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Descriptions of New Hymenoptera No. 5

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United States National Museum

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DESCRIPTIONS OF NEW HYMENOPTERA

No. 5

Hymenoptera - Chalcidoidea

BY

J. C. CRAWFORD

Associate Curator, Division of Insects, United States National Museum

[*Agronomidae*
Callinomidae
Leomyrmidae
Encyrtidae
Pteromalidae
Eulophidae]

No. 1927.—From the Proceedings of the United States National Museum,
Vol. 43, pages 163-188

Published September 7, 1912



Washington
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By J. C. CRAWFORD,

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Many of the species herein described were received from the Bureau of Entomology, United States Department of Agriculture, having been reared by its various branches in economic investigations as parasites of injurious insects. In this connection attention is especially called to the interesting and varied series reared from *Agromyza*.

In this paper, as in all previous papers published by me, the sex first described is to be taken as the true type and the second as the allotype.

Family AGAONIDÆ.

Genus SECUNDEISENIA Schulz.

This name will replace *Eiseniella* Ashmead, which is preoccupied, a fact overlooked by me when publishing¹ the synonymy of the genus.

Family CALLIMOMIDÆ.

Genus CALLIMOME Spinola.

The type of this genus was fixed by Curtis² in 1835 as *Ichneumon bedeguaris* Linnæus. This same species was made the type of *Torymus* Dalman by Ashmead in 1904.

As early as 1828 Westwood had established the synonymy of these two names, although the later one has, since the time of Walker, crept into use. The correct name is here restored, and following the established custom of hymenopterologists the family name is made to conform with that of the oldest included genus.

PODAGRION ECHTHRUS, new species.

Female.—Length about 4 mm.; ovipositor about 5 mm. Head and thorax green, with some bluish tints; face with very fine crowded punctures, appearing almost granular; scape flavous; pedicel and ring joint light brown, rest of antennæ darker brown; first joint of funicle

¹ Proc. U. S. Nat. Mus., vol. 42, 1912, p. 3.

² Brit. Ent., vol. 12, p. 552.

somewhat longer than the pedicel; club of antennæ not thickened, but the joints coalesced; thoracic notum with crowded punctures, those on the propodeum thimble-like, those on the pronotum and anterior part of mesoscutum appearing more like reticulations; scutellum toward apex finely lineolate, followed by a row of pits and a smooth margin; propodeum with two carinæ starting from the middle of the base and diverging to touch points just back of the insertion of

the hind coxæ; starting at almost the middle of each of these carinæ another carina extends to the side of the arcuate opening from which the petiole projects; propodeum at apex medially with a few rugulæ and a few on the cephalic side of the points of joining of the two pairs of carinæ; wings subhyaline,

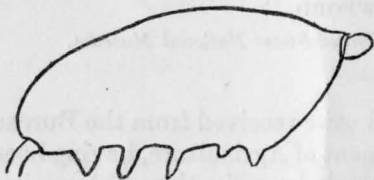


FIG. 1.—*PODAGRION ECHTHRUS*. HIND FEMUR OF FEMALE.

postmarginal vein almost twice as long as the stigmal; front and middle legs, including coxæ, flavous; hind coxæ about as long as the hind femora, bluish, with flavous tips; rest of hind legs flavous, with a bluish spot on disks of femora on outer sides and a smaller brown spot on the inner sides; hind femora with about five or six dark brown teeth (three apical ones large, then one or two small ones, and then a large one basad) (see fig. 1); abdomen above bluish purple with a medial brown spot, below flavous.

Male.—Length about 3.5 mm. Similar to the female; the antennæ flavous, with the club somewhat dusky; the hind femora with the green spot on the outer side covering most of the disk, the brown spot inwardly almost as large; hind tibiæ dark brown; hind femora with three large teeth and basad of them a dentiform angle. (See fig. 2.)

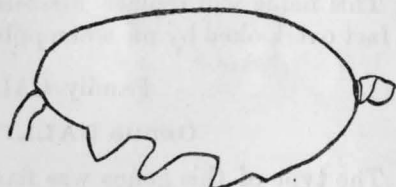


FIG. 2.—*PODAGRION ECHTHRUS*. HIND FEMUR OF MALE.

Habitat.—Santa Lucrecia, Vera Cruz, Mexico.

Described from specimens from a large series reared by Mr. F. W. Urich from the eggs of *Mantis*, species.

Type.—Cat. No. 14811, U.S.N.M.

Family EURYTOMIDÆ.

EURYTOMA PIURÆ, new species.

Female.—Length about 2.5 mm. Black, the head and thorax closely umbilicately punctured; pedicel short, hardly longer than broad; first joint of funicle about twice as long as pedicel, the following joints successively decreasing in length; club about as long as the last

two joints of the funicle combined; pronotum about twice as broad as long, about as long as the mesoscutum; punctures of mesoscutum and axillæ finer than those on scutellum; propodeum coarsely rugose, with a well defined median channel, this channel divided by a median carina and transverse rugæ, making it appear more or less distinctly to be composed of two vertical rows of pits; mesopleuræ longitudinally, finely, closely carinate and punctured between the carinæ; marginal and postmarginal veins subequal in length, the stigmal vein somewhat shorter; coxæ and femora, except tips, black; tibiæ reddish testaceous, tarsi whitish; abdomen smooth, polished, the segments punctured along the lower margins; segments 1-3 short, segment 4 about as long as 1-3 combined; following segments short.

Male.—Length about 2 mm. Similar to the female except in secondary sexual characters; the tibiæ medially largely black; the petiole about as long as the hind coxæ.

Habitat.—Piura, Peru.

Five female and three male specimens from Prof. C. H. T. Townsend, the types and two other females and one male with the record, reared from a lot of cotton squares containing *Anthonomus vestitus*; the other specimens with the record, reared from *A. vestitus*.

Type.—Cat. No. 14614, U.S.N.M.

Family CLEONYMIDÆ.

CHEIROPACHUS BRUNNERI, new species.

Female.—Length about 3.5 mm. Green, tinged with brassy; the clypeus finely vertically rugulose, face with thimble-like punctures, along inner orbits interspersed with larger setigerous punctures, making the face appear rugoso-punctate; along upper ends of inner orbits the punctures change to shallow reticulations; scape reddish-testaceous, rest of antennæ brown; first joint of funicle slightly but distinctly longer than pedicel; thoracic tergum and anterior half of mesopleuræ with thimble-like punctures; propodeum with a median carina, the sculpture between the lateral folds resembling shallow, rather indistinct, thimble-like punctures; wings with a fuscous cloud at apex of submarginal vein and another extending from the base of the postmarginal vein almost to its apex; this latter reaching apex of stigmal vein and extending backward about half way across wing, marginal and postmarginal veins subequal in length, the stigmal slightly shorter; front and middle femora brown tinged with metallic greenish behind, hind femora green; tibiæ lighter brown than femora; tarsi testaceous.

Male.—Length about 3.5 mm. Very similar to the female except in secondary sexual characters; the propodeum with thimble-like punctures.

Habitat.—Columbia Falls, Montana.

Type.—Cat. No. 14583, U.S.N.M.

Material received from the Bureau of Entomology, United States Department of Agriculture, under note number, Hopkins U. S. No. 8574, Josef Brunner, collector; reared from *Pissodes*, species.

Paratypes in the male sex show the propodeum as in the type female.

This species differs from *C. colon* and allies in the coarse sculpture of the face and in the punctures of the metanotum.

The species is named after the collector.

Family ENCARTIDÆ.

Tribe EUPELMINI.

CERAMBYCOBIUS TOWNSENDI, new species.

