

Biodiversity of the Domatia Occupants
(Ants, Wasps, Bees, and Others)
of the Sri Lankan Myrmecophyte
Humboldtia laurifolia Vahl (Fabaceae)

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Appendix

Description of the Larva of *Krombeinictus nordenae* Leclercq

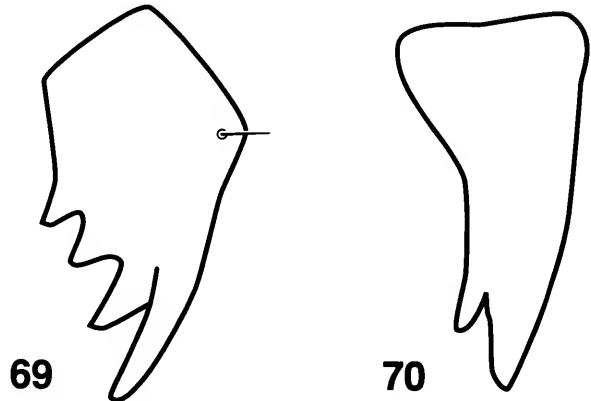
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Because of the unusual biological features of *Krombeinictus nordenae*, it seemed desirable to ask whether the larvae differ from those of other Crabroninae, perhaps having mandibular cusps, concavities, or small teeth similar to those of bee larvae.

DESCRIPTION.—Based on three postdefecated larvae from Sri Lanka: Rat[napura] Dist[RICT], Induruwa Jungle, Gilimale, 18–20 July and 2–3 August 1993. Collectors: K.V. Krombein, P.B. Karunaratne, A.W. Norden, and B.B. Norden.

More slender and cylindrical than in groundnesting Crabroninae, with length 6.5 mm; maximum width (midabdominal segments) 1.4 mm. Pleural lobes prominent; anus located ventrally on a rounded terminal segment. Body setae or spinules not detected. Head about 0.6 mm wide, less than one-half maximum body width; head capsule (exclusive of labrum and other mouthparts) 1.14 times as wide as high. Parietal bands and antennal papilla absent. Sides and top of head with several strong setae; clypeus with six such setae in transverse row. Labrum truncate, about twice as wide as high, bearing 14 setae; apical margin bristly but without sensory cones; epipharynx covered with small spinules. Mandibles lightly pigmented, 0.32 mm long and 0.16 mm wide at base, bearing a single basal seta and four strong, sharp teeth along inner margin (Figure 69), the apical two slightly offset, so that mandibles appear bifid in full lateral view (Figure 70). Maxillae prominent, rounded apically, with several lateral setae; lacinial area spinulose; palpi about three times as long as their basal width, galeae similar but smaller in both dimensions. Labium with two patches of strong spinules. Spinnerets long and slender, extending well beyond the palpi, which approximate the galeae in size.

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FIGURES 69, 70.—*Krombeinictus nordenae* Leclercq, mandible of postdefecated larva: 69, frontal view; 70, full lateral view.

DISCUSSION.—The larvae are typical of those of Crabroninae, as defined by Evans (1959); in his key to genera they will run to *Crossocerus*. Indeed, the description of the larva of *C. fergusonii* Pate provided by Evans (1957) will do almost equally well for *Krombeinictus nordenae* except that I was unable to find integumental setae or spinules on the latter. Clearly larval characters are very conservative despite differences in diet. Larvae of *Crabro* and *Rhopalum* (= *Euplilis*) are also doubtfully separable from those of *Crossocerus*. It is perhaps noteworthy that species of *Crossocerus* and *Rhopalum*, although predators, utilize insects of several different orders. Crabronine larval mouthparts are evidently “multipurpose.” Generalizations concerning generic differences are difficult because larvae of relatively few species have been described, and many of these descriptions are incomplete.