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Two new species of the genus *Macrocheilus* from Cambodia (Coleoptera: Carabidae, Helluonini)

Riassunto: *Due nuove specie del genere Macrocheilus della Cambogia (Coleoptera Carabidae Helluonini).*

Vengono descritte due nuove specie di *Macrocheilus* Hope, 1838 della Cambogia (*M. cambodianus* sp. nov. e *M. walterrossii* sp. nov.), simili nella morfologia esterna a *Macrocheilus chaudiroi* Andrewes, 1919. Viene inoltre illustrato l'olotipo di *M. ruficollis* Heller, 1923 (= *M. chaudiroi*). Infine viene fornita una chiave per l'identificazione delle specie di *Macrocheilus* della Regione Orientale caratterizzate da pronoto rossastro e due macchie giallastre su ciascuna elitra.

Abstract: Two new species of *Macrocheilus* Hope, 1838 from Cambodia (*M. cambodianus* sp. nov. and *M. walterrossii* sp. nov.), similar in external morphology to *Macrocheilus chaudiroi* Andrewes, 1919, are described. Moreover, the holotype of *M. ruficollis* Heller, 1923 (= *M. chaudiroi*) is illustrated. A key to the species of *Macrocheilus* from the Oriental region with reddish pronotum and two pale spots on each elytron is also provided.

Key words: *Macrocheilus cambodianus* sp. nov., *Macrocheilus walterrossii* sp. nov., faunistics, Oriental region, taxonomy.

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INTRODUCTION

The genus *Macrocheilus* Hope, 1838 (type species *Macrocheilus bensoni* Hope, 1838) (Carabidae: Helluonini) currently includes 60 species mainly distributed in Africa and Asia (34 and 24 species respectively), with only two species recorded from Turkey and Southern Levant (see Anichtchenko, 2020; Huber & Marggi, 2017; Assmann *et al.*, 2015). Most records have been made possible by light trapping, as adults of *Macrocheilus* species are winged, nocturnal and attracted by light.

The fauna of the Oriental region has been recently reviewed and enriched by several new *Macrocheilus* species (Akhil *et al.*, 2019; Shiju *et al.*, 2012; Zhao & Tian, 2010, 2012), but in Cambodia only three species were recorded to date: *M.*

chaudoiri Andrewes, 1919, *M. bensoni* Hope, 1838 and *M. asteriscus* (White, 1844) (Andrewes, 1930; Zhao & Tian, 2012; Hovorka, 2016). In recent years V. Kong and W. Rossi collected a large amount of Carabidae in Cambodia, mainly by light trapping. A few of them looked very similar, at a first superficial examination of external characters, to *M. chaudiroi*, a species already recorded from Cambodia, which is distinguished by the almost unique combination of reddish pronotum and two pale spots on each elytron. Actually, at a deeper study they revealed to belong to two different new species, which are described and illustrated herein. Finally, a key to the species from the Oriental region with reddish pronotum and two pale spots on each elytron is provided.

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MATERIALS AND METHODS

The specimens studied or mentioned in the text are deposited in the following Museums and private Collections:

CAI	Gianni Allegro Collection, Moncalvo, Asti, Italy
CGi	Pier Mauro Giachino Collection, San Martino Canavese, Torino, Italy
CMa	Paolo Magrini Collection, Firenze, Italy
MNHN	Muséum National d'Histoire Naturelle, Paris, France
MTTM	Magyar Természettudományi Múzeum, Budapest, Hungary
NHM	The Natural History Museum, London, United Kingdom
NMW	Naturhistorisches Museum, Wien, Austria
SNSD	Senckenberg Naturhistorische Sammlungen, Dresden, Germany

The abbreviation used for the type material are as follows:

HT	holotype
PT (PPT)	paratype (paratypes)
TS	type series

The type locality is quoted in the original label form.

Apparent body length (ABL) is measured from apex of labrum to apex of the longest elytron. PW: pronotum width at the widest point; PL: pronotum length measured from apical to basal margin along midline; EW: elytral width at the widest point; EL: elytral length from base of scutellum to apex of the longest elytron.

Digital images were taken with a Leica DFC295 camera mounted on a Leica M205 C stereomicroscope, using Leica Application System V4.0 software.

TAXONOMY

The genus *Macrocheilus* is included in the subtribe Omphrina of the tribe Helluonini and is currently considered as monophyletic, although the subgenus *Macrocheilidius*, successively synonymized by Lorenz (2005), was created by Jeannel (1949) for a few species from Africa and Madagascar. Basilewsky (1960) first tried a taxonomic arrangement inside the genus including the species from Madagascar in a separate group (cf. Häckel & Farkač, 2013); more recently, an arrangement

of the species from the Indian subcontinent into five species groups was proposed by Shiju *et al.* (2012), basing on number of elytral spots, visibility of mandibles from dorsal side and emargination in front margin of ligula. These 'convenience groups' probably lack any phylogenetic implication. *M. chaudiroides* Andrewes, 1919 (= *trimaculatus* Chaudoir, 1872; = *ruficollis* Heller, 1923; = *lindemanna* Jedlička, 1963), the most similar to the newly described species, falls into group IV.

