

Records of Perileptines (Coleoptera, Trechinae) from Xishuangbanna in Southern China¹⁾

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Abstract Three species of perileptine trechid beetles are recorded from the banks of the Mekong River in Xishuangbanna of Yunnan, southern China. All are newly added to the fauna of China. Two of them, *Perileptus pusillus* JEANNEL and *Neoblemus bedoci* JEANNEL, are rather widely distributed in Southeast Asia, while the remaining one, named *Perileptus grandicollis*, is a new species related to *P. robustus*.

The perileptines form a small group of primitive trechid beetles widely distributed in the Old World tropics. They are particularly abundant in South Asia, though their classification has not been satisfactorily made until now because of difficulty in delimiting diagnostic features of respective species. Many of them are closely similar to one another in external morphology, and their genitalia are so poorly sclerotized as to be useless for classification. They are little known from China, but existence of a rich perileptine fauna in this large country is suggested by the first author's careful collectings made in the Kowloon Peninsula opposite to Hongkong.

In the autumn of 1992, a Sino-Japanese joint party of entomologists made an investigation of the soil fauna in and near the Xishuangbanna Tropical Botanical Garden of Academia Sinica lying near the Burmese borders of Yunnan, southern China. Collections were mainly carried out in the tropical rain forests, but were also made along the banks of the Luosuo-jiang River, a tributary of the Mekong, surrounding the northwestern part of the botanical garden called Huludao (101°25'E, 21°41'N).

As is usual with large rivers in tropical Asia, the Luosuo-jiang has muddy banks not suitable for looking for perileptines. There are, however, several places where water edges are formed by gravelly banks thinly coated with slime. It was at those

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spots that harboured perileptines. They were found in narrow galleries dug into the slime beneath fist-sized stones.

After a careful study, it has become apparent that our collection contains three different species, of which two are identical with the species originally described from northern Vietnam and the other seems to be new to science. In any case, none of them have previously been recorded from China, though one of the three, *Perileptus pusillus*, also occurs in the Kowloon Peninsula. JEANNEL (1923, pp. 397, 406; 1926, pp. 408, 426, figs. 202–204) described *P. denticollis* from an unspecified locality in Yun-Nan. Judging from its facies and other details observed by a direct re-examination of the type series, this species seems to live along clearer streams and not to occur near the botanical garden.

The abbreviations used in this paper are the same as those explained in previous papers of UÉNO's. The specimens examined are deposited in the collections of the Shanghai Institute of Entomology, Academia Sinica, and the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

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Perileptus (s. str.) *pusillus* JEANNEL, 1923

Perileptus pusillus JEANNEL, 1923, Ann. Mag. nat. Hist., (9), 12, pp. 397, 402, fig. 4; type locality: Hoa Binh (northern Vietnam).

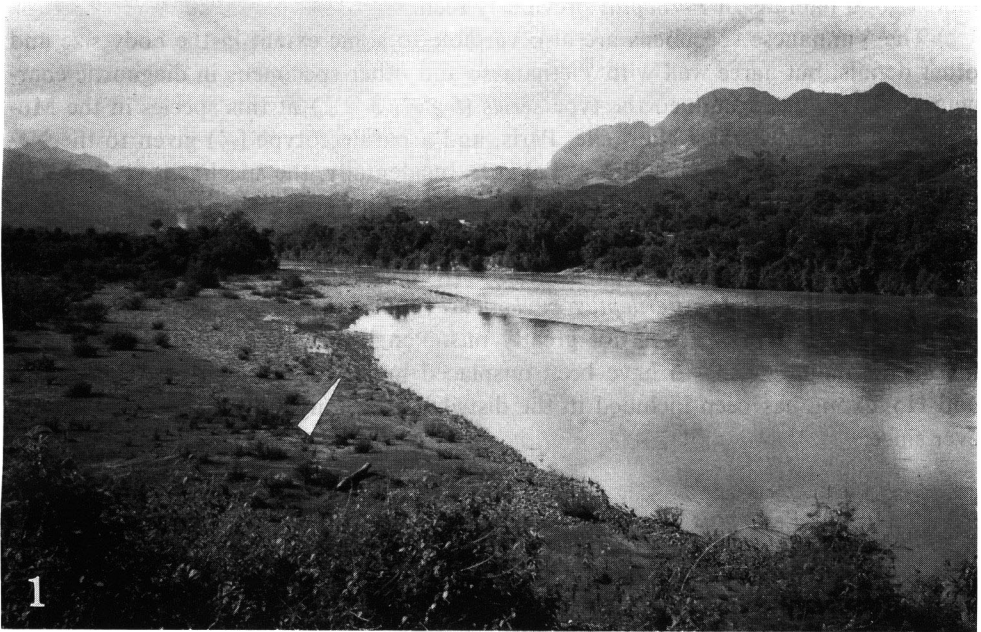
Perileptus (s. str.) *pusillus*: JEANNEL, 1926, Abeille, Paris, 32, pp. 407, 417, figs. 198–199. — CSIKI, 1928, Coleopt. Cat., (98), p. 230. — CASALE & LANEYRIE, 1982, Mém. Biospéol., Moulis, 9, p. 56.

