



The genus *Pinopellis* Assing from Mêdog, China, with a new species (Coleoptera: Staphylinidae: Paederinae)

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Abstract

In this paper, two species collected from Mêdog County, Xizang, China are reported. A new species, *Pinopellis linmeiyingae* sp. nov. is described and *P. nigripes* (Cameron, 1914) is recorded for the first time from Xizang, China. Color plates of the habitus, antennae, maxillary palpi, labra, abdominal segments VIII–IX of the males, as well as the aedeagal structures are provided. Additionally, the key and list of four Chinese species of the genus *Pinopellis* Assing are given.

Key words: taxonomy, Paederinae, new taxon, *Pinopellis*, Mêdog

Introduction

The taxonomic research on the subtribe Pinophilina Nordmann, 1837 (Staphylinidae: Paederinae: Pinophilini) has a long history dating back to Nordmann. Entomologists such as Bernhauer & Schubert (1912), Cameron (1931), Fagel (1963, 1971), Coiffait (1978) and Lecoq (1986) have made great contributions to research on this subtribe which has undergone a series of twists and turns in the subsequent development at the same time. Over years, the generic assignment and species categorization of the subtribe Pinophilina were no longer suitable for many existing species which failed to be placed into the rightful generic taxa (Assing 2022).

Based on a thorough examination of specimens, Assing established another 11 new genera and comprehensively revised all the species from Palaearctic, Oriental, and New Guinean regions (Assing 2022), and thus the subtribe Pinophilina has 30 genera altogether (Newton 2025).

Prior to that study (Assing 2022), 12 species of this subtribe had been recorded from China (Li *et al.* 2019) and all belong to one genus *Pinophilus* Gravenhorst 1802 (Li *et al.* 2019). In 2022, Assing recombined and identified all these species in 7 different genera (none of them were in *Pinophilus*), and another 15 Chinese species of the subtribe Pinophilina were newly reported at the same time (Assing 2022).

Based on the combination of morphological characters, cross-section of pronotum strongly convex more or less, tergites VII and VIII of abdomen with dense whitish pubescence, ventral parts of tergite IX with long setae, parameres completely reduced, the genus *Pinopellis* was proposed with *P. borneensis* (Fauvel, 1895) as its type species, and 22 species included. For the Chinese fauna, there were three species recorded, *P. clavulata* Assing, *P. nigripes* (Cameron) and *P. yunnanica* Assing. In light of the current research situation, we adopt this taxonomic division here (Assing 2022).

In this study, we focus on the new species of *Pinopellis* from Mêdog, Xizang, a new species *P. linmeiyingae* sp. nov. is described, and *P. nigripes* is a newly regional record species from Xizang Autonomous Region, China. Thus, the species number of *Pinopellis* Assing is increased to 23 and four are known from China.

Material and methods

The dried specimens were softened in hot water at 30–60°C for about 4–8 hours (depending on the preservation conditions and sizes of the specimens) for dissection of the abdominal terminalia. The male genitalia were soaked in 10% KOH solution at 30 °C for about 10 minutes (depending on the degree of sclerotization and transparency). The surrounding soft tissues were immediately removed, and the dissected parts were preserved in glycerin in plastic microvials with stoppers for subsequent observation and photography.

Observation, dissection, and measurements were conducted under a Zeiss SteREO Discovery V20 stereomicroscope. Photos of the habitus, mouthparts, sternites, and genitalia were taken with an Olympus C7070 digital camera. Image stacking was performed using Helicon Focus version 6.7.1 image stacking software (<http://www.heliconsoft.com>).

All specimens listed in the present study were deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS).

The following abbreviations are used in the descriptions and all measurements are given in millimeters:

ABW	abdomen with (widest part of the abdomen);
AEL	aedeagal length (base of median lobe to apical part);
AEW	aedeagal width (greatest width of aedeagus);
AL	antennal length (length of one antenna);
BL	body length (from anterior margin of labrum to end of abdomen);
EYL	eye length (longitudinal length of eye in dorsal view);
EL	elytral length (from humeral angle to posterior margin);
EW	elytral width (greatest width of elytra);
ESL	elytral suture length (from apex of scutellum to apex of elytral suture);
FL	forebody length (from anterior margin of labrum to posterior margin of elytra);
GL	genal length (from the base of the labrum to anterior margin of the eye);
HL	head length (from anterior margin of clypeus to posterior constriction of head);
HW	head width (greatest width of head, including eyes);
PL	pronotum length (from anterior margin of pronotum to its posterior margin);
PW	pronotum width (greatest width of pronotum);
TL	temporal length (from the posterior margin of eye to the posterior margin of head).