RESULTS

Macrocheilus chaudiroides Andrewes, 1919 (Figs. 3, 9, 10, 13, 15, 18)

Acanthogenius trimaculatus Chaudoir, 1872: 171

Macrochilus chaudiroides Andrewes, 1919: 130

Macrochilus chaudiroides Andrewes, 1919: Andrewes, 1920: 502

Macrochilus chaudiroides Andrewes, 1919: Andrewes & Scott, 1924: 470

Macrocheilus chaudiroides Andrewes, 1919: Andrewes, 1930: 207

Macrochilus chaudiroides Andrewes, 1919: Jedlička, 1963b: 471

Macrochilus chaudiroides Andrewes, 1919: Kirschenhofer, 2003: 18

Macrocheilus chaudiroides Andrewes, 1919: Lorenz, 2005: 512

Macrocheilus chaudiroides Andrewes, 1919: Zhao & Tian, 2010: 11

Macrocheilus chaudiroides Andrewes, 1919: Shiju, Madani & Sabu, 2012: 98

Macrocheilus chaudiroides Andrewes, 1919: Zhao & Tian, 2012: 91

Macrocheilus chaudiroides Andrewes, 1919: Häckel & Farkač, 2013: 335

Macrocheilus chaudiroides Andrewes, 1919: Akhil, Divya & Sabu, 2019: 29

Macrocheilus chaudiroides Andrewes, 1919: Huber & Marggi, 2017: 577

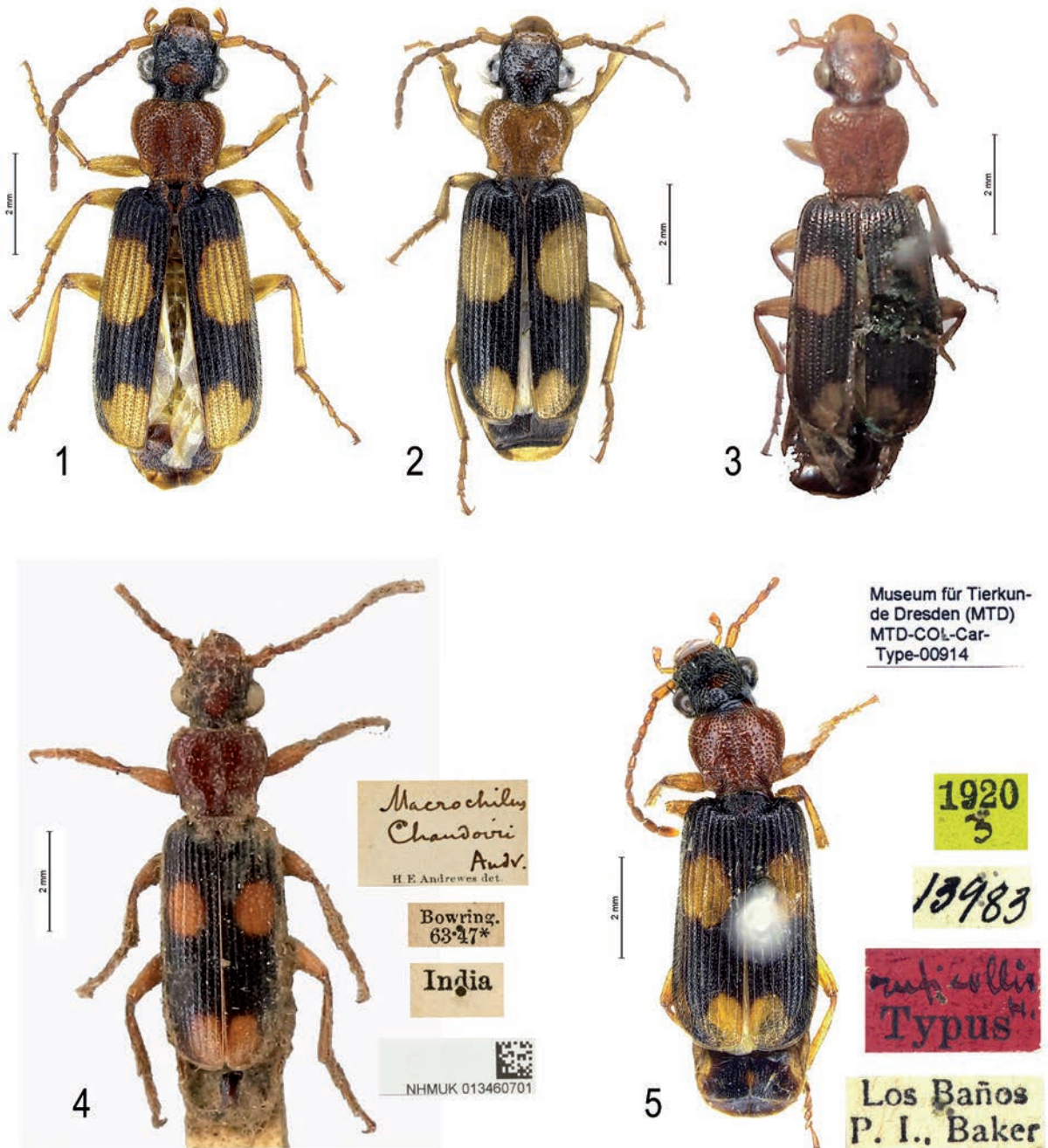
Macrochilus ruficollis Heller, 1923: 296

Macrochilus lindemanna Jedlička, 1963a: 6

TYPE LOCALITY: Deccan

MATERIAL EXAMINED. *Macrocheilus ruficollis* Heller, 1923 HT ♀: The Philippines, Luzon, Laguna Province, Los Baños, 1920, P.I. Baker (synonymized by Andrewes, 1926) (Fig. 5).

