

DESCRIPTIONS OF MISCELLANEOUS NEW REARED PARASITIC HYMENOPTERA.

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In addition to descriptions of twelve species believed to be new to science and falling in the Hymenopterous superfamilies Ichneumonoidea, Chalcidoidea, and Serphoidea, this paper contains notes on several described species. All of the new species are described from reared specimens, and more or less definite host records are given for each species. Included are notes on three species from India, one from South Africa, one from the Panama Canal Zone, one from Porto Rico, and several from the United States and Canada.

Superfamily ICHNEUMONOIDEA.

Family BRACONIDAE.

ROGAS HYPHANTRIAE, new species.

In general appearance very closely resembles *terminalis* Cresson but is at once distinguished by having the abdomen practically devoid of distinct striae, whole third tergite opaquely sculptured, fourth also opaque for the most part, first abscissa of discoidal vein hardly longer than nervulus, ocelli distant from the eye-margin distinctly more than the greatest diameter of an ocellus, and mesosternum entirely, mesopleura below, and the metapleura finely coriaceous and opaque. Also resembles *harrimani* Ashmead but may be distinguished by the same characters which separate it from *terminalis*.

Female.—Length 6.5 mm. Head finely granularly punctate, the face with a few indistinct transverse rugae; malar space approximately equal to length of scape, malar groove absent; eyes weakly emarginate within; ocelli not large, antennae inserted above the middle of the face, 46-jointed, the third joint about twice as long as thick, all joints of flagellum longer than thick; mesoscutum sculp-

tured like the head, its posterior middle depressed and rugose, parapsidal grooves well developed; scutellum sculptured like mesoscutum; propodeum rugose with a distinct median carina; propleura rugose; mesopleura rugose above, granularly rugulose below with a smooth area at the posterior middle; mesosternum sculptured like the lower part of mesopleura; metapleura finely rugulose; middle and hind coxae granularly punctate, fore coxae polished; first abscissa of radius about equal to first intercubitus, a little shorter than second radial abscissa; abscissa of cubitus between recurrent nervure and first intercubitus only a little shorter than first intercubitus; nervulus postfurcal by a little more than its own length; first abscissa of discoideus not over half the length of second abscissa; abdomen longer than head and thorax, laterally compressed at extreme apex; first, second, and third tergites rather finely rugulose, with scarcely any indications of longitudinal striation, the median longitudinal carina delicate and fading out before attaining apex of third tergite; fourth tergite opaquely sculptured or nearly so, the sculpture similar to that of the third but not quite so strong; tergites beyond the fourth more weakly sculptured and mostly shining; ovipositor sheaths about as long as the exposed part of fourth tergite. Head and thorax black; orbits before and behind, malar space more or less, mandibles, sutures of mesoscutum, axillae, sides of scutellum, place of attachment of wings and a line on mesopleura below middle, fusco-ferruginous; antennae black; tegulae, all legs, and three basal segments of abdomen ferruginous, the hind femora above toward apex and their tibiae somewhat infuscated and the third tergite at apex blackish; tergites beyond the third and ovipositor sheaths black. The female paratype has the fourth tergite ferruginous on basal half.

Male.—Similar to the female in size and sculpture but the head and thorax entirely black, the third tergite black except narrow base and an incomplete median stripe.

Type locality.—Fredericton, New Brunswick, Canada.

Type.—Cat. No. 24971, U.S.N.M.

Host.—*Hyphantria*, species.

Two females and a male reared by A. G. Dustan, September 4, 1917, and bearing his number 11166.

MICROBRACON CAULICOLA, new species.

Resembles *cephi* Gahan but differs by having the antennae usually 29-jointed in the female, the ovipositor distinctly more than half the length of abdomen, and the tergites less strongly sculptured. Differs from *xanthostigma* (Cresson) by the less strongly sculptured tergites, the slightly shorter ovipositor and the nearly uniformly reddish testaceous color. Also resembles *argutator* (Say) but may be distinguished by the less strongly sculptured tergites, the more strongly

infumated wings and the absence of any black on head and thorax.

Female.—Length 2.8 mm. Frons and face weakly shagreened, subopaque, remainder of head and thorax polished; antennae 29-jointed in the type; first flagellar joint two and one-half to three times as long as thick, joints near apex about twice as long as thick; propodeum mostly polished, the posterior middle obscurely wrinkled and with a short stub of a median carina at apex; first radial abscissa of forewing equal to less than half the second, third abscissa longer than first and second combined; abdomen about equal in length to the head and thorax, slightly broader than the thorax, long ovate in outline; first tergite smooth anteriorly with a prominent, embossed, faintly rugulose area at apical middle and on each side of this at the posterior lateral angles of the tergite an oblong, depressed, rugulose area set off by carinae and extending approximately from the middle to the posterior margin of the tergite; second and following tergites distinctly though rather weakly and nearly uniformly sculptured, more or less shining, suturiform articulation not angulated at the middle though slightly sinuate, not especially deep, and scarcely at all crenulate; ovipositor exerted very nearly the length of the abdomen. Head, thorax, abdomen, and legs dark reddish testaceous; eyes, antennae, apical joint of all tarsi and ovipositor sheaths black; tips of mandibles, maxillary palpi and hind tibiae at apex usually, slightly infuscated; wings slightly infuscated, the infuscation stronger on basal half; wing veins blackish; stigma brownish-yellow, becoming blackish apically.

Male.—Slightly smaller, but otherwise similar in all respects to the female, except that the antennae of the allotype are 31-jointed.

This species, as shown by the type series, is variable in several respects. The number of antennal joints ranges from 29 to 33, the sculpture of the tergites is slightly heavier in some specimens than in the type, while the length of body ranges from 2 mm. to 3.6 mm. The female paratype from Champaign, Illinois, which is the largest specimen in the type series, has the propodeum and a large part of the mesosternum piceous.

Type locality.—Urbana, Illinois.

Type.—Cat. No. 24982, U.S.N.M.

The type female, five paratype females, and five male paratypes received from D. J. Caffrey, under Accession No. 3305, were reared from *Pyrausta ainsliei* Heinrich, collected at Urbana, Illinois, July 10, 1919, by W. P. Flint. The allotype male is from the same host collected at Champaign, Illinois, by C. W. Knapp, November 25, 1916, and bears Accession No. 6638-J. A male and a female paratype bear the same data, except the date November 21, 1919, and the Accession No. 2297-B. Also four females and three males reared

from a larva believed to have been *Pyrausta ainsliei*, boring the stem of *Polygonum*, sp., and received from E. M. Searls, Schenectady, New York.