Taxonomy

Pinopellis linmeiyingae sp. nov.

(Fig. 1)

Type material. HOLOTYPE: CHINA: ♂, Baibung Town, Mêdog County, Xizang (墨脱县背崩乡), 799 m, 21.VIII.2015, leg. Mei-Ying Lin (IZCAS). PARATYPES: CHINA: 1 ♂, 1 ♀, same data as holotype; 1 ♂, Mingfeng Valley, Jianfengling, Ledong County (乐东县尖峰岭鸣凤谷), Hainan, 982 m, N18.74°, E108.84°, 06.XII.2009, leg. Mei-Ying Lin (IZCAS).

Measurement. BL: 10.7–13.2 mm; FL: 6.33–6.36 mm (all specimens). HL: 1.77 mm; PL: 2.36 mm; EL: 2.20 mm; AL: 3.17 mm; HW: 2.52 mm; PW: 2.68 mm; EW: 2.35 mm; ABW: 2.84 mm (average value).

Description. Habitus as in Fig. 1A. Coloration: Body slightly shining, black with apex (segment IX), maxillary palpus, antennomeres and legs blackish brown.

Head transverse, distinctly wider than long ($HL/HW = 0.70$), broadest across eyes. Eyes protrude laterally, longer than 1/3 of head ($EYL/HL = 0.34$). Eye shorter than temple and longer than gena (ratio eye: gena: temple = 1: 1.20: 0.73; all in dorsal view; Fig. 1A). Vertex slightly convex, dorsal surface of head with shallow, large, umbilicate and rather dense punctures, with distinct interstices between punctures. Middle surface of frons and near anterior margin with punctures slightly sparser. Lateral contours behind eyes broadly round with pointed projections covering part of eyes.



FIGURE 1. *Pinopellis linmeiyingae* sp. nov. (based on the holotype). **A.** Habitus, male. **B.** Sternite VIII, male. **C.** Tergite IX, male. **D.** Sternite IX, male. **E.** Tergite VIII, male. **F.** Maxillary palpus. **G.** Labrum. **H.** Antenna. **I.** Aedeagus, dorsal view. **J.** Aedeagus, lateral view. **K.** Aedeagus, ventral view. Scale bars: 0.5 mm.

Maxillary palpomere IV highly developed, broad and blade-shaped, approximately twice as long as III (Fig. 1F). Anterior margin of labrum with median notch small (Fig. 1G). Antennae relatively long, length of each antennomere longer than wide (Fig. 1H).

Pronotum (Fig. 1A) sub-hemispherical, wider than long (average PL/PW = 0.88), sides parallel; anterior margin slightly emarginate posteriorly, anterolateral angles prominent; posterolateral margins rounded, tapering posteriorly. Surface of pronotum with punctures dense, umbilicate and slightly smaller and sparser than those on head, interspaces between punctures smooth and glossy. Median longitudinal area of pronotum narrow where smooth and glabrous.

Elytra (Fig. 1A) sub-parallel laterally, wider than long (average EL/EW = 0.85), suture more than half of elytra (ESL/EL = 0.65). Surface with dense non-umbilicate punctures; interspaces between punctures rough with micro-sculptures and without boundaries. Humeral angles underdeveloped; hind wings present but reduced, without flight capability.

Abdomen elongate, widest at segment VII where wider than forebody. Tergites III–VI with punctures fine, dense, non-umbilicate, arranged approximately in scaly pattern, tergites VII–VIII with normal punctures. All interspaces between punctures smooth and definite. Tergite III with distinct palisade fringe on posterior margin, tergites IV–VIII without palisade fringe (Fig. 1A), tergite VIII with both sides parallel and posterior margin truncate (Fig. 1E).