Due to impossibility of accessing to the type



Figs. 1-5. 1 – *Macrocheilus cambodianus* sp. nov., habitus of the holotype; 2 – *Macrocheilus walterrossii* sp. nov., habitus of the holotype; 3 – *Macrocheilus chaudiroidi*, habitus of the holotype (from Zhao & Tian, 2012); 4 – *Macrocheilus chaudiroidi*, habitus of a specimen from NHM Data Portal; 5 – *Macrocheilus ruficollis*, habitus of the holotype.

material of Chaudoir deposited at MNHN, the HT of *M. ruficollis* deposited in Collection Heller at SNSD was examined, thanks to the courtesy of the Curator Olaf Jäger. Moreover, the following illustrations were considered for comparison: photograph of habitus of *M. chaudiroidi* HT (fig. 53 on page 92) in Zhao & Tian (2012); drawings of HT labrum (fig. 6 on page 18), HT mentum (fig. 17 on page 19), HT maxillary palpi (fig. 28 on page 20), median lobe of aedeagus and left gonopod of specimens deposited at MNHN (figg. 38, 39, 53 on page 21) in Zhao & Tian (2010); drawing of habitus of *M. lindemanna*e HT (fig. 9 on page 6) in Jedlička (1963a); photograph of habitus of a *M. lindemanna*e male specimen deposited at MTTM or NMW (fig. 6 on page 9) in Kirschenhofer (2003); photograph of habitus of a *M. chaudiroidi* specimen (H.E. Andrewes det.) from India in NHM Data Portal (2014).

REMARKS. According to original description and following our examination of material and illustrations, *M. chaudiroidi* is distinctively characterized by a roundish pale spot in the anterior half of elytron extending from the second to the marginal stria, which is only tangentially affected (Fig. 9), and by an apical spot extended from suture to fifth stria (Heller, 1923; Jedlička, 1963); pronotum reddish, as long as wide (Chaudoir, 1872) or only little wider than long (Jedlička, 1963) (PW/PL=1.13-1.17 according to our personal observations); aedeagus dilated in middle of lower side, with apical lamella short and sharp at apex (a single male from India deposited at MNHN) (Zhao & Tian, 2010)

(Figs. 15, 18); gonopods of female genitalia slender, with three pair of setae at dorsal margin (Zhao & Tian, 2010). The color of head, which appears reddish in the picture of the female HT of *M. chaudiroidi* (Fig. 3) due to the old age of the specimen, is actually brown or blackish with a more or less large reddish spot at vertex (Fig. 4), and is not a valid distinctive character versus the new species described herein.

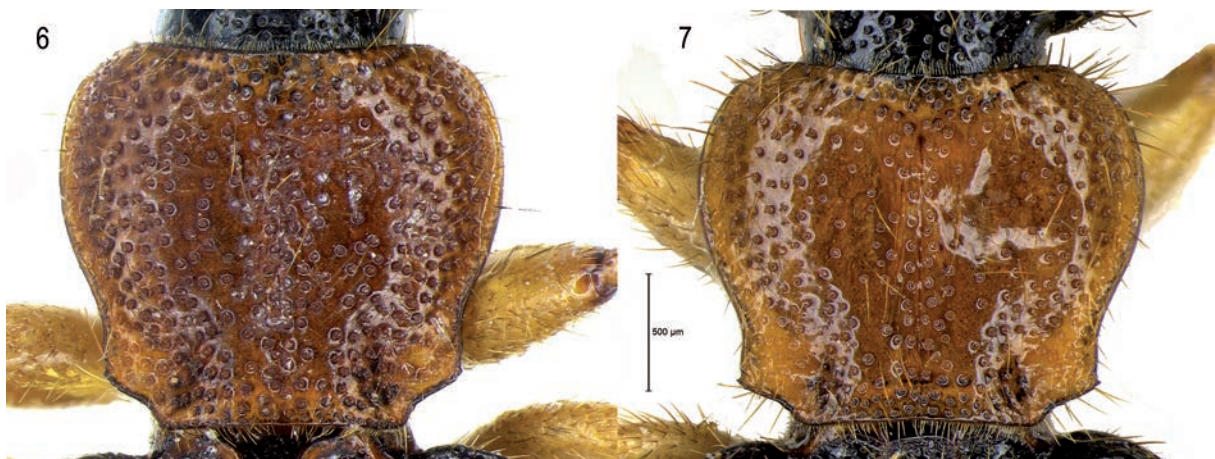
This species is apparently widespread in South-Eastern Asia from Pakistan to the Philippines (Häckel & Farkač, 2013), but the female HT specimen of *M. ruficollis* (from the Philippines) (Fig. 5) does not exactly match with the picture of the female HT of *M. chaudiroidi* (from India) (Fig. 3) nor with another specimen from the same country illustrated in NHM (2014) (Fig. 4); actually, in our opinion *M. ruficollis* could be a valid species distinct from *M. chaudiroidi*, but the analysis of its taxonomic position will be possible only when more abundant material becomes available. In the meantime, it will be considered as a distinct species for our comparative purposes. Likewise, the specimens of *M. chaudiroidi* recorded in literature from Cambodia and other neighboring countries need a deeper examination as they likely belong to the following new species.

***Macrocheilus cambodianus* Allegro & Giachino sp. nov.**

(Figs. 1, 6, 8, 11, 14, 17, 20)

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Figs. 6-7. Pronotum of *Macrocheilus* spp.: 6 – *M. cambodianus* sp. nov. HT; 7 – *M. waltherrossii* sp. nov. HT.

