

A New Spider Parasitoid, *Ocnaea boharti*, from Arizona and New Mexico (Diptera: Acroceridae)

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The genus *Ocnaea* Erichson (1840) has 19 included species, ranging from California and Georgia, south to Brazil and Ecuador. Nine species occur in the United States, five in Central America and the Caribbean, and three in Brazil and Ecuador. In addition to the new species described here, I have on hand four additional species from Brazil, Venezuela and Costa Rica. Species from Chile described earlier in *Ocnaea* were discussed by Schlinger (1968) and were referred to *Arrhynchus* Philippi. All species described in *Pialeoidea* Westwood were placed in *Ocnaea* by Schlinger (1961), and other *Ocnaea* species have been removed and placed in *Exetasis* Walker (see Schlinger, 1968 and 1972).

Biological notes on species of *Ocnaea* are rare, and the only recorded host is the California trapdoor spider, *Bothriocyrtum californicum*, from which Jenks (1940) reared *Ocnaea smithi* Sabrosky (1948). Known host records and immature stages of *Ocnaea* and related panopine genera were published by Schlinger (1972).

Ocnaea species are rather large flies (5-20 mm), yet published records on known specimens, including the type specimens, have numbered less than 25 since the genus was described 142 years ago. During the past 30 years that I have been identifying acrocerids from collections from around the world, I have examined only an additional 15 specimens. These data attest to the peculiar rare status of these "large" flies in that only 40 specimens are known to have been collected or reared in the past 150 years.

A further complication to the study of this genus is the high degree of sexual dimorphism known in the few species where both sexes have been associated. Other than the new species described below, only *O. smithi* has both sexes described. This indicates that some new synonymy may be expected as further specimens become available.

I wish to thank Dr. Mont Cazier, Arizona State University at Tempe, for the loan of the holotype specimen and Dr. James Sublette, New Mexico State University at Las Cruces for the loan of the paratype specimen. These type specimens will be deposited in the California Academy of Sciences, San Francisco, California.

Special acknowledgment is given to Mrs. Celeste Green, my friend and former Scientific Illustrator in the Department of Entomology, University of California at Berkeley, for her excellent color rendering of this new species.

Ocnaea boharti Schlinger, NEW SPECIES

(Plate I, Figs. 1, 2)

Male.—Length of entire specimen 10.00 mm, wing length 7.00 mm.

Color.—Yellow, white, brown, and black, with faint metallic bluish-brown reflexions on mesonotum, scutellum and on medial tergal spots; black are eyes and

occiput; dark brown are outer and dorsal margins of antennal segment III, antennal segments I–II, posterior $\frac{1}{2}$ of antennal tubercle, mesonotum, scutellum, coxae, most of pleura, sternal area (almost black), most of tergite I, large medial spot on tergites II and V, smaller medial spot on tergites III–IV, and tarsal claws; yellow are remainder of tergal areas, most of sternites I–IV, most of legs, squamal rim and wing veins; light brown are inner and ventral margins of antennal segment III, anterior $\frac{1}{2}$ of antennal tubercle, area around and beneath wing base, post-alar callus, inner sides of femora I and II, tiny spot at knees, tibial spurs, tip of basitarsi, pulvilli, halter stem and knob, small lateral spot on sternite IV and most of sternite V; dull white are humerus, squama (nearly opaque), wing membrane (hyaline), narrow posterior fascia on tergites I and II and sternite IV, and somewhat wider fascia on sternites II and III; genitalia are yellowish-brown, and ocelli are orange-brown.

Pile.—Light brown and dense on eyes and occiput, reaching out to base of antennal segment II; longer below near mouth and above near ocelli; that on thorax dense, white, long, nearly obscuring ground color, somewhat longer than the longest pile on eyes; that on abdomen mostly white, long and dense on tergite II dorsally and tergites V and VI laterally; that on medial tergal spots light brown and shorter; remainder white, shorter, and less dense than on mesonotum.

Head.— $\frac{1}{3}$ higher than long (Pl. I), antenna $\frac{1}{3}$ longer than head height; antenna asetate except for small group of dorsal setae on segment II; proboscis not evident, but a group of stout hairs project from underneath tiny “proboscial” covering.

Thorax.—With shining ground color, difficult to detect under dense pile; humerus strongly developed and directed anteriorly, reaching in front of eyes, becoming nearly acuminate (Pl. 1); humerus length subequal to that of head height; femur III hardly longer than I and II; tibia III swollen and about as long as femur III; (Pl. I), venation with cell R_5 open at wing margin and membrane without macrotrichiae.

