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A new species of *Bambusaspis* Cockerell (Hemiptera: Sternorrhyncha: Coccoomorpha) colonising bamboo in Malaysia

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Abstract

All life stages (adult female and male, first-instar nymph, second-instar male and female nymphs, and prepupa and pupa) of a new species of Asterolecaniidae, *Bambusaspis transversa* Lagowska & Martin **sp. n.**, from bamboo in Malaysia, are described and illustrated. The adult female and first-instar nymphs are compared with those *Bambusaspis* species considered to be closest to the new species.

Key words: Asterolecaniidae, new species, adult female, adult male, immature stages

Introduction

The scale insects (Hemiptera: Sternorrhyncha: Coccoomorpha) are small, sap-sucking true bugs sister to the Aphidomorpha. The common name, scale insects, refers to the protective cover or “scale” (generally waxy) that is secreted by many species. Nearly 8000 species in approximately 50 extant and extinct families have been described in the superfamily and these include many important agricultural pests (Miller & Davidson 1990) and invasive species (Miller *et al.* 2005). In addition, many species exhibit varied endosymbioses (Buchner 1965; Gruwell *et al.* 2005, 2007), diverse sexual systems (Nur 1980; Normark 2003; Ross *et al.* 2010) and sexual dimorphism (Gullan & Kosztarab 1997). The Coccoomorpha are frequently divided into two informal groups, the archaeococcoids and the neococcoids (reviewed by Gullan & Cook 2007), the former usually considered to include 15 extant families and the neococcoids with 18 extant families, although the composition of these informal groups has been questioned (Hodgson 2014).

The neococcoid family Asterolecaniidae includes 241 species in 21 genera of which *Asterolecanium* and *Bambusaspis* constitute the largest genera, with 58 and 60 species respectively (Ben-Dov 2015). The name *Bambusaspis* initially referred to the section of *Asterolecanium* introduced by Cockerell (1902) for species living on bamboo and palms. This section was accepted by a number of taxonomists including Sanders (1906), who named *Bambusaspis miliaris* (Boisduval) as the type species, as well as by Borchsenius (1950, 1960) and Bodenheimer (1951), who established *Bambusaspis* as a valid genus.

Adult females of *Bambusaspis* are recognized mainly by the presence of a pair of dorsal tubes at the posterior end of the abdomen in combination with an anal ring, a medial arched plate and lateral plates on each anal lobe, plus a marginal row of 8-shaped pores, simple disc pores and tubular ducts on the dorsum (Stumpf & Lambdin 2006), and an interrupted row of submarginal setae on the venter (Russell 1941; Beardsley 1966). *Pauroaspis* Tang & Hao (type species *Asterolecanium ceriferum ceriferum* Green) also has a pair of dorsal tubes but differs in having reduced sclerotisation around the anus (Tang & Hao 1995). Species of *Bambusaspis* are known from almost all zoogeographical regions (except Antarctica), but have mainly been recorded from the Oriental (44 species) and Palearctic (29 species) Regions (Ben-Dov 2015).