TYPE LOCALITY: Cambodia, Banteay Meanchey Province, near Sisophon, campus of the Mean Chey University.

TYPE SERIES. Holotype ♂: Cambodia, Banteay Meanchey Province, near Sisophon, campus of the Mean Chey University, 13°14'45"N, 20°56'29"E, light trap, 22.X-23.XI.2019, P. Bun & V. Kong leg. (CAI). Paratypes: 3 ♀♀, same data as HT (CAI, CGi, CMA); 1 ♀, Kampong Chhnang Province, Khsam, restaurant with fishpond, 12°16'47"N, 104°39'28"E, light trap, 29.XI & 3.XII.2019, V. Kong & W. Rossi leg. (CAI); 1 ♀, Kampong Chhnang Province, Khom Domnatpopol, banks of the Tonle Sap Lake, 12°14'14"N, 104°41'15"E, light trap, 21.V.2018, V. Kong, M. Bernardi & W. Rossi leg. (CGi).

DIFFERENTIAL DIAGNOSIS. A medium-sized (ABL: 9.0-10.1 mm) *Macrocheilus* characterized by black head with a reddish spot at vertex, reddish pronotum, two pale spots on each elytron (Fig. 1), mandibles not exposed (covered by clypeus), 4th maxillary palpomere apically dilated, labrum with apical setae beneath apical margin, ligula emarginated at apex, legs testaceous. Similar to *M. chaudiroidi* and to *M. ruficollis* in external morphology, but distinguished by elytral spots, which are larger, differently shaped (oblong vs. roundish) and more extended toward side margins of elytra: the apical spot extending from suture to 7th stria (vs. 5th in *M. chaudiroidi*), the anterior affecting 6 umbilicate punctures on marginal stria (vs. 3) (Fig. 8). It is distinguished from *M. chaudiroidi* also by the more transverse pronotum (PW/PL=1.18-1.21 vs. 1.13-

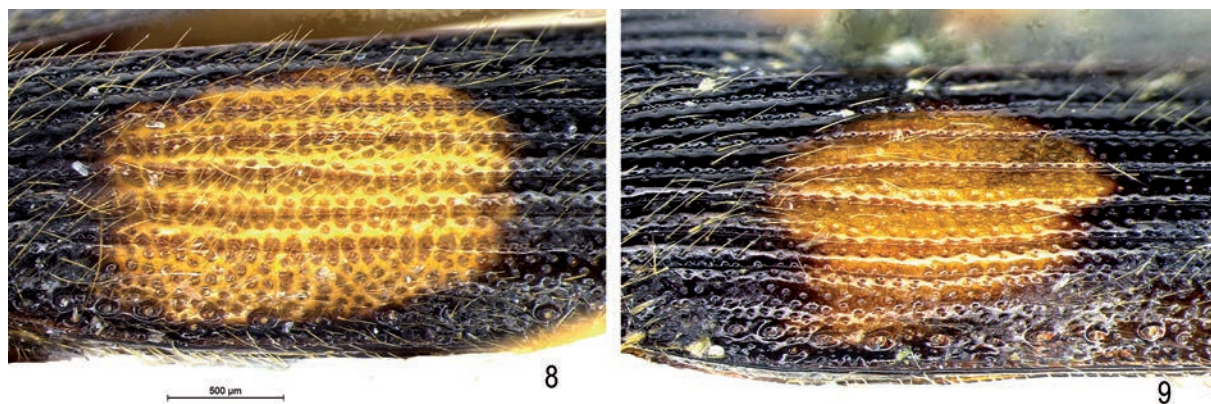
1.17) and the more elongate apical lamella of aedeagus (Figs. 14, 17). Moreover, it is distinguished from *M. ruficollis* by the larger body size (ABL=9.0-10.1 vs. 8.5 mm) and the more transverse mentum, which is widest at middle (vs. basal third), with less rounded sides of epilobes (Fig. 11).

It is easily distinguished from *Macrocheilus walterrossii* sp. nov. by the larger body size (ABL: 9.0-10.1 vs. 8.1-8.2 mm) (Fig. 1), the less transverse pronotum (PW/PL=1.18-1.21 vs. 1.32-1.40) (Fig. 6), the elytral spots, which are differently shaped (the apical one extending from suture to 7th stria vs. 6th, the anterior extended to stria 2nd vs. 1st) (Fig. 8), the brown sternites (vs. reddish) and the morphology of aedeagus (Figs. 14, 17).

DESCRIPTION

Habitus and color. ABL: 9.0-10.1 mm (HT ♂ 9.0 mm). Body parallel-sided, moderately shiny, pubescent, head black with a reddish spot at vertex, pronotum reddish, elytra black with two yellowish spots each, mouth parts, antennae and legs testaceous (Fig. 1). Sexes similar, without any distinct sexual dimorphism (females of the TS show a little larger size than male HT).