Yunnanese specimens examined. 1 ♂, 1 ♀, Luosuo-jiang River, Menglun, 560 m alt., Mengla Xian, Xishuangbanna, Yunnan, S China, 30-X-1992, S. UÉNO & Y. WATANABE leg.; 5 ♂♂, 5 ♀♀, same locality, 31-X-1992, S. UÉNO leg.; 1 ♂, same locality, 2-XI-1992, S. UÉNO leg.; 1 ♀, Lancang-jiang River, Jinghong Shi, 590 m alt., Xishuangbanna, Yunnan, S China, 4-XI-1992, S. UÉNO leg.

Notes. Though hitherto recorded only from the type locality (Hoa Binh in northern Vietnam), this small species is widely distributed in the plains and foothills of Southeast Asia, and is somewhat variable in the convexity of genae and the shape of pronotum. In Mainland China, it was collected by UÉNO at Tai-mong-tsai on the Kowloon Peninsula on April 22, 1965, where it occurred on the gravelly banks of a narrow clear stream. He revisited the place some twelve years later, and found that the stream had been badly polluted due to increasing population and had not main-

Figs. 1–2. — 1. Gravelly bank on the left side of the Luosuo-jiang River by Menglun in Xishuangbanna, southern China. — 2. Close-up of the central part of the bank (indicated by an arrow in Fig. 1) consisting of very coarse gravel coated with slime, showing the habitat of perileptines and other carabid beetles.

(Photo S.-I. UÉNO)



tained good habitats of *Perileptus* previously seen.

The Yunnanese specimens are also variable to some extent in the body size and other details, but agree well with Vietnamese and other specimens in diagnostic characters. UÉNO has examined the type series (5 ♂♂, 3 ♀♀) of this species in the Muséum National d'Histoire Naturelle, Paris, and a paralectotype (♂) given to the National Science Museum (Nat. Hist.), Tokyo. Incidentally, the specimens (1 ♂, 2 ♀♀) recorded by JEANNEL (1923, p. 397; 1926, p. 415) from Hong Kong under the name of *P. japonicus* really belong to this species. They are preserved in the Natural History Museum, London, and bear labels inscribed "*Perileptus ceylanicus* NIETN." in JEANNEL's handwriting. *Perileptus ceylanicus* (NIETNER) is a close relative of *P. pusillus*, so that JEANNEL was not greatly mistaken in his identification. Somehow his memorandum seems to have been misplaced under the heading of *P. japonicus*, and Hongkong has been included in the distributional range of this northern species ever since.

***Perileptus* (s. str.) *grandicollis* S. UÉNO et YIN, sp. nov.**

(Fig. 3)

Length: 2.65–2.90 mm (from apical margin of clypeus to apices of elytra).

Related to *P. robustus* JEANNEL (1923, pp. 397, 398, fig. 1; 1926, pp. 407, 415, fig. 190) from Kumaun in northern India, but distinguished from the Himalayan species by darker coloration, obviously larger prothorax, larger eyes, shorter antennae, more coarsely punctate elytral striae, and so on.

Colour brown, shiny, somewhat reddish on head and prothorax, and darker on elytra and particularly infuscated at their lateral and apical parts; abdominal sternites almost blackish except for anal marginal area; antennae dark brown except for scape; palpi and legs dark yellowish brown, always lighter than dorsum.

Head large and transverse, with deep frontal furrows moderately arcuate in front and behind; frons and supraorbital areas gently convex; eyes large and protruding; genae short, rather transverse and hardly convex, less than one-fifth as long as eyes; a central tubercle present on clypeus but not on labrum; antennae short, reaching basal third of elytra in ♂, only reaching basal fourth of elytra in ♀, AL/EL 1.04 in the holotype ♂, 0.89 in the allotype ♀, with median segments each about 2.5 times as long as wide.