Five specimens of what appears to be the same species were reared at Ipswich, Massachusetts, July 21, 1921, from *Pyrausta nubilalis* by H. L. Parker. Also fifteen specimens reared by G. G. Ainslie at Knoxville, Tennessee, in July, 1919, from *Pyrausta penitalis* are apparently the same species. The two series last mentioned are not considered a part of the type material.

MICROBRACON PAPAIPEMAE, new species.

This species resembles *furtivus* Fyles but is readily distinguished by the weaker sculpture on the abdominal tergites and the generally darker color.

Female.—Length 3.2 mm. Head transverse; vertex, cheeks, posterior orbits, and occiput smooth and polished; frons and face uniformly finely coriaceous; antennae 27-jointed, in the type the first flagellar joint slightly the longest, hardly twice as long as thick; following joints all distinctly longer than thick; mesoscutum and scutellum polished, sparsely hairy; propodeum polished, with three to four short upward directed and divergent striae on each side of the apical middle; pleura smooth and polished; abdomen about as long as head and thorax, a little broader than thorax at its widest point; first tergite not quite as broad as long, the sides nearly parallel, slightly constricted at base, the embossed apical portion as well as the posterior lateral margins rugulosely sculptured; suturiform articulation moderately deep and straight, not angulated at the middle; second tergite rather strongly sculptured with a few indistinct longitudinal rugae on each side of the middle, the anterior middle with a very small embossed area; tergites beyond second all weakly sculptured and more or less shining; ovipositor exerted approximately the length of the whole body; stigma of forewing broad, lanceolate-ovate; first abscissa of radius slightly shorter than the breadth of stigma; second abscissa fully twice as long as first and distinctly longer than the first intercubitus; radial cell terminating somewhat in front of the extreme wing apex. General color shining black; frons and more or less of the vertex piceous or brownish; face, malar space, and lower part of cheeks testaceous; antennae entirely brownish black; thorax mostly black; scutellar region and pleura more or less piceous; legs including all coxae reddish testaceous; hind tibiae and tarsi piceous black, the base of tibiae testaceous; abdomen black dorsally; lateral margins of first segment, margins of second, and the suture separating second and third tergites pale testaceous; abdominal venter and the ovipositor sheaths brownish testaceous; wings subhyaline, the venation dark brown.

Male.—Unknown.

Type locality.—Rye, New York.

Type.—Cat. No. 24983, U.S.N.M.

Host.—*Papaipema frigida* Smith.

Described from four female specimens received from Mr. Henry Bird and reared by him October 26, 1917, from the above named host.

Family ICHNEUMONIDAE.

GELIS MICROPLITIDIS, new species.

This species in general appearance is very similar to a Viereck homotype of *pettiti* Cresson, but differs in having narrower posterior orbits, a distinctly shorter prothorax and mesoscutum, a distinctly set off scutellum, and the posterior thoracic lobe is more convex, with a complete transverse carina.

Female.—Length 3 mm. Apterous; head transverse, viewed from above, approximately twice as broad as long; posterior orbits rounded and about equal to half the eye width; postocellar line a little longer than ocellocular line; whole head with the usual pezomachine sculpture; antennae rather short, 19-jointed; thorax sculptured like the head but a little more strongly so; mesoscutum rather short, not much longer than broad, the posterior lateral angles sharply produced into a small tubercule; scutellum small, distinctly separated from the mesoscutum by a shallow depression; posterior thoracic lobe strongly convex, viewed from the sides very abruptly declivous anteriorly, more sloping posteriorly, the posterior face with a distinct complete transverse carina which is rather strongly angled medially; abdomen distinctly longer than head and thorax; first tergite fully twice as broad at apex as at base, about as long as posterior thoracic lobe, its spiracle not prominent, sculptured like the thorax; abdomen beyond the first tergite broadly ovate, shining, the sculpture much weaker than that of the first tergite, sparsely hairy, the hairs short; ovipositor exerted nearly one and one-half times the length of the first tergite. General color very dark reddish brown; antennae dark reddish testaceous, brownish apically; abdominal petiole and all trochanters pale testaceous.

Male.—Winged; head shaped and sculptured as in female; postocellar line equal to about twice the ocellocular line; antennae 23-jointed; thorax sculptured like the head; mesoscutum without parapsidal grooves on the posterior two-thirds; propodeum areolated, the carinae, except the posterior transverse carina, very faint and delicate, the areola hexagonal and about as broad as long; discocubital vein with or without a ramellus; radial cell rather short; the metacarpus about equal in length to the anterior margin of stigma; areolet open, pentagonal in position; abdomen about as long as

head and thorax; first tergite slender, about one and one-half times as broad at apex as at base, opaquely sculptured with a few indistinct longitudinal rugae; second tergite sculptured like the first, those beyond the second more weakly sculptured; abdominal pubescence rather dense. General color dark reddish brown; propodeum and abdominal tergites beyond the third black or blackish; antennae, except four or five basal joints, dark brown; base of antennae, legs, including all coxae, and three basal segments of abdomen paler than the thorax, reddish testaceous; wings very slightly infuscated, stigma dark brown, with a pale spot at the inner angle, veins pale brownish.

Type locality.—Rye, New York.

Type.—Cat. No. 24984, U.S.N.M.

Described from two females and three males received from Mr. Henry Bird and reared by him from the cocoons of *Microplitis gortynae* Riley parasitizing *Papaipema nebris* Guenée. Also three female specimens from the same collector reared September 1, 1917, as secondary parasites of *Papaipema marginidens* Guenée.

Superfamily CHALCIDOIDEA.

Family CALLIMOMIDAE.

PODAGRION CRASSICLAVA, new species.

Plate 1, figs. 4 and 5.

This species agrees with the generic description of *Pachytomoidella* Girault except that the female club is not solid but more or less distinctly 3-jointed. Differs from *Podagrion mantis* Ashmead in having the antennal club in the female greatly swollen, as long or nearly as the entire funicle, the joints of the funicle short, the first and second subquadrate, third very slightly transverse, those beyond the third distinctly transverse and increasing in thickness toward the club; scutellum and mesoscutum distinctly less deeply sculptured than in *mantis*. The male differs from the male of *mantis* in having all of the funicle joints subequal and subquadrate, the mesoscutum and scutellum less strongly sculptured, the antennae and the hind femora entirely pale testaceous, and the hind coxae except the basal two-thirds above, pale testaceous.

