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CORRESPONDENCE

# *Chaetarthria chenjuni* Jia & Yang, sp. nov. (Coleoptera: Hydrophilidae), a new species from China and additional faunistic records

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**Abstract** A new species of *Chaetarthria* Stephens, 1835, is described from China, namely *Chaetarthria chenjuni* Jia & Yang, **sp. nov.** from Hainan, Guangdong and Guangxi Provinces, China. It is unique in the *C. indica* group by having the distinct punctures, as strong as those of puncture series, on the elytra. The broad median lobe of aedeagus has a round apex, which can be used to separate it easily from other known species occurring in the Oriental Region.

**Key words** *Chaetarthria*, Hydrophilidae, Coleoptera, fauna, China

## 1 Introduction

The water scavenger beetle genus, *Chaetarthria* Stephens, 1835, contains about 50 species (Short & Hebauer, 2006; Short & Fikáček, 2011; Fikáček *et al.*, 2015; Jia *et al.*, 2018). So far, 6 species have been recorded from the Oriental Region (Hebauer, 1995; Jia *et al.*, 2018), with a key and male genitalia illustration to Oriental species (Jia *et al.*, 2018). The adults of the genus live in debris and rotten leaves in the edges of water, while their larvae are poorly known except a few species (Hansen, 1991). Sometimes adults are also collected under stones in small river and pools with sands and fallen leaves.

When Jia *et al.* (2018) made a revision of the Chinese species of *Chaetarthria* Stephens, an unnamed species, described as *Chaetarthria* sp., was reported, based on three females from Guangxi, China that are deposited in Institute of Zoology, Chinese Academy of Sciences, Beijing, China. That species is clearly different from other known species occurring in the Oriental Region. Due to lack of male specimens, it was not formally described at that time. When the senior author visited the collection of Shanghai Normal University in March 2019, seven specimens from Hainan Island were found to be identical with *Chaetarthria* sp. described by Jia *et al.* (2018). Then, another three specimens from Shenzhen, Guangdong were collected in October 2019. Here, we provide its redescription and figure of aedeagus in this contribution.

## 2 Materials and methods

The types as well as additional specimens were studied for all species considered in this paper. Some specimens of each species were dissected. After 8–10 hours in 10% KOH at room temperature, male genitalia were transferred to a drop of distilled water, the remaining membrane was removed under a binocular microscope, and cleaned genitalia were subsequently mounted into a drop of glycerine on a piece of transparent plastic attached below the specimens.

Photograph of genitalia was taken using Zeiss Axioskop 40 binocular microscope with QIMAGING Micropublisher

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3.3 RTV; the pictures were subsequently combined with the Auto-Montage software® and a Leica M205C stereomicroscope. Complete label data are provided for type specimens, (in some cases transcribed from Chinese).

Photographs of habitus and pronotum were provided by Jia *et al.* (2018). Morphological terminology largely follows Hansen (1991).

Examined specimens are deposited in the following collections:

IZCAS—Institute of Zoology, Chinese Academy of Sciences, Beijing, China (J. Chen);

NMPC—National Museum, Prague, Czech Republic (M. Fikáček);

SHNU—Shanghai Normal University, China (L.Z. Li);

SYSU—Collection of Sun Yat-sen University, Guangzhou, China (F.L. Jia).

## 3 Taxonomy

***Chaetarthria chenjuni* Jia & Yang, sp. nov.** (Figs 1–7)

Type material. Holotype. male (SYSU), China, Hainan, Wuzhishan Mt., Guanshandian, 18˚53´N, 109˚41´E, elev. 650 m, 21.IV.2012, Yin Ziwei leg. Paratypes (3 spec. IZCAS; 2 spec. NMPC; 2 spec. SHNU; 6 spec. SYSU). 5 spec. same data as holotype; 1 male, 1 female, China, Hainan, Lingshui County, Diaoluoshan Mt., Winding Road, 18˚42´N, 109˚52´E, elev. 600–1000 m, 28.IV.2012, Peng & Dai leg.; 2 females (IZCAS: IOZ(E)20022538, IOZ(E)20022533), China, Guangxi, Napo, Defu, elev. 1440 m, 3.IV.1998, Wenzhu Li leg. (transcribed from Chinese); 1 female (IZCAS: IOZ(E)20022536), locality as above, elev. 1300 m, 14.VIII.1998, Tongli He leg. (transcribed from Chinese); 3 females, China, Guangdong, Shenzhen, Dapeng Peninsula, Getian Village, 22.48157°N, 114.62643°E, 2.VIII.2019, Jia & Mai leg. (transcribed from Chinese).

