

NEW PARASITIC HYMENOPTERA OF THE  
SUBFAMILY ANTEONINÆ (BETHYLIDÆ).

F. A. FENTON

Department of Zoology and Entomology, Iowa State College.

During 1923, a number of dryinid wasps were bred from several species of *Cicadellidæ* and *Fulgoridæ* collected in Iowa. Upon examination, at least three species were found to be new and are described for the first time in this paper. One of these, namely, *Aphelopus bicolor*, had caused about ten per cent parasitism of its host, *Erythroneura trifasciata* Say. The larvæ of this species have also been collected in Ohio but were not reared through to the adult stage. *Aphelopus comesi* Fent. was also bred from *Erythroneura vulnerata* Fitch, collected at Spring Hill, Iowa. About half of the last named host species which were collected were parasitized.

*Pseud ogonatopus iowensis* n. sp.

The most striking characteristic of this species is the pale yellow tenth antennal joint, which contrasts sharply with the other dusky joints of the flagellum. Length, 2.81 mm. General color fusco-piceous. Eyes and vertex of head fuscous; frons and occiput, mandibles except teeth, clypeus and scape of antenna testaceous; tenth joint of antenna pale yellow; prothorax ferruginous with black on each side of the transverse emargination; thoracic constriction black, except ventral part and a narrow area down the center of the dorsum, which are testaceous; legs yellow to testaceous, except anterior femora, which are fuscous dorsally; propodeum piceous; abdomen fusco-piceous.

*Head*.—Vertex slightly concave, broader than long (19:12), surface closely and minutely punctate. Scape of antenna slightly more than twice as long and somewhat thicker than second joint; third about the same thickness as second and more than twice as long; fourth slightly more than half as long as third and somewhat thicker; fifth to eighth inclusive of nearly the same length and width, each being one-fourth shorter and slightly thicker than the fourth and slightly increasing in width towards the tip; ninth shorter than these; tenth less than twice length of ninth and of same thickness.

*Thorax*.—Prothorax shining with very fine microscopic punctation. Thoracic constriction slightly longer than wide (5:4), with surface minutely roughened, due to fine reticulation.

*Propodeum*.—Surface with dense punctation; anterior portion with irregular, coarse rugulosity; posterior third beginning just back of the

disc with a series of transverse rugose lines which extend down the sides. Type shows scattered fine white hairs present on this part.

*Chela*.—(Fig. 3). Median arm with a cluster of lamellæ at the tip and a row extending from a point near this nearly down to the articulation with the lateral arm, the lamellæ being somewhat farther separated from each other near this point. Lateral arm with six smaller, rather widely spaced lamellæ.

Described from one specimen bred from *Liburnia lutulenta* Van Duzee\*, Ames, Iowa, July 21, 1923. Type in writer's collection.

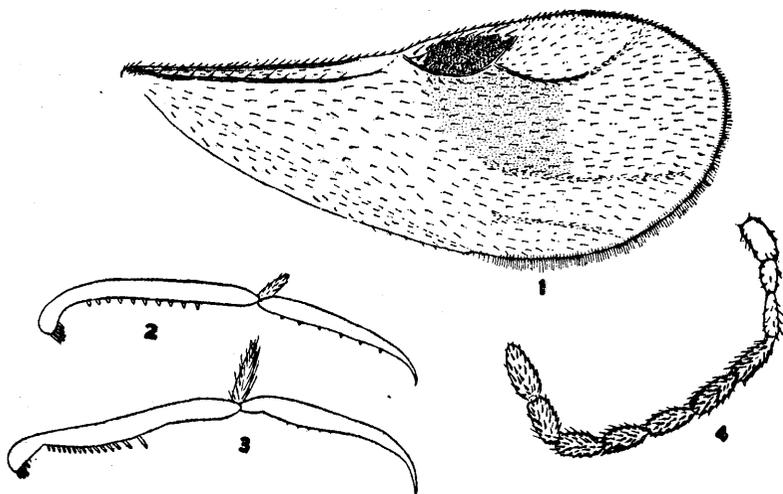


Fig. 1. Fore wing of *Aphelopus bicolor*.  
 Fig. 2. Chela of *Pseudogonatopus iowensis*.  
 Fig. 3. Chela of *Chalcogonatopus nigrus*.  
 Fig. 4. Antenna of *Aphelopus bicolor*.

*Aphelopus bicolor* n. sp.