Female.—Length about 4 mm.; sheaths of ovipositor exposed about 1 mm. Head and thorax bronzy, in places somewhat greenish; abdomen more aeneous; scape reddish-testaceous, rest of antennæ dark brown; pedicel about as long as the first joint of the funicle; lower half of face rugoso-punctate, the upper part lineolate; above anterior ocellus becoming closer and transverse; lateral ocelli less than their own width from eyes and slightly farther from each other than from the anterior ocellus; median lobe of mesoscutum transversely rugulose, back of this reticulated with fine raised lines; lateral lobes along elevations very finely reticulated, the outer part almost as coarsely reticulated as the median area of the mesoscutum; axillæ and scutellum finely reticulated; postmarginal vein about as long as the stigmal, about one-fourth as long as the marginal; legs rufo-testaceous, the coxæ and the anterior and posterior femora except tips metallic greenish; tarsi whitish; abdomen finely reticulated; segments 1-4 deeply incised medially, segment 5 rounded at apex; sheaths of ovipositor with a median white band.

Male.—Length about 2.5 mm. Blue-green with some bronzy reflections; in sculpture largely similar to the female, but with the face below with thimble-like punctured; above antennal fossa finely reticulated; antennæ entirely dark, the scape and pedicel blue green; first joint of funicle longer than pedicel; median lobe of mesoscutum at rear with sculpture like that of female; rest of mesoscutum rugulose, the rugulæ more or less transverse; legs blue-green, the anterior tibiæ and all the tarsi testaceous.

Habitat.—Department of Piura, Peru.

Host.—*Anthonomus vestitus*.

Type.—Cat. No. 14615, U.S.N.M.

Type female reared from cotton squares; allotype male reared from the Peruvian cotton-square weevil, *Anthonomus vestitus*, by Prof. C. H. T. Townsend and sent under his number 795° 3d². Paratypes from

the same region, both reared from the host weevil and others recorded as issuing from cotton squares.

In general this species resembles *C. cushmani* of the United States, but that species has the anterior femora light colored.

CERAMBYCOBIUS PERUVIANUS, new species.

Female.—Length about 3.5 mm.; sheaths of ovipositor exposed about 0.25 mm. Head and thorax green tinged with bronzy; abdomen aeneous, the base green; lower part of face rugulose, above antennal fossa with shallow crowded punctures, back of ocellar triangle finely rugulose, on rear of head the rugulae becoming transverse; lateral ocelli slightly closer to each other than to anterior ocellus; scape and basal joints of funicle bronzy, rest of antennae dark brown; mesoscutum very finely and indistinctly lineolate and with sparse minute setigerous punctures; axillae more coarsely and distinctly lineolate, scutellum with the lineolation reticulated; prepectus reticulated with fine raised lines; mesopleurae with similar, but finer sculpture; wings hyaline, the postmarginal vein only slightly longer than the stigmal; coxae greenish; front legs reddish-testaceous, the femora with a green stripe outwardly; middle legs similar in color but the femora and tibiae dusky medially and the tarsi more whitish; hind femora, except bases and apices, green; hind tibiae medially dark brown, hind tarsi except the darkened tips whitish, rest of hind legs testaceous; abdomen finely lineolated, the lineolations closer toward apex; segments 1-3 deeply incised medially at apex, segment 4 notched medially, segment 5 broadly emarginate; sheaths of ovipositor not banded.

Male.—Unknown.

Habitat.—Department of Piura, Peru.

Type.—Cat. No. 14597, U.S.N.M.

One specimen reared by Prof. C. H. T. Townsend from a lot of cotton squares.

Tribe MIRINI.

COCCIDICTONUS, new genus.

Mandibles three-toothed, head viewed laterally triangular, the front strongly projecting; eyes hairy, prominent, converging to point where front is most prominent and inner orbits parallel from there to back of ocelli; in the female the lateral ocelli touch inner orbits and are separated from each other by about one and one-half times the diameter of an ocellus; lateral ocelli nearer to each other than to the anterior ocellus; front ocellus in diameter about one-third the distance between the eyes at its point of insertion; in the male the front slightly wider, the lateral ocelli touching the orbits, the ocelli in an equilateral triangle, the lateral ocelli separated from each other by about twice the diameter of an ocellus; in the female the funicle six-

jointed, the joints elongate, club three-jointed, enlarged, about as long as the last three joints of the funicle together; in the male, funicle six-jointed, joints elongate, club not enlarged; axillæ meeting medially; wings hyaline, the marginal vein almost punctiform, the stigmal vein longer, the postmarginal vein longer than the stigmal; ovipositor about as long as the abdomen.

Type of the genus.—*Coccidoctonus trinidadensis* Crawford.

In Doctor Ashmead's classification this genus goes to *Zaomma*, from which it differs in the long antennæ, in the joints of the funicle being elongate, in the less enlarged club which is not as long as the funicle and in the prominent ovipositor.

COCCIDOCTONUS TRINIDADENSIS, new species.

Female.—Length about 1.12 mm.; ovipositor about 0.5 mm. Head and mesoscutum dark green, scutellum bronzy aeneous; abdomen aeneous; front very delicately and finely reticulately lineolated and with a very few scattered punctures; lower part of face minutely rugulose; antennæ flavous, above, somewhat infuscated; pedicel as long as joints one and two of funicle combined; joint one of funicle slightly longer than wide, shorter than second joint; following joints subequal in length; hair on eyes short, inconspicuous; mesoscutum and scutellum finely lineolated, the mesoscutum transversely so; legs, including coxæ, yellowish, the tibiæ with a brown spot outwardly near base, that on the middle tibiæ the most conspicuous; femora outwardly somewhat infuscated.

Male.—Length about 0.85 mm. Similar to the female, the sculpture of the front deeper, resembling shallow, crowded punctures; antennæ with thick long hair; hair on eyes more conspicuous than in female.

Type-locality.—Port of Spain, Trinidad.

Reared from *Pulvinaria pyriformis* on honeysuckle by Mr. Lachmere-Guppy.

Type.—Cat. No. 14760, U.S.N.M.

Family PTEROMALIDÆ.

SPINTHERUS PULCHRIENNIS, new species.

Female.—Length about 4 mm. Head and thorax blue with purplish tints, the abdomen brown, with the base blue; face with fine crowded punctures, appearing almost granular; mandibles 3-toothed; antennæ brown, the scape testaceous, pedicel elongate, about as long as the first joint of the funicle; first ring joint almost subquadrate, the second longer than broad; thoracic notum with fine thimble-like punctures; scutellum near apex with a transverse line due to the apical portion having larger punctures; propodeum short, without a neck, with a median carina, lateral folds shallow, the area between them with very shallow indistinct punctures; prepectus and meso-

pleuræ entirely covered with thimble-like punctures; legs rufo-testaceous the femora more or less infuscated; front and middle coxæ with a large blue spot at base; hind coxæ entirely bluish; femora more or less tinged with bluish behind; wings hyaline with a large fuscous band the length of and covering the marginal vein and extending about two-thirds across wing; the anterior part much more deeply infuscated than the posterior; marginal vein slightly shorter than stigmal (about as 15:18) and slightly thickened; postmarginal much longer than marginal (about 25:15).

Male.—Unknown.

Habitat.—Columbia Falls, Montana.

Host.—*Pissodes*, species.

Type.—Cat. No. 14596, U.S.N.M.

Described from specimens received from the Bureau of Entomology, United States Department of Agriculture, under note number, Hopkins U. S. No. 8574 (a single specimen, the type) and 8573 (all paratypes), collected by Josef Brunner.

Genus CECIDOSTIBA Thomson.

The American species do not appear to fit well in this genus, as one at least (*C. thomsoni*) has both mandibles with three teeth, and Thomson characterized this genus, *Cænacis* Thomson and *Dinotus* Foerster (all of which have the stigmal knob enlarged) as having the right mandible four-toothed and the left three-toothed. There is in the collection a specimen congeneric with *C. thomsoni* determined as *Dinotus* species by Dr. Gustav Mayr and obtained by Dr. L. O. Howard for the purpose of ascertaining the number of teeth on the mandibles, and this specimen has both mandibles three-toothed. This illustrates the unsettled condition of this group and for this reason the species are allowed to remain in this genus for the present.

