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Three new genera of oriental Xyleborina (Coleoptera: Curculionidae: Scolytinae)

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Abstract

We describe three new genera (*Ambrosiophilus* **gen. n.**, *Beaverium* **gen. n.,** and *Diuncus* **gen. n.**) and diagnose 26 species of ambrosia-feeding scolytines, almost all from the Palaeotropical region. These taxa are ecologically interesting because of their intimate relationship with other xyleborine species. Recognition of these genera is an initial step towards a revision of the large polyphyletic genus, *Xyleborus.*

Key words: generic revision, classification, Palaeotropic region

Introduction

Xyleborina are the most species-rich and most abundant group of ambrosia beetles in tropical forests (Noriega *et al.*, 2007; Wood & Bright, 1992). In spite of that, their classification is one of the least advanced among all scolytine groups (Wood, 1986). Until Wood's (1986) reclassification, the majority of ~2500 xyleborine beetles belonged to a single genus, *Xyleborus*. Molecular methods (Jordal 2002) and morphological cladistic methods (Dole 2009; Hulcr *et al.*, 2007) have only recently provided greater resolution of intra-group relationships and helped create a more stable classification.

To this day, however, most of the diversity of Xyleborina is still contained in the large genus *Xyleborus* (approx 730 spp.) and monophyly of many genera designated by Wood (1986) remains uncertain. In this paper we contribute to the emerging new classification of Xyleborina by the description of three new genera from the Palaeotropic region.

Each of the new genera is defined by a series of synapomorphies or unique combinations of homoplastic characters. Furthermore, two of these new genera (*Ambrosiophilus* **gen. n.** and *Diuncus* **gen. n.**) are defined by an interesting ecological strategy, whereby the beetles are facultative to obligate associates of other ambrosia beetles, presumably in order to take advantage of the host beetle's symbiotic fungi (Hulcr 2009). The third genus (*Beaverium* **gen. n.**) is, on the other hand, a frequent host of these parasitic/commensal beetles. Detailed analysis of microbiological and evolutionary aspects of this interaction will be published elsewhere.

The proposed changes are based on an analysis of xyleborines recently collected by J.H. from New Guinea and Sabah (>44,000 individuals) and extensive loans from worldwide museum collections (approx 830 specimens, of which 263 were type specimens).

Morphological methodology and terminology, such as the formalized states of antennal club and pronotal shape (Figs. 1, 2, 3), are referenced in Hulcr *et al.* (2007), also available on-line at http://www.scolytid.msu.edu/PNG_xyleborina/index.html. Keys and additional images of species will be included in a monograph of New Guinea Xyleborina (Hulcr and Cognato, in prep.).

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