Female.—Length 1.9 mm. Antennal club three-jointed, the sutures shallow and not very distinct; antennal ring-joint about half as long as broad; pedicel longer than ring-joint and joint one of funicle combined; head strongly sculptured; pronotum and mesoscutum a little less strongly sculptured than head; mesoscutellum similarly, but much more shallowly sculptured, its surface distinctly shining; hind coxae smooth, except outer face, which is distinctly

shagreened; hind femora also weakly shagreened with six to ten (seven in the type) strong teeth ventrally; abdomen as long as thorax; ovipositor exerted, approximately the length of the whole insect. Color of head and thorax dark green with only a faint bronzy tinge; antennal club black; remainder of antenna, fore tibiae and tarsi, median legs, except coxae, hind trochanters, tibiae, and tarsi, and the tegulae reddish testaceous; front coxae and femora, middle coxae, and hind coxae and femora more or less brownish black; the outer surface of hind coxae and femora strongly metallic green; teeth on femora black; abdomen mostly blackish with strong metallic luster in some lights; ovipositor reddish, its sheaths black; wings hyaline, venation brownish testaceous.

The color of the legs is quite variable, one paratype having the front and median pairs, except the front coxae, entirely testaceous at base, and the fore and median femora vary from testaceous to mostly brownish black.

Male.—Length 1.9 mm. Antennal club not greatly swollen, only slightly thicker than the cylindriform funicle, and not longer than three apical joints of funicle combined, 3-jointed but the sutures very indistinct; abdomen not nearly as long as thorax; hind basitarsus swollen and as long as the other joints combined; hind femora with four to five strong ventral teeth; otherwise agrees with description of the female except that the antennal club, fore and middle legs entirely, and the hind femora, as well as the apex and ventral side of the hind coxae are testaceous, and the abdomen brownish testaceous.

Type locality.—Brownsville, Texas.

Type.—Cat. No. 24985, U.S.N.M.

Host.—Eggs of *Mantis*, species.

Nine females and three males reared by R. A. Vickery of the Bureau of Entomology, from the egg mass of an undetermined mantid. Antenna from allotype male and one from a paratype female mounted in balsam. Specimens on card points.

Family EURYTOMIDAE.

Genus HARMOLITA.

Phillips and Emery¹ have restricted this genus (formerly known as *Isosoma*) to species having a noncarinate occiput and without umbilicate punctures on the head and thorax.

Since the publication of Phillips and Emery's paper at least two species have come under the present writer's observation which, while apparently agreeing closely in all other essential characters

¹ Proc. U. S. Nat. Mus., vol. 55, 1919, p. 435.

with typical *Harmolita*, and seemingly having similar phytophagous habits, are excluded from the genus because of the fact that in each species a few poorly defined and obscurely umbilicate punctures occur on the mesonotum. In the opinion of the writer these species are more closely related to *Harmolita* than to any other genus of the Eurytomidae and such differences as exist are not believed sufficient to justify the erection of a new genus for their reception. The whole family Eurytomidae is much in need of a thorough revision, and until such a revision is published it is deemed best to place the following described species (as well as the other mentioned above which is described elsewhere²) in the genus *Harmolita* even though perhaps slightly extralimital in some characters.

The genus as recognized by the writer is characterized by having in the female an elongate, conical or subfusiform, subpetiolate abdomen which is weakly or not at all compressed laterally and in which the segments are more or less subequal, the fourth segment never greatly enlarged as in *Eurytoma*. The head as seen from above is transverse, convexly rounded in front, the occiput slightly concave, and immargined; viewed from in front the head is usually somewhat broader than high, truncate below, and not strongly convex above, the cheeks rounded; antennae inserted at or above the middle of face, placed close together at base; the scrobes moderately deep and narrow with the lateral margins rounded; scape not long, more or less compressed; flagellum weakly clavate; pedicel longer than broad; two small ring joints; funicle usually five-jointed and the club 3-jointed, but in some cases the funicle appears to be 6-jointed and the club 2-jointed; pronotum large, the dorsal portion however, broader than long, frequently somewhat broader than the mesoscutum, its anterior dorsal margin rounded; mesoscutum strongly trilobed; scutellum large, longer than broad and rounded at apex; propodeum not or scarcely longer than the scutellum, not sharply declivous, usually rugosely sculptured with a more or less distinct median longitudinal depression; legs normal; wings usually ample (absent in some cases) the marginal vein distinctly longer than the postmarginal which is variable; stigmal subequal to or distinctly shorter than the postmarginal. Sculpture of head and dorsum of thorax either reticulate and shining, rugulose punctate without umbilicate punctures, or rugulose with a few more or less indefinite umbilicate punctures.

The male abdomen is subcylindrical, rarely longer than the thorax with a distinct moderately thick petiole. The antennae are long, filiform, usually slender, the flagellar joints elongate and fusiform, rarely more or less distinctly excised at apex, and always with long hairs which are sometimes arranged in whorls.

² Proc. Ent. Soc. Wash., vol. 24, 1922, p. 55.

HARMOLITA LOLII, new species.

Female.—Length 3.5 mm. Head with rugulose sculpture; viewed from in front broader than high, subtriangular in outline, subtruncate at the mouth, the cheeks nearly straight, and about as long as the height of eyes, vertex nearly straight; antennae inserted at the middle, face very broad with a tuberculiform swelling on the median line just below the antennae; antenna nearly twice as long as the height of head, the flagellum moniliform, not at all clavate; scape slightly compressed; pedicel only a little longer than broad; ring joints small; funicle apparently six-jointed, the first joint together with the ring-joints about one and one-half times as long as pedicel, second and third joints subequal, each slightly longer than broad and distinctly shorter than the first joint; fourth, fifth, and sixth joints subequal and subquadrate; club 2-jointed, the joints subequal in length and each barely longer than broad. Pronotum rugulose with a few obscure umbilicate punctures; mesoscutum and scutellum similarly sculptured but with the umbilicate punctures more numerous and more distinct although very shallow and irregular, subopaque; parapsidal grooves deep and foveolate; propodeum rugose, with a shallow depression medially which is sculptured within like the rest of propodeum and is without carinate margins; marginal vein about twice as long as postmarginal, the stigmal and postmarginal subequal; abdomen as long as the thorax, broadly fusiform in outline, not conically pointed at apex and not compressed from the sides, the dorsum more or less flattened; first tergite comprising approximately one-third the length of abdomen, following tergites subequal, the fourth and fifth slightly longer than the second and third. Black, lateral anterior angles of the pronotum with a pale yellow or whitish spot which is scarcely visible from above; all knees and all tarsi more or less brownish or piceous; wings hyaline, the submarginal vein dark brown, rest of venation yellowish; exposed tip of ovipositor sheaths yellowish.