Doctor Ashmead, when describing *C. dendroctoni*, labeled all the material examined "type," but deposited one female in the collections of the U. S. National Museum and gave it a type-number. This specimen (see particulars below) has been accepted as the true type and the remainder of the material, representing in part another species, has been used in the description of one of the new species given below.

TABLE OF FEMALES OF SPECIES FOUND IN THE UNITED STATES.

- | | |
|---|-----------------------------|
| 1. Mesopleuræ without a large subtriangular smooth area on upper half of mesepimeron..... | 2. |
| Mesopleuræ with a large subtriangular smooth area on upper half of mesepimeron..... | 3. |
| 2. Marginal and postmarginal veins subequal in length..... | <i>dendroctoni</i> Ashmead. |
| Postmarginal vein almost one-half longer than marginal..... | <i>burkei</i> Crawford. |
| 3. First joint of funicle and pedicel subequal in length..... | <i>polygraphi</i> Ashmead. |
| First joint of funicle distinctly longer than pedicel..... | 4. |
| 4. Prepectus covered with thimblelike punctures..... | <i>ashmeadi</i> Crawford. |
| Prepectus almost entirely without thimblelike punctures..... | <i>thomsoni</i> Crawford. |

CECIDOSTIBA DENDROCTONI Ashmead.

The type-specimen bears the data, Hopkins, W. Va., accession No. 6359b, and was reared from *Dendroctonus frontalis*.

Type.—Cat. No. 2180, U.S.N.M.

CECIDOSTIBA BURKEI, new species.

Female.—Length about 7 mm. Head and thorax bronzy green, abdomen aeneous, slightly tinged with greenish; face below insertion of antennæ rugoso-punctate; above insertion of antennæ with thimblelike punctures; clypeus and supraclypeal area with finer sculpture than sides of face; scape rufous, rest of antennæ dark brown, joints of funicle elongate, the first about three times as long as the pedicel, first joint of club as long as last two combined; thoracic notum, propodeum between lateral folds, and pleuræ, including prepectus, with thimblelike punctures; upper half of mesepimeron reticulated, the anterior margin very finely so; propodeum with a median carina; wings slightly dusky, marginal vein shorter than postmarginal (about as 25:35), but longer than stigmal (about as 25:20); coxæ and front and hind femora, except bases and apices, green; middle femora brown, rest of legs reddish testaceous; abdomen elongate, last dorsal segment about one and one-half times as long as penultimate.

Male.—Unknown.

Type.—Cat. No. 14580, U.S.N.M.

One specimen from Hoquiam, Washington, with the data, crawling on *Picea sitchensis* (with the date 6-7-04), H. E. Burke, collector. Received for name from Dr. A. D. Hopkins, in charge of Forest Insect Investigations, Bureau of Entomology, United States Department of Agriculture.

This species is named after the collector.

CECIDOSTIBA ASHMEADI, new species.

Female.—Length 4.5 mm. Green, head and thorax above with thimblelike punctures, those on the clypeus and supraclypeal areas finer; back of head from a short distance back of lateral ocelli, semicircularly striate; scape and pedicel yellowish, rest of antennæ brown, the first joint of the funicle almost one and a half times as long as the pedicel; metanotum medially visible; propodeum between the lateral folds with thimblelike punctures and without a distinct median carina; prepectus and mesopleuræ with thimblelike punctures; the upper half of the mesepimeron smooth; postmarginal vein over one and a half times as long as the marginal; stigmal shorter than marginal; coxæ green, femora, except tips, brown with more or less metallic luster, especially on front and hind femora, middle

femora in front, tips of all femora and rest of legs testaceous; abdomen longer than the head and thorax combined.

Male.—Unknown.

Type-locality.—Morgantown, West Virginia.

Type.—Cat. No. 14581, U.S.N.M.

Described from two specimens; as noted above, the type is one of the series of specimens labelled as "type" of *C. dendroctoni* by Doctor Ashmead, and has the record Hopkins, W. Va., No. 4555, and the note shows it to be a parasite of *Polygraphus rufipennis*; the paratype from the same locality also labeled "type" of *C. dendroctoni*, has the record Hopkins, W. Va., No. 5762.

CECIDOSTIBA THOMSONI, new species.

Female.—Length about 4.5 mm. Brilliant green, the mesonotum somewhat bronzy; head and mesonotum, together with pleuræ, with thimble-like punctures; lower part of face rugoso-punctate, clypeus separated from face by a depressed line; back of head from a point not far back of ocelli, semicircularly striate; scape reddish, pedicel slightly darker, rest of antennæ dark brown, first joint of funicle distinctly longer than pedicel, the following joints successively decreasing in length, the last subquadrate; apical part of scutellum more coarsely punctured than basal, the line of joining abrupt, distinct; metanotum medially concealed by the apex of the scutellum; propodeum without a neck, with distinct lateral folds, medially finely rugose, laterad of this as far as the folds, punctured; the extreme apex with a few coarse rugæ; laterad of the folds the surface almost smooth, with a few weak wrinkles; spiracles small, oval; upper part of mesepimeron in the shape of a triangle impunctured, metapleuræ finely rugulose; wings almost hyaline, marginal vein shorter than postmarginal (about as 20 : 35); stigmal (including knob) slightly shorter than marginal; stigmal knob about one-third the total length of vein, surrounded by a small infuscated band; coxæ green, trochanters, all femora at bases and apices, tibiæ and tarsi, yellowish; front femora, except a brown stripe on front, green; middle femora brown with a green stripe beneath, hind femora green outside, inside deep brown; abdomen elongate, finely reticulately lineolated, last dorsal segment about as long as penultimate.

Male.—Length about 3.25 mm. Similar to the female; front and middle legs almost entirely reddish-testaceous, the front femora slightly infuscated, hind femora green outwardly, inside fuscous; abdomen æneous, the base and apex greenish, near base with a large testaceous spot; propodeum longer than in female, and with a median carina.

Habitat.—Columbia Falls, Montana.

Host.—*Pissodes*, species.

Type.—Cat. No. 14582, U.S.N.M.

Described from six female and six male specimens selected from a large series under Bureau of Entomology, United States Department of Agriculture, note number, Hopkins U. S. No. 8574, Josef Brunner, collector.

In some males the rugæ between the lateral folds on the propodeum are, except for the median carina, replaced by punctures.

An examination of the mandibles of a female shows each to have three teeth.

This species is named in honor of Mr. C. G. Thomson, whose excellent monograph of the chalcids of Scandinavia began a new era in the study of this group.

SCYMNOPHAGUS SECUNDUS, new species.

Female.—Length about 1.85 mm. Head and thorax dull pitchy-black, the propodeum more or less greenish, the abdomen distinctly so; antennæ brown, the scape lighter, the three ring-joints distinct; pedicel about as long as the first joint of the funicle; joints of funicle subequal in length; head and thorax with thimblelike punctures, scutellum with a well-marked transverse furrow; propodeum with sculpture similar to that of mesonotum but finer, and laterad of the lateral folds much weaker, this sculpture not extending laterad of the spiracles; propodeum with no median carina; coxæ black, femora except tips, brown, rest of legs brownish testaceous.

Male.—Unknown.

Habitat.—Palissa, Bukedi, Uganda.

Type (and two paratypes).—In British Museum (Natural History).

Paratypes.—Cat. No. 14584, U.S.N.M.

Described from specimens with the data reared from an unknown coleopterous larva collected by Mr. G. C. Gowdey, under No. 2171 with the date 1.XII,1910 and the additional note that the larva so greatly resembled a coccid that at first sight it was taken for one.

This larva was probably a *Scymnus* or closely allied coccinellid genus.

The above-described species greatly resembles *S. townsendi* Ashmead, but the more distinctly differentiated furrow of the scutellum and the less distinct sculpture of the propodeum laterad of the lateral folds distinguish the two species.

CATOLACCUS TOWNSENDI, new species.