Head. Black with a reddish spot variable in size on vertex, as wide as pronotum, coarsely and densely punctate, more sparsely on vertex and almost smooth on mid frons. Eyes large and convex, nearly hemispherical. Genae short, densely pubescent and abruptly restricted on neck. Frontal foveae distinct and frontoclypeal suture well evident. Clypeus dark or reddish with darkened base, nearly rectangular with front



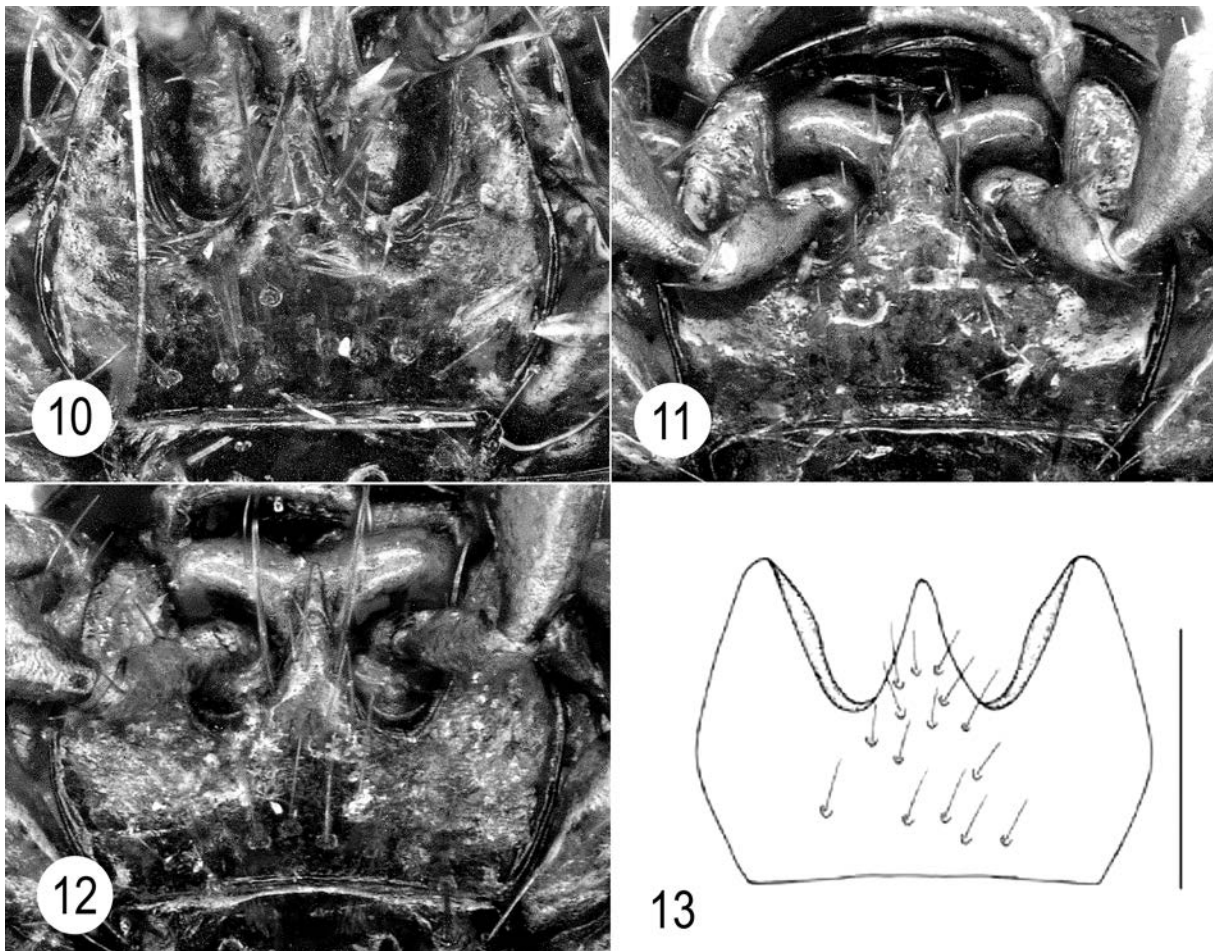
Figs. 8-9. Anterior yellow spot on elytron in lateral view of *Macrocheilus* spp.: 8 – *M. cambodianus* sp. nov. HT; 9 – *M. ruficollis* HT.

margin straight. Labrum reddish with midline narrowly darkened, widely rounded at apex with sides slightly restricted towards base; the couple of anterior setae beneath apex, the lateral at the widest point. Mandibles not exposed (covered by clypeus). 4th maxillary palpomere moderately dilated towards apex; penultimate labial palpomere bisetose. Ligula thickened with front apex emarginated at middle; mentum irregularly setose at base; median tooth triangular and acute at apex, a little shorter than lobes, glabrous but with a couple of setae at base; mentum epilobes moderately rounded at sides and widest at middle (Fig. 11). Antennae moderately long, with first antennomere as long as 2nd+3rd.

Pronotum. PW/PL=1.18-1.21. Pronotum convex,

reddish, cordiform, truncate at base, coarsely and densely punctate, widest at anterior fourth, with long pale pubescence (Fig. 6). Two tactile setae on each side, not easily distinguished due to the general pubescence, one just before middle and one at hind angle. Sides markedly sinuate before hind angles, which are obtuse-angled and sharply toothed, usually with a second tooth just before hind angle; front angles rounded. Lateral marginal bead narrow and continuous, dilated before hind angles. Middle of base produced; the sides of basal margin obliquely truncate. Disk flattened, with median longitudinal impression deeply incised, superficial only near apex and base; basal foveae large and depressed.