Male.—Length 3 mm. Similar to the female except as follows: Antennal scape distinctly swollen beneath between middle and apex; pedicel subspherical; ring joints minute; flagellum beyond the ring joints composed of seven joints which are not at all differentiated into funicle and club, the joints incised at apex, the first fully three times as long as thick with several whorls of long blackish hairs; second joint shorter, slightly more than twice as long as thick; following joints subequal, each a little shorter than the second and like the second each with a basal and a subapical whorl of long hairs; median depression on the propodeum obsolete or very inconspicuous; abdominal petiole moderately thick, not quite twice as long as broad and not reaching to the apices of hind coxae, longi-

tudinally tricarinate above and weakly rugulose between the carinae, abdomen beyond the petiole subcylindrical and polished; whole abdomen equal to approximately two-thirds the length of thorax and much narrower than the thorax. Color as in the female except that the legs are entirely black, the pronotal pale spots are not so conspicuous though present, and the marginal and stigmal veins are fuscous.

Type locality.—Elk Grove, California.

Type.—Cat. No. 24986, U.S.N.M.

Type female and ten female paratypes from the type locality, reared April 22, 1921, by B. G. Thompson from stems of *Lolium temulentum* Linnaeus, and recorded under Sacramento No. 20248. Allotype male, a male paratype and thirteen female paratypes from Bird's Landing, California, reared April 20, 1921, by the same collector from the same host plant, and recorded under Sacramento No. 20292. Also six female paratypes reared by the same collector April 21, 1921, from *Lolium multiflorum* Lamarck, collected at the last named locality, and recorded under Sacramento No. 20294.

Mr. C. M. Packard, in charge of the Bureau of Entomology Laboratory at Sacramento, California, has furnished an interesting summary of notes on the species made by himself and Mr. Thompson. According to this summary the species is certainly phytophagous. Green and succulent stems of *Lolium temulentum* collected May 22, 1918, were heavily infested. Almost every stem contained one or two of the larvae which hollow out elongate oval cells in the center of the stem. Messrs. Packard and Thompson are not yet sure of the life cycle but state that such scattered observations as they have been able to make indicate that the species has but one generation a year, the adults emerging from the previous year's growth early in spring, ovipositing in the young grass of the current season, the larvae maturing in early summer and remaining quiet in the stems either as larvae or pupae until the following spring.

Family PTEROMALIDAE.

Genus POLYSCELIS (Ashmead) Dalla Torre.

As represented by *P. websteri* Ashmead and the new species here described, this genus very closely resembles *Eupteromalus* Kurdjumoff, but may be distinguished by the immargined occiput, the more distinctly hairy dorsal surface of the hind coxae, and the more or less compressed and expanded apical half of the middle tibiae of the male.

The two American species may be separated as follows:

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|-----------------|----|
| 1. Females..... | 2. |
| Males..... | 3. |

2. All coxae metallic; forewing with a fuscous cloud on disk; antennal flagellum blackish or very dark brown-----**modestus**, new species.
 All coxae for the most part testaceous, the posterior pair more or less tinged with metallic outwardly; forewing without a fuscous cloud; flagellum dark reddish testaceous-----**websteri** Ashmead.
3. Funicle joints subequal and all distinctly longer than broad; flagellum uniformly fuscous; middle tibiae only slightly clavate, and weakly compressed at apex-----**modestus**, new species.
 Third and fifth funicle joints subquadrate, narrower and much shorter than the other funicle joints; the funicle joints alternating white and dark brown; middle tibiae strongly compressed and expanded between middle and apex-----**websteri** Ashmead.

POLYSCELIS MODESTUS, new species.

Female.—Length, 2.2 mm. Head and thorax closely and strongly punctate; abdomen polished. Head transverse, a little more than three times as broad as thick antero-posteriorly; viewed from in front, slightly broader than long, not or but slightly narrowed below, clypeal area with converging striae; malar space equal to about half the eye-height; eyes ovate, without pubescence; ocellular and post-ocellar lines approximately equal; occiput concave, transversely reticulate, without any indication of a marginal carina; antennae rather slender, subclavate, with two ring joints, a six-jointed funicle, and a three-jointed club; first funicle joint and ring joints combined distinctly longer than the pedicel; all funicle joints a little longer than broad, the last nearly quadrate; club slightly longer than the two preceding funicle joints combined; pronotum sculptured like the occiput, but with the narrow posterior margin of the strongly transverse dorsal portion smooth; mesoscutum with the parapsidal grooves deeply impressed anteriorly, but fading out entirely posteriorly; sculpture of scutellum and axillae similar to that of mesoscutum, but more dense, the punctures somewhat smaller; propodeum with a large subglobose neck, which is set off from the rest of the propodeum by a rather deep transverse groove or constriction; lateral folds of propodeum strongly developed, median longitudinal carina weak, the area between the folds and including the neck coarsely punctate, laterad of the folds weakly sculptured and densely hairy; anterior wings reaching beyond the apex of abdomen; post-marginal vein distinctly longer than the stigma and subequal to or very slightly shorter than the marginal; hind coxae conspicuously covered with hairs dorsally; abdomen pointed ovate, about as long as thorax, weakly convex dorsally, the first and second tergites combined constituting about half its length, the first tergite equal to about twice the second. Head and thorax brassy-green, the clypeal region, under side of thorax, and the propodeum more or less tinged with bluish; antennal pedicel and flagellum blackish; scape reddish

testaceous, with the apex fuscous; all coxae metallic like the thorax; remainder of legs reddish testaceous, the apical tarsal joint dark brown; abdomen black; wings hyaline, the fore wing with a large sub-circular, not very distinct fuscous cloud in the middle.

Male.—Length, 1.7 mm. Flagellum cylindrical, the club not or scarcely thickened, funicle joints each approximately one and one-half times as long as broad and subequal; ocellocular line a little shorter than the postocellar; transverse constriction at base of propodeal neck not as deep as in the female; abdomen shorter than the thorax, ovate, not pointed at apex; median tibiae weakly clavate and slightly compressed toward apex. Head and thorax highly metallic blue-green; scape pale, flagellum dark brown or fuscous; legs, including all coxae, pale testaceous, the middle tibiae except narrow base black; apical tarsal joint blackish; wings hyaline, without a fuscous spot. Otherwise like the female.

Type locality.—Hanover, Pennsylvania.

Type.—Cat. No. 22834, U.S.N.M.

Host.—*Mayetiola destructor* Say.

