

The Trogid Genus *Xizangia* ZHANG, 1988, a Junior Synonym of the Lucanid Genus *Penichrolucanus* DEYROLLE, 1863

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Abstract The trogid genus *Xizangia* ZHANG, 1988, is considered as a junior synonym of the lucanid genus *Penichrolucanus* DEYROLLE, 1863. Its type species, *X. cryptonychus* ZHANG, 1988, is regarded as a valid species of the genus *Penichrolucanus* because this species is distinct from the other members of *Penichrolucanus* in several external characters.

The trogid genus *Xizangia* was newly erected by ZHANG (1988) on the basis of the Tibetan species, *X. cryptonychus* ZHANG, which was also newly described in the same paper. After a close scrutiny of the original description and examination of the illustration of the genus *Xizangia* and its type species, we concluded that this genus was considered to be a junior synonym of the lucanid genus *Penichrolucanus* DEYROLLE, 1863, as mentioned below. Three species of the genus *Penichrolucanus* were examined for comparison (see *Specimens Examined for Comparison* for details).

According to ZHANG (1988), the genus *Xizangia* is assigned to the family Trogidae by having the abdomen with five visible sterna, antenna with ten segments and mesepisternum not connected with the mesocoxa. However, all of these character states are also shared by some members of the other lamellicorn families (Ceratoanthidae, Passalidae and Lucanidae). Thus, the genus *Xizangia* cannot necessarily be assigned to the family Trogidae solely on the basis of these character states.

ZHANG (1988) mentioned that the most important diagnostic character of the genus *Xizangia* was the “heteromerous tarsal formula”. This character state means that the tarsi of middle and hind legs are partly fused. However, this also has been considered as being diagnostic of the lucanid genus *Penichrolucanus* (DEYROLLE, 1863; ARROW, 1935, 1938, 1950; RATCLIEFE, 1984; BARTOLOZZI, 1989). In addition, other generic characters of the genus *Penichrolucanus* were present in the description of *Xizangia* as follows: body oblong, flat and small in size; head large and broad (fan-

shaped); clypeus and canthus well developed; eyes surrounded with sclerites (canthus) and divided into upper and lower portions; prothorax broad and flat; scutellum obvious; legs short and stout; meso- and metatibiae each with two minute lateral spines on the edge; tarsi short and thick, interarticle unmovable. Besides, the illustration accompanying the description (ZHANG, 1988, p. 234, figs. 2–5) clearly shows that the claws of *Xizangia cryptonychus* are hidden between the lateral plates of the last tarsal segments. This state also perfectly agrees with that of *Penichrolucanus*. Moreover, the general appearance of *X. cryptonychus* in the illustration (ZHANG, 1988, p. 234, fig. 1) closely resemble those of the members of the genus *Penichrolucanus*. Accordingly, it is concluded that the genus *Xizangia* is a junior synonym of the genus *Penichrolucanus* of the family Lucanidae, although the former genus was originally erected as a member of the family Trogidae. ZHANG (1988) mentioned some similarities in the external morphology between the genus *Xizangia* and the Neotropical trogid genus *Cryptogenius* WESTWOOD, 1846. However, according to the original description of the genus *Cryptogenius*, this genus does not share the above mentioned characters with *Xizangia* except for the depressed body shape.

Until now, five species of the genus *Penichrolucanus* have been known; *P. copricephalus* DEYROLLE 1863, from the Malay Peninsula, *P. elongatus* ARROW 1935, also from the Malay Peninsula, *P. nicobaricus* ARROW, 1935, from the Nicobar and Andaman Islands, *P. sumatrensis* ARROW, 1935, from Sumatra Island, and *P. leverii* ARROW, 1938, from Guadalcanal Island of the Solomon Group. All the known members are small in size (less than 10 mm in length) with peculiar characters, and they are considered termitophilous or myrmecophilous (RATCLIEFE, 1984; BARTOLOZZI, 1989).

