

# Two new species of *Cneorella* Medvedev & Dang (Coleoptera: Chrysomelidae) from China

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**Abstract:** This paper describes two new species in the genus *Cneorella* Medvedev & Dang, 1981 from China: *C. flava* **sp. nov.** and *C. hainanensis* **sp. nov.** External morphological photographs and illustrations of the male genitalia of these new species are provided. A key to the Chinese known species in this genus is given.

**Key words:** Galerucinae; leaf beetles; taxonomy; key

中国边毛萤叶甲属两新种记述（鞘翅目：叶甲科）

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**摘要：**记述中国边毛萤叶甲属 *Cneorella* Medvedev & Dang 2 新种：黄胸边毛萤叶甲 *C. flava* **sp. nov.**和海南边毛萤叶甲 *C. hainanensis* **sp. nov.**，拍摄了新种的外部形态图和雄外生殖器特征图，编制了中国该属已知种类的检索表。

**关键词：**萤叶甲亚科；叶甲；分类；检索表

## Introduction

The genus *Cneorella* was established by Medvedev & Dang in 1981, with *Cneorella chapaensis* Medvedev & Dang, 1981 from Vietnam as the type species. At the same time, three new species including the type species were described, all of which are from Vietnam. Kimoto (1989) transferred *Calomicrus suisapanus* Gressitt & Kimoto, 1963 and *Calomicrus spurius* Gressitt & Kimoto, 1963 to this genus, and a new species, *Cneorella laosensis* Kimoto, 1989 from Laos was described. Medvedev (2000) described a new species from Laos, and Lopatin (2003) described another new species from Vietnam. Bezděk (2005) published a comprehensive review of this genus, in which illustrations of the male genitalia of all known species, as well as morphological illustrations of the spermatheca for some species were given. Bezděk also provided a key to the known species and described five new species, three from Laos and two from Vietnam. In 2012, during a study of *Cneorella* from Taiwan, Lee and Bezděk reinstated *Dercetis eurycollis* Chûjô, 1965 as a valid species and transferred it to *Cneorella*, which had been previously treated as a synonym of *Cneorella spuria* (Gressitt & Kimoto, 1963). This brought the total number of the known species in the genus *Cneorella* to 14, distributed across

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Vietnam, Laos, and China. In China, three species were recorded: *Cneorella spuria* (Hainan), *C. suisapana* (Hubei and Taiwan) and *C. eurycollis* from Taiwan only. According to Yang *et al.* (2015), *C. spuria* is also distributed in Jiangxi, Fujian, and Guangdong. In this study, we examined *Cneorella* specimens deposited at the Guangdong Institute of Zoology, Chinese Academy of Sciences and verified the existence of *C. spuria* in Guangdong. Further evidence is needed to confirm its presence in Jiangxi and Fujian. Additionally, two new species were discovered, with the type specimens obtained from Guangdong and Hainan, raising the total number of *Cneorella* species recorded in China to five.

This genus can be distinguished from other genera by the following features: body oblong with dorsal surface convex and smooth; postantennal tubercle well-developed; antennae extending beyond the middle of the elytra, antennomere II the shortest, antennomere III slightly longer than antennomere II, antennomere IV longer than the sum of the antennomeres II and III, the subsequent antennomeres approximately equal in length. Pronotum wider than long with margins surrounded by borders; disc moderately convex with distinct punctures. Scutellum triangular and impunctate. Elytra wider than pronotum at base, with transverse depression at basal 1/3, and disc densely punctured. Epipleura wide at base and narrowed towards the apex. Front coxal cavities open; tibial apex with no spur, and tarsal claws appendiculate. Abdomen trilobed in male, without incisions in female.

Genus *Cneorella* is very similar to the genus *Dercetina* in appearance, except that the front coxal cavities are open in the former and closed in the latter. The transverse depression at the elytral base is an unstable feature, present or absent in both genera. The male genitalia of the two genera are entirely distinct: *Cneorella* has short, broad male genitalia with the widest point at the apex, while *Dercetina* has slender, elongate genitalia with a pointed apex. Despite overlapping distributions, *Cneorella* has a more restricted range. Misclassification of *Cneorella* species into *Dercetina* may occur if the front coxal cavity characteristic is overlooked. A comprehensive revision of this genus is therefore warranted.