Female.—Length about 4 mm. Very similar in color and general appearance to *C. hunteri*, the venation and antennal characters being about the same; sculpture of face medially weaker than in *hunteri* and composed almost entirely of vertical striæ instead of reticula-

tions; below with striæ converging toward mouth; antennæ brown, the scape and pedicel testaceous; sculpture of postvertex medially less reticulate than *hunteri*; mesonotum with thimble-like punctures on the disk and outer margins of lateral lobes becoming rugulose; propodeum finely reticulately lineolated, with a median carina and a transverse fold, the lateral folds not very distinct; legs dark brown, the trochanters, knees, tibiæ, and tarsi testaceous; abdomen longer than head and thorax combined, slender.

Male.—Length about 2.5 mm. Very similar to the female, the sculpture of the face stronger and more pronouncedly vertical; sculpture of propodeum somewhat stronger than in female; abdomen with a large basal whitish spot.

Habitat.—Department of Piura, Peru.

Host.—*Anthonomus vestitus*.

Type.—Cat. No. 14613, U.S.N.M.

The type female reared from the above host and sent by Prof. C. H. T. Townsend under his number 795° 3e; the male reared from cotton squares. Several paratypes reared from the host and others with the record that they issued from cotton squares.

This species is easily distinguished from *C. hunteri* by the sculpture of the face, the postvertex, the lateral lobes of the mesoscutum and of the propodeum.

Family EULOPHIDÆ.

Subfamily ENTEDONINÆ.

A thorough revision of the genera of this subfamily from the standpoint of the genotypes is greatly needed. The confusion in which the genera still exist may be well illustrated by referring to the species assigned below to the genus *Pleurotropis*. These are strictly congeneric, but were described in various genera and for the most part left in the genera in which they were originally described. A notable exception to this is the species (*Asecodes*) *Pleurotropis albitarsis* Ashmead, which Doctor Ashmead had placed in the collections in the genera *Asecodes*, *Entedon*, *Mestocharis*, and *Pleurotropis*.

Until such a revision is made species must be arbitrarily assigned to the genera to which they appear to belong or new genera described for them. Since the latter procedure seems unnecessary the former is here adopted in the assignment of the species placed in *Derostenus* (in this case for additional reasons discussed under the remarks on that genus) and in *Chrysocharis*.

CHRYSOCHARIS PARKSI, new species.

Female.—Length about 1.25 mm. Green with brassy tints, the lower part of the face bronzy; face below transverse furrow reticulated; area surrounding ocelli very faintly reticulated; vertex sharply carinate; scape in front, except apex, whitish; funicle three-jointed,

joints two and three subequal in length, each about as long as the pedicel, the first distinctly longer; club showing only two joints and the apical spine; mesoscutum and scutellum reticulated, at the sides and apex of the scutellum the reticulations becoming elongate; metanotum at apex bounded by a carina, the disk rugose; propodeum medially with a carina which anteriorly divides; lateral folds present not very distinct; the area between them finely, almost reticulately, rugulose; wings hyaline, the stigmal knob elongate, sessile; the postmarginal vein about twice as long as the stigmal; legs white, coxæ æneous; petiole as long as the hind coxæ, viewed laterally the apical half abruptly thickened; from above medially suddenly widened and with a spine on each side; thickened part irregularly rugulose; abdomen ovate, short.

Male.—Length about 1.25 mm. Similar to the female except for secondary sexual characters, but the scape swollen, funicle with longer, more abundant hair, the joints more elongate; sculpture of face stronger.

Type-locality.—Salt Lake City, Utah.

The type female and the allotype male received from the Bureau of Entomology, United States Department of Agriculture, under Webster note number 6639 (for the female) and 7485 (for the male), T. H. Parks collector.

Four paratypes from the same source and locality under Webster number 6639, with the additional data, reared from *Agromyza*, C. N. Ainslie collector; three paratypes, same locality and number, T. H. Parks collector.

The species is named after the collector of the types.

Type.—Cat. No. 14791, U.S.N.M.

CHRYSOCHARIS AINSLIEI, new species.

Female.—Length about 1.25 mm. Blue green with the scutellum bronzy; face below the transverse furrow distinctly reticulated, above, less distinctly so; scape æneous, rest of antennæ brown; first joint of funicle longer than the pedicel, hardly longer than the second joint, the third joint slightly shorter; club showing two joints and the apical spine; mesonotum reticulated, the reticulations on the sides of the scutellum elongate; metanotum apically bounded by a carina, faintly sculptured; propodeum with faint lateral folds, the area between them finely rugulose; wings hyaline; coxæ, trochanters, except apices, femora, except apices, æneous; rest of legs whitish; petiole about as in the above species.

Male.—Length about 1.12 mm. Similar to the female except in secondary sexual characters.

Type-locality.—Salt Lake City, Utah.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under Webster note number 6639, the type

female with the additional data, reared from *Agromyza* pupa, the allotype male with the record, reared from *Agromyza*; paratypes, some with each of the above records.

The species is named after the collector, C. N. Ainslie.

Type.—Cat. No. 14792, U.S.N.M.

Genus CLOSTEROCERUS Westwood.

TABLE OF FEMALES OCCURRING IN THE UNITED STATES.

- | | |
|---|-------------------------------|
| 1. Wings trifasciate..... | 3. |
| Wings bifasciate..... | 2. |
| 2. Mesonotum green..... | <i>cinctipennis</i> Ashmead. |
| Entire insect brilliant purple or bluish..... | <i>utahensis</i> Crawford. |
| 3. Head laterad of ocelli smooth, polished..... | <i>winnemanæ</i> Crawford. |
| Head laterad of ocelli distinctly sculptured..... | 4. |
| 4. Mesonotum without a median black longitudinal stripe; punctures back of ocelli strong, thimble-like; punctures of parapsides as large as those on median area | <i>trifasciatus</i> Westwood. |
| Mesonotum with a median longitudinal black stripe; punctures back of ocelli crowded but not thimble-like; punctures along inner edges of parapsides smaller and more indistinct than those on disk..... | <i>tricinctus</i> Ashmead. |

CLOSTEROCERUS TRIFASCIATUS Westwood.

This European species has been recorded from the United States and is therefore included in the table. I have seen no specimens of it, all those seen being instead *C. tricinctus* Ashmead.

CLOSTEROCERUS TRICINCTUS Ashmead.

Pleurotropis tricinctus ASHMEAD., Bull. No. 3, Kansas State Agr. Coll., Appendix p. VIII, 1888.

CLOSTEROCERUS UTAHENSIS, new species.

Female.—Length about 0.75 mm. Brilliant purple or bluish-purple, with a few greenish tints on mesoscutum and the propodeum greenish; head around ocelli and mesonotum with crowded shallow punctures, those on back of head becoming somewhat transverse; metanotum narrow, smooth; propodeum smooth; wings with a dark band at the stigmal vein and one at apex; legs dark, the anterior and middle tibiae on apical half, together with the tarsi, light.

Male.—Unknown.

Type-locality.—Salt Lake City, Utah.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under Webster note number 6639, with the additional record, C. N. Ainslie, collector, reared from *Agromyza*.

Compared with a broken specimen named by Doctor Ashmead as *C. cinctipennis*, this species is less robust and has the mesoscutum more finely punctured, in addition to the color differences

Type.—Cat. No. 14788, U.S.N.M.

CLOSTEROCERUS WINNEMANÆ, new species.

Female.—Length about 1.12 mm. Varying shades of purple and blue, with the head above largely greenish and some greenish tints on the mesothorax; mesonotum with a broad medial longitudinal black stripe bordered on each side by a narrow stripe of green; head laterad of the ocelli polished, almost nonsculptured (the highest power of the binocular microscope showing a small area of indistinct reticulations); mesonotum with crowded punctures, medially coarser and resembling reticulations; inner half of parapsidal areas transversely rugulose; punctures laterad on scutellum much finer than those mesad; metanotum and propodeum smooth, the former distinctly shorter than the propodeum, which has no trace of a neck; wings trifasciate, one band at the apex of the wings, one at the stigmal vein and the third about half way between the base and apex of the marginal vein; legs brownish with a purplish luster; the apical half of the anterior tibiæ and all tarsi, except apices, whitish; abdomen black with the lateral margins broadly purple.

