, variability.

Zusammenfassung

Studien zur Gattung *Condylops* REDTENBACHER, 1850 (Coleoptera: Melyridae) I. Ein *C. okushimai* WITTMER, 1999 zugewiesenes Exemplar aus Yunnan, China. – Ein Beitrag zur Taxonomie von *Condylops* REDTENBACHER, 1850 (Melyridae: Malachiinae: Malachiini: Illopina) wird geleistet, in welchem *C. okushimai* WITTMER, 1999 zum ersten Mal aus Yunnan, China, gemeldet wird. Eine Beschreibung des chinesischen Exemplars wird vorgelegt und dessen Terminalia werden illustriert. Morphologische Unterschiede zur Beschreibung des Typus werden als innerartliche Variabilität einer einzigen Morphospezies interpretiert.

Introduction

The approximately 80 described species of the genus *Condylops* REDTENBACHER, 1850 are distributed in the Mediterranean, subtropical and tropical regions of Africa, Asia and North America. The genus was erected for *Condylops erichsonii* REDTENBACHER, 1850 from Iran. The *C. erichsonii*-group and other species from Iran, Lebanon and Turkey have been revised recently (CONSTANTIN 2020). A monotypic subgenus, viz. *Neocondylops* WITTMER, 1987, was erected for a Nearctic species (cf. WHEELER & HOEBEKE 2018). The taxon names *Diabolattalus* PIC, 1920, *Flabellohedybius* PIC, 1917a, *Hedybiinus* CHAMPION, 1921, and *Hedybioattalus* PIC, 1917b are synonyms of *Condylops* s. str. (WITTMER 1983).

The following combination of male characters differentiate this taxon from all other genera in the subtribe Illopina (cf. WITTMER 1985): (I) protarsi pentamerous; (II) protarsomere II with a comb-bearing extension at apex, which over-arches the third segment; (III) antennae not difform, with normal to ramiferous antennomeres; (IV) profemora normal, without a setiferous incision next to the distal ends; (V) head capsule often modified; (VI) pronotum normal, without extension at apex or tufts at sides or apex.

Heretofore, 26 taxa were known from continental China and Taiwan (WITTMER 1983, 1985, 1992, 1994, 1995, 1996, 1999; cf. MAYOR 2007). Nearly all of them are currently known only from their type localities. It seems that the biodiversity of *Condylops* has another hot spot in Yunnan.

Material found by the author in European museums represents mostly undescribed taxa. So far, only one specimen from the aforementioned material could be allocated to an already known taxon – this specimen is treated below.

Material and methods

One specimen was available. It is dry preserved and housed in the collection of the Natural History Museum of Vienna (NHMW).

In order to study the terminalia, the specimen was softened in hot distilled water for 25 minutes. Afterwards its abdomen was removed from the main body right behind the posterior coxae, with help of minute pins mounted on wooden handles. The abdomen was then treated in potassium hydroxide (KOH) for maceration of fat tissue, viz. heated in a 10% solution for 8 minutes (an encaustic painting iron was used as a heating dish); temperature was kept below boiling point. Then the terminalia were dissected with the mounted minute pins. After rinsing, the terminalia were mounted in a drop of dimethyl hydantoin formaldehyde (DMHF) on a rectangular transparent plastic card, which was pinned below the appropriate specimen. However, based upon the author's subsequent experience, the recommended softening of a given specimen should be an immersion in distilled water with some drops of ethanol for at least 24 hours. It turned out that the median lobe in *Condylops* is much longer than in related groups and the phallobasis was stuck in the posterior region of the metathorax, from which it was extracted with great difficulty and while causing severe damage. Thus, dissections of *Condylops* should be carried out with extra caution. It is worth mentioning that the median lobe of the holotype of *C. okushimai* was not illustrated in the original description.

Label data are cited and described as in PLONSKI (2014).

