



Article

Nomenclatural changes in *Anastatus* Motschulsky and the description of *Anastatus eurycanthae* Gibson n. sp. (Eupelmidae: Eupelminae), an egg parasitoid of *Eurycantha calcarata* Lucas (Phasmida: Phasmatidae) from Papua New Guinea

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Abstract

Anastatus eurycanthae Gibson n. sp. (Eupelmidae: Eupelminae) is newly described as an egg parasitoid of *Eurycantha calcarata* Lucas (Phasmida: Phasmatidae), an important pest of oil palm in Papua New Guinea. Both sexes are described and illustrated by macrophotography and scanning electron microscopy. Basic biological data are provided on the parasitoid. Six species are transferred from *A. (Anastatus)* Motschulsky to other genera, namely *Eupelmus tenmysoni* Girault (1921) **revived comb.**, *Eupelmus (Eupelmus) darwini* (Girault 1915) **n. comb.**, *Reikosiella (Hirticauda) pasteuri* (Girault 1915) **n. comb.**, *R. (Hirticauda) tricolor* (Girault 1915) **n. comb.**, *Tineobius (Tineobius) adamsi* (Yoshimoto & Ishii 1965) **n. comb.**, and *T. (Tineobius) crassipes* (Yoshimoto & Ishii 1965) **n. comb.**

Key words: Giant Spiny Stick Insect, oil palm pest

Introduction

Eurycantha calcarata Lucas (1869) (Phasmida: Phasmatidae), the Giant Spiny Stick Insect (Brock 1992, 1999), was described originally from the Solomon Islands. It is also recorded from New Caledonia (Hsiung 1985, 1987) and the Bismarck Archipelago (New Britain and New Ireland provinces) of Papua New Guinea (PNGOPRA 1990). Sharp (1898) recorded it from northern Australia, but this latter record was refuted by Monteith & Dewhurst (2011). It is an important pest of oil palm in Papua New Guinea, particularly among smallholder growers and in plantations that are near to natural forest. Although it does not fly, its distribution indicates it disperses effectively across both land and water. Females of the parasitoid described here likewise do not fly, but it is the only species we have found in West New Britain that from laboratory studies seems to effectively parasitize eggs of the Giant Spiny Stick Insect. It is now being reared in the laboratory for field release as part of ongoing applied research into IPM control methodologies, particularly using natural enemies, for management of the pest.

The only eupelmids previously reported as parasitoids of stick insects are *Paranastatus nigriscutellatus* Eady (1956) and *P. verticalis* Eady (1956) from *Graeffea crouanii* (Le Guillou) in Fiji, and *Anastatus gratidiae* Risbec (1951) from *Gratidia* sp. in Senegal (Noyes 2011). Species of *Anastatus* Motschulsky (Eupelmidae: Eupelminae) are mostly primary endoparasitoids of a wide diversity of insect eggs, though some have been reared as hyperparasitoids (Gibson 1995). Noyes (2011) listed 39 species of *Anastatus* from the Australasian region, including 33 species from Australia, but none from New Guinea. Six of the species are incorrectly assigned to genus and males are recognized for only four of the remaining 33 species. Like other genera of Eupelminae, the sexes of *Anastatus* are strongly dimorphic (cf. Figs 1, 2 with 8, 9) and taxonomy of the genus is based entirely on females (Gibson 1995). Comparison of females reared from *E. calcarata* with the original descriptions of the 33 true species of *Anastatus* from the Australasian region indicates they represent a new species.