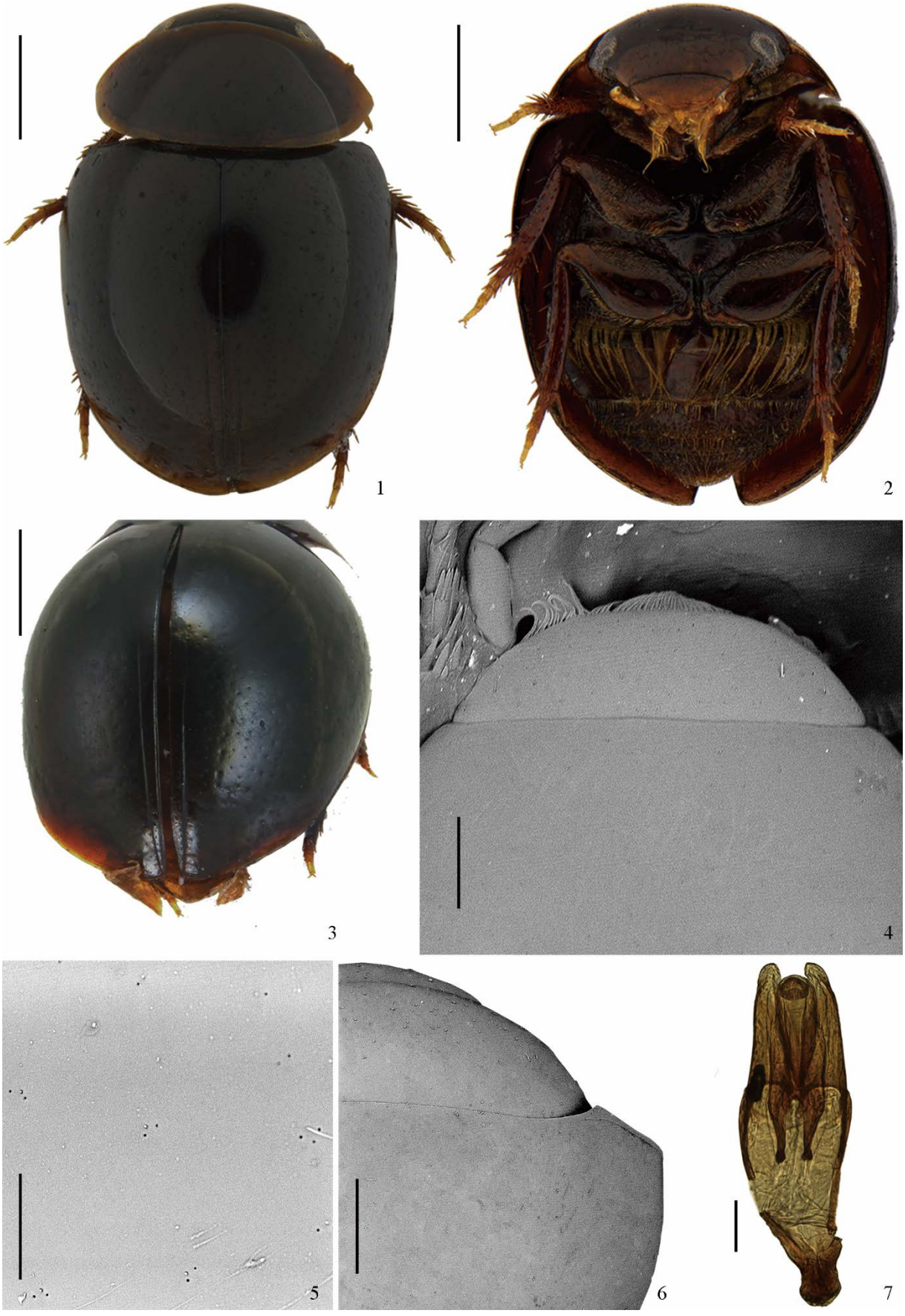
Diagnosis. This new species may be close to *C. indica* d'Orchymont, 1920. It can be distinguished from *C. indica* by its labrum black, elytra uniformly black, maxillary palps piceous, ventral surface black, legs black with tarsomeres dark brown, elytra with distinct punctures as well as the systematic punctures, an arrangement otherwise only known from *C. saundersi* d'Orchymont in the Oriental Region; aedeagus with median lobe broadly rounded apically, without a flagellum arising out of the middle of anterior margin, gonopore oval (Fig. 7).

General description. Labrum same colour as clypeus, maxillary palps uniformly dark reddish brown, pronotum with posterior angles dark brown, only slightly lighter than disc, elytra uniformly black. Ventral surface black; legs black, with tarsomeres dark brown. Head and pronotum without punctures. Pronotum without distinct anterior angles, posterior angles acute. Elytra with 4 distinct regular series of punctures, between regular series of punctures with 2 distinct irregular series of punctures, lightly finer than systematic punctures, lateral portion with irregular punctures, coarser than those on disc. Aedeagus with phallobase ca. 1.6× as long as parameres, median lobe broadly rounded apically, without a flagellum, gonopore situated apically.

Description. Size and Form. 2.4–2.6 mm. Broadly oval, strongly convex (Fig. 1). Elytra slightly longer than wide. Colour. Dorsum black. Labrum same colour as clypeus or slightly lighter, without lighter anterior margin. Maxillary palps uniformly dark reddish brown. Pronotum with posterior angles dark brown (Jia *et al.*, 2018: fig. 3a), only slightly lighter than disc. Elytra uniformly black (Figs 1, 3). Ventral surface black. Mentum dark brown. Legs black with slightly lighter tarsomeres; epipleura dark brown.