All observations during the preparation/dissection, identification and description processes were made with the help of a Leica MZ6 microscope, with magnification up to 66×. Additional observations were made using a Leica M 205C microscope, with magnification up to 120×.

The terminology of colour terms follows PACLT (1958).

The illustrations of terminalia were made by hand with the help of an Olympus BX40 equipped with a camera lucida, and edited electronically with the GNU Image Manipulation Program (GIMP v3.0.4).

Standard measurements refer to maximum lengths in dorsal view of specimens and are given in millimetres.

Results

***Condylops (Condylops) okushimai* WITTMER, 1999 (Figs 1–6)**

Condylops okushimai WITTMER, 1999: 200–201, figs 106–110 (original description).



Fig. 1. *Condyllops okushimai*, dorsal habitus of the male from China.

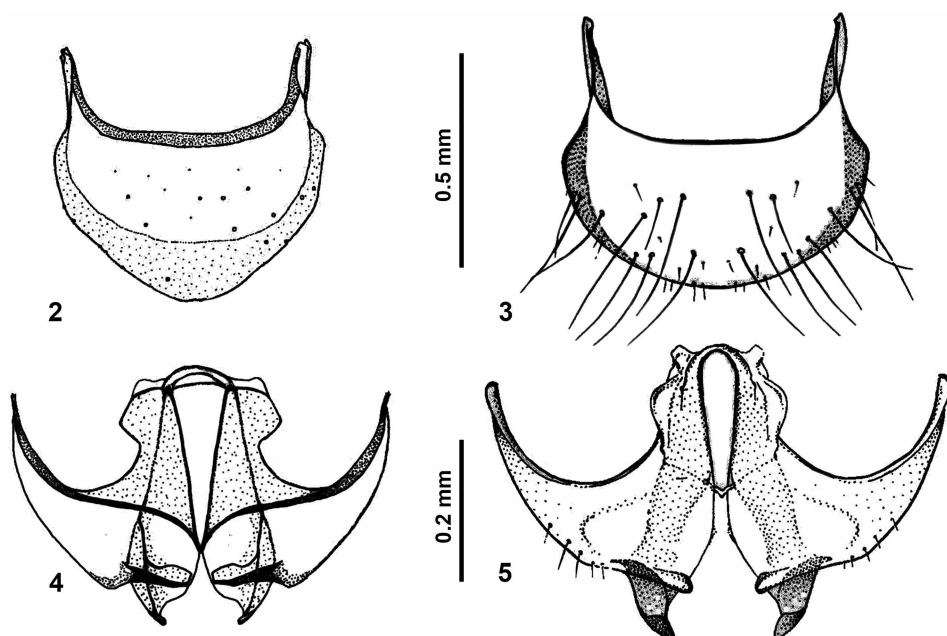
Type locality. Doi [= Mt.] Ithanon (summit: 18°35'19"N, 98°29'14"E), Chiang Mai, Thailand.

Material examined. 1 ♂ (in NHMW) labelled with "CHINA, W-Yunnan \ env.[ironment of] Baoshan [city; ca. 25°06'43"N, 99°09'39"E] \ 5.–8.6.1993 \ E. Jendek & O. Sausa leg." [white label, printed].

Description of the male from China. Habitus as in Figure 1.

Measurements (in millimetres). Total length (measured from clypeus to tip of elytra) 3.23. Antennal length 1.58. Head length ca. 0.60; Head width 1.00. Interocular width (minimum distance of eyes) 0.75. Pronotum length 0.83. Pronotum width 1.05. Elytral length 2.08. Shoulder width (width of elytra across the shoulders) 1.13. Elytral width 1.45.

Coloration. Head, pronotum, scutellum, thorax, abdomen and legs (excl. trochanters) black. Elytra black with livid violet tinge. Antennae black except antennomeres I–IV, which are bicolorous: scape ventrally saffron yellowish and dorsally black until shortly before apical margin; pedicel completely saffron yellowish, antennomere III saffron yellowish, with the tip of the tooth blackish; antennomere IV with completely black tooth. Trochanters, tips of femora, tips of pro- and mesotibiae, and clypeus sienna brownish.