Pronotum unusually large and ample, ob-subtrapezoidal, evidently wider than head, wider than long, widest at about five-sevenths from base, and more gradually narrowed towards base than towards apex; PW/HW 1.14 in the holotype (H), 1.16 in the allotype (A), PW/PL 1.24 in H, 1.31 in A, PW/PA 1.41 in H, 1.39 in A, PW/PB 1.50 in H, 1.48 in A; sides narrowly bordered, the borders widening posteriorly, gently arcuate before middle, much less so behind, and briefly but distinctly sinuate at about one-sixth from base, which is briefly pedunculate and bordered, distinctly arcuate at the pedunculate part but almost perpendicular to the mid-line at the lateral parts;

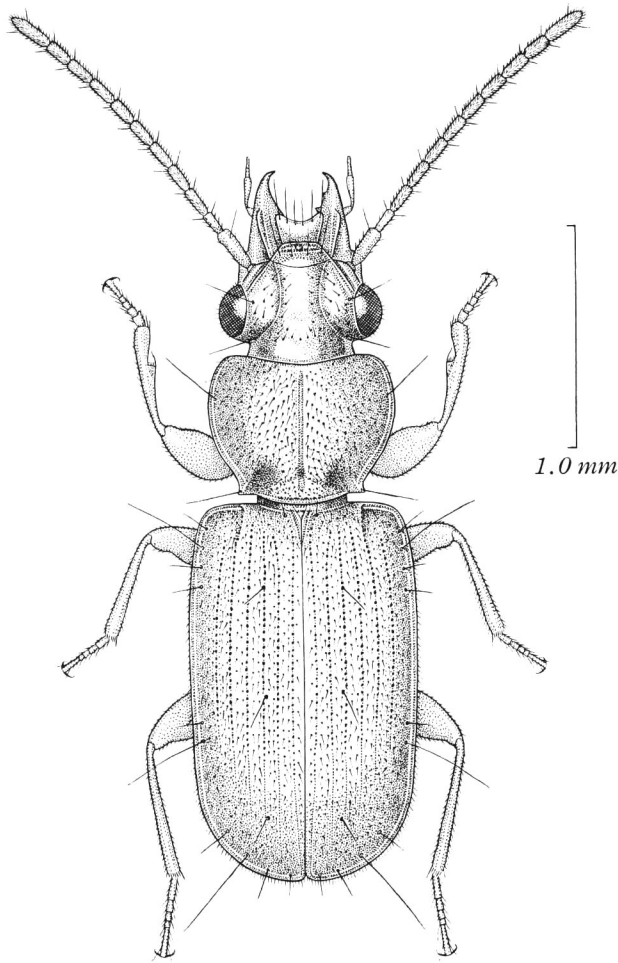


Fig. 3. *Perileptus* (s. str.) *grandicollis* S. UÉNO et YIN, sp. nov., ♀, from the Luosuo-jiang River by Menglun in Xishuangbanna.

apex slightly emarginate at middle, wider than base, PA/PB 1.07 in both the holo- and allotypes, with front angles rounded off; hind angles small, nearly rectangular though slightly produced laterad, each with a very brief and obtuse postangular carina; surface moderately convex at the sides but rather widely though lightly depressed on the disc, rather densely covered with piliferous punctures; median line fairly wide and sharply cut, reaching neither apex nor base; basal transverse impression mal-defined, basal foveae not particularly large but deep; basal area rugose.

Elytra relatively short and broad, nearly parallel-sided though widest at about middle; EW/PW 1.21 in H, 1.23 in A, EL/EW 1.60 in H, 1.62 in A; shoulders square, with transverse bases; sides narrowly bordered and very slightly arcuate for the most

part; apices almost conjointly rounded though forming a small re-entrant angle at suture; surface flat on the disc except for slightly raised sutural interval, with very gentle apical declivity; striae fairly deep and coarsely punctate, only stria 1 entire, 2–4 and 6 disappearing in both basal and apical areas, 5 deeply impressed at the basal portion and continuing to marginal gutter, 7 nearly obsolete, only indicated by several slight punctures, 8 effaced; intervals slightly convex on the disc and somewhat sparsely covered with rather long pubescence; stria 3 with three setiferous dorsal pores at about $1/4$, $1/2$ and $4/5$ from base, respectively.

