

First record of myrmecophily in buprestid beetles: immature stages of *Habroloma myrmecophila* sp. nov. (Coleoptera: Buprestidae) associated with *Oecophylla* ants (Hymenoptera: Formicidae)

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The association of *Habroloma myrmecophila* sp. nov. (Coleoptera: Buprestidae: Trachydini) with *Oecophylla smaragdina* (Fabricius, 1775) ants (Hymenoptera: Formicidae) has been observed on secondary shrubs in Goa Province (India). After mating, adult beetles were found to invade damaged or newly constructed *Oecophylla* nests to lay eggs. Larvae mine in the leaves forming the nest wall and pupate within the mines. Only adult beetles interact directly with ants, potentially triggering their necrophoric behaviour when caught. The adults and larvae of the beetles are described in detail and the benefits of the ant association for the beetles are hypothesized.

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Introduction

Beetle-ant associations are very diverse in the number of different beetle taxa involved as well as in the precise character of the interaction. Representatives of more than 35 beetle families have been reported to interact with ants (Kistner 1982, Hölldobler & Wilson 1990). The majority of known ant-associated beetle species belong to the group Staphyliniformia, especially to the families Histeridae and Staphylinidae (Kistner 1982, Kovarik & Caterino 2005, Thayer 2005). Many beetle taxa prey on host ants and their immature stages (e.g., Staphylinidae: Pselaphinae) or on aphids and fulgorids tended by the ants (e.g., Coccinellidae). Other species are scavengers, feeding on organic debris within the nests (e.g., Chrysomelidae: Clytrinae); some can groom the ants (e.g. Ptiliidae: Cephaloplectinae) or solicit

regurgitated food from them (e.g., many Staphylinidae) (Hölldobler & Wilson 1990). Within the Elateriformia, only species of *Microchaetes* Hope, 1834 (Byrrhidae) have been reported to interact with dolichoderine and ponerine ants by Lea (1910, 1912), but the precise character of these interactions remains unknown (Kistner 1982, Hölldobler & Wilson 1990).

Weaver ants of the genus *Oecophylla* F. Smith, 1860 are widely distributed throughout the tropics and subtropics of the Old World. Two species are known: *O. longinoda* (Latreille, 1802) distributed in Africa, and *O. smaragdina* (Fabricius, 1775) distributed in Southeast Asia and Australia (Azuma et al., 2006). Both species are arboreal, building their nests from leaves sewn together by a silk produced by ant larvae held by the adults. Only one queen is present in an *Oecophylla*