



## A new species of the genus *Clada* Pascoe, 1887 from China (Coleoptera: Ptinidae: Eucradinae)

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### Abstract

*Clada* (*Clada*) *nyingchiensis* Huang **sp. nov.**, a new species belonging to the tribe Hedobiini, is herein described from specimens collected in Mêdog and Zayü counties, located in Nyingchi City of Xizang Autonomous Region (China). Detailed morphological examination of habitus and key diagnostic characters is provided.

**Key words:** taxonomy, Hedobiini, Tibet, Himalaya, new taxon

### Introduction

The genus *Clada* Pascoe, 1887 is classified within the tribe Hedobiini, alongside four other extant genera: *Hedobia* Dejean, 1821, *Neohedobia* Fisher, 1919, *Anhedobia* Nakane, 1963, and *Ptinomorphus* Mulsant et Rey, 1868 (Zahradník & Háva 2014; Kono & Yoshitomi 2021). This genus is currently divided into two subgenera: *Clada*, which includes 61 known species distributed across the Palaearctic, Oriental, and Afrotropical regions (Zahradník & Trýzna 2018; Viñolas 2019), and *Taiwanoclada* Sakai, 1987, which is monotypic and known only from Taiwan (Sakai 1987).

In China, the subgenus *Clada* has been relatively little studied, with only 11 species currently known. These are mainly distributed in Taiwan (five species), Yunnan (five species), and Shaanxi provinces (one species). Among them, only *C. (C.) insulcata* Pic, 1933 has been recorded from multiple provinces, including Yunnan, Gansu, and Anhui (Zahradník 2007, 2012, 2013).

Through examination of specimens collected in recent years from the Xizang by the Institute of Zoology, Chinese Academy of Sciences, we discovered a new species of the genus *Clada*, which is described herein.

### Material and methods

The specimens were collected at a light trap placed approximately 1 km outside Damu Village. The site is located at the boundary between cultivated land and natural forest. Farmland lies on the left side of the trapping point, while on the right side there is well-preserved primary forest with dense shrub and herbaceous undergrowth. Along the edge of the farmland, large stacks of freshly cut logs were piled by local villagers, providing additional microhabitats. Numerous tenebrionid beetles were observed on these logs at night.

All specimens were softened by soaking in room-temperature distilled water for 24 hours before being removed and positioned. Once the specimen was sufficiently softened, the abdomen was detached and opened to expose the genitalia. Male and female genitalia were extracted and placed in a 10% NaOH solution and heated in a water bath for five minutes. Afterward, the genitalia were rinsed thoroughly in distilled water and preserved in glycerin (Ament 2015).

Images were taken using a Canon EOS R5 mirrorless camera paired with a Canon 100mm EF macro lens and a Canon MP-E 65 mm macro lens. Focus stacking was performed using a self-built rail system, and the images were processed with Helicon Focus v. 8.2.2. Final adjustments, including cropping and contrast enhancement, were made in Adobe Photoshop.

All material is deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS).

## Taxonomy

### Genus *Clada* Pascoe, 1887

**Diagnosis.** Head normal in size, not constricted behind eyes. Eyes large, prominent. Pronotum not entirely marginate at sides, provided with gibbosity at middle of base. Abdominal tergites membranous (Kono & Yoshitomi 2021).

### Subgenus *Clada* Pascoe, 1887

**Diagnosis.** Body including elytra nearly concolorous, brown to blackish brown or black. Elytra provided with distinct granules or punctures. Antennae normally pectinate or serrate (Kono & Yoshitomi 2021).

### *Clada (Clada) nyingchiensis* Huang sp. nov.

(Figs 1, 2)

**Type material. HOLOTYPE: CHINA:** male, labeled “Xizang Mêdog County, 1 km north of Damu Township, alt. 1588.13m, 2024.VII. 27// 29.50001°N, 95.46436°E, roadside shrubland, collected by the light trap, leg. Hong-Bin Liang// TBJ 20240727N” (IZCAS). **PARATYPES: CHINA:** 2 females. One specimen with the same data as the holotype; the other labeled: “Xizang, Zayü County, Shama, collected by the light trap, alt. 1600 m// 20 VII 1973, leg. Fu-sheng Huang” (IZCAS)

**Diagnosis.** Pronotum with elevated median keel not reaching posterior margin, keel and disc tubercles dark; elytral punctures deep, each bearing prominent tubercle; apical margin irregularly dentate; humeri strongly prominent; sexual dimorphism evident in antennal proportions and keel shape.