Elytra. EL/EW=1.7-1.9. Elongate, parallel-sided,



Figs. 10-13. Mentum of *Macrocheilus* spp.: 10 – *M. ruficollis* HT; 11 – *M. cambodianus* sp. nov. HT; 12 – *M. walterrossii* sp. nov. HT; 13 – *M. chadoiri* HT (from Zhao & Tian, 2010). Scale bar: 0.5 mm.

punctate-striate with long pale pubescence. Basal area deeply depressed. Intervals slightly convex, 3rd-8th wider than 1st-2nd, with two rows of regular setiferous pores. Two large irregular yellowish spots on each elytron, the apical one extended from suture to 7th stria (covering 7 intervals), the anterior extended from 2nd stria to umbilicate series at sides (covering 6 intervals) and affecting 6 umbilicate punctures on marginal stria (Fig. 8). Epipleura without any distinct external plicae (“uncrossed epipleura”). Hind wings fully developed.

Ventral surface (thorax and abdomen). Prosternum and proepisterna reddish, pubescent and coarsely punctate. Metepisterna very long and narrow, punctate. Prosternal intercoxal process reddish with dark side margins, punctate. Ventrites IV-VII brownish, shiny and pubescent.

Legs. Testaceous, pubescent and moderately slender. Metatrochanters as long as 1/3 length of metafemora. Protibial antennal cleaning organ well developed, with several clip setae. Protibiae robust, with 2 small apical teeth at external angle. Tarsi pubescent above and underneath. 4th tarsomere emarginate. Front tarsi hardly distinct between sexes, with only two rows of small scales beneath in males. Claws smooth.

Genitalia. Median lobe of aedeagus robust, strongly dilated, convex underneath, with apex long and distally almost rectilinear in lateral view, only slightly bent downwards (Fig. 14); in dorsal view the apical lamella is long and sharp at apex (Fig. 17). Distal gonocoxites of female genitalia wide, with two pairs of setae on dorsal margin, sharp at apex.

DISTRIBUTION AND ECOLOGY

Geographical distribution: this species is recorded from Central and North-Western Cambodia (Fig. 20).

Life habits: the specimens of the type series were collected by light trapping near artificial ponds or along the banks of the Tonle Sap lake.

ETYMOLOGY. The specific epithet is a Latin adjective referring to the distribution of this species which is, as far as we know, only recorded from the country (Cambodia) in which it was collected.

REMARKS. Following the characters mentioned above, *M. cambodianus* sp. nov. has to be included in the species group IV sensu Shiju *et al.* (2012), together with *M. bensoni*, *M. chaudiroidi* and a few other species from the Oriental region.

Due to its strong resemblance in size and external morphology with *M. chaudiroidi*, it is possible that previous records of this species from Cambodia (Zhao & Tian, 2012) have to be actually referred to *M. cambodianus* sp. nov.

Macrocheilus walterrossii Allegro & Giachino sp. nov. (Figs. 2, 7, 12, 16, 19, 20)

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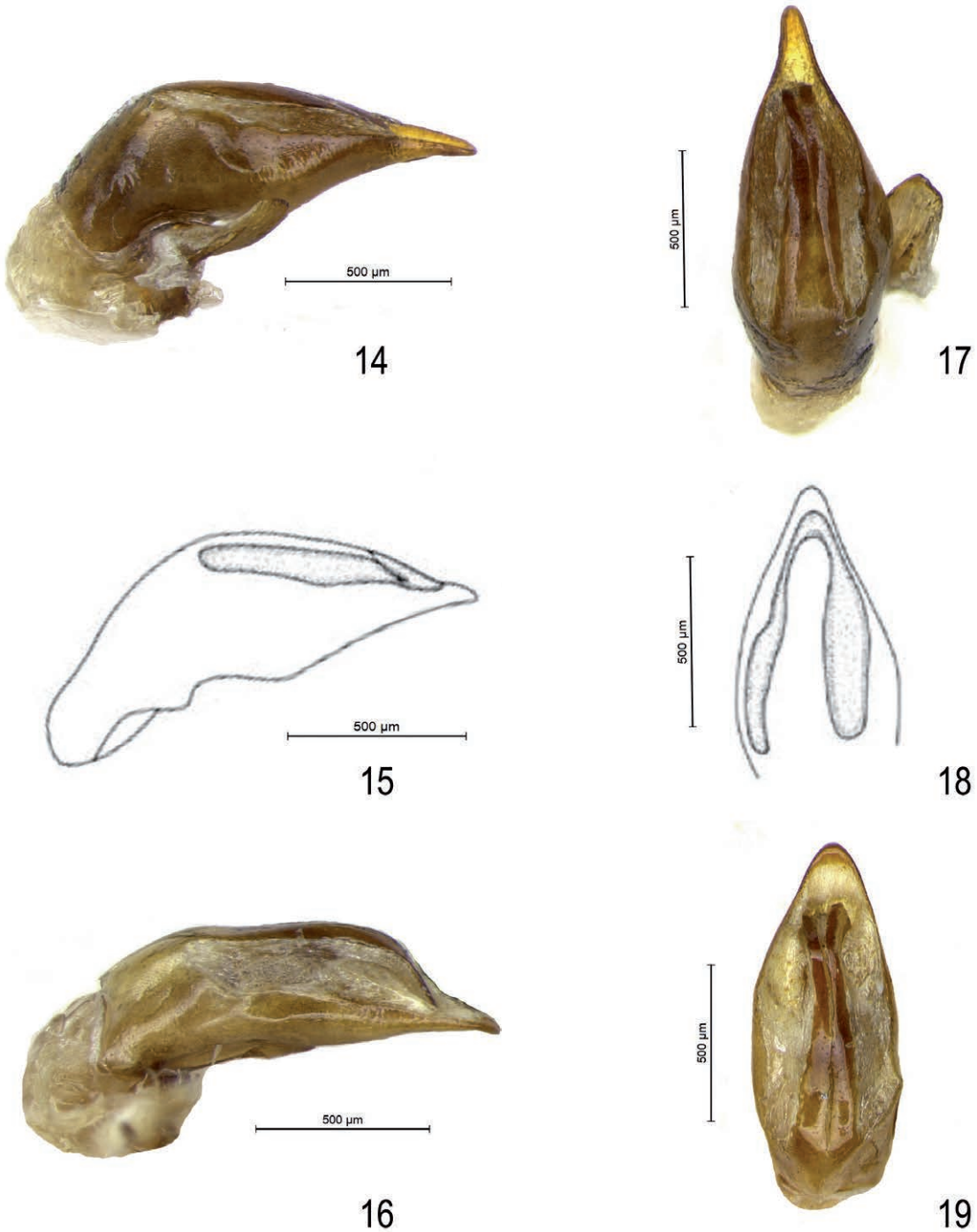
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TYPE LOCALITY: Cambodia, Banteay Meanchey Province, near Sisophon, campus of the Mean Chey University.