Figs 2–5. *Condyllops okushimai*, terminalia. (2–3) Male from China (originals; setae omitted). (4–5) Male from Thailand (from WITTMER 1999). (2, 4) Pygidium, dorsal. (3, 5) Eighth sternite, ventral.

Pubescence on vertex and pronotum bicolorous and consisting of two kinds of setae: short, fine, decumbent, whitish setae, and long, suberect, black setae. Setae on elytra uniform, whitish and decumbent. Hind tibiae with long black setae on outer side.

Structures. Head capsule including the eyes slightly more slender than pronotum ($HW/PW = 0.95$). Frons with broadly U-shaped impression between eyes; its base reaching close to apical margin of pronotum, its sides reaching anterior eye margins. Surface sculpture of impression shagreened and with very fine punctures, without pubescence; in this impression there is a broad, triangular structure made out of long, thick and connate setae, which consists of three parts: the median one is the longest, overarches the epistomal plate and has a curled tip, the lateral ones are circa 50% shorter and cling to the median part; epistomal plate with strigose surface sculpture, with a small, shallow impression just above the antennal sockets. Antenna from antennomere III on pectinate, distally almost flabellate; antennomeres III and IV as broad as long; antennomeres V and VI one third broader than long, their inner sides distinctly S-shaped, curved; the following antennomeres convexly curved, antennomeres VII and VIII almost one half broader than long, antennomeres IX and X almost longer than broad; antennomere XI egg-shaped, with conical base, broadest in the middle. Pronotum ellipsoid in outline, more than one quarter broader than long ($width / length = 1.27$); sides, apical and hind margin arcuate, the latter less arcuate than the former; all sides and angles confluent rounded. Disc moderately arched, towards the edge narrowly and lightly arched up; puncturation composed of sharply delimited punctures with raised margins, interspaces smooth and shiny. Elytra 2.5 times longer than the pronotum, broadened towards its base, in the posterior third one quarter broader than



Fig. 6. *Condyllops okushimai*, known distribution in the Indochinese Peninsula: (■) Mt. Ithanon (locus typicus); (●) Baoshan (new record).

basal width; Punctuation composed of sharply delimited punctures with raised margins on the ground of dents; the latter shallow next to the shoulders and the elytral tips, but deeper and partly confluent in the second and third quarters; distances between dents otherwise irregular, ranging from half the length of their diameter to the length of their diameter. Legs: front tarsomeres with a tarsal comb on the second tarsomere that nearly reaches apex of third tarsomere; tarsal comb consisting of 18–20 thick and stiff setae. Male terminalia: Pygidium as in Figure 2. Sternite VIII as in Figure 3, beset with one long, comparatively thicker seta and several shorter and finer setae on each half. Aedeagus damaged.

Note on variability. The holotype of *C. okushimai* is most similar to the form described above. The male from China mainly differs from the holotype in the morphology of terminalia: While the apical tip of the pygidium is more pronounced (tergite without struts rather sub-pentagonal shaped) in the Chinese specimen (Fig. 2), the pygidium's hind margin is broadly arcuate (tergite without struts rather ellipsoidal shaped) in the holotype (Fig. 4). The eighth sternites differ even more, viz. in setation and proportions (length-width ratios) and position of several subparts – compare Figure 3 to Figure 5.

Distribution. So far, only known from the type locality and the locality reported above (Fig. 6). Probably endemic in the Indochinese bioregion.

Discussion

No taxonomic action (e.g. proposal of a subspecies) is taken here, albeit disparity in the morphologies of terminalia is apparent. The present knowledge of only two specimens (which are rather uniform in eidonomy) from two localities at a distance of 730 km does not warrant it. Additional material is needed in order to decide about status and rank of the delimitable forms. For now, the observed differences are here considered as manifestations of the variability of a single morphospecies.

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