**Description.** *Male* (Fig. 1A, B). Body dark brown, densely clothed with yellow or yellowish pubescence; integument convex, elongate-elliptical; surface densely set with tubercles bearing long setae. Body length 8.1 mm, width 2.99 mm; elytra length 5.25 mm, width 2.99 mm. Terminal antennomere length/width ratio 4.3; pronotum length/width ratio 0.81 (Fig. 2E).

Head slightly wider than long; eyes large, rounded, strongly prominent, with erect setae between ommatidia; frons and vertex densely covered with fine tubercles, tubercles more crowded posteriorly; vertex bearing long yellow setae; mandibles bidentate apically. Antennae with eleven antennomeres. Antennomeres I–III short and stout; antennomere I longer than II, antennomere III longer than II but shorter than I. Antennomeres IV–X serrate; antennomere IV slightly longer than wide, the following segments distinctly longer than wide and nearly equal in length. Antennomere XI slender and elongate. Antennomere I densely clothed with short pubescence and long yellow setae; remaining antennomeres densely clothed with short pubescence and a few longer setae.

Pronotum transverse, widest at middle, disc with distinct longitudinal keel not reaching posterior margin; keel elevated, bearing darker, almost black tubercles; pronotal surface densely covered with long yellow setae arising from tubercles, setae somewhat converging medially, forming irregular rows; lateral punctures coarser; pubescence denser laterally, slightly sparser in median and lateral discal areas. Prosternum short, procoxal cavity open; mesosternum and metasternum densely punctate, with yellowish recumbent setae; punctures larger in diameter than interspaces.

Scutellum lingulate with rounded apex, entirely and densely clothed with long yellowish setae.

Elytra parallel-sided for most of length, gradually rounded apically, humeri strongly prominent; surface with deep punctures, each puncture bearing distinct tubercle (Fig. 2I), punctures larger in diameter than interspaces;

pubescence denser laterally than medially; margins and apex irregularly dentate due to tubercles; elytral disc moderately convex. Elytra with basal width clearly greater than that of the pronotum; elytral disc without distinct longitudinal costae.

Legs robust; tarsal claws widely separated; tibiae lacking coarse granulation, outer margin with several denticles; apical outer margin of tibiae expanded into laminar projection clothed with dense short yellow pubescence.

Abdomen (Fig. 2G) clothed with fine, dense, short pubescence; punctation fine and dense.

Aedeagus (Fig. 2A, B) slender, slightly widened basally and apically, median portion narrower; apex of median lobe broadly rounded in dorsal view. Parameres relatively broad, distinctly shorter than median lobe, apical one-third densely clothed with long setae.

*Female* (Fig. 1C, D). Body length 9.7 mm, width 3.7 mm; elytra length 6.9 mm, width 3.7 mm. Terminal antennomere length/width ratio 2.1 (Fig. 2F); pronotum length/width ratio 0.91. Similar to male but distinctly larger; terminal antennomere proportionally shorter; pronotal keel broader and apically blunt, not pointed; tubercles on keel and disc darker; pubescence on pronotum and scutellum denser and longer, completely covering scutellum.

Elytra with deeper punctures, each surrounded by 3–4 small tubercles; apical margin more strongly dentate than in male due to prominent tubercles (Fig. 2J).

Legs with longer pubescence; tibial structure as in male.