ZHANG's *cryptonychus* appears to be distinct from any other members of *Penichrolucanus* in the following characters: numbers of tarsal segments in the middle and hind legs (3–3); mandibles hidden by the large fan-shaped head in dorsal view (judging from the illustrations, not mentioned in the original description). Moreover, the locality of this species is far distant from the range of the other known members of this genus, four of which have been recorded from tropical Asia and one from the Solomon Islands in the western Pacific. Thus, *cryptonychus* should be regarded as a valid species of the genus *Penichrolucanus*, tentatively.

Further detailed re-examination of the type specimens is required to elucidate the phylogenetic relationship of this species to the other members of *Penichrolucanus*. It is expected that other interesting members of this aberrant lucanid genus may be newly discovered from blank areas between the Sunda Islands and Tibet or the Sunda Islands and Solomon Islands where no species of this genus have been recorded.

Genus *Penichrolucanus* DEYROLLE, 1863

Type species: *Penichrolucanus copricephalus* DEYROLLE, 1863.

Penichrolucanus DEYROLLE, 1863, Annls. Soc. ent. Fr. (4), 3, p. 485. — PARRY, 1864, Trans. ent.

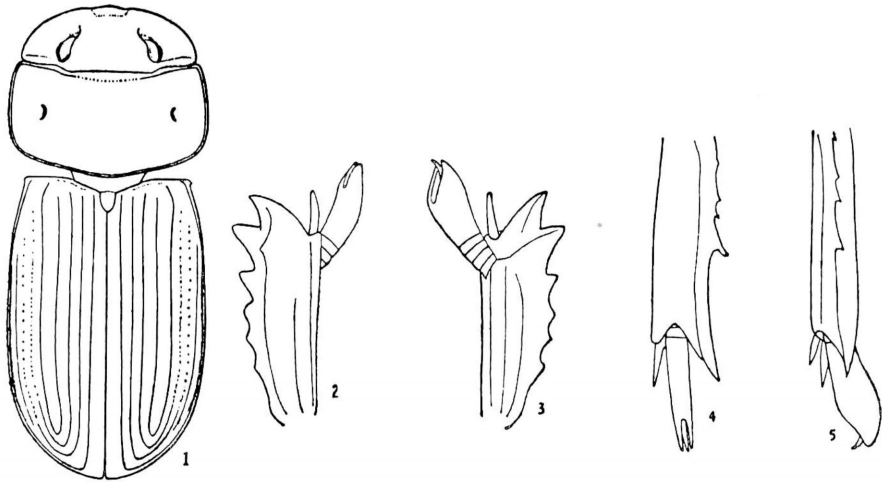


Fig. 1. *Penichrolucanus cryptonychus* (ZHANG), comb. nov.; 1, habitus; 2, left protibia and protarsus, dorsal view; 3, ditto, ventral view; 4, left metatibia and metatarsus, dorsal view; 5, ditto, lateral view. (After ZHANG, 1988.)

Soc. Lond., (3), 2, pp. 64, 99. — VAN ROON, 1910, Coleopt. Cat., (8), p. 51. — ARROW, 1935, Trans. r. ent. Soc. Lond., 83, p. 122. — ARROW, 1938, Ann. Mag. nat. Hist., (11), 2, p. 62. — ARROW, 1950, Fauna India, Lamell. 4, p. 233. — DIDIER & SÉGUY, 1953, Encycl. ent., (A), 27, p. 185. — BENESH, 1960, Coleopt. Cat., (8), p. 22. — HOLLOWAY, 1960, Rec. Dom. Mus., 3, p. 324. — VULCANO & PEREIRA, 1961, Stud. ent., 4 (1-4), p. 472. — BACCHUS, 1978, Bull. Br. Mus. (Nat. Hist.), Ent., 37, p. 109. — RATCLIFE, 1984, Quaest. ent., 20, p. 62. — KIKUTA, 1986, Pap. ent. pres. NAKANE, p. 133. — OCHI, 1987, Gekkan-Mushi, Tokyo, (197), p. 14. — BARTOLOZZI, 1989, Trop. Zool., 2, p. 38.

