

NOTES ON SOME GENERA AND SPECIES OF CHALCID-  
FLIES BELONGING TO THE APHELININAE WITH DE-  
SCRIPTION OF A NEW SPECIES.

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In attempting to place the species described below as new, some interesting facts were developed which it is believed will serve partially to clear up one or two mooted questions in the classification of the subfamily Aphelininae. Since these observations deal principally with the identity of a species lately shown to be parasitic on the Hessian fly, their publication at this time appears to be advisable.

**Genus CENTRODORA Foerster.**

*Centrodora* FOERSTER, Verh. naturh. Ver. preussisch. Rheinland, vol. 25, 1878, p. 66.

*Paraphelinus* PERKINS, Bull. I, Hawaiian Sugar Plant. Assoc., 1906, p. 264.

The genus *Centrodora* was described in 1878 with *C. amoena* Foerster designated as the genotype. Both the genus and the species have apparently remained unrecognized since that time.

While examining specimens of *Paraphelinus speciosissimus* Girault the writer was impelled to compare them with the description of *C. amoena*, with the result that he is thoroughly convinced that Girault's species belongs to the genus *Centrodora* and is very likely synonymous with the type-species. The only point of disagreement between my specimens and the generic description of *Centrodora* is found in the reference to the postscutellum (Hinterschildchen) as completely covering the metanotum and reaching the base of the abdomen and this is explainable. A slide mounted specimen under poor illumination will easily give one an impression similar to that indicated by Foerster, due to the fact that the phragma is very conspicuous, resembling a greatly produced postscutellum. The probable correctness of this supposition can hardly be questioned, in view of the fact that the specific description of *amoena* agrees very closely with specimens of *speciosissimus*—so closely, in fact, as to make it seem highly probable that they are the same species. Practically all of the known European parasites of the Hessian fly are now known to occur in the United States, and there is no good reason why this

species should not occur in both continents. The writer fully believes the two will eventually prove to be the same species, but it is probably advisable to retain the name *speciosissimus* for the American form until such time as European specimens can be obtained for comparison.

Another point of interest in this connection is the identity of *Agonioneurus locustarum* Giraud.<sup>1</sup> Howard<sup>2</sup> has pointed out the possibility that the species, the generic position of which has remained in doubt since the original description, may belong to *Paraphelinus*. The writer has carefully compared Giraud's description with that of *Centrodora amoena* by Foerster with the result that he is convinced that the two species are probably identical. The one point of disagreement seems to be in the presence or absence of the hairless streak on the forewing. Giraud specifically states that this line is absent in his species, but in view of the exact agreement in all other

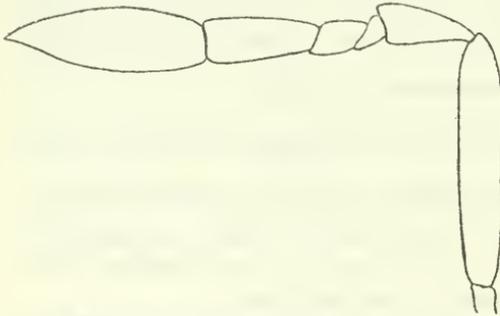


FIG. 1.—ANTENNA OF FEMALE (*PARAPHELINUS*) *CENTRODORA SPECIOSISSIMUS* GIRAULT.

characters and in the light of the knowledge gained from the study of *speciosissimus* in which this line is narrow and inconspicuous lying for the most part in the infuscated portion of the wing, it seems practically certain that Giraud has overlooked it. The species name *locustarum ante-*

*dates amoena*, and in case my conjectures are correct will supersede both *amoena* and *speciosissimus*.

The species *speciosissimus* unquestionably agrees with the description of *Paraphelinus* Perkins, and that genus therefore becomes a synonym of *Centrodora* Foerster.

