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Revision of *Asyteta* Pascoe, 1865, with comments on the phylogeny of the Indo-Australian crowned weevils (Coleoptera: Curculionidae: Cryptorhynchinae)

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Abstract

The Indo-Australian crowned weevil genus *Asyteta* Pascoe, 1865 is revised. Forty-one species are recognized, including 18 that are new: *A. alexandriae*, *A. alexriedeli*, *A. allisoni*, *A. biakana*, *A. cheesmanae*, *A. concolora*, *A. emarginata*, *A. fayae*, *A. frontalis*, *A. gressitti*, *A. julieae*, *A. marginalis*, *A. morobeana*, *A. sedlaceki*, *A. thompsoni*, *A. tuberculata*, *A. vivienae*, and *A. woodlarkiana*, **new species**. One subspecies, *A. lugubris bidentata* Voss is elevated to species status, *A. bidentata* Voss, **new status**. Four species are newly synonymized: *A. circulifera* Lea, 1928 = *A. rata* Heller, 1910, *A. definita* Faust, 1898 = *A. humeralis* Pascoe, 1865, *A. granulifera* Lea, 1928 = *A. aucta* Faust, 1898, and *A. setipes* Lea, 1928 = *A. lugubris* Heller, 1895 **new synonyms**. Six new species groups are proposed. Lectotypes are designated for 18 species. Two species are transferred from *Asyteta* to other genera: *A. maura* Pascoe to *Microporopterus* Lea and *A. ypsilon* Heller to *Meroleptus* Faust, **new combinations**. A checklist and key for all crowned weevil genera, key to species groups and species of *Asyteta*, adult habitus illustrations, distribution maps, and line drawings of diagnostic characters are provided.

A phylogeny for the genus based on 82 adult morphological characters (187 states) for 41 ingroup taxa is also presented. All genera and species of the crowned weevil group as redefined here (including *Cyamomistus* Heller, *Eudyasmus* Pascoe, *Glochinorhinus* Waterhouse, *Nothotragopus* Zimmerman, *Panopides* Pascoe, and *Zygara* Pascoe), were included in the analysis to test the monophyly of *Asyteta*. Monophyly of *Asyteta* was supported only with the synonymy of the monotypic genus *Zygara*. Accordingly, *Zygara* is a **new junior synonym** of *Asyteta* and *Zygara doriae* (Kirsch) is returned to its original combination with *Asyteta*; *A. doriae* Kirsch **resurrected status**.

Introduction

The genus *Asyteta* Pascoe, 1865, includes many conspicuous and commonly encountered species in the Indo-Australian region. They are known to occur from the Moluccas (Maluku Islands, Indonesia) to the Solomon Islands (Figure 1) and are particularly well represented in New Guinea. *Asyteta* are generally small to medium sized weevils (4–10 mm long) with very long, slender legs and a more or less compact body. Most species are distinctively marked with maculae or vittae composed of light-colored scales, which stand in sharp contrast to the darker background squamae. These features often combine to give the weevils a somewhat spider-like appearance (Figure 2); however, their ungainly gait is not at all suggestive of a typical arachnid. Many *Asyteta* species are remarkably similar in general shape and markings to species of *Arachnobas* Boisduval (Curculionidae: Conoderinae), another spider-like weevil genus that is common in the Indo-Australian tropics. The often striking, yet entirely superficial resemblance between these genera has been cited as evidence of their close systematic relationship (Pascoe 1865, Dorn 1879). *Arachnobas*, however, lacks a prosternal canal and mesosternal receptacle that characterizes all of the genera of Cryptorhynchini, as well as all of the shared features of *Asyteta* and its allies in the crowned weevil group (as described below). The resemblance between these two genera is more likely the result of convergent evolution.

In 2008, *Asyteta* was included with three other genera in the *ad hoc* crowned weevil group (Setliff 2008a). This group is characterized by several shared features including: 1. a semicircular, crown-like carina, flattened glabrous ring, or semicircular bulge on the vertex, 2. very long and slender legs; 3. elytra and pronotum subequally wide at their bases; 4. elevated and granulate longitudinal prominences on the third elytral intervals; 5. tegmen with parameres undeveloped; and 6. a pair of elongate apodeme-like basal sclerites in the endophallus. A survey of cryptorhynchine genera conducted as a part of this study revealed three more previously described genera that exhibit this apparently unique combination of features. Thus, seven crowned-weevil genera are recognized herein as follows: *Asyteta*, *Cyamomistus* Heller 1929, *Eudyasmus* Pascoe 1885, *Glochinorhinus* Waterhouse 1853, *Nothotragopus* Zimmerman 1994, *Panopides* Pascoe 1871, and *Zygara* Pascoe 1885. *Eudyasmus*, *Glochinorhinus*, and *Zygara* are newly added to the crowned weevil group. *Asyteta* is the largest genus in the group, with 41 species recognized in this revision. It is also the most broadly distributed crowned weevil genus (Figure 1). *Asyteta* species are distinguished from all other crowned weevil genera by: 1. the intercoxal process on ventrite 1 broader than long; 2. middle and hind coxae closely approximate; and 3. presence of an abruptly expanded flange located on the ventral margin of the protibia in both sexes (Figures 3–8). Additionally, male *Asyteta* lack a median, horn-like granule at the base of the rostrum that is found in males of all other crowned weevil genera for which males are known (Figures 9–20).