

Propalticidae

(Coleoptera: Phytophaga: Cucujoidea)

A new family for Hong Kong and China

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INTRODUCTION

The most recent overview of the superfamily Cucujoidea, within which Propalticidae belongs, is given by Leschen et al. (2005), who provided evidence for the monophyly of Propalticidae and Laemophloeidae. Von John (1960) gave the most current overview of the Propalticidae and currently Matthew Gimmel of Louisiana State University is working on a world catalogue of the family (Gimmel, M., pers. comm.).

There are two genera in this small family: *Propalticus*, including 26 species, distributed in the southern part of the Palaearctic region, Pacific Islands and Australia; and *Discogenia*, including 13 species, distributed in Africa. Beetles in this family are seldom encountered. Surprisingly, the larvae of Propalticidae have not been formally described. According to Leschen et al. (2005), a larval specimen previously attributed to Propalticidae was a misidentification.

The sister family of Propalticidae, the Laemophloeidae, is a medium-sized family with many species common locally. Beetles in this family bear little resemblance to propalticids, which superficially look more like the Nitidulidae (another more distal member of the Cucujoidea) in general outlook, though the antennal structure is quite different.

OBSERVATIONS

From 28 October 2008 to November 2009 many specimens of a species of *Propalticus* Sharp, 1879, were seen by the author at Wang Tong Village, Mui Wo, Lantau Island, Hong Kong. Ten specimens were taken (Figure 1). They were recorded every month except April to June and may have been associated with a stack of logs, oozing significant amounts of sap from a recently felled pine tree. These beetles were quite distinctive, the three terminal joints of the antennae forming a very loosely articulated and slender club (Figure 2). The pronotum has three lines of pale yellowish, short and thick scales running along the lateral edge, the two inner ones not reaching the basal margin. The whole of the dorsal surface of the pronotum and elytra are randomly covered by similar scales. The specimens varied in length from 1.2 to 1.7mm (Figure 3). They were identified as *Propalticus* primarily from Von John (1960) following extensive literature review.



Figure 1. *Propalticus* sp. probably *P. mixtocomatus*

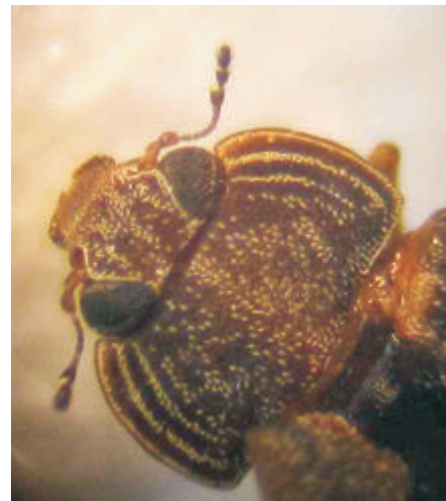


Figure 2. Head and pronotum



Figure 3. Three specimens showing the size variation

COMMENT

A remarkable characteristic of these beetles is the surprising speed and distance they can jump, yet the underside gives no clue as to how they do it: none of the legs are significantly thickened as in the Alticinae or the jumping species of Scirtidae, and there is no sternal process as in Elateridae. Sharp (1879) noted "The hind legs are not dilated, and I believe the saltatorial power must arise from the front legs, the anterior tibiae of which are rather longer than the others, a little thickened towards the extremity and armed with a peculiar stout spur". The Hong Kong specimens I have collected all have the anterior legs longer than the posterior two.

Von John (1960) lists no species of Propalticidae for China; the nearest species he records to Hong Kong are three from Hoa Binh in Tonkin, Vietnam (which is roughly at the same latitude and 900km due west of Hong Kong). Two of these species he describes as new to science. These are *P. tonkinensis* John 1960 and *P. decoomani* John 1960, both of which are well illustrated and do not have any similarities with the Hong Kong specimens. The third species Von John lists from Hoa Binh is *P. mixtocomatus* (John, 1939) a very wide-ranging species, occurring from Sri Lanka, to Indonesia and Tonkin. The illustration of *mixtocomatus* given by Von John matches the Hong Kong species closely. The Hong Kong specimens are probably *P. mixtocomatus* (John, 1939), though they need to be compared to the type specimens for certainty.

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REFERENCES

- John, Von G., 1960. Eine Übersicht Über Die Familie Propalticidae. *Pacific Insects* 2 (2) : 149-170.
- Sharp, D., 1879. On some Coleoptera from the Hawaiian Islands. *Transactions of the Entomological Society of London* 1879 p. 77-105.
- Leschen, R., Lawrence, J., & Slipinski, S.A., 2005. Classification of basal Cucujoidea (Coleoptera: Polyphaga) with a cladistic analysis, descriptions of new genera and species. *Invertebrate Systematics* 19: 1-57.