Abdomen.—Shiny, rather narrow, not much wider than thorax; tergites II–IV subequal in width; genital capsule large, aedeagus formed as in Fig. 1.

Female.—Length of entire specimen 10.00 mm, wing length 10.00 mm. Similar to that described for male above except for obvious differences as follows:

Color.—Black also are antennal segment III (except extreme base dark brown), most of coxae and tergite I; dark brown with bluish-brown to black reflections on large dorso-medial spot, and extreme lateral margins of tergites II and III, all of tergites IV–VI, and most of sternites I–VI (except for narrow whitish-light brown fascia on sternites III and IV); dark brown are squamal rim, halter knob, femora, inner side of tibia and tarsi (most legs are broken at end of tibia or absent altogether); whitish-brown are outer basal $\frac{1}{3}$ of tibiae and humerus; light brown are wing veins.

Pile.—Not dense throughout, more dark brown on eyes, that on mesonotum lightly mixed with light brown; that on mesonotum lightly mixed with light brown; that on abdomen more brown than white.

Head.—Much smaller than male (Fig. 2), more round, about as high as long; antenna $1\frac{1}{2}$ times longer than head height; antennal segment III with small but distinct group of dorsal, subapical setae.

Thorax.—Shiny, ground color not obscured by pile; humerus $\frac{1}{3}$ longer than head height, slightly more curved and more acuminate than in male (Fig. 2); tibia