Male. Sternites III–VII with punctures similar to tergites.

Sternite VIII (Fig. 1B) with broad median notch of posterior margin, inverted V-shaped, broaden posteriorly on both sides. Tergite IX (Fig. 1C) tapering gradually from anterior to posterior; apex truncate, both sides with small protrusions. Sternite IX (Fig. 1D) irregular, widest at middle, narrowing to anterior and posterior parts respectively; base truncate and apex with small notch.

Aedeagus robust (Fig. 1I–K), AEL: 1.475mm; AEW: 0.581. Median lobe seed-shaped, with basal stalk robust, moderately sclerotized. Parameres reduced. Dorsal and ventral plates fused at basal 3/4, separated at approximately apical 1/4. Ventral plate trapezoid and narrowed posteriorly, narrower than median lobe. In ventral view, ventral plate with apex emarginate, margins strongly sclerotized and distinctly thickened and median portion thinner, and apex sub-equal in length to that of median lobe. In lateral view, apex of ventral plate slightly hook-shaped and acute with acute tip (Fig. 1J).

Female. Tergite VIII with apex truncate and sternite with apex round without modification.

Distribution. The species was collected in Baibung Town, Mêdog County, Xizang Autonomous Region, Southwest of China, at altitude of 799 m and Mingfeng Valley, Jianfengling, Ledong County, Hainan Province, at altitude of 982 m.

Etymology. The specific epithet of this species is intended to acknowledge Dr Meiyang Lin, who has collected multiple valuable specimens of the genus *Pinopellis*, providing crucial material support for relevant research.

Diagnosis and notes. Morphologically, *P. linmeiyangae* sp. nov. is very similar to the other four congeneric species with the figures, whereas it is easy to identify this new species by the peculiar character of pronotum, the mid-longitudinal area of pronotum has a smooth and impunctate line from the base to the apex. In contrast, this character is very short in other congeneric species, and is mostly present only at the midline of the pronotum near the posterior margin.

In terms of distribution, species *P. linmeiyangae* sp. nov. and *P. nigripes* share highly overlapping collected localities, Hainan Province and Xizang (Mêdog County) where are far apart from each other. As it is known that *P. nigripes* is relatively widespread species, we speculate that both species may also have a similar speciation and dispersal patterns, that is, this new species may be distributed in Fujian or Guangdong as well. On the one hand, there should be some uncollected distribution localities of this species; on the other hand, due to its relatively bulky body and limited flying ability resulting from underdeveloped hindwings, we tentatively infer that this species is likely a relatively ancient species of the genus *Pinopellis*.

Pinopellis nigripes (Cameron, 1914)

(Fig. 2)

Cameron 1914: 536 (*Pinophilus nigripes*); Assing 2022: 337 (comb. nov.).

Material examined. **China:** **Fujian:** 5 ♂♂, Xinlan, Liangye mountain, Wuping County (福建武夷梁野山新兰), shrub (beating branches), 363 m, 10.XI.2008, leg. Gan-Yan Yang; **Hainan:** 1 ♂, 1 ♀, Ancient Plank Road, Wuzhishan Nature Reserve (五指山保护区古栈道), 638 m, N18.86657°, E109.68285°, 30.XI.2009, leg. Mei-Ying Lin; 1 ♂, Ancient Plank Road, Wuzhishan Nature Reserve (五指山保护区古栈道), 684 m, N18.86313°, E109.69411°, 29.XI.2009, leg. Mei-Ying Lin; **Guangdong:** 1 ♂, Xianren Cave, Chebaling (roadside, beating branches, 车八岭仙人洞), 500 m, 23.VII.2008, leg. Zhuo Yang; **Xizang:** 1 ♂, Baibung Town, Mêdog County (墨脱县背崩乡), 799 m, 21D.VIII.2015 (Note: D means date format *daylight*), leg. Mei-Ying Lin (all deposited in IZCAS).