## Material and methods

The type specimens of *C. flava* **sp. nov.** and *C. hainanensis* **sp. nov.** are preserved at the Institute of Zoology, Guangdong Academy of Sciences (IZGAS) and Institute of Zoology, Chinese Academy of Science (IZCAS), respectively.

The extraction of genitalia was performed under a Nikon SMZ745 stereomicroscope. The specimen was placed under the stereomicroscope with the ventral side facing up. The tip of a needle was inserted into the thoracoabdominal joint, and then the entire abdomen was gently pried and removed. The whole abdomen was boiled in a 10% NaOH solution for about 3–5 min (the specific time depended on the ossification degree of the specimen), and it was then taken out when the muscle had dissolved completely. The treated abdomen was rinsed in distilled water and placed in a clean petri dish with the ventral side facing up. The external genitalia were then extracted with tweezers. The abdomen and external genitalia were stored together in a micro-centrifuge tube with glycerin, and the centrifuge tube was stored with the pinned specimen on the same needle.

Photographs of the habitus and genitals were taken with a Leica DFC450 micro digital

imaging system (CCD), attached to a Leica M205C microscope. All figures were edited using Adobe Photoshop CS 6.0.

### Taxonomy

#### 1. *Cneorella flava* sp. nov. (Fig. 1)

Description. Body oblong. Length 4.8 mm (Figs. 1A–C).

Head and elytra black blue; pronotum yellowish-brown, scutellum brown; elytra blue-green, gradually turning black-brown toward apex; ventral side of abdomen and legs yellowish brown.