Xizangia ZHANG, 1988, Insects of Mt. Namjagbarwa Region of Xizang, p. 233; type species: *Xizangia cryptonychus* ZHANG, 1988. *Syn. nov.*

***Penichrolucanus cryptonychus* (ZHANG, 1988), comb. nov.**

Xizangia cryptonychus ZHANG, 1988, Insects of Mt. Namjagbarwa Region of Xizang, p. 234, figs. 1-5.

Type locality. Medog (1,000–1,200 m in altitude), Xizang (=Tibet), China.

Distribution. Xizang (=Tibet).

Notes. BARTOLOZZI (1989) divided the members of the genus *Penichrolucanus* into the following two groups based on the difference in number of antennal segments; “the *elongatus* group”, with ten antennal segments, consisting of *P. elongatus* and *P. leveri*; “the *copricephalus* group”, with eight segments, consisting of *P. copricephalus*, *P. nicobaricus* and *P. sumatrensis*. According to his grouping, *P. cryptonychus*, with ten antennal segments, is classified into the *elongatus* group. Among them, *P. cryptonychus* is similar to *P. leveri* which is regarded by RATCLIFE (1984) as retaining

the most ancestral character states within the genus *Penichrolucanus* in some external characters such as red-brown colour, elongate and punctured elytra, and meso- and matatibiae with some teeth on the outer margin.

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Specimens Examined for Comparison

Abbreviations used: BMNH, the collection of British Museum (Natural History), London; TOC, the personal collection of T. OCHI.

P. copricephalus: 1 ex., Templer Park, Kuala Lumpur, Malaysia, 4-V-1987, N. NISHIKAWA leg. (TOC).

P. elongatus: 1 ♂, Malaysia, Selangor, Gombak Valley, Kuala Lumpur, H. M. PENDLEBURY leg. (holotype, BMNH); 1 ♂, 19 miles, Cameron Highlands, Malay Peninsula, 18-V-1981, T. HATAYAMA leg. (TOC).

P. sumatrensis: 1 ex., near Bukittinggi, Central Sumatra, 10-III-1991, E. MARLSI leg. (TOC); 1 ex., ditto, 20-XII-1991, E. MARLSI leg. (TOC).

要 約

荒谷邦雄・越智輝雄・常喜 豊: クワガタムシ科・ツメカクシクワガタ属 (*Penichrolucanus* DEYROLLE, 1863) の下位同物異名, コブスジコガネ科・チベットコブスジコガネ属 (*Xizangia* ZHANG, 1988). — 章 有为によりコブスジコガネ科の新属として創設されたチベットコブスジコガネ属 (藏皮金龟属, *Xizangia* ZHANG, 1988) について, 原記載およびその挿図を詳細に検討した結果, 以下のような点が明らかになった. まず, 本属がコブスジコガネ科に所属する根拠とされている腹板が見かけ上 5 節, 触角は 10 節からなり片状節は 3 節, 中胸前側板が中肢基節に接触しないという特徴は, いずれもコガネムシ上科に属するほかの科 (マンマルコガネ科, クロツヤムシ科, クワガタムシ科) にも見られ, かならずしも本属の所属の決め手とはならない. さらに, 付節式が異節, 体と脚部が非常に扁平, 関節部が融合した付節が爪を覆い隠すように張り出す, 発達した眼縁突起と頭盾によって頭部が扇形に見えるなどの特異な外部形態は, いずれもクワガタムシ科のツメカクシクワガタ属 (*Penichrolucanus* DEYROLLE, 1863) の特徴そのものである. これらの結果から, チベットコブスジコガネ属はツメカクシクワガタ属の下位同物異名であると結論した. 前者の基準種であるツメカクシチベットコブスジコガネ (隠爪藏皮金龟, *X. cryptonychus* ZHANG, 1988) については, 中肢および後肢の付節数がともに 3 節, 頭盾に隠れて背面からは大顎が見えないと挿図から判断されることなど

の特徴と、既知種との地理的な隔離を考慮し、ツメカクシクワガタ属の有効な種であると認め分類学的変更を行った。

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