Distribution. The species is a widespread species from East Nepal to Sunda Islands of Indonesia (Li *et al.* 2019; Assing 2022), in this paper we supplied several collection localities-new provincial records of China, Fujian, Guangdong, Hainan and Xizang. Compared with other species of the brachypterous paederine group, distribution range of this species is quite extensive. This also indirectly suggests that this group represents an ancient rove beetle taxon, which initiated speciation and dispersal at an early evolutionary stage (Jenkins Shaw *et al.* 2020).

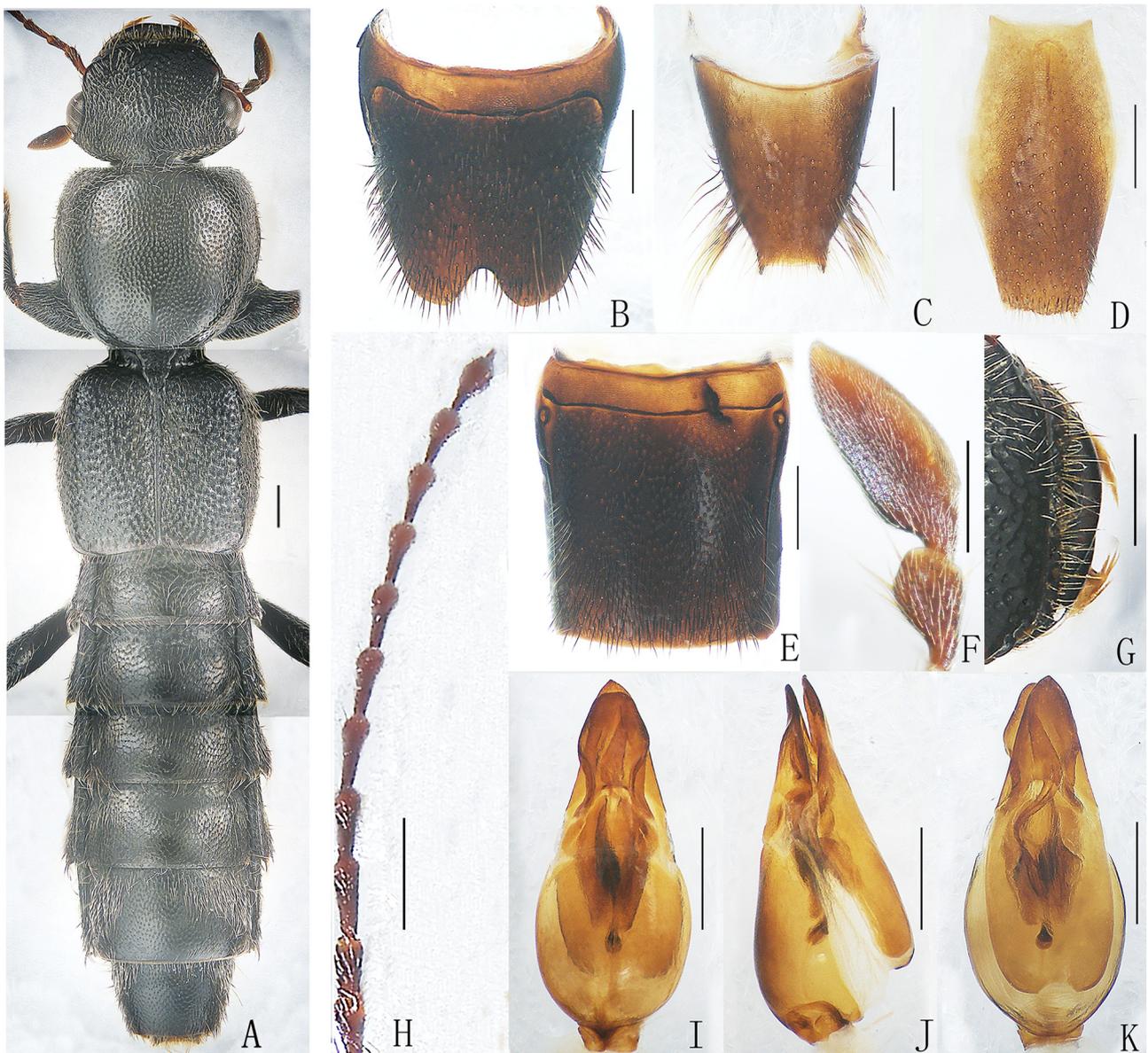


FIGURE 2. *Pinopellis nigripes* (Cameron, 1914). **A.** Habitus, male. **B.** Sternite VIII, male. **C.** Tergite IX, male. **D.** Sternite IX, male. **E.** Tergite VIII, male. **F.** Maxillary palpus. **G.** Labrum. **H.** Antenna. **I.** Aedeagus, dorsal view. **J.** Aedeagus, lateral view. **K.** Aedeagus, ventral view. Scale bars: 0.5 mm.