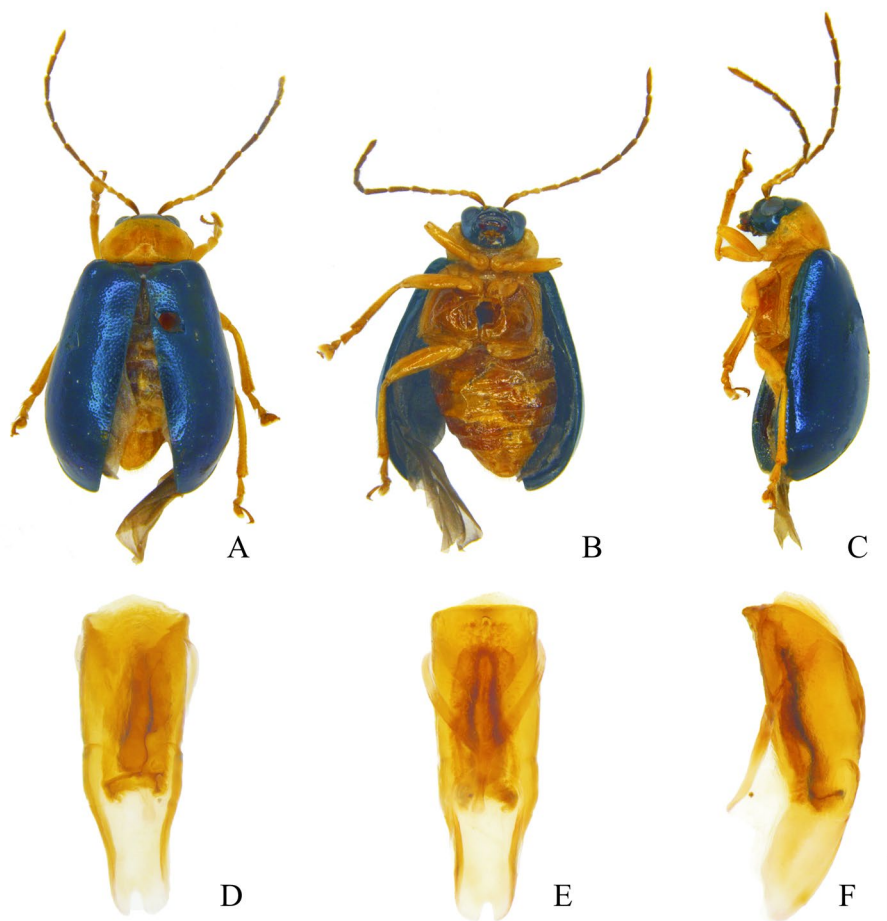


Figure 1. *Cneorella flava* sp. nov., ♂. A–C. Habitus, dorsal, ventral and lateral views; D–F. Aedeagus, dorsal, ventral and lateral views. Scale bars = 1 mm (A–C); = 0.2mm (D–F).

Vertex moderately convex with sparse punctures; postantennal tubercle developed, quadrate, with medial sides distinctly broader than lateral sides; antennomeres II–III yellowish-

brown, the rest black to black brown, antennomere II shortest, antennomere III follows, antennomere IV longer than antennomere III, antennomeres IV–X subequal, antennomere XI longer than antennomere X; pronotum 2.1× wider than long, lateral margins wide before middle, relatively straight near base; disc moderately convex with a shallow concavity at middle of basal region, with sparse punctures; scutellum triangular, surface smooth and impunctate; elytra 2.7× longer than wide, convex on both sides, base of elytra slightly wider than pronotum, humeral calli protruding; lateral sides begin to widen after basal 1/3; disc convex with distinct punctures, diameter of punctures slightly shorter than spacing between punctures; with transverse depression at basal 1/4; disc densely covered with punctures, diameter of punctures at middle shorter than spacing between punctures, diameter of punctures at apex equal to spacing between punctures; epipleura wide at base, narrowing gradually to apex; legs short, length of tarsal segment I distinctly shorter than the sum of II+III.

Base of aedeagus narrow, apical region wide, apex truncate in dorsal review, narrow and pointed in lateral view (Figs. 1D–F).

**Holotype.** ♂, **China**, Guangdong, Ruyuan, Nanling National Nature Reserve, 11-VI-2021, leg. Chuan FENG.

Etymology. The specific epithet is derived from the Latin word “flava”, referring to the yellow pronotum of this species.

Diagnosis. This new species differs from other *Cneorella* species in having a yellowish brown pronotum (in other *Cneorella* species, color of pronotum is generally congruent with that of the elytra and head) and the unique morphology of the male genitalia: in ventral view, the aedeagus exhibits a broad and truncate apex, not bifurcated and without lateroapical processes.

## 2. *Cneorella hainanensis* sp. nov. (Fig. 2)

Description. Body oblong, length 5.7–6.4 mm (Figs. 2A–C).

Body dark brown with metallic purple luster; antennae brown; pronotum dark brown; scutellum brown; ventral surface of body yellowish brown.

Vertex moderately convex, with sparse punctures; postantennal tubercle well-developed, teardrop-shaped; antennomere II thick, shortest, antennomere III thin, slightly longer than antennomere II, antennomere IV longest, antennomeres V to IX subequal, antennomere X slightly shorter than antennomere IX, antennomere XI slightly longer than antennomere IX; pronotum 2.5x wider than long, punctured, punctures on both sides distinctly denser than that on disc, lateral margins rounded, anterior margin moderately concave, posterior margin widely rounded. Scutellum ligulate, surface smooth and impunctate; elytral base slightly broader than pronotum, with prominent humeral angles; sides beginning to expand after basal 1/3; disc convex with distinct punctures, spacing of punctures slightly larger than diameter of punctures; epipleura broad at base, gradually narrowing toward apex; legs short, first tarsomere of hind foot slightly shorter than sum of tarsomeres II+III.

Male external genitalia (Figs. 2D–F) narrow at base, broad at apex, slightly arcuate apically in dorsal view, with two small lateral processes at apex, curved ventrally.

**Holotype.** ♂, **China**, Hainan, Tianchi, 14-IV-1980, 750 m, leg. Shuyong WANG.  
**Paratypes.** 2♂, Hainan, Tianchi, 14-IV-1980, 750 m, leg. Shuyong WANG.