The type material consists of five females and thirty-five males, all either reared or bred from Hessian fly puparia, by Messrs. W. R. McConnell and P. R. Myers. The type and allotype were reared from puparia collected at Hanover, Pennsylvania. Seven of the male paratypes are progeny of the type female and bear Cage No. 972. Female paratype A, also from Hanover, is the parent of fourteen male paratypes bearing Cage No. 987, and one bearing Cage No. 992. Paratype females B, C, and D, from Carlisle, Pennsylvania, are the parents of twelve males bearing Cage No. 998.

Family EUPELMIDAE.

ANASTATUS MICROCENTRI, new species.

This species is characterized by a complete narrow transverse hyaline band on the forewing, a flattened vertex, and by its unusually uniform dark color.

Female.—Length 4.5 mm. Head rugosely and nearly uniformly sculptured, transverse, a little more than twice as broad as thick antero-posteriorly; vertex flattened and sloping gradually from the posterior ocelli; lateral ocelli about their own diameter from the eye margin; head viewed from in front distinctly broader than long; cheeks evenly rounded; malar space rather long; malar groove distinct; antennae rather long, inserted a little above the lower extremities of eyes; scape extending far above the vertex; first funicle joint and the ring joint combined fully twice as long as the pedicel, following funicle joints gradually decreasing in length; fifth subquadrate, sixth and seventh very slightly broader than long; club

about equal in length to the three preceding funicle joints, three-jointed, the sutures between joints not very distinct; pronotum viewed from above triangular, slightly broader than long and faintly lineolated; lateral lobes and anterior portion of median lobe of mesoscutum weakly sculptured and shining, median lobe posteriorly with sculpture similar to that of scutellum but not so strong; scutellum and axillae opaque above, the perpendicular margins polished; propodeum mostly polished; wings rather slender and extending barely beyond the apex of abdomen; hind femora above between middle and base distinctly swollen; abdomen about equal in length to the thorax exclusive of pronotum, broadly rounded at apex, smooth at extreme base, reticulately rugulose beyond, the apical tergites opaque; fourth tergite broadly emarginate at apex; ovipositor barely exposed at tip. Head dark greenish-bronze in color; thorax black with a metallic or aeneous tinge on mesoscutum and pleura, the sutures and pleura more or less tinged with brownish; antennal scape rufous, darker at apex; pedicel and flagellum bronzy-black; legs all dark brown; forewing fuscous with the base hyaline to the apex of submarginal vein and a complete narrow transverse curved hyaline band near the middle; posterior wing entirely hyaline; abdomen black with irregular broad whitish band at apex of first segment; tip of ovipositor pale.

Male.—Length 2.3 mm. Head, viewed from above, appearing three times as broad as thick antero-posteriorly; eyes hairy, lateral ocelli very slightly less than the diameter of an ocellus from the eye margin; vertex slightly convex, not flattened; viewed from in front the head is slightly broader than high, the cheeks rounded; antennae inserted very slightly above the lower extremities of the eyes, well separated at base; scrobes triangular and well defined, not deep; scape short and moderately thick, not extending above the vertex; pedicel small and subspherical; flagellum long and thick, fully twice as long as the height of head, nearly uniform in thickness throughout, the base and apex slightly tapering; first funicle joint distinctly more than twice as long as thick; second and third joints subequal and about twice as long as thick; fourth joint hardly one and one-half times as long as thick; fifth, sixth, and seventh, successively decreasing in length, the seventh quadrate; club apparently solid, not thicker than the funicle, bluntly pointed at apex, and equal in length to the three funicle joints preceding it. Pronotum, mesoscutum, axillae, and scutellum with nearly uniform shallow reticulate-punctate sculpture, subopaque; propodeum shining, very faintly reticulate with a weak carina at the middle; middle tibial spur subequal in length to the first tarsal joint, slender; abdomen much narrower and shorter than the thorax, smooth at base above, more or less faintly reticulate elsewhere. Dull aeneous black with the head anteriorly and the

cheeks more strongly metallic, appearing blue-green or brassy in some lights; antennae dull black with the scape slightly aeneous; legs black, extreme apex of middle and front femora, base of all tibiae (broadest on the median pair), extreme apex of middle and front tibiae, and all tarsi except the apical joint pale; wings hyaline.

Type locality.—Carlisle, Pennsylvania.

Type.—Cat. No. 24987, U.S.N.M.

Type, allotype, and two paratypes reared by P. R. Myers, August 18-21, 1917, from eggs of a katydid, *Microcentrum*, species, under Cage No. 1056. Also four paratypes reared at Washington, District of Columbia, April 20, 1891, from the eggs of a *Microcentrum* which may or may not have been the same species.

EUPELMUS POPA Girault.

Eupelmus popa GIRAULT, Descriptions Hymenopterorum Chalcidoidicarum Variorum cum Observationibus, pt. 5, 1917, p. 4. (Private publication.)

This species was described by Girault from five female specimens which are in the United States National Museum under Type Catalogue No. 21422. These specimens were received from P. J. Van Breemen, by whom they were reared at Curacao, Dutch Antilles, in connection with *Contarinia sorghicola* Coquillett.

In addition to the type material the National Collection contains the following material determined by the writer as this species: Fourteen specimens from San Antonio, Texas, reared by C. H. Gable, July 15, 1920, from *Contarinia sorghicola* under his T. No. 76; eight specimens from the same place and the same host, reared by Gable August 18, 1920, and recorded in the Bureau of Entomology, U. S. Department of Agriculture under Webster No. 5357, T. No. 104; one female taken at Limones, Cuba, by W. M. Mann on sacks of grain; eleven specimens bearing lot No. 15, reared by K. K. Kannan at Chumurajhagar, India, July 27, 1915, from a Cecidomyid infesting sorghum; and six specimens under lot No. 19, from Nanjangua, India, also reared by Kannan from the same Cecidomyid host.

The material from India was transmitted to the writer through the Bureau of Entomology by Mr. C. H. Gable, who stated that the Cecidomyid host from which the parasites were reared had been determined by Dr. E. P. Felt as *Contarinia caudata* Felt, which species, according to Mr. Gable, "seems to be very close to our *Contarinia sorghicola*, if not identical."

The specimens of this parasite from India and those from the United States and the West Indies seem to be identical in every respect. Its occurrence in two such widely separated parts of the globe is difficult to explain except upon the supposition that its host has been transported from one country to the other. While not conclusive evidence, the parasite record tends to confirm the sus-

picion that *Contarinia sorghicola* and *C. caudata* are the same species.