Male.—Length about 1.0 mm. Similar to the female, but the mesonotum largely greenish and the median black stripe replaced by a narrower brownish one.

Type-locality.—Plummer's Island, Maryland.

Reared from the eggs of *Arge salicis* Rohwer, together with *Winnemana argei* Crawford.

In having a median black stripe on the mesoscutum this species resembles *C. tricinctus* Ashmead, but that species has the propodeum with a short but distinct neck defined by a carina at each side, the metanotum delicately but distinctly sculptured, and fully as long as the propodeum from the base to the beginning of the carinæ which bound the neck of the propodeum.

Type.—Cat. No. 14787, U.S.N.M.

HORISMENUS URICHI, new species.

Female.—Length about 1.5 mm. Very dark blue-green, the mesonotum in certain lights appearing aeneous; face below V-shaped furrow with thimblelike punctures; above it with two lines of similar shallower punctures extending upward as far as the anterior ocellus; between these two lines of punctures and laterad of them the face smooth; ocellar triangle finely reticulated; scape white, rest of antennæ, green; pedicel about as long as first joint of the funicle; the following joints of the funicle slightly shorter than the first, subquadrate; mesoscutum delicately reticulated; scutellum on basal two-thirds with similar indistinct sculpture; lateral grooves on scutellum not extending mesad at rear, their caudal ends widely separated; medial furrow not quite reaching apex of scutellum; propodeum except extreme apex and the depressions on each side of median

elevation, smooth, polished; medial area of propodeum slightly wider than the depressions on either side of it; prepectus closely punctured; mesopleuræ smooth; legs white, the coxæ blue-green; apical half of first abdominal segment, except apical margin, finely reticulated with impressed lines.

Male.—Length about 1.25. Similar to the female except in secondary sexual characters; the petiole as long as the hind coxæ.

Habitat.—Santa Lucrecia, Vera Cruz, Mexico.

Host.—*Cirphis humidicola*.

Type.—Cat. No. 14810, U.S.N.M.

Described from specimens from a large bred by Mr. F. W. Ulrich, after whom the species is named.

In some of the paratypes the sculpture of the scutellum is absent except basally and laterad and in the male the reticulated area of the first abdominal segment is greatly reduced and the sculpture weakened.

In my table of the species of the genus from the West Indies¹ this runs to *nigroaeneus* Ashmead, which has the whole front above the transverse furrow sculptured; the sculpture of the mesoscutum much stronger, consisting of well elevated carinæ, the sculpture of the scutellum more distinct, etc.

In Doctor Ashmead's table the South American species,² it runs to *aeneicollis* Ashmead, which has the sculpture of the face below the transverse furrow resembling reticulations, above the furrow with delicate, indistinct reticulations; the lateral carinæ of the scutellum apically curve inward and meet the median carina, etc.

Genus PLEUROTROPIS Foerster.

In this genus are placed species of the tribe *Entedonini* which have, as I understand them, the characters assigned to the genus by Foerster. The propodeum has two longitudinal medial carinæ which at the apex of the propodeum turn laterad; also between the spiracles and these carinæ, at about the point usually occupied by the lateral folds, another longitudinal carina.

The species found in the United States which answer the above characters have been described in so many genera that a table of them is given and also their synonymy. *Pleurotropis leucopis* Ashmead has only one medial carina and no lateral carinæ and is therefore excluded.

TABLE OF FEMALES KNOWN FROM THE UNITED STATES.

1. Scutellum smooth medially.....	2.
Scutellum medially sculptured.....	3.
2. Head of female coppery; of male green; funicle male three-jointed, club apparently two-jointed.....	<i>quercicola</i> Ashmead.
Head green.....	<i>tarsalis</i> Ashmead and <i>ashmeadi</i> Crawford.

¹ Proc. U. S. Nat. Mus., vol. 40, 1911, p. 446.

² Memoirs Carnegie Museum, vol. 1, No. 4, 1904, p. 507.

3. Face in front of ocelli smooth.....4.
Face in front of ocelli punctured or reticulate.....6.
4. Face below transverse furrow reticulated.....*niger* Ashmead.
Face below transverse furrow smooth.....5.
5. Green, posterior ends of parapsidal furrows not foveate, sculptured.
phyllotretæ Riley.
Bronzy; posterior ends of parapsidæ furrows replaced by scar-like foveæ, smooth.
splendens Cook and Davis.
6. Median lobe of mesoscutum at rear with two smooth foveæ.....7.
Median lobe of mesoscutum at rear either not bifoveate or the foveæ sculptured ..8.
7. First joint of funicle longer than pedicel; sculpture above transverse furrow on face, in front of ocelli extending laterad to eyes.....*lithocolletidis* Ashmead.
First joint of funicle no longer than pedicel; sculpture in front of ocelli and above transverse furrow, not extending laterad to eyes.....*albitarsis* Ashmead.
8. Mesoscutum shallowly bifoveate, the sculpture of the mesoscutum delicate; scutellum delicately longitudinally rugulose but with enough transverse rugulæ to appear subreticulate; vertex in front of ocelli transversely subreticulate.
wilderi Howard.
Sculpture of head in front of ocelli, of mesoscutum and scutellum consisting of thimble-like punctures.....*rugosithorax* Crawford.

PLEUROTROPIS QUERCICOLA Ashmead.

Asecodes quercicola ASHMEAD, Bull. No. 3, Kansas State Agric. Coll., Appendix, p. VIII, 1888.

This species is placed in the table from the description, as the collection contains only a type male.

PLEUROTROPIS TARSALIS Ashmead.

Holcopelte tarsalis ASHMEAD, Trans. Amer. Ent. Soc., vol. 21, 1894, p. 341.

PLEUROTROPIS ASHMEADI, new name.

Asecodes albitarsis ASHMEAD, Can. Ent., vol. 20, 1888, p. 103. [Not (*Entedon*) *Pleurotropis albitarsis* Ashmead.]

As the type of this species is not available, the interpretation here adopted is that of Doctor Howard in A Study of Insect Parasitism.¹

Although no satisfactory means have been found for distinguishing the females of *tarsalis* and *ashmeadi*, the males may be separated as follows: Funicle apparently four-jointed, club one-jointed, *tarsalis*; funicle apparently three-jointed, club two-jointed, *ashmeadi*.

PLEUROTROPIS PHYLLOTRETÆ Riley.

Pleurotropis phyllotretæ RILEY, Report U. S. Dept. Agr. for 1884, 1884, p. 307.

PLEUROTROPIS SPLENDENS Cook and Davis.

Derostenus splendens COOK and DAVIS, Bull. 73, Mich. Agr. Exp. Sta., p. 13, 1891, fig. 9.

PLEUROTROPIS NIGER Ashmead.

Closterocerus niger ASHMEAD, Trans. Amer. Ent. Soc., vol. 23, 1896, p. 232.

¹ Bull. 5, Tech. Ser., U. S. Department of Agriculture, Division of Entomology.

PLEUROTROPIS LITHOCOLLETIDIS Ashmead.

Entedon lithocolletidis ASHMEAD, Bull. No. 3, Kansas State Agr. Coll., Appendix p. VIII, 1888.

PLEUROTROPIS ALBITARSIS Ashmead.

Entedon albitarsis ASHMEAD, Can. Ent., vol. 20, 1888, p. 102.

PLEUROTROPIS WILDERI Howard.

Mestocharis wilderi HOWARD, Proc. Ent. Soc. Wash., vol. 2, 1892, p. 298.

PLEUROTROPIS RUGOȘITHORAX, new species.