Etymology. The specific epithet refers to Hainan, where the type specimen was collected.

Diagnosis. This new species is similar to *C. spuria* (Gressitt & Kimito, 1963), but can be distinguished from *C. spuria* by the broader and subtruncate apex of the aedeagus in lateral view (apex of aedeagus in *C. spuria* is narrow and pointed in lateral view).

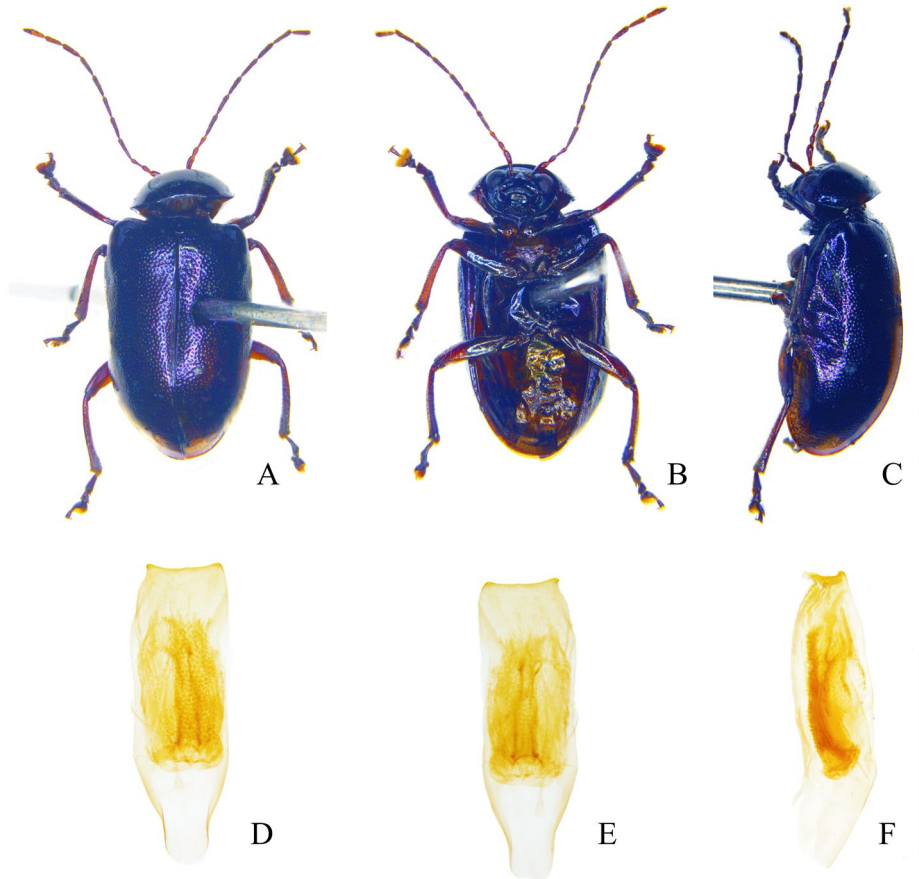


Figure 2. *Cneorella hainanensis* sp. nov., ♂. A–C. Habitus, dorsal, ventral and lateral views; D–F. Aedeagus, dorsal, ventral and lateral views. Scale bars = 1 mm.

### Key to the species of genus *Cneorella* from China

1. Elytra blue-green; abdomen brown ..... *C. suisapana* (Gressitt & Kimoto)
- Elytra black-blue; abdomen yellowish brown ..... 2
2. Pronotum yellowish brown ..... *C. flava* sp. nov.
- Pronotum blackish blue ..... 3
3. Elytra with a transverse depression at base ..... 4
- Elytra without transverse depression at base ..... *C. eurycollis* (Chûjô)
4. Apex of aedeagus broad and nearly truncate in lateral view ..... *C. hainanensis* sp. nov.
- Apex of aedeagus narrow pointed in lateral view ..... *C. spuria* (Gressitt & Kimoto)

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