Mr. Girault has stated his conviction that *Paraphelinus* and *Aphelinus* Dahnan are synonyms.<sup>3</sup> If accepted this would make *Centrodora* also a synonym. Girault based his conclusion on the study of several Australian species which are unknown to the writer. As represented by *speciosissimus* the genus differs from *Aphelinus* in that the praescutum and scutellum are both divided by a median longitudinal groove, the wings are distinctly longer and narrower, with the venation attaining barely to the middle of its length; the legs are somewhat longer and more slender, the hind tibiae being decidedly longer than their femora; the ovipositor is more strongly exerted, and the scape of the male is distinctly though not greatly

<sup>1</sup> Verh. d. Zool.-Bot. Ges. Wien, vol. 18, 1863, p. 1278.

<sup>2</sup> Proc. Ent. Soc. Wash., vol. 16, 1914, pp. 81-82.

<sup>3</sup> Memoirs of the Queensland Museum, vol. 4, 1913, p. 180.

thickened. The antennae in both sexes are more elongate than in *Aphelinus* with the joints quite differently proportioned. The whole insect is more slender with a somewhat different habitus. These characters taken in conjunction with the difference in host relations make it extremely improbable that the two forms represent the same genus. It may be that a close study of many different species will show such an intergradation as to make it impossible to maintain the separation, but for the present, at least, it appears desirable to retain the name *Centrodora* as distinct from *Aphelinus*.

*Centrodora speciosissimus* has been shown by McConnell to be parasitic in the puparia of *Mayetiola destructor* Say.<sup>1</sup> Girault has recorded it as parasitic in the eggs of *Xiphidium*, species ?.<sup>2</sup>

(*Agonioneurus*). *Centrodora locustarum* was originally reared according to Giraud from eggs of *Xiphidium fuscum* Fabricius.

Foerster's type of the species *amoena* was collected on a window, as was also the type of *speciosissimus* Girault.

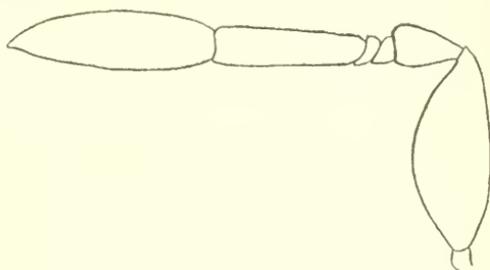


FIG. 2.—ANTENNA OF MALE (PARAPHELINUS) *CENTRODORA SPECIOSISSIMUS* GIRAULT.

#### Genus *TUMIDISCAPUS* Girault.

This genus was originally based on a single male specimen mounted on a slide and now badly crushed. One antenna is however in good condition, and is illustrated in figure 3.

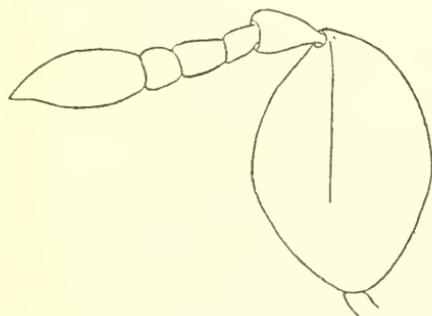


FIG. 3.—ANTENNA OF MALE *TUMIDISCAPUS FLAVUS* GIRAULT.

The writer has recently examined a number of specimens, including both sexes, which are in his opinion congeneric but represent a different species. These specimens are made the types of the new species described below.

*Tumidiscapus*, as represented by this new species, is very closely allied to *Centrodora*, both in structure and habits. The habitus is practically the same; the wings are elongate and narrow, the venation extending to the middle of the wing; the mesoscutum and scutellum are divided by a median longitudinal groove; the legs are long and rather slender; the abdomen of the female is elongate, acuminate at apex, with the ovipositor strongly exerted. It apparently differs

<sup>1</sup>Ann. Ent. Soc. Amer., vol. 9, p. 97.

<sup>2</sup>Ent. News, vol. 27, 1916, p. 405.

from *Centrodora* principally in antennal characters, the female having the fourth joint longer than the fifth in both sexes and the male scape being much more greatly enlarged. These are probably only specific characters, and it is likely that the study of additional species will make it necessary to sink *Tumidiscapus* as a synonym of *Centrodora*.