Microsculpture wholly vanished on head and mostly obsolete on pronotum, but sharply impressed on elytra as polygonal, nearly isodiametric meshes.

Legs fairly stout, of ordinary conformation.

Type series. Holotype: ♂, allotype: ♀, 31-X-1992, S. UÉNO leg.

Type locality. Luosuo-jiang River, by Menglun, 560 m in altitude, in Mengla Xian of Xishuangbanna, Yunnan, southern China.

Notes. As was mentioned in the introduction of this paper, the type specimens of the present species were found on the gravelly banks of the Luosuo-jiang, in coexistence with *P. pusillus*. They dwelt in narrow burrows under stones lying near the water edge.

It is doubtless that *P. grandicollis* is closely allied to *P. robustus* JEANNEL from the western Himalayas, though the two species can be discriminated at the first glance. UÉNO has examined four (3 ♂♂, 1 ♀) of the five specimens of the type series of *P. robustus*, and found several errors made by its original author. Most incredible is the size, which is said to have measured 3.5 mm. Based on this, JEANNEL repeatedly stated that “cette espèce est la plus grande du genre.” In reality, none of the type specimens are so large, and the holotype measures only 2.95 mm in length even including mandibles. This error was already noticed by ANDREWES (1935, pp. 49, 51), who recorded 2.8–2.9 mm as the length of the types. UÉNO's measurement of the same specimens gave a value of 2.60–3.00 mm from the apical margin of clypeus to the apices of elytra. On the other hand, ANDREWES (loc. cit.) is wrong in stating that “none [of the microsculpture exist] on the head and prothorax.” In *P. grandicollis*, the microsculpture disappears completely from the head, but in *P. robustus*, it is apparent on the head and degenerated only on the pronotum.

For facilitating future studies, standard ratios of body parts taken from the type series of *Perileptus robustus* will be given below: PW/HW 1.08–1.09 (M 1.08), PW/PL 1.28–1.32 (M 1.30), PW/PA 1.34–1.37 (M 1.35), PW/PB 1.44–1.47 (M 1.45), PA/PB 1.05–1.10 (M 1.07), EW/PW 1.33–1.35 (M 1.34), EL/EW 1.61–1.64 (M 1.63).

Neoblemus bedoci JEANNEL, 1923

Neoblemus bedoci JEANNEL, 1923, Ann. Mag. nat. Hist., (9), 12, pp. 410, 412, fig. 8; type locality:

Hoa-Binh (northern Vietnam). — CASALE & LANEYRIE, 1982, Mém. Biospéol., Moulis, 9, p. 55.

Neoblemus Bedoci: JEANNEL, 1926, Abeille, Paris, 32, pp. 434, 436, figs. 217–221. — CSIKI, 1928, Coleopt. Cat., (98), p. 231.

Yunnanese specimen examined. 1 ♀, Luosuo-jiang River, Menglun, 560 m alt., Mengla Xian, Xishuangbanna, Yunnan, S China, 31-X-1992, S. UENO leg.

Notes. This species has hitherto been recorded only from the type locality, though it was collected at several places in northern Thailand (UENO, unpublished data). UENO has seen eight specimens (2 ♂♂, 6 ♀♀) of the type series and some topotypical specimens of this species. They are little variable, and the Yunnanese specimen also agrees well with them.

References

- ANDREWES, H. E., 1935. Coleoptera. Carabidae. II.—Harpalinae—I. *Fauna of British India, including Ceylon and Burma*. xvi+323 pp., 5 pls., 1 folder. Taylor & Francis, London.
- CASALE, A., & R. LANEYRIE, 1982. Trechodinae et Trechinae du monde. Tableau des sous-familles, tribus, séries phylétiques, genres, et catalogue général des espèces. *Mém. Biospéol., Moulis*, **9**: i+1–226.
- CSIKI, E., 1928. Carabidae: Mormolycinae, Harpalinae II. In JUNK, W., & S. SCHENKLING (eds.), *Coleopterorum Catalogus*, pars 98 (pp. 227–345). W. Junk, Berlin.
- JEANNEL, R., 1923. Les Trechinae [Coleoptera, Carabidae] de la Région Orientale. *Ann. Mag. nat. Hist.*, (9), **12**: 393–435.
- 1926. Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de Coléoptères. (Première livraison). *Abeille, Paris*, **32**: 221–550.