The original description of *Eupelmus popa* is short and based upon the female sex only. Following is a more detailed description of both sexes:

The species is not a wholly typical *Eupelmus*. The middle tarsi are swollen but the spines beneath are pale and inconspicuous; the axillae are not broadly separated at base and the postmarginal vein is only slightly longer than the stigmal. The abdomen is collapsed and shrivelled so that one can not determine whether or not the dorsal segments are emarginate.

Female.—Length, 2 mm. Slender; head and thorax rather weakly reticulately sculptured, the malar space a little more strongly so than the rest of head; head transverse, not broader than the thorax; scrobes triangular, deep; eyes bare, not large; lateral ocelli about the diameter of an ocellus from the eye margin; antennae inserted slightly below the eyes, 13-jointed, clavate; scape rather short, slightly compressed; pedicel rather slender, more than twice as long as broad; ring-joint about half as long as broad; funicle 7-jointed, not counting the ring-joint; the first subquadrate; second distinctly longer than broad; third the longest and fully one and one-half times as long as broad; fourth nearly as long as the third but broader; fifth and sixth subquadrate; seventh somewhat broader than long; club 3-jointed, ovate, about equal in length to the three preceding funicle joints; mesoscutum deeply impressed behind, parapsidal grooves deeply impressed anteriorly, the triangular median lobe short and convex; legs moderately long, middle tarsi rather short; submarginal vein equal to the marginal and postmarginal combined; stigmal a little shorter than the postmarginal; abdomen a little longer than the head and thorax, somewhat compressed, conically pointed at apex, weakly sculptured; ovipositor sheaths about four-fifths as long as the abdomen.

Head, thorax, coxae, and abdomen dorsally except at apex, metallic green; apex of pedicel, ring-joint, tegulae, triangular pleural plate in front of the tegulae, legs except coxae, and abdomen beneath pale yellowish; antennae except as noted black, the scape more or less metallic; middle femora near apex usually with a small brownish spot in front, their tibiae with a narrow dark brown band near base; abdomen apically above and at sides more or less brownish; wing hyaline.

Male.—Length, 1–2 mm. Sculptured like the female. Parapsidal grooves distinct, narrow, not deeply impressed; abdomen shorter and narrower than the thorax. Head, thorax, and abdomen entirely metallic green; base and ventral margin of scape to near apex, apex of pedicel, ring-joint, palpi, tegulae, and legs except

coxae pale yellowish; middle femora and tibiae without brownish spots or bands and the prepectus concolorous with the rest of thorax.

Redescribed from the above mentioned material in the United States National Museum.

CALOSOTER METALLICUS, new species.

Plate 1, figs. 1, 2, and 3.

In Ashmead's generic key to Eupelminae this species runs first to *Charitopus* but does not agree since the mesonotum is somewhat impressed and the axillae broadly separated at base of scutellum. If category 7 in the key is ignored it runs satisfactorily to *Calosoter* except that the eyes are not entirely bare but sparsely set with very short inconspicuous hairs. In Schmiedeknecht's key³ it runs more readily to *Calosoter* and agrees very well with the generic description.

Female.—Length 2.4 mm. Head with rather weak reticulate-punctate sculpture, strongest on the vertex; antennae (pl. 1, fig. 2) rather short, scape not reaching to front ocellus, pedicel a little longer than the combined ring-joint and first joint of funicle; ring-joint about as long as broad; first funicle joint not over one and one-half times the length of ring-joint; second about twice as long as broad, and about equal to the combined first funicle and ring-joint; third and fourth subequal and slightly shorter than the third; fifth subequal in length to the first but broader; sixth subquadrate and the seventh slightly transverse; club short, ovate, about equal in length to the three preceding funicle joints; mesoscutum and scutellum strongly sculptured, the former only slightly depressed on the disc, its sculpture consisting of shallow more or less irregularly shaped punctures or areas set off by raised lines, the scutellum with similar sculpture but the areas more minute and elongate giving a more or less longitudinally lineolate appearance; axillae very small and widely separated; propodeum nearly smooth dorsally, its lateral aspect faintly sculptured and hairy; mesopleura weakly reticulate; basal joint of median tarsi somewhat swollen, without the usual stout spines beneath or if present they are colorless and very weak; abdomen about equal to the head and thorax in length, with distinct fine sculpture all over, the first to fourth tergites emarginate medially, the fifth broadly concave at apex; ovipositor sheaths extending very slightly beyond the apex of abdomen; wings with the costal cell and basal area, except at the posterior margin of the wing, as well as the discal portion of the wing closely set with fine, short cilia; stigmal vein slightly shorter than the postmarginal, the marginal about four times as long as the postmarginal. Antennae

³ Wytsman's *Genera Insectorum*, Chalcididae, p. 170.

shining black, the scape more or less metallic blue; head deep steel blue, with the vertex faintly brassy; thorax and abdomen above metallic green, the abdomen with coppery reflections; under side of the thorax and all legs blue-green, the knees, apices of all tibiae and all of the tarsi except the apical joint pale; wings hyaline, ovipositor sheaths black.

Male.—Antennal pedicel not quite as long as the combined ring-joint and first funicle joint; sixth and seventh funicle joints subquadrate or very slightly longer than broad; club a little shorter than the three preceding funicle joints combined (pl. 1, fig. 3); abdomen a little shorter than head and thorax together; posterior margins of none of the tergites emarginate. Otherwise the male is like the female except that the general color is a little more highly metallic.

Type locality.—San Miguel, California.

Type.—Cat. No. 24988, U.S.N.M.

Type and six female paratypes from the type locality reared by C. M. Packard in July and August, 1916, from wheat stems containing *Harmolita*, species, and recorded in the Bureau of Entomology under Webster No. 13368. Allotype male from Estrella, California, reared by Mr. Packard from similar material and recorded under the same Webster number. Also one female from Concord, California, reared, according to the labelling, from *Phytophaga destructor* (Say) by M. C. Lane.

Family EULOPHIDAE.

Subfamily APHELININAE.

COCOPHAGUS SAISSETIAE, new species.

This species is apparently distinct from any described species in the color of the legs which, in the female, are entirely yellowish-white with the exception of the hind tibiae which are mostly black.