Key to Chinese species

- 1 Cross-section of pronotum less convex. Antennomeres III–XI not strongly constricted basally and elongate and antennomere V about twice as long as broad (Fig. 1H). Apex of abdomen brownish red 2
 – Cross-section of pronotum more strongly convex. Antennomeres III–XI strongly constricted basally and elongate with antennomere V about three times as long as broad (Fig. 2H). Apex of abdomen black *P. nigripes* (Cameron)
- 2 Pronotum with a long, smooth and impunctate area along the mid-longitudinal line from the base to about the apex (Fig. 1A) *P. linmeiyngae* sp. nov.
 – Pronotum with a short, smooth and impunctate area along the mid-longitudinal line only on the base (Fig. 2A) 3
- 3 On the anterior half of the pronotum, punctures rather denser with intervals confluent or even sulcate (Assing 2022: 342: fig. 1133). Ventral plate of aedeagus narrow and acute (Assing 2022: 345: fig. 1197–1198) *P. clavulata* Assing
 – On the anterior half of the pronotum, punctures slightly sparser and definite with distinct boundaries (Assing 2022: 342: fig. 1130). Ventral plate of aedeagus trapezoidal with apex concaved (Assing 2022: 345: fig. 1191–1193)
 *P. yunnanica* Assing

List of Chinese species

Pinopellis clavulata Assing, 2022

Distribution. China (Jiangxi, Guizhou).

Pinopellis nigripes (Cameron, 1914)

Distribution. China (Xizang, Yunnan, Guangdong, Fujian, Hainan); Nepal; India; Thailand; Laos; Vietnam; Peninsular Malaysia; Indonesia (Sumatra, Lombok, Sumba).

Pinopellis yunnanica Assing, 2022

Distribution. China (Yunnan).

Pinopellis linmeiyingae sp. nov.

Distribution. China (Xizang, Hainan).

Acknowledgements

We express our gratitude to Dr. Hong-Zhang Zhou (周红章), Dr. Hong-Bin Liang (梁红斌), Dr. Jun Chen (陈军) and Dr. Kui-Yan Zhang (张魁艳) (all IZCAS) for lending the valuable specimens described in this study. Thanks also go to Dr. Alexey Solodovnikov (Natural History Museum Denmark, Copenhagen), Dr. Adam Brunke (Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa) for their assistance and support in searching for literature. We would like to thank Dr. Zhong Peng (Shanghai Normal University, Shanghai), Dr. Jiří Janák (Czech Republic), Dr. Sinan Anlaş (Manisa Celal Bayar University, Alaşehir, Türkiye), and an anonymous reviewer for their constructive comments on the manuscript. This work was supported by the “333” Talent Project of Hebei Province (grant no. C20231125), and Second Tibetan Plateau Scientific Expedition and Research Program (STEP, grant no. 2024QZKK0200).

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西藏墨脱针毛隐翅虫属 *Pinopellis* 一新种及一新纪录种 (鞘翅目: 隐翅虫科: 毒隐翅虫亚科)

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摘要: 报道西藏墨脱针毛隐翅虫属 *Pinopellis* 两种, 含一新种, 即美英针毛隐翅虫 *P. linmeiyingae* sp. nov. 和黑足针毛隐翅虫 *P. nigripes*; 提供了两种的整体形态、触角、上颚须、口器前端、生殖节片及阳茎三视图; 汇总并更新了中国针毛隐翅虫属物种分布和种检索表。

关键词: 分类; 毒隐翅虫亚科; 新分类单元; 针毛隐翅虫属; 墨脱