A reddish brown species quite distinct from any others with which I am familiar. Length, 1.5–1.59 mm., alar expanse, 1.1–1.2 mm. Head testaceous except compound eyes, which are black, and teeth of mandibles, which are deep amber; first two antennal segments and basal part of third testaceous; rest of antennal segments brown. Mesonotum and scutellum testaceous; post-scutellum and basal portion of propodeum except extreme posterior margin, shining black; rest of propodeum testaceous; legs testaceous, except hind tibiæ and fifth tarsal joints, which are fuscous; fore wings with fuscous band extending below pterostigma and greater part of radius (Fig. 1); abdomen shining

\* The host species from which these parasites were bred were kindly determined for the writer by Professor Herbert Osborn.

brown. Head and thorax with fine short pubescence; propodeum with very sparse, indistinct pubescence.

*Head*.—Broader than deep, (14:8); pattern a fine reticulation. Anterior ocellus slightly closer to the two lateral ones than these are from the hind margin of the head; compound eyes with sparse short, white pubescence. Clypeus arcuate; mandibles four-dentate, with three large teeth and one smaller inconspicuous one; maxillary palpi long and extending considerably beyond base of the head to the thorax, with four joints visible.

Antennæ of median length. First antennal joint slightly thicker and one-fourth longer than second; third of same length as first, somewhat more slender than second; fourth to sixth each one-fifth longer than third and of same thickness as second; seventh to ninth subequal, each being slightly shorter than sixth; tenth three-fifths longer than ninth; from the sixth to the ninth, each succeeding joint is slightly shorter and thicker than the preceding. (Fig. 4).

*Thorax*.—Mesonotum with same pattern as head; parapsidal furrows distinct, converging and extending about half way to caudal border of mesonotum; scutellum of same pattern as head and mesonotum; postscutellum and propodeum coarsely reticulately sculptured, the reticulations being large, with distinct raised lines. A distinct median smooth area is present on the dorsal posterior part of the propodeum.

*Wings*.—Fore wings in ratio of 30:13, hind wings, 22:6.

*Abdomen*.—Compressed laterally, sparsely pubescent.

Paratype. In this specimen the propodeum is entirely piceous on the dorsum, otherwise the coloration is the same.

Bred from *Erythroneura trifasciata* Say, Collected at Spring Hill, Iowa, October, 1922. Type in writer's collection.

*Chalcogonatopus nigrus* n. sp.

Length 2.448 mm. Black except antennæ, legs, face and a small area on the first abdominal segment, which are fuscous or testaceous. Antennæ fuscous except the first joint, which is testaceous; mandibles testaceous except the teeth; face testaceous just above the bases of the antennæ; compound eyes fuscous. Fore coxæ testaceous, except a fuscous area on the dorsal side extending two-thirds the distance of this joint from its base; fore trochanters testaceous; fore femora fuscous except distal parts at the union with the tibiæ, which are testaceous, somewhat darker dorsally; fore tibiæ fuscous except proximal part near the union with the femora, which are testaceous; fore metatarsi fuscous, rest of fore tarsi, including chelæ, testaceous; incrassate parts of the median and hind legs fuscous. The small tapering part of the propodeum near the petiole is testaceous, as well as a small area on dorsal part of the first abdominal segment just beyond the petiole.

*Head*.—Broader than long (18:10); slightly concave, showing under high power a very indistinct reticulation which is more distinct

posteriorly from the occipital region to just back of the median ocellus; two spur-like areas of this more distinct reticulation extend forward as far as the median ocellus, but a little to each side of it. Mandibles four-dentate; antennæ long; first joint twice the thickness of the rest, one-third longer than the second; third twice the length of the first, slightly more slender than the second; fourth slightly longer than the first or fifth, which are of the same length, and of the same thickness as the third; sixth, seventh, and eighth of equal length, each being one-fourth shorter than the fifth; ninth short, two-thirds the length of eighth; tenth twice the length of the ninth, same length as first.

*Thorax*.—The pronotum divided by an arcuate deeply impressed transverse line, the shorter, wider anterior portion being smooth and shining, the narrow elongated posterior division being finely reticulately sculptured. Thoracic constriction longer than wide (7:4) with several distinct longitudinal wrinkles or folds dorsally, extending throughout its length, except anteriorly, where the surface is smooth and polished.

*Propodeum*.—Propodeum with a distinct transverse rugulosity which also extends down the sides; disc with a fine reticulation. An indistinct, short, scattered pubescence is present.

*Chela*.—(Fig. 2). Median arm with a cluster of lamellæ at the tip, and a row of smaller ones extending from a point near the tip, half-way down to the articulation of this joint with the lateral arm, the last two lamellæ being longer than the rest.

Described from one specimen bred from *Scaphoideus* sp. probably *immistus* Say, July 8, 1923, collected by C. J. Drake. Type in writer's collection.