Female.—Length about 1.5 mm. Deep bluish, the head aeneous; face both above and below V-shaped furrow reticulated with raised lines; scape blue, rest of antennæ brown, with bluish tints; first joint of funicle slightly longer than pedicel; mesoscutum and scutellum with sculpture similar to that on head, but coarser, and the carinæ higher, the sculpture producing the appearance usually designated in this group as scaly; median lobe of mesoscutum at apex with two depressions, but these covered with sculpture exactly as rest of mesoscutum and not resembling foveæ; propodeum smooth, with the usual two medial carinæ and the lateral carinæ; wings hyaline; legs blue, the tibiæ at apices, testaceous; basal joints of tarsi white; abdomen smooth, polished.

Male.—Length about 1 mm. Similar to the female, the scutellum bronzy, antennæ entirely blue, the funicle four-jointed, the legs colored as in the female.

Habitat.—Salt Lake, Utah.

Two female and one male specimens received from Bureau of Entomology, United States Department of Agriculture, under note number Webster No. 6639, with the additional data, reared from *Agromyza*, in leaves of alfalfa. C. N. Ainslie collector.

Type.—Cat. No. 14786, U.S.N.M.

Genus DEROSTENUS Westwood.

This genus was stated by Westwood in his original description to be allied to *Closterocerus* and the species here assigned to the genus bear a great resemblance to species of *Closterocerus*, but differ in generic details, such as the hyaline wings, the nonflattened antennæ, etc.

TABLE OF SOME OF THE SPECIES FROM THE UNITED STATES.

1. Middle legs, except coxæ, light colored.....*pictipes* Crawford
Middle femora dark.....2
2. Abdomen distinctly sculptured, stigma with a very small cloud.
punctiventris Crawford
Abdomen smooth, wings without a stigmal cloud.....*diastatæ* Howard

DEROSTENUS PUNCTIVENTRIS, new species.

Female.—Length about 1 mm. Green, with tints of bronzy showing in certain lights on the scutellum and apex of mesoscutum; broad apical margins of the abdominal segments black, strongly contrasting with the green of the rest of the segments; antennæ brown, first and second joints of funicle subequal in length, about as long as pedicel; club, not counting the terminal spine, about one-third longer than the two-jointed funicle, distinctly three jointed, the last with a spine as long as the segment; face above transverse furrow with shallow thimble-like punctures, these extending back of ocelli; mesonotum with shallow thimble-like punctures, these becoming more shallow and indistinct on scutellum; metanotum and propodeum with sculpture similar to that at apex of scutellum; the sculpture on the propodeum extending laterad to a furrow which is laterad of the spiracle; propodeum without median carina or lateral folds; wings with a minute fuscous spot caudad of the stigmal veins; the post-marginal vein short, the stigmal knob subsessile but greatly elongate; coxæ and trochanters dark, femora black with the bases and apices whitish; anterior tibiæ testaceous; middle and hind tibiæ yellowish-white, with a brown annulus near base; tarsi concolorous with tibiæ and with dark tips; abdomen with small crowded punctures almost resembling thimble-like punctures.

Male.—Unknown.

Type-locality.—Salt Lake City, Utah.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under Webster note No. 6639, C. N. Ainslie, collector; reared from *Agromyza*.

Type.—Cat. No. 14790, U.S.N.M.

DEROSTENUS PICTIPES, new species.

Female.—Length hardly 1 mm. Similar in color and sculpture to the above but the sculpture of the mesonotum stronger, wings without a stigmal cloud, front femora, except tips, greenish; middle legs, except coxæ, yellowish-white; hind tibiæ without an annulus near base; sculpture of abdomen coarser than in the preceding species; apical margins of abdominal segments narrowly obscurely brownish, not strongly contrasting.

Male.—Abdomen and hind legs missing; length of head and thorax 0.5 mm. Color and sculpture as in female; scape enormously swollen and sculptured about as mesoscutum; front and middle legs colored as in female.

Type-locality.—Fort Collins, Colorado.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under Webster note No. 6646, with the additional data, C. N. Ainslie, collector, reared from mines on *Hordeum*.

Type.—Cat. No. 14789, U.S.N.M.

Subfamily TETRASTICHINÆ.

TETRASTICHUS GOWDEYI, new species.

Female.—Length about 1.1 mm. Dark greenish, so obscurely so that in certain lights it appears black; antennæ testaceous, the scape whitish, the first joint of the funicle distinctly longer than the pedicel; face finely lineolated; mesoscutum finely lineolated, the median groove very distinct, the parapsidal furrows wide and deep; median lobe of mesoscutum with a single row of large punctures along parapsidal furrows; scutellum finely lineolated, with two very distinct longitudinal furrows, the area between them not so distinctly sculptured as that laterad of them; metanotum about as long as propodeum, both indistinctly sub-reticulately lineolated; median carina of propodeum distinct; legs whitish, the coxæ greenish.

Male.—Length about 1 mm. Similar to the female except for secondary sexual characters.

Habitat.—Uganda, Africa; the female from Entebbe, the male from Nyerime, near Lake Salisbury.

The female was sent under number 2183, reared from coccid number 2169; the male has the record from coccid number 2168 on cotton.

Other specimens have the same records and others from Nyerime were from coccid number 2169 on cotton; all collected by Mr. G. C. Gowdey and transmitted by the Entomological Research Committee (Tropical Africa).

Types and paratypes.—In the British Museum (Natural History).

Paratypes.—Cat. No. 14585, U.S.N.M.

This species is named after the collector.

Subfamily ELACHERTINÆ.

ELACHERTUS JOHANNSENI, new species.

Female.—Length about 2 mm. Black, head almost smooth, with setigerous punctures; antennæ dark brown, first joint of funicle about as long as pedicel, following joints successively decreasing in length; pronotum longer than the mesoscutum, medially smooth, laterally finely reticulated; lateral lobes of mesoscutum inwardly smooth, outwardly with reticulations about as fine as those on pronotum; median lobe of mesoscutum more coarsely reticulated; middle lobe along anterior margin wider than long (about as 12:7); axillæ, scutellum, metanotum, and propodeum smooth; scutellum slightly longer than wide, flattened, so that the areas laterad of the furrows defining it are about in the same plane as the medial portion; propodeum with a strong median carina; legs very dark brown, the trochanters, extreme bases and apices of femora and the tibiæ and tarsi testaceous; postmarginal vein much shorter than marginal (about 9:15); stigmal shorter; abdomen black, smooth.

Male.—Unknown.

One specimen with the data, "Orono, Me., July 11; Me. Exp. St. Lot 1385 Sub 5," sent by Prof. O. A. Johannsen, after whom the species is named.

Type.—Cat. No. 14595, U.S.N.M.

This species is most closely related to *E. glacialis* Ashmead, but that species has the scutellum convex, almost twice as long as wide, and the postmarginal vein about as long as the marginal.

ELACHERTUS BENEFACTOR, new species.

Female.—Length 2.5 mm. Black, with a more or less distinct aeneous luster on head and thorax; head smooth, in front of each lateral ocellus with a small reticulated area; antennæ light brown, joints of the funicle subquadrate, subequal in length, the first shorter than the pedicel; mesoscutum and scutellum distinctly reticulated, the scutellum much longer than the width between the parallel furrows; postmarginal vein distinctly longer than the stigmal; coxae black, with an aeneous tinge; femora, except tips, brown; trochanters, tips of femora, tibiæ and tarsi, testaceous; abdomen dark brown, lighter toward base.

Male.—Unknown.

Three specimens received from Dr. E. P. Felt with the labels, reared from *Evetria comstockiana* Karner, New York, June 26, 1901.

Type.—Cat. No. 14809, U.S.N.M.

This species comes nearest *cidariæ* Ashmead, but in that species the first joint of the funicle is distinctly longer than the pedicel and the scutellum between the lateral furrows is about as broad as long.

DIAULINOPSIS, new genus.