TYPE SERIES. Holotype ♂: Cambodia, Banteay Meanchey Province, near Sisophon, campus of the Mean Chey University, 13°14'45"N, 20°56'29"E, light trap, 22.X-23.XI.2019, P. Bun & V. Kong leg. (CGi). Paratypes: 2 ♂♂, same data as HT; 1 ♂, same place as HT, 20.V.2019, V. Kong & W. Rossi leg. (CAI, CGi).

DIFFERENTIAL DIAGNOSIS. A small-medium sized *Macrocheilus* (ABL: 8.0-8.1 mm) characterized by black head with an undefined reddish spot (sometimes missing) at vertex, reddish pronotum, two pale spots on each elytron (Fig. 2), mandibles not exposed (covered by clypeus), 4th maxillary palpomere apically dilated, labrum with apical setae beneath apical margin, ligula emarginated at apex, legs testaceous. Similar to *M. chaudiroidi* and *M. ruficollis* in external morphology, but easily distinguished by the elytral spots, which are larger, differently shaped (oblong vs. roundish) and more extended toward side margins of elytra: the apical one extending from suture to 6th stria (vs. 5th), the anterior affecting 6 umbilicate punctures on marginal stria (vs. 3), the more transverse pronotum (PW/PL=1.32-1.40 vs. 1.13-1.17) (Fig. 7), the reddish ventrites (vs. brown), the less robust and dilated aedeagus (Figs. 16, 19).

It is also easily distinguished from *Macrocheilus cambodianus* sp. nov. by the smaller body size (ABL: 8.1-8.2 vs. 9.0-10.1 mm), the more transverse pronotum (PW/PL=1.32-1.40 vs. 1.18-1.21) (Fig. 7), the elytral spots, which are differently shaped: the apical one extending from suture to 6th stria (vs. 7th), the anterior extended to stria 1st (vs. 2nd), the reddish (vs. brown) ventrites and the morphology of aedeagus (Figs. 16, 19).



Figs. 14-16. Median lobe of aedeagus in lateral view of *Macrocheilus* spp.: 14 – *M. cambodianus* sp. nov. HT; 15 – *M. chadoiri* HT (from Zhao & Tian, 2010); 16 – *M. walterrossii* sp. nov. HT.

Figs. 17-19. Median lobe of aedeagus in dorsal view of *Macrocheilus* spp. 17 – *M. cambodianus* sp. nov. HT; 18 – *M. chadoiri* HT (from Zhao & Tian 2010); 19 – *M. walterrossii* sp. nov. HT.

DESCRIPTION

Habitus and color. ABL: 8.1-8.2 mm (HT ♂ 8.1 mm). Body parallel-sided, moderately shiny, pubescent, head black with an undefined reddish spot at vertex (sometimes missing), pronotum reddish, elytra black with two yellowish spots each, mouth parts, antennae and legs testaceous (Fig. 2). Females unknown.

Head. Black with a reddish undefined spot variable in size (sometimes missing) on vertex, as wide as pronotum, coarsely and densely punctate, more sparsely on vertex and almost smooth on mid frons. Eyes large and convex, nearly hemispherical. Genae short, densely pubescent and abruptly restricted on neck.

Frontal foveae distinct and frontoclypeal suture well incised. Clypeus reddish or darkened at base, nearly rectangular with front margin straight. Labrum reddish with longitudinal midline narrowly darkened, widely rounded at apex with sides distinctly restricted towards base; the pair of anterior setae beneath apex, the lateral at the widest point. Mandibles not exposed (covered by clypeus). 4th maxillary palpomere moderately dilated towards apex; penultimate labial palpomere bisetose. Ligula thickened with front apex emarginated at middle; mentum sparsely and irregularly setose at base; median tooth triangular and very acute at apex, a little shorter than lobes, glabrous but with a couple of setae at base; mentum epilobes



Fig. 20. Distribution map of *Macrocheilus cambodianus* sp. nov. HT and *Macrocheilus walterrossii* sp. nov. HT in Cambodia.

rounded at sides (Fig. 12). Antennae moderately long, with first antennomere as long as 2nd+3rd.