Female.—Length 1.2 mm. Eyes hairy; entire front of head with the exception of antennal grooves granularly opaque; antennal scape rather short, pedicel only slightly longer than broad; first funicle joint the longest, about one and two-third times the pedicel; second funicle joint a little shorter than the first; third not quite as long as the second; club 3-jointed not much thicker than funicle, conic-ovate, and about as long as pedicel and first funicle joint combined; mesoscutum and scutellum finely shagreened, more or less shining and rather thickly set with greyish hairs; mesopleura smooth; marginal vein of forewing longer than submarginal, marginal cilia short. General color black; head, except occiput above, lemon yellow; scutellum apically bordered with yellow, this border comprising ap-

proximately one-fourth the length of scutellum; scape, all coxae and femora, fore and median tibiae, and all tarsi yellowish-white; hind tibiae black with the apex pale; tarsal claws black; tegulae and narrow margin of mesoscutum before tegulae pale; wings hyaline, venation dark brown.

Male.—Length 0.75 mm. Antennal club as long as pedicel and first two joints of funicle combined; pedicel not longer than broad. Head, thorax, and abdomen black; antennal flagellum dark brown; scape, and apex of postscutellum whitish; all coxae, basal half of middle femora, basal two-thirds of hind femora, hind tibiae except at apex and apical joint of all tarsi black or blackish; rest of legs white; otherwise like the female.

One male paratype has the front femora blackish at base and the hind femora and tibiae entirely black.

Type locality.—Ancon, Canal Zone, Panama.

Type.—Cat. No. 24989, U.S.N.M.

Host.—*Saissetia nigra* Nietner.

Three females and three males reared from the above named scale insect by J. Zetek.

It is possible that the above described males may be wrongly associated with the females. Except in color they appear to agree nicely, however, and since considerable antigeny in color characters is known to exist in other species of this genus, they are believed to be the same species.

Subfamily TETRASTICHINAE.

TETRASTICHUS FASCIATUS Ashmead.

This species, of which the United States National Museum Collection contains seven specimens from the type series, was originally described from collected specimens taken on the island of St. Vincent, West Indies. In the same collection is a single specimen, determined by Mr. A. A. Girault as a variety of *fasciatus*, which was reared from *Contarinia sorghicola* by P. J. Van Breen at Curacao, Dutch Antilles.

A series of twenty-four specimens of a *Tetrastichus* reared by K. K. Kannan from *Contarinia caudata* Felt infesting sorghum at Chumurajhagar, India, and sent under his lot No. 15, as well as a smaller series consisting of eleven specimens reared by the same collector from the same host at Chintaman, India, sent under his lot No. 17 have been compared with the types and are believed to be the same species. Structurally the Indian specimens apparently agree in every detail with those from the West Indies. The color is also the same, except that in the Indian specimens the head and thorax are of a duller yellowish than in the types, appearing more or less infuscated. This fuscous tinge is believed to be dis-

coloration, due to action of the preserving fluid in which they were sent. The following description of the two sexes is drawn up from the above-mentioned specimens from India.

Female.—Pale yellowish, more or less tinged with fuscous, the second to sixth dorsal abdominal segments bordered at apex with brownish; antennal flagellum brownish. Head and thorax almost sculptureless, the dorsum of latter very faintly lineolated; mesoscutum with a delicate median groove; propodeum short with a delicate median carina; abdomen ovate, a little longer than the head and thorax; ovipositor slightly exerted. Antennae apparently with four ring-joints; first funicle joint subequal in length to the pedicel; about two and one-half times as long as broad; second funicle joint subequal to the first; third slightly shorter; club about as long as two preceding funicle joints, 3-jointed, the apical joint small, indistinctly separated from the preceding and terminating in a short spur. Wings hyaline, the marginal vein distinctly longer than the submarginal; postmarginal subobsolete; stigmal approximately one-third as long as the marginal.

Male.—Length 1.3 mm. Color and sculpture like that of female, except that the apical half of abdomen is blackish. Abdomen small, narrower and shorter than the thorax; antennae elongate slender; scape on ventral margin near apex with a distinct ovate spot, probably a sensory gland, which is dark brown in color; pedicel obconical, not twice as long as thick; three very minute ring-joints; funicle joints four in number, each with a half whorl of very long hairs near the base; first joint slightly longer than broad and slightly thicker than the pedicel; second and third joints subequal, thickest at base, each approximately two and one-half times as long as the thickest portion is broad; fourth joint similar to the two preceding, but very slightly shorter; club elongate, slender, a little longer than the two preceding funicle joints combined, distinctly 3-jointed, the basal joint with a whorl of hairs similar to that of the funicle joints; joints two and three more or less hairy, but the hairs shorter and not arranged in a distinct whorl; joints one and two subequal in length; apical joint slightly shorter, conical and terminating in a short spine.

Subfamily ELACHERTINAE.

ARDALUS INSUETUS Gahan.

Euplectrus insuetus GAHAN, Proc. U. S. Nat. Mus., vol. 48, 1914, p. 164.

Mr. A. A. Girault⁴ has correctly pointed out that this species does not belong in *Euplectrus* where it was originally placed by the writer. Girault, however, does not indicate where it should be placed.

⁴ Can. Ent., vol. 48, 1916, p. 265.

In connection with the study of the new species described below the writer has arrived at the conclusion that the correct position for *insuetus* is in the genus *Ardalus* where it is very closely related to the genotype species, *A. aciculatus* Howard. In fact, its resemblance to *aciculatus* is such that it is not an easy matter to separate them. *A. aciculatus* is represented in the National Collection by a single cotype female the head of which has been removed by Girault and mounted in balsam upon a slide where it has been ground to bits beneath the cover-glass in an attempt to get at the mandibles. The head from the type of *insuetus* has suffered a similar fate. From what is left of the types it is possible to point out the following differences.

Dorsum of scutellum between the two parallel grooves nearly twice as long as broad; parapsidal grooves very indistinct posteriorly; abdomen at base above reddish yellow but with the margins darker, the yellowish area rounded and not sharply defined; hind coxae inwardly rufous, outwardly black; thorax and abdomen not broad.-----*aciculatus* Howard.

Scutellum between the grooves nearly as broad as long; parapsidal grooves distinct but delicate posteriorly; abdomen at base pale yellowish, nearly white, the pale area extending to the margins and terminating posteriorly in a nearly straight line at about one-third the abdominal length; hind coxae inwardly as well as outwardly black or piceous; thorax and abdomen rather broad.-----*insuetus* Gahan.

ARDALUS ANTILLARUM, new species.

Female.—Length 2 mm. Very similar to *insuetus* Gahan but more slender in form, with the dorsum of the scutellum between the parallel grooves distinctly longer than broad, the mesoscutum more deeply sculptured and less shining; the hind coxae pale rufous on the inner side and the hind tibiae brownish at apex. Differs from *aciculatus* Howard by having the mesoscutum more strongly sculptured, and the base of abdomen entirely pale yellow. Distinguished from *politus* Howard by the aciculate-striate scutellum, and from *levigatus* Howard by the sculptured frons and the absence of a dark patch on the forewing.