Head. Ground punctation on labrum, clypeus and frons undetectable (Fig. 4). Systematic punctures on labrum, frons and clypeus very fine but detectable. Labrum not emarginate anteriorly. Eyes small, slightly protruding, separated by ca. 5.5 × width of one eye. Maxillary palps about a half as long as width of head, apical palpomere almost symmetrical and longer than penultimate (Jia *et al.*, 2018: fig. 3d). Labial palps about one-third as long as width of mentum, apical palpomere conical, shorter than 2nd, 2nd palpomere with numerous long setae on inner and outer face. Antennae 8-segmented, scape almost as long as following antennomeres combined, club loosely segmented. Mentum (Jia *et al.*, 2018: fig. 3d) longer than wide, quadrate, entire anteriorly; with very fine and scattered punctures anteriorly, not punctate medially.

Thorax. Pronotum shinning, without distinct anterior angles, lateral margin of anterolateral angle dilated, posterior angles acute (Fig. 6); lateral stria present along entire lateral margin, terminating posteriorly at hind angle. Pronotal ground punctation undetectable, systematic punctures very fine but detectable. Elytra smooth and shining, with 4 distinct regular series of punctures (Fig. 5) between regular series of punctures with a few irregular series of punctures (Fig. 3), lateral portion with irregular punctures that are coarser than those on disc. Sutural stria reaching half of elytral length (Jia *et al.*, 2018: fig. 3c), no series of punctures before sutural stria. Prosternum extremely short, only slightly convex, not carinate.




Figures 1–7. *Chaetarthria chenjuni* Jia & Yang, **sp. nov.** 1. Habitus, dorsal view. 2. Habitus, ventral view. 3. Posterior half of elytra. 4. Labrum and clypeus. 5. Pronotal punctures of disc. 6. Pronotum, right portion. 7. Aedeagus. Scale bars: 1–3 = 0.5 mm; 4 = 100 μm; 5 = 50 μm; 6 = 200 μm; 7 = 0.1 mm.

Mesosternum glabrous, slightly concave, with a median, transverse and lightly arcuate ridge at level of anterior mesocoxal margin. Metasternum slightly raised, a little more convex and sparsely pubescent medially. Metepisterna about 4.3× as long as wide, more densely pubescent than metasternum, almost parallel sided except posteriorly, where inner margin bends smoothly towards outer margin. Procoxae densely pubescent, meso- and metacoxae glabrous. Femora with sharply defined tibial grooves on inner face; Femora stout. Pro- and meso-femora densely pubescent except on apical extremity; anterior half of metafemora densely pubescent, posterior half glabrous with some coarse punctures (Jia *et al.*, 2018: fig. 3b), posterodorsal margin densely pubescent. Tibiae slender, hardly flattened. Tarsi with 5 tarsomeres, first metatarsomere shorter than second.

Abdomen. Ventrites 1–2 with a large cavity on each side, filled with a hyaline mass supported and covered by a fringe of long stiff yellow setae rising from anterior margin of basal ventrite (Fig. 2); first two ventrites carinate medially.

Aedeagus. Aedeagus with phallobase ca. 1.6× as long as parameres; parameres narrowly rounded apically; median lobe distinctly broader than parameres medially, broadly rounded apically, without a flagellum, gonopore situated apically (Fig. 7).

Etymology. The species is named after Dr. Jun Chen, a specialist of mites from Institute of Zoology, Chinese Academy of Sciences, Beijing, China, who kindly invited the senior author to examine the specimens in IZCAS.

Distribution. China (Hainan, Guangxi, Guangdong).

**Additional faunistic data for China**

***Chaetarthria indica* d'Orchymont, 1920**

Material examined. 3 males, 2 females, 2 unsexed spec. (SYSU), China, Guangdong, Taishan County, Shangchuan Island, nature reserve for *Macaca mulatta*, elev. 20 m, 21˚46′01″N, 112˚49′02″E, 19.I.2019, Fenglong Jia, Zulong Liang, Shenyu Miao leg. 1 male, China, Guangdong, Shenzhen City, Mt. Wutong, Taishanjian, 22˚35′50.94″N, 114˚10′47.96″E, mixed leaf litter, sifted, elev. 248 m, 18.XI.2018, Cheng, Shuai & Zhao leg.

Ecology. Within the specimens from Shangchuan Island, 1 male and 1 female were collected in a shallow pool with fine sand covered by leaf litter, and 1 male and other 4 specimens were collected under stones in river near edge. The specimen from Mt. Wutong was from leaf litter with wet ground.

***Chaetarthria almonara* Knisch, 1924**

Material examined. 1 male (SYSU), China, Yunnan, Xishuangbanna, Yexianggu, sifting, 22˚10′55″N, 100˚51′58″E, elev. 950 m, 27.III.2018, Peng, Shen & Cheng leg.

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