Belongs to the tribe Ophelimini as defined by Doctor Ashmead; head thin antero-posteriorly; scape in female flattened and somewhat widened; funicle in female two-jointed, club swollen, three-jointed, with a terminal spine; in the male the scape much more widened, funicle two-jointed, club not enlarged; parasidal furrows deeply impressed, scutellum with two parallel furrows; propodeum without carinæ, and with obscure spiracular sulci; postmarginal vein almost as long as marginal; hind tibiæ with two weak apical spurs, the shorter one very obscure; abdomen sessile.

Type of the genus.—*Diaulinopsis callichroma* Crawford.

In Doctor Ashmead's classification this would run to number 12, where the antennal structure throws it out of both categories. In his tribe *Elachertini* (most of the genera of which have two spurs in the hind tibiæ instead of one) it runs to number 6 and does not fit any of the genera under either of the divisions created there. It has the same number of antennal joints as *Atoposoma* Masi and *Atoposomoides* Howard, both of which were created for nonmetallic species. The former I have not seen but the latter has two apical spurs on the

hind tibiæ, one very minute, but visible with the 65 magnification of the binocular microscope.

In general appearance this genus is much like *Diaulinus*, hence the name.

DIAULINOPSIS CALLICHROMA, new species.

Female.—Length about 1 mm. Bronzy green; scape, except tip, yellowish-white; joints of funicle subequal in length, the first about as long as the pedicel; club about as long as pedicel and funicle together; mesoscutum and scutellum longitudinally lineolate, so finely so as to appear silky; toward apex of scutellum the sculpture fainter; metanotum and propodeum polished, almost smooth, with faint indications of sculpture; the propodeum without median or lateral carinæ, but with indistinct spiracular sulci; wings hyaline; legs yellowish-white, the coxæ and the basal half of the hind femora aeneous.

Male.—Length about 0.65 mm. Similar in color and sculpture to the female, but the scape dark, sculpture of the propodeum more pronounced.

Type-locality.—Tempe, Arizona.

Material received from the Bureau of Entomology, United States Department of Agriculture, under Webster note number 7286, with the additional note "Ex *Agromyza jucunda*."

Type.—Cat. No. 14795, U.S.N.M.

The allotype male has one antenna beyond the scape broken off.

Subfamily EULOPHINÆ.

DIAULINUS Schulz.

Diaulus ASHMEAD, Mem. Carnegie Museum, vol. 1, 1904, p. 356 (preocc.).

Diaulinus SCHULZ, Spolia Hymen., p. 146, 1906.

On the page cited for the description of the genus by Doctor Ashmead this is given as a new genus and the type cited as *D. begini* Ashmead; on page 372, however, he says that it is a new name for *Diglyphus* Thomson (not Walker), but cites the same species as type. The status of the genus as defined in the first place must stand, and the Thomsonian genus, if not the same as Walker's, still needs a new name.

Since Doctor Ashmead never gave an extended description of the type-species some notes from the type specimen are given below.

KEY TO THE FEMALES FROM NORTH AMERICA.

1. Tibiæ with a narrow dark annulus, hardly broader than the yellow annulus basad of it.....*begini* Ashmead.
Tibiæ with a broad dark band reaching at least past the middle.....2.
2. Annulus on hind tibiæ extending not over two-thirds length of tibiæ; postmarginal vein about as long as stigmal; furrows on scutellum as far apart as length of scutellum.....*pulchripes* Crawford.
Annulus on hind tibiæ extending three-fourths length of tibiæ; postmarginal vein longer than stigmal; furrows on scutellum about half as far apart as length of scutellum.....*websteri* Crawford.

DIAULINUS BEGINI Ashmead.

Female.—Type. Length about 1.5 mm. Blue-green, with some bronzy tints; pedicel about as long as first joint of antennæ; second joint somewhat shorter than first; club three-jointed and with a terminal spine; mesoscutum with shallow, rounded punctures; sculpture of scutellum much finer, more like reticulations, scutellum about twice as long as the distance between the two furrows on it; metanotum polished, almost smooth, having very faint traces of shallow punctures, propodeum polished, with similar, more apparent sculpture; femora brown, with metallic luster, their tips and the tibiæ and tarsi whitish; tibiæ with a narrow brown annulus near base.

Type.—Cat. No. 12740, U.S.N.M.

One specimen mounted a card point and bearing the following label: "Sh. 21. 9. 96."

Many specimens determined as this species were received from the Bureau of Entomology, reared from *Agromyza* from Salt Lake City, Utah; Manhattan, Kansas; and Lafayette, Indiana.

DIAULINUS PULCHRIPIPES, new species.

Female.—Length about 1.25 mm. Green, mesoscutum with rounded almost thimble-like punctures; sculpture of scutellum much finer, reticulate; parallel furrows on scutellum almost as far apart as the length of scutellum; metanotum and propodeum polished, almost smooth, less distinctly sculptured than in *begini* Ashmead; postmarginal vein hardly longer than stigmal, the stigmal knob enlarged and elongated and so almost subsessile; marginal vein somewhat thickened; coxæ and femora green, tibiæ brown with metallic tints, apices of femora, bases of tibiæ, apical annulus on front tibiæ, apical half of middle and apical third of hind tibiæ yellowish-white.

Male.—Unknown.

Habitat.—Algonquin, Illinois.

Two specimens from Doctor Nason in the Ashmead collection.

Type.—Cat. No. 14793, U.S.N.M.

This is the species given under the name *Solenotus pulchripipes* by Doctor Nason in his list of Algonquin Hymenoptera.

DIAULINUS WEBSTERI, new species.

Female.—Length about 1.25 mm. Dark green, similar in sculpture to the above, but the punctures of the mesoscutum finer; the sculpture of the scutellum so fine that the surface appears silky; furrows on scutellum about half as far apart as length of scutellum; metanotum smooth; propodeum with faint traces of punctures; postmarginal vein distinctly longer than the stigmal; stigmal knob normal, so that it is not subsessile; marginal vein not thickened; legs green;

tips of femora, bases of tibiæ, apical fourth of tibiæ and tarsi except apical joints whitish.

Male.—Length about 0.9 mm. Similar to the female except in secondary sexual characters; the club of antennæ not enlarged.

Type-locality.—Tempe, Arizona.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under Webster note number 7286, with the additional data "*Ex Agromyza jucunda*."

Type.—Cat. No. 14794, U.S.N.M.

This species is named after Prof. F. M. Webster, who is in charge of the branch of investigation from which the material came.

Genus NOTANISOMORPHA Ashmead.

This genus appears to be very close to *Sympiesus*, but in addition to the characters given by Doctor Ashmead also differs in having the antennæ not or but slightly compressed and in having the propodeal spiracles situated well caudad of the base of the propodeum (in *Sympiesus* they are at the base of the propodeum).

Since Doctor Ashmead never published an extended description of the type-species of this genus, the following is given, drawn up from the type-specimen.

NOTANISOMORPHA COLLARIS Ashmead.

Female.—Length about 2.5 mm. Head and thorax bronzy green, the abdomen brown with some green tints; head and mesonotum together with the prepectus, pleuræ, and propodeum with thimble-like punctures, those on the head very fine, those on the scutellum and propodeum the coarsest; scape testaceous, pedicel somewhat darker, rest of antennæ brown; pedicel hardly half as long as first joint of funicle; second joint of funicle somewhat shorter than first; the following joints successively shorter; inflexed sides of pronotum at rear separated from dorsal aspect by a carina; mesothorax constricted anteriorly; propodeum, including neck, slightly longer than scutellum, with a median carina, the lateral folds present, their inner margins each with a carina; propodeal spiracles minute, round, situated several times their own diameter caudad of the base of the propodeum; legs, including coxæ, testaceous.

The unique type is from Cedar Point, Maryland, with the date August 22, 1883.

Type.—Cat. No. 12741, U.S.N.M.

NOTANISOMORPHA AINSLIEI, new species.