**TUMIDISCAPUS ORTHOPTERAE, new species.**

Except for the fact that the male scape appears to be much more greatly enlarged and flattened and the third antennal joint very slightly shorter, the male of this species seems to be exactly like the unique type of *T. flavus* Girault. Additional specimens may possibly prove them to be the same species.

*Female*.—Length 1.15 mm. Vertex granularly opaque, remainder of head and thorax very faintly microscopically sculptured, if at all; abdomen apparently smooth. Antennae 6-jointed, as follows: Scape, pedicel, 3-jointed funicle, and a solid club (figs. 4 and 5); the first funicle joint might be called a ring-joint, being smaller than

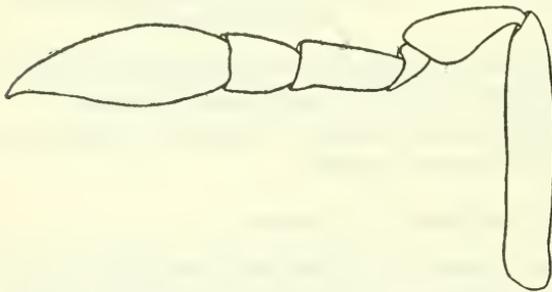


FIG. 4.—ANTENNA OF FEMALE *TUMIDISCAPUS ORTHOPTERAE* GAHAN.

the other joints, but somewhat longer than broad; its apex obliquely truncate, the upper margin shorter than the lower margin; the second funicle joint attached so as to form a distinct angle with the first; mandibles tridentate;

parapsidal grooves deeply impressed, complete; praescutum with a weak median longitudinal groove; scutellum nearly circular with a weak median longitudinal groove; propodeum apparently with a strong median longitudinal carina probably due to the caving-in of the integument on each side of the middle in drying; forewing long and rather slender, extending considerably beyond the apex of the abdomen, its greatest length approximately three and one-half times its greatest breadth; marginal and submarginal veins equal, postmarginal absent, marginal cilia of forewing approximately one-fifth the greatest wing breadth, discal cilia moderately dense, nearly uniformly distributed except that the base of wing to the apex of submarginal is nearly bare, and there is a poorly defined nearly hairless oblique line extending from the stigmal vein backward and basad to the posterior wing-margin; hind wing long and narrow, the discal ciliation rather weak except a double row along the anterior margin, the longest marginal cilia a little longer than the wing breadth; legs slender; abdomen distinctly longer than the head and thorax, sessile, acuminate at apex, the

ovipositor extending beyond the apex of abdomen fully half the length of abdomen. Color uniformly pale yellowish, the underside of head and thorax and the legs more pallid; antennae faintly infuscated, nearly concolorous with the head; wings hyaline; ovipositor sheaths fuscous.

*Male*.—Length, 0.75 m. Similar to the female, but the greatly enlarged scape, which is nearly as large as the head, is greatly flattened (at least in dead specimens) and very finely granularly opaque; the first funicle joint is apparently not obliquely truncate at apex, and the second and third funicle joints are subequal and approximately twice as long as broad.

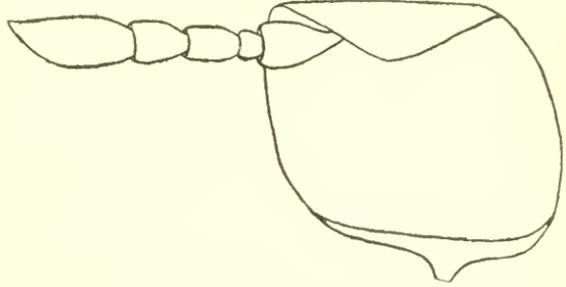


FIG. 5.—ANTENNA OF MALE TUMIDISCAPUS ORTHOPTERAE GAHAN.

*Type-locality*.—Titusville, Florida.

*Type*.—Cat. No. 21700, U.S.N.M.

Nineteen females and three males reared from the eggs of an orthoterion (*Locustidae*) deposited in the stems of grass, *Andropogon glomeratus*. Reared by Mr. G. G. Ainslie and recorded in the Bureau of Entomology under Webster No. 10844.

Type, allotype, and eight paratypes mounted in balsam. Twelve paratypes, including one male, mounted on card points.