

## New Host Record of a Ceraphronid (Hymenoptera) in Trichoptera Pupae

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Pupae of the microcaddisfly *Ochrotrichia moselyi* Flint (Trichoptera: Hydroptilidae) were collected in Costa Rica that contained pupae of *Aphanogmus* sp. (Hymenoptera: Ceraphronidae). The caddisflies were collected in Puntarenas Province, Bellavista River, ca. 1.5 km NW of Las Alturas, at 1400 m elevation (8.951°N, 82.846°W). Collections were made June 15-17, 1986. All material is housed in the University of Minnesota Insect Collection, St. Paul, Minnesota. Three collections in alcohol yielded one *Aphanogmus* pupa each. There were a total of 12 *Ochrotrichia moselyi* cocoons of which 3 contained *Aphanogmus* pupae, 6 contained eaten caddisfly pupae, and the remainder, developed caddisflies. The cocoons with the parasitoid pupae contained only the wings and cast larval skin of the caddisfly. There was one *Aphanogmus* per parasitized cocoon. Dr Paul Dessart, a ceraphronid specialist in Belgium, confirmed Luhman's identifications of the *Aphanogmus* in the cocoons and stated this to be a new ordinal and family host record for Ceraphronidae (pers. comm., 1996). Heretofore recorded hosts of Ceraphronidae included

Diptera, Homoptera, Hymenoptera, Neuroptera, and Thysanoptera (Muesebeck 1979; Hanson and Gauld 1995).

The *Aphanogmus* were discovered inside the cocoons of *Ochrotrichia moselyi*, but outside of the caddisfly pupa. Only the developed wings remained uneaten. The *Ochrotrichia* cocoons may have been parasitized when exposed to the surface near the water substrate interface. *Ochrotrichia* pupate within their larval cases in small clusters of individuals on the sides of rocks and boulders. During the dry season, pupae are often exposed or closer to the surface.

### ACKNOWLEDGMENTS

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### LITERATURE CITED

- Hanson, P. E. and I. D. Gauld (eds.). 1995. *The Hymenoptera of Costa Rica*. Oxford University Press, NY.
- Muesebeck, C. F. W. 1979. Superfamily Ceraphronoidea, pp.1187-1195. In K. V. Krombein, P. D. Hurd, Jr., D. R. Smith, and B. D. Burks eds., *Catalog of Hymenoptera of America North of Mexico, Vol. 2. Symphyta and Apocrita*, Washington, D.C.: Smithsonian Institution Press