THORONELLA SP. (HYMENOPTERA: SCOLIONIDAE) DISCOVERED ON THE THORAX OF AN AESHNIDAE (ANISOPTERA)

L.O. HOWARD (1927, *Ent. News* 39: 145-147) gave a number of examples within the parasitic Hymenoptera of the phenomenon "phoresy", i.e. the transport of small insect(s) on the body of a larger insect without evidence of direct parasitism on the adult carrier. Where known, these adult Hymenoptera oviposit in the eggs of the female hosts on which they are phoretic. C.P. CLAUSEN (1976, *A. Rev. Ent.* 21: 343-368) provides detailed examples in his review of phoresy among entomophagous insects.

On September 15, 1990, a female *Epiaeschna heros* (Fabr.) was collected in Walker County, Texas. While transferring the dragonfly from the collecting net, a number of small wasps were observed moving about on the thorax between the wing bases. Forty-six females of an undescribed species (L. Masner, pers. comm. to R. Wharton), of *Thoronella* (Fig. 1) were eventually recovered from the meso- and metanotal regions of the dragonfly.

Thoronella is known from a single species described from Brazil (L. MASNER, 1972, *Mem. ent. Soc. Can.* 97: 1-87). The same author (1980, *Mem. ent. Soc. Can.* 113: 1-54) included *Thoro-*

nella in a key to the scelionid genera of the Holarctic Region, but did not discuss his reasons for doing so. The undescribed species taken from *Epiaeschna* occurs from southern Ontario and New England south through Georgia and west to Missouri and Texas (L. Masner, pers. comm. to R. Wharton). Although all scelionids develop as parasitoids of insect and arachnid eggs, the hosts of *Thoronella* are unknown. Thus, it is probalbe that *Thoronella* sp. is a parasitoid of *E. heros* eggs. MASNER (1972; *ibid.*) speculated that the host was aquatic, based on the relative setose body of the type species. It would thus be of great interest to learn whether *Thoronella* females can oviposit in dragonfly eggs placed beneath the surface of the water or only on those above the waterline.

Epiaeschna is one of the largest of the dragonflies (77 to 94 mm long) and is wide-spread in Canada and the United States. *E. heros* can be found throughout the eastern United States and southeastern Canada to east Texas and Kansas, matching the known distribution of the undescribed species of *Thoronella*. Seen mainly in the spring and early summer, *E. heros* can be found from the end of February to early November (S.W. DUNKLE, 1989, *Dragonflies of the Florida Peninsula* [...], Fauna & Flora, Gainesville). It lives around woodland ponds and marshes, breeding in slow-moving water close to shore. DUNKLE (1989, *ibid.*) states that females "oviposit in mud, wet logs, small tree trunks, or stems from water level up to 2 m above it." They may also lay eggs in low-lying areas which will later be flooded with rainwater. The dragonfly reported on here was found in a mixed deciduous and pine woodland with many low lying wet areas.

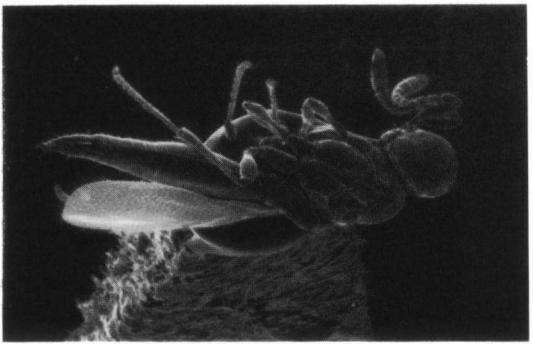

Fig. 1. *Thoronella* sp. from *Epiaeschna heros* (Say).

The only previous record of a scelionid phoretic on Odonata was transmitted in a personal communication to CLAUSEN (1976: *ibid.*) by R.B. Cumming in 1964. The host was given as *Boyeria vinosa* (Say) (Aeshnidae), and the 34 scelionids found on it were identified as a *Calotelea* sp. According to L. Masner and K. Hagen (pers. comm. to R. Wharton), the scelionids were not sufficiently well-preserved for accurate identification and could have actually been *Thoronella* (which is superficially similar to *Calotelea*). It is thus possible that the *Thoronella* species recorded here can attack more than one species of dragonfly.

Phoretic scelionids have been recorded from a variety of grasshoppers and moths, and have been observed on a mantid, a pentatomid, and a coreid (CLAUSEN 1976: *ibid.*). As noted by the same author detailed accounts have been published on the host relationships of some of the orthopteroids and lepidopterans with phoretic parasitoids. The phoretic behavior of these insects is adaptive in that it allows the wasp to parasitize the eggs of the host before any kind of development begins, which helps to overcome host defenses [e.g. hardened ootheca, spumaline, scales and hairs], eliminates the time and energy the wasp spends searching for the host eggs, and aids in the dispersal of the wasps (CLAUSEN, 1976: *ibid.*).

The dragonfly and some scelionids are housed in the Texas A & M University insect collection with the voucher number 556. The remaining scelionids are housed at the Canadian national Insect Collection, Ottawa.

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