Pronotum. PW/PL=1.32-1.40. Pronotum convex, reddish, cordiform, truncate at base, coarsely but sparsely punctate, widest at anterior fourth, with long pale pubescence (Fig. 7). Two tactile setae on each side, not easily distinguished due to the general pubescence, one just before middle and one at hind angle. Sides shortly and markedly sinuate before hind angles, which are obtuse to right angled and sharply toothed; front angles rounded. Lateral marginal bead narrow and continuous, dilated before hind angles. Middle of base produced; the sides of basal margin obliquely truncate. Disk flattened, with median longitudinal impression deeply incised, superficial only near apex and base; basal foveae large and depressed.

Elytra. EL/EW=1.8-1.9. Elongate, parallel-sided, punctate-striate with long pale pubescence. Basal area deeply depressed. Intervals slightly convex, 2nd-8th wider than 1st, with two rows of regular setiferous pores. Two large irregular yellowish spots on each elytron, the apical one extended from suture to 6th stria (covering 6 intervals), the anterior extended from 1st stria to umbilicate series at sides (covering 7 intervals) and affecting 6 umbilicate punctures on marginal stria. Epipleura without any distinct external plicae ("uncrossed epipleura"). Hind wings fully developed.

Ventral surface (thorax and abdomen). Prosternum and proepisterna reddish, pubescent and coarsely punctate. Metepisterna very long and narrow, punctate. Prosternal intercoxal process reddish with dark side margins, punctate. Ventrites IV-VII reddish, shiny and pubescent.

Legs. Testaceous, pubescent and moderately slender. Metatrochanters as long as 1/3 length of metafemora. Protibial antennal cleaning organ well developed, with several clip setae. Protibiae robust, with 2 small apical teeth at external angle. Tarsi pubescent above and underneath. 4th tarsomere emarginate. Claws smooth.

Male genitalia. Median lobe of aedeagus hardly dilated, rectilinear underneath, with apex short and apical lamella blunt at apex (Figs. 16, 19). Females unknown.

DISTRIBUTION AND ECOLOGY

Geographical distribution: this species is recorded only from North-Western Cambodia (Fig. 20). *Life habits:* the specimens of the type series were collected by light trapping on the banks of an artificial pond.

ETYMOLOGY. This species is named after Walter Rossi, which is one of the collectors and a world renowned specialist in Laboulbeniales (entomoparasitic Ascomycota).

REMARKS. Like *M. cambodianus* sp. nov., also *M. walterrossii* sp. nov. has to be included in the species group IV sensu Shiju *et al.*, (2012) due to the morphological characters described above. Despite some evident differences that make them easily distinguishable, these two species are likely close phylogenetic relatives, and both are likely close relatives of *M. chaudoiri*, due to their striking similarity.

Laboulbenia polyandra W. Rossi, 2020, an entomoparasitic fungus, was described from a PT specimen of *M. walterrossii* sp. nov. (Kong *et al.*, 2020).

Key to the *Macrocheilus* species from the Oriental region with reddish pronotum and two pale spots on each elytron

1. Smaller body size (ABL=8.1-8.2 mm). Pronotum more transverse (PW/PL=1.32-1.40) (Fig. 7). Ventrites IV-VII reddish
.....*Macrocheilus walterrossii* sp. nov.
- Larger body size (ABL>8.4 mm). Pronotum less transverse (PW/PL<1.22) (Fig. 6). Ventrites IV-VII brown2
2. Pale elytral spots larger, oblong and more widely extended toward side margins of elytra: the apical one extending from suture to 7th stria, the anterior affecting 6 umbilicate punctures on marginal stria (Fig. 8).....*Macrocheilus cambodianus* sp. nov.
- Pale elytral spots smaller, roundish and less widely extended toward side margins of elytra: the apical one extending from suture to 5th stria, the anterior affecting at most 3 umbilicate punctures on marginal stria (Fig. 9)
Macrocheilus chaudoiri Andrewes, 1919 -
Macrocheilus ruficollis Heller, 1923

CONCLUSIONS

Although the carabid fauna of Cambodia is still poorly known, some recently published papers (Tian & Deuve, 2008; Choi *et al.*, 2019, 2020; Allegro & Giachino, 2021) testify to a resurgence of interest in the ground beetles of this Asian country. Moreover, a large amount of entomological material was collected

in recent years (mostly by light trapping) by Vannak Kong & Walter Rossi, and we have no doubt that its study will lead to a large increase in the number of species recorded from this country, as well as to the discovery of new species.

A further result of this renewed interest is a better understanding of some species misinterpreted in the past, which are currently considered as widely distributed in the Oriental region following a superficial taxonomic evaluation of separated populations, only based on similarities in external morphology. Actually, deeper studies extended to the morphology of genitalia may bring out significant and constant morphological differences in these populations, so as to validate them as separated new species. Referring to recent literature, *Diplocheila walterrossii* Allegro & Giachino, 2021, a large species from Cambodia, was probably confused in the past with the widely distributed *Diplocheila laevigata* (Bates, 1892), while different male genitalia allow a reliable distinction between these taxa (Allegro & Giachino, 2021).

This paper concerns one of these cases, dealing with the description of two new species (*Macrocheilus cambodianus* sp. nov. and *M. walterrossii* sp. nov.) which were probably confused in the past with *Macrocheilus chaudiroidi*, a species considered as widely distributed in the Oriental region, due to their strong similarity in external morphology. Therefore, the past records of this species from Cambodia should be carefully checked in the light of new knowledge.

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