Female.—Length about 1.6 mm. Head purplish, thorax green, abdomen brown with greenish at base and apex; face finely reticulately lineolated, back of head transversely lineolated; thorax, including propodeum, with thimble-like punctures, on the pronotum

becoming shallow and resembling reticulations and on the inflexed sides of pronotum disappearing entirely; scutellum brownzy and with the punctures elongate so that it appears somewhat longitudinally striate-punctate; propodeum with a median carina and with lateral folds not very apparent, the inner margins each with a delicate carina; prepectus with thimble-like punctures, anterior portion of mesopleuræ with similar but more shallow punctures, posterior half above, smooth, below indistinctly reticulated; legs, including coxæ, whitish-testaceous; wings hyaline, marginal vein longer than submarginal, about two and one-half times as long as postmarginal and nearly four times as long as stigmal; petiole extending slightly beyond apex of neck of propodeum.

Male.—Length about 1.25 mm. Similar to the female; antennæ with three branches reaching almost to tip of club; sculpture of scutellum more distinctly longitudinal than in female; petiole somewhat longer than in female, testaceous; abdomen with a flavous spot near base.

Habitat.—Fort Collins, Colorado.

Two females (one without abdomen) with the data reared from mines in *Agropyron*, C. N. Ainslie collector (Webster No. 6611). The note accompanying them stated that the mines were those of a species of *Agromyza*.

Type.—Cat. No. 14522, U.S.N.M.

The species is named after the collector.

This species differs from *N. collaris* Ashmead in having the head without thimble-like punctures.

Genus COMEDO Schrank.

This name must be used instead of *Cratotechus* Thomson which is isogenotypic with Schrank's genus.

TABLE OF FEMALES OF THE SPECIES FOUND IN THE UNITED STATES.

- | | |
|---|---------------------------------------|
| 1. Legs, except coxæ, pale..... | 5. |
| Legs with the femora dark colored..... | 2. |
| 2. Club of antennæ dark colored..... | <i>hookeri</i> Crawford. |
| Club of antennæ, except at times the base, whitish..... | 3 |
| 3. Blue-green, median lobe of mesoscutum shallowly subreticulated, the reticulations at the rear twice as large as those anteriorly..... | <i>koebeleri</i> Crawford. |
| Aeneous, or bronzy greenish, the middle lobe of mesoscutum with thimble-like punctures, the punctures at the rear never much larger than these anteriorly. | 4. |
| 4. Wings with a deep infuscation; median carina of propodeum greatly elevated; truncation laterad of lateral folds reticulate; area between propodeal spiracles and lateral folds punctured; male antennæ simple..... | <i>anomocerus</i> Crawford. |
| Wings lightly infuscated; median carina of propodeum not greatly elevated; declivity laterad of folds of propodeum smooth; area between folds and spiracles mostly smooth; male antennæ with three branches. | <i>brevicapitatus</i> Cook and Davis. |
| 5. Lateral carinæ of propodeum distinct; abdomen of female without a flavous spot..... | <i>smerinithi</i> Ashmead. |
| Lateral carinæ of propodeum not distinct; abdomen of female with a large flavous spot..... | <i>orgyia</i> Fitch. |

COMEDO KOEBELEI, new species.

Female.—Length about 2.25 mm. Head and thorax blue-green; abdomen brown with a large whitish spot near base; face transversely rugulose; scape, pedicel, and club of antennæ whitish-testaceous, the rest of the antennæ light brown; first joint of funicle almost twice as long as the pedicel, third subquadrate; club slightly longer than first joint of funicle; thoracic notum, including metanotum and propodeum, with thimblelike punctures, those on the median lobe of mesoscutum shallow and are more like reticulations, those toward the rear of mesoscutum fully twice as large as those anteriorly; propodeum with a median carina and lateral folds, the latter each bounded inwardly by a carina; propodeum laterad of the folds truncate, the truncation inwardly smooth, polished, with a few regulæ; propodeum laterad of lateral folds finely wrinkled; prepectus and anterior half of mesopleuræ with thimblelike punctures, upper part of posterior half of mesopleuræ smooth, lower half reticulated; wings with a faint infuscation extending from the base to apex of marginal vein and apicad as far as tip of stigmal vein, but only back of this vein; marginal vein about twice as long as postmarginal; stigmal and postmarginal subequal in length; front and middle coxæ, and all femora brown, hind coxæ bronzy, rest of legs, including extreme bases and apices of femora, whitish.

Male.—Unknown.

Habitat.—Santa Cruz Mountains, California.

Described from specimens bearing the number 560 and collected by Mr. Albert Koebel, after whom the species is named.

Type.—Cat. No. 14589, U.S.N.M.

COMEDO ANOMOCERUS, new species.

Female.—Length about 2.2 mm. Head and thorax bronzy-greenish, abdomen brown with a large flavous spot near base; face finely transversely rugulose; scape, pedicel, and apical two-thirds of club whitish, rest of antennæ light brown; first joint of funicle distinctly longer than pedicel, second and third joints subequal in length, each about as long as the pedicel; mesonotum together with metanotum, prepectus, mesopleuræ, metapleuræ, and propodeum with thimblelike punctures; median carina of propodeum high, lateral folds very marked, each bounded inwardly by a carina; propodeum laterad of these folds truncate, the truncation reticulate with raised rugulæ and somewhat resembling thimblelike punctures; laterad of the folds the dorsal surface of the propodeum with shallower punctures but still very similar to those on median section; posterior half of mesopleuræ with a smooth triangular area on upper half; marginal vein about twice as long as postmarginal; stigmal and postmarginal subequal in length; wings hyaline, with a distinct infuscated band as long as and covering the marginal vein and

extending as far out as apex of stigmal vein but not in front of it; this band extends caudad over halfway across wing; front and middle coxæ brown, hind coxæ greenish, trochanters and femora brown; tips of femora and rest of legs whitish testaceous.

Male.—Length about 2 mm. Similar to the female, but the antennæ almost uniformly reddish testaceous with the scape and apex of club somewhat whitish; funicle 4-jointed, the first joint distinctly longer than the pedicel, the second slightly shorter than the first, the third and fourth shorter subequal in length, each about as long as the pedicel; all joints of funicle simple, *without branches*; wings almost entirely lacking the fuscous cloud of the female; abdomen with a small flavous spot.

Type-locality.—Oakland Farm, Kanawha, West Virginia.

Material received under note number Hopkins, West Virginia, No. 1100.

Type.—Cat. No. 14591, U.S.N.M.

COMEDO HOOKERI, new species.

Female.—Length about 2.25 mm. Head and thorax bronzy aeneous, the abdomen aeneous with a whitish spot on the disk of the first abdominal segment; face transversely lineolate; scape testaceous, rest of antennæ brown, the first joint of the funicle about as long as the club and twice as long as the pedicel; second and third joints of funicle subequal, each about two-thirds as long as the first; mesonotum with thimble-like punctures, those on the mesoscutum so shallow as to somewhat resemble reticulations by carinæ; metanotum and propodeum with sculpture similar to that on scutellum; the metanotum medially depressed, about half as long as the propodeum; propodeum with a distinct neck which is not punctured, with a median and lateral carinæ, the lateral ones running forward to the lateral folds which are represented by foveæ-like depressions; punctures laterad of lateral folds shallow and finer than those medially on propodeum; wings hyaline with an indistinct cloud beginning at the base of the apical half of the marginal vein and extending to the apex of the stigmal vein but not anterior of the stigmal vein, the cloud extending about two-thirds of the distance across the wing; postmarginal vein longer than stigmal; coxæ aeneous; femora brown, trochanters, bases, and apices of femora, and the tibæ and tarsi entirely whitish.

Male.—Unknown.

Habitat.—Vienna, Virginia.

Host.—*Pyrophila pyramidoides*.

Type.—Cat. No. 14590, U.S.N.M.

Specimens received from the Bureau of Entomology, United States Department of Agriculture, under note number, Quaintance No. 7043, C. W. Hooker collector, with the date 6.5.11.

This species is named after the collector.