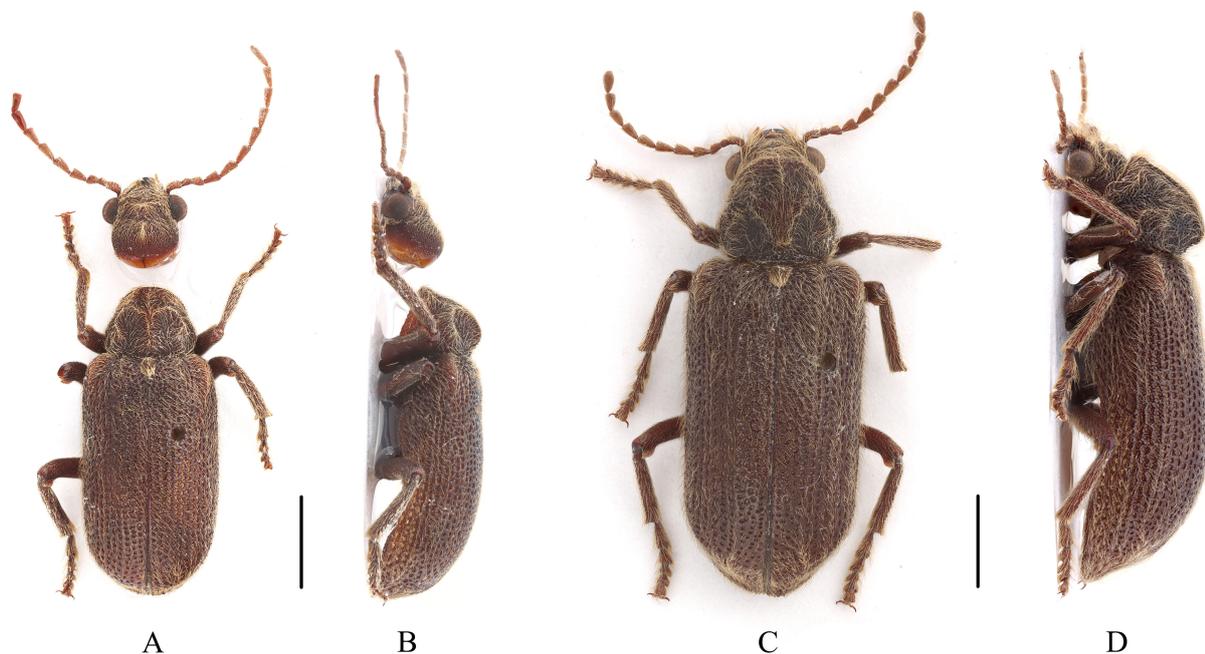
Abdomen (Fig. 2H) with punctation dense; pubescence longer and denser than in male; last ventrite with a central glabrous area (absent in male).

Ovipositor (Fig. 2C, D) with pair of very slender, strongly sclerotized proctiger baculi, apically articulated with a pair of weakly sclerotized paraproct baculi, which gradually converge apically and each bear several long lateral setae.

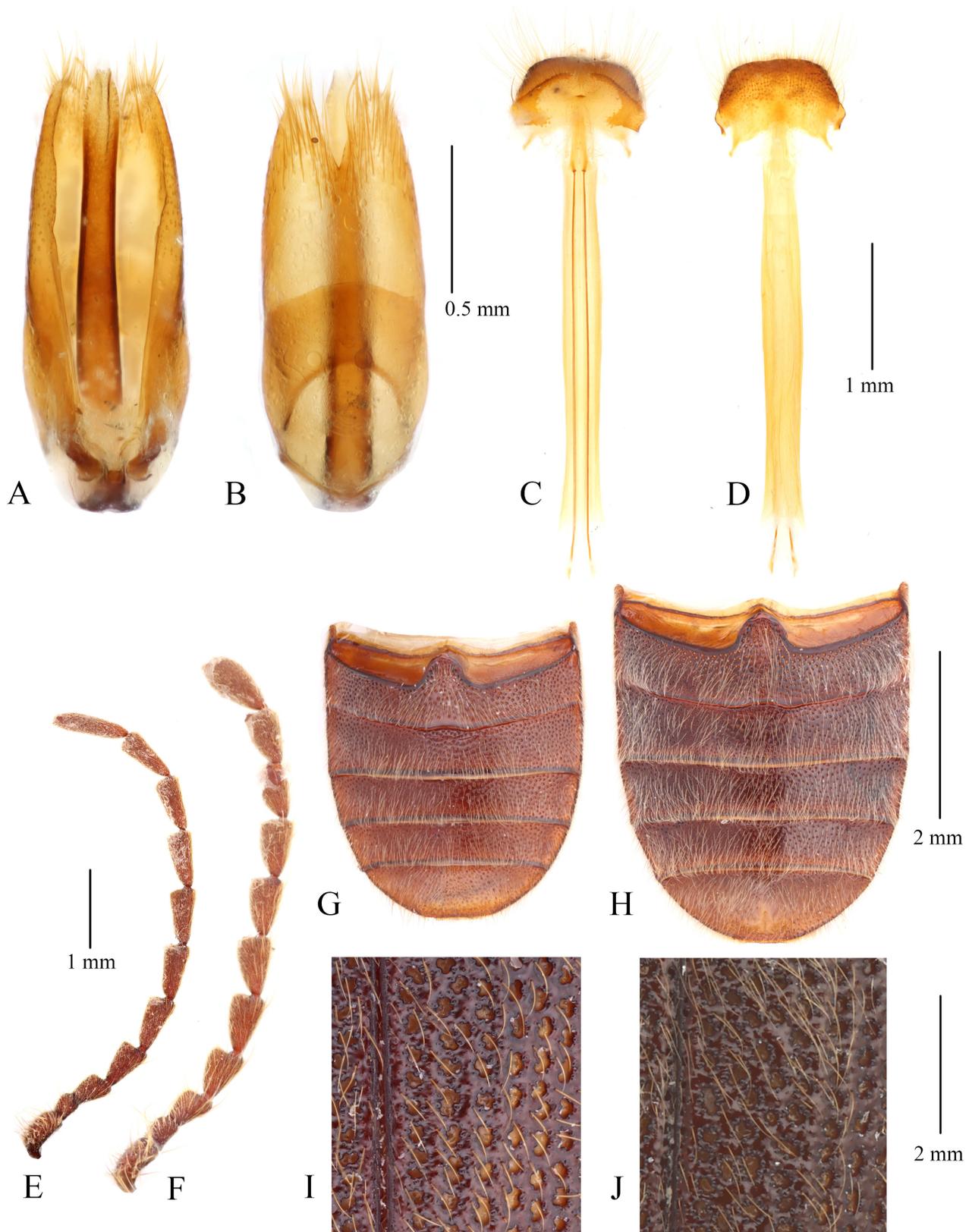
**Sexual dimorphism.** Females larger, with shorter terminal antennomere, broader and apically blunter pronotal keel, denser and longer pubescence, especially on pronotum and scutellum; elytral punctures deeper with more numerous tubercles; last ventrite medially glabrous (absent in males). Males with narrower, more pointed pronotal keel and slightly sparser pubescence.