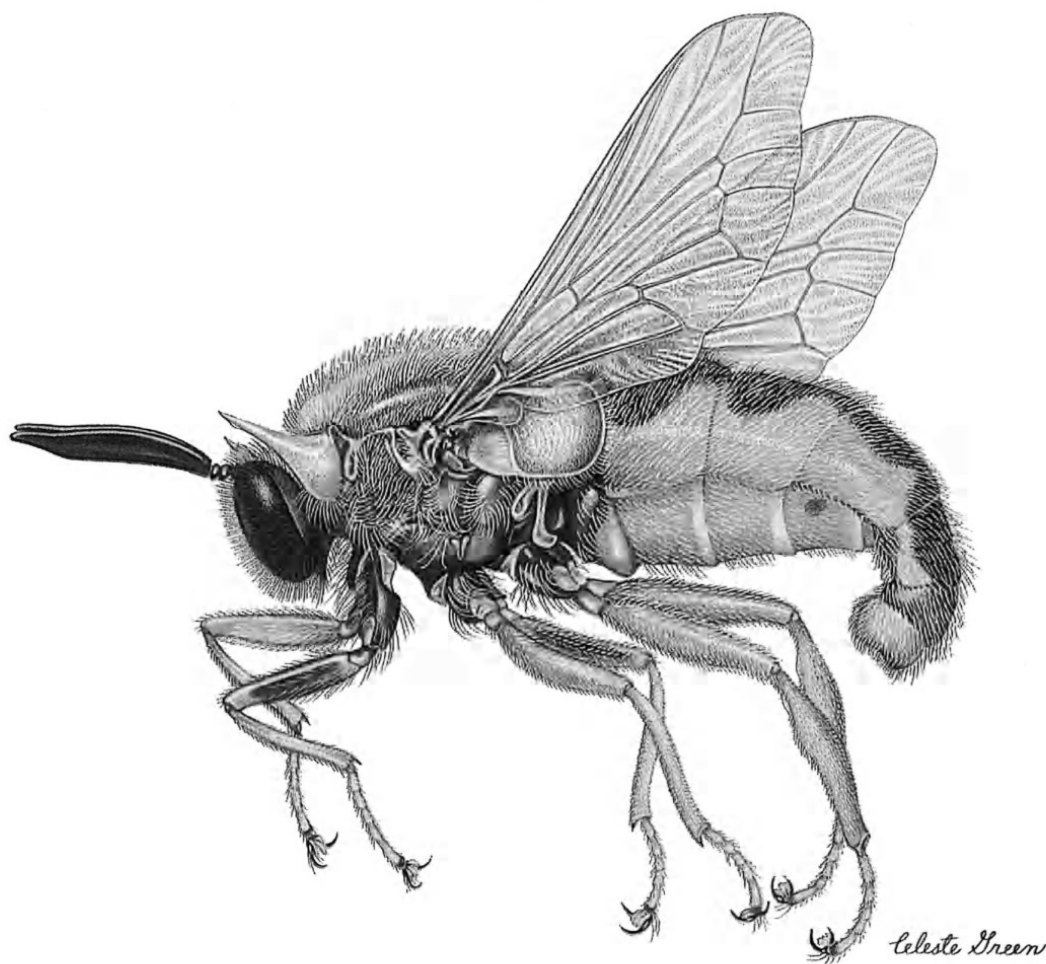


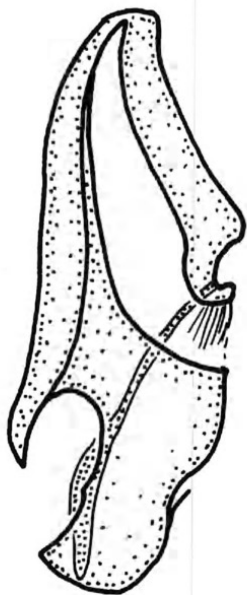
Plate I. *Ocnaea boharti*, holotype male.

III not swollen, but tibia II shortened and sinuated; squamal membrane nearly clear; wing membrane lightly infuscated throughout; sparse but distinct macrotrichiae present in membrane throughout length of costal cell; venation similar to male but some cells (especially R_5) are longer and therefore somewhat differently shaped.

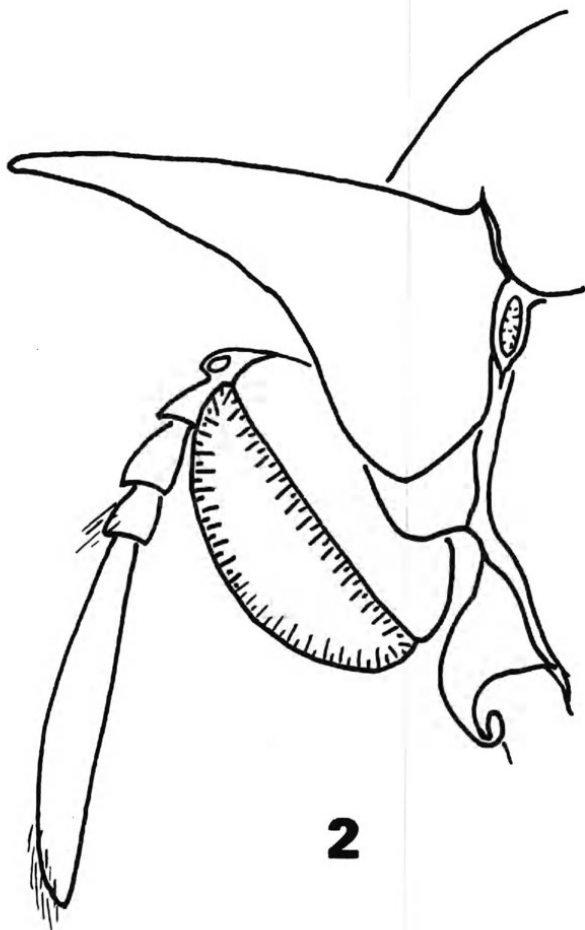
Abdomen.—Little wider than thorax, widest at tergite III (broken off and re-glued).

Types.—Holotype ♂, ARIZONA: 2 mi. NE Portal, November 3, 1960 (M. A. Cazier), from the Arizona State University at Tempe Collection. Paratype ♀, NEW MEXICO: *Roosevelt Co.*, October 31, 1964 (A. Berg) from the New Mexico University Collection in Las Cruces.

I should note that while I have little doubt that the paratype is the female of this species, certain secondary sexual characters which are evident in this specimen are known to occur in both sexes of certain other species of *Ocnaea*. One such character is the presence of a distinct, but sparse series of macrotrichiae in the costal cell. Another is the darker brown wing veins and lightly infuscated wing membrane. Finally, the small, more-rounded head of this female is obviously different (compare Pl. I with Fig. 2), and while this trait occurs in some species of certain related genera, i.e. *Pialea* Erichson, it is not known in *Ocnaea* species.



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Fig. 1. *Ocnaea boharti*, aedeagus in lateral view, holotype.

Fig. 2. *Ocnaea boharti*, head and humerus in lateral view, paratype female.

This new species, with its stiletto-like humeri, shows no close relationship to any known *Ocnaea*, and seems to form its own unique species group. Its color combination of yellow, brown and shiny bluish-brown reflections are very reminiscent of the Chilean species, *Arrhynchus vittatus* Philippi. The relationship of *Arrhynchus* to *Ocnaea* was discussed in detail by Schlinger (1968), and while these genera are closely related, no species within either genus has this distinctly modified humerus (in either sex) while *O. boharti* n. sp., has this character in both sexes.

It is with the greatest pleasure that I name this new species for my colleague and former major professor, Dr. Richard M. Bohart, for whom I have the greatest respect both as a person and as a professional entomologist.

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