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FURTHER RECORDS OF *MACROSIAGON* (COLEOPTERA: RHIPIPHORIDAE) REARED FROM EUMENID AND SPHECID WASPS IN AUSTRALIA

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Abstract

Macrosiagon capito (Blackburn) and *M. novaehollandiae* (Gerstaecker) are reported as parasites of the eumenid wasps *Eumenes latreillei* Saussure and *Odynerus* sp. respectively, and *M. semipunctatum* (Lea) as a parasite of the sphecid wasp *Sceliphron formosum* (F. Smith).

Introduction

Parasitic beetles of the family Rhipiphoridae are well represented in Australia, where the genus *Macrosiagon* Hentz parasitizes wasps of the families Scoliidae, Tiphiidae, Eumenidae and Sphecidae (Callan, 1977). Hosts are known in Australia for six species of *Macrosiagon.* Four species reared from eumenid and sphecid wasps, which build mud nests, are discussed below.

Macrosiagon capito (Blackburn)

This species was described in the genus *Emenadia* Laporte from Victoria (Blackburn, 1899). It was characterized as entirely ferruginous red above and entirely black beneath, with the front half of the head black and the hind half red.

A male, reared from the mud nest of the eumenid *Abispa* sp., but without precise locality, was recorded in an earlier note (Callan, 1977). I now report two further specimens, a female and a male, both reared from eumenid wasps. The female was reared from *Eumenes latreillei* Saussure, Darwin, Northern Territory, 30.iv.1976 (A. Smith). *E. latreillei* is a potter wasp, common in Northern Australia, about 22 mm long, with a distinctly petiolate gaster, and builds characteristic, globular, mud nests often on the walls of buildings.

The male was reared from the eumenid *Odynerus* sp., occupying an old nest of *Paralastor* sp., Darwin, N.T., xii.1976 (A. Smith). The *Odynerus* sp. is 12 mm in length. Dr I. D. Naumann kindly examined a specimen and confirmed the generic identification on wing venational characters. Mr Andrew P. Smith

informed me (1980, *in litt.*) that this species is a 'renter' in old mud nests, including those of *Eumenes* and *Paralastor.*

Individuals of the same species of *Macrosiagon* often vary considerably in size. In this case the female was distinctly larger than the male, the size difference being correlated no doubt with the different sizes of the eumenid hosts. It is probably significant that *M. capito* has so far only been found parasitizing Eumenidae.

Macrosiagon novaehollandiae (Gerstaecker)

This species was described originally in the genus *Rhipiphorus* from New Holland (Gerstaecker, 1855). Lea (1917) commented on some of its structural features and variable markings, and recorded specimens ranging in length from 4 to 9 mm from South Australia and Western Australia. I have seen Gerstaecker's description of the female, which occupies 10 lines of Latin. The specimen reported below agrees tolerably well with this description and keys out to this species in Blackburn (1899).

An individual (headless) of unknown sex, which appears to be *M. novaehollandiae*, was reared from the eumenid *Eumenes bicinctus* Saussure, Clive Downs, Tibooburra, N.S.W., xii.1973 (A. Smith). The specimen is mounted with the reddish brown subspherical mud nest (diameter 13 mm) from which it emerged. *E. bicinctus* is a potter wasp, widespread in Australia, rather smaller than but similarly marked to *E. latreillei* and, like this species, building globular mud nests on walls and in other sheltered situations.

Macrosiagon semipunctatum (Lea)

This species was described in the genus *Emenadia* from NW Australia (Lea, 1904). It is black with red abdomen, antennae, palps, spurs and claws. The elytra are pale, each with three conspicuous black maculae. There are specimens in the Australian National Insect Collection, C.S.I.R.O., Canberra from Western Australia, Northern Territory and New South Wales.

I now report a male of *M. semipunctatum* reared from the specid wasp *Sceliphron formosum* (F. Smith), Tipaminka, Brooks Road, Binnaway, N.S.W., iii.1975 (A. Smith). *M. diversiceps* was reported as a parasite of a sphecid wasp (Callan, 1977), and this is the second instance of a rhipiphorid parasitizing Sphecidae in Australia.

S. formosum is a mud-dauber wasp belonging to the sphecid subfamily Sphecinae, tribe Sceliphrini, and is known from Australia, Papua New Guinea and Indonesia (Moluccas to Ceram and Ternate). It builds a mud nest of several cells in protected situations, each cell being provisioned by the female with spiders as food for the developing larva.

As old *Sceliphron* mud nests are often occupied by eumenid wasps, I thought there was a possibility that the *Macrosiagon* might have attacked a eumenid rather than *Sceliphron.* Mr Andrew P. Smith informed me (1980, *in litt.*) that the *Sceliphron* nest from which he reared the *Macrosiagon* was fresh, being recently constructed, and the parasite had pupated within the actual

completed cocoon of its *Sceliphron* host. So there can be no doubt that the host was *S. formosum* and not a later eumenid occupant of the nest.

Discussion

Six species of Rhipiphoridae of the genus *Macrosiagon* have been reared from aculeate wasps in Australia. *M. cucullatum* (Macleay) and *M. punctulaticeps* (Blackburn) parasitize ground-nesting Scoliidae and Tiphiidae respectively. The other four species have been reared from wasps which build mud nests; *M. capito* and *M. novaehollandiae* from Eumenidae, and *M. diversiceps* and *M. semipunctatum* from Sphecidae.

Macrosiagon is well known as a ubiquitous parasite of Eumenidae, but records of Sphecidae as hosts are comparatively rare (Callan, 1977). In Australia the sphecid genera *Pison* and *Sceliphron* and elsewhere *Stizus, Bembix, Trypoxylon* and *Trigonopsis* are known to be parasitized. *Stizus* and *Bembix* are ground-nesting wasps and the other genera build mud nests. Most records seem to be of builders of mud nests (Eumenidae and Sphecidae), but this probably only reflects the fact that these wasps are more often reared, and in greater numbers, than fossorial wasps.

The host associations of relatively few *Macrosiagon* are known with certainty. Krombein (1967) presented an account of the North American *M. cruentum* (Germar), which he reared from several species of eumenid wasps. He regarded eumenids as the preferred, and perhaps the only, hosts. Snelling (1963) reared the same species from a eumenid nest in an old nest of the mud-dauber *Sceliphron caementarium* (Drury). However, he suggested that the latter might regularly serve as the host, and that parasitism of the eumenid was accidental. It is of particular interest, therefore, that in the record of the Australian *M. semipunctatum*, the host from which it was reared was definitely *S. formosum.*

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