**Distribution.** Southwest China: Xizang (Mêdog and Zayü).

**Etymology.** Named after Nyingchi City in Xizang, China, the administrative region encompassing both Mêdog and Zayü counties where the type series was collected.



**FIGURE 1.** *Clada (Clada) nyingchiensis* Huang **sp. nov.**, type specimens. **A.** Holotype, male, dorsal habitus. **B.** Same, lateral habitus. **C.** Paratype, female, dorsal habitus. **D.** Same, lateral habitus. Scale bar: 2 mm.



**FIGURE 2.** Diagnostic characters of *Clada (Clada) nyingchiensis* Huang **sp. nov.** Holotype male genitalia: **A.** Dorsal view. **B.** Ventral view. Paratype female genitalia: **C.** Ventral view. **D.** Dorsal view. **E.** Antenna of holotype male. **F.** Antenna of paratype female. **G.** Abdomen of holotype male. **H.** Abdomen of paratype female. **I.** Elytral punctures and setae of holotype male. **J.** Elytral punctures and setae of paratype female. Scale bars: 0.5 mm for A–B; 1 mm for C–F; 2 mm for G–J.

## Discussion

*Clada nyingchiensis* Huang **sp. nov.** is similar to *Clada insulcata* and *Clada maxima* (Pic, 1903). It differs from *C. insulcata* by elytra distinctly wider than pronotum, lacking longitudinal costae, and bearing dentate apices. From *C. maxima* it differs in having a smaller body, absence of transverse elytral rugosity, and shorter, more rounded pronotal keel. Comparison of *Clada nyingchiensis* Huang **sp. nov.** with other *Clada* species described by Zahradník (2013) from China can be made based on the morphology of the terminal antennomeres. Although the antennae of the new species are similar to those of *C. formosana* Sakai, 1987, it differs in the pronotal length/width ratio, with *C. nyingchiensis* having a pronotum slightly shorter than wide, whereas in *C. formosana* the pronotum is nearly as long as wide.

Sexual dimorphism is typical of all species in the tribe Eucradini, with males possessing more strongly pectinate antennae and females having fewer pectinate ones. In contrast, members of the tribe Hedobiini generally exhibit only slightly serrate antennae. The genus *Clada* is an exception within Hedobiini, displaying a range of antennal morphologies: in some species, both sexes have serrate antennae; in others, males have pectinate antennae and females serrate; and in a few species, both sexes have pectinate antennae (Zahradník & Trýzna 2018). In the new species described here, both sexes exhibit serrate antennae, which clearly deviates from the common patterns observed in most Hedobiini. Additionally, we provide a description of the female genitalia, a character that has been seldom addressed in previous studies. However, to determine whether female genital morphology plays a significant role in the taxonomy of this subgenus, further examination of more specimens from different species is necessary.

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## 中国棒窃蠹属 *Clada* 一新种记述 (鞘翅目: 蛛甲科: 优窃蠹亚科)

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**摘要:** 描述蛛甲科优窃蠹亚科赫窃蠹族一新种——林芝棒窃蠹 *Clada (Clada) nyingchiensis* sp. nov.; 该新种采自中国西藏自治区林芝市墨脱县和察隅县; 对其整体形态特征及主要鉴别性状进行了详细描述与图示。

**关键词:** 分类学; 赫窃蠹族; 西藏; 喜马拉雅; 新阶元