Frons and vertex faintly shagreened, the latter with a few moderately large round punctures, lower part of frons and the face and cheeks nearly smooth; antennal scape slender with five erect and nearly equally spaced spines on the ventral margin, the one nearest apex of scape longest and about its own length from apex; pedicel a little longer than broad and narrower than the funicle; ring-joint small; first funicle joint the longest and nearly twice as long as the pedicel; following joints subequal in length, increasing slightly in breadth, the fourth joint subquadrate; club ovate, not as long as the two preceding joints combined, with two distinct joints and a very small and indistinct terminal one; pronotum and mesoscutum finely

rugulose, subopaque, the parapsidal grooves posteriorly delicate but distinct; scutellum longitudinally aciculate-striate, somewhat shining; axillae similarly sculptured but the lines are not longitudinal; propodeum mostly smooth, but with the spiracular grooves more or less distinctly foveolate and a weak groove on each side of the median carina and contiguous to it faintly sculptured; postmarginal vein of forewing very nearly twice as long as the stigmal; marginal nearly twice as long as postmarginal; second joint of hind tarsi longer than the metatarsus; inner spur of hind tibia twice as long as the outer spur and subequal in length to the metatarsus; hind coxae reticulate; abdomen approximately twice as long as broad, about equal in length and breadth to the thorax, subovate in outline and perfectly smooth; ovipositor not exerted. Black with the frons and face slightly metallic green; antennal flagellum dark brown; scape, legs and a little more than the basal one-third of abdomen pale yellowish; hind coxae on the outer face piceous black, hind tibiae at apex brownish; wings hyaline.

Male.—Length 1.6 mm. Agrees in every way with the description of the female.

Type locality.—Caguas, Porto Rico.

Type.—Cat. No. 25063, U.S.N.M.

Type female, five paratype females and the allotype male received from G. N. Wolcott with the statement that they were bred from larvae of *Prenes nero* Fabricius, May 10, 1921.

Family TRICHOGRAMMIDAE.

PSEUDOBRACHYSTICHA SEMIAUREA Girault.

Plate 1, fig. 6.

This species apparently differs from the description of the genus *Paruscanoidea* in that the hind wings are rounded at apex, the ovipositor is not at all extruded beyond the apex of abdomen, and the antenna is apparently 5-jointed, consisting of scape, pedicel, an obscure ring-joint, and a two-jointed club. In other characters and especially in the absence of discal cilia and the long marginal vein of the forewing (pl. 1, fig. 6), which are the most striking features of the genus, it seems to agree exactly with Girault's description of *Paruscanoidea* and the characters in which it disagrees are so slight, the presence or absence of an antennal ring-joint being especially difficult to make sure of, that I am inclined to believe it belongs to this genus. The color pattern of the body and wings agrees closely with *P. dickensi* Girault and there seems to be no room for doubt that the two species are related. If this conjecture is correct, then *Pseudobrachysticha* is a synonym of *Paruscanoidea*. The matter can only

be settled by a study of the types of *P. dickensi* which are in Australia. Until this is done the present name is best retained.

Female.—Length 0.6 mm. Head and thorax under high magnification apparently granularly sculptured, the head more distinctly so; ocelli in a low triangle, the lateral ocelli distant from the eye margin by approximately the diameter of an ocellus; antennae short, the scape subcylindrical and apparently a little shorter than the club; pedicel rather thick and very slightly longer than broad; ring joint, if one is present, exceedingly minute and more or less invaginated; fourth joint of antenna as thick as the pedicel, strongly transversely wedge-shaped, the dorsal margin longer than the ventral margin; fifth joint as long as the scape or nearly, acuminate at apex, with an obsolescent suture indicated slightly beyond the middle; parapsidal grooves deep and distinct; praescutum large, about as broad as long; parapsides small; scutellum transverse, fully twice as broad as long, the apex rounded; axillae lying almost wholly in front of the groove separating praescutum and scutellum; forewing rather short and broad, and almost squarely truncate at apex, rounded only at the posterior apical angle; marginal vein as long as the submarginal; stigmal vein thickened and consisting of a shortly petiolated knob with a distinct thumb-like uncus on its anterior margin; postmarginal obsolete but the anterior margin of the wing beyond the stigmal vein and extending to the wing apex thickened and covered with cilia similar to those on the marginal vein; disk of wing mostly bare of cilia except for a row of from two to four hairs running from the apex of stigmal vein to the apical margin of the wing and another short row of from two to four rather conspicuous pores close to the posterior margin at the posterior apical angle of the wing; marginal cilia beginning at the anterior apical angle and extending around to the posterior angle, these hairs a little more than one-third as long as the greatest wing breadth and nearly uniform in length; posterior margin of wing without cilia; posterior wing rather sharply rounded at apex and bare of discal cilia except for three or four hairs on the apical middle, its marginal cilia approximately twice as long as the wing breadth, starting at a point on the anterior margin about midway between the apex of the venation and the wing apex and extending around the apex and on the posterior margin nearly to the base of wing; legs moderately stout, the femora slightly swollen, the apical tarsal joint a little the longest of the tarsal joints; tibial spurs distinct; abdomen about as long as the head and thorax, broadly sessile, narrowing gradually toward the rounded apex, the ovipositor wholly concealed from above and about equal to half the length of abdomen. Head, thorax, and appendages pale yellow, the abdomen black; wings distinctly infuscated from the base to a little beyond the apex of

stigmal vein, darkest behind the base of marginal vein and behind the stigmal vein; a broad apical band hyaline.

Male.—Length 4.75 mm. Similar in every respect to the female except that the scape is slightly more thickened, the general color is somewhat darker, and the femora and tibiae are more or less distinctly infuscated.

Redescribed from a large series of specimens received through the Bureau of Entomology from T. Bainbridge Fletcher of the Imperial Department of Agriculture of India, who stated that they were reared from eggs of *Hilda bengalensis* Distant at Pusa, Bihar, India. These specimens have been compared with the type of the species and agree in every way.

Superfamily SERPHOIDEA.

Family SCELIONIDAE.

TELENOMUS (PROPHANURUS) BUSSEOLAE, new species.

Characterized by its small size, generally polished appearance, weakly sculptured mesoscutum and by having the thorax strongly compressed dorso-ventrally.

Female.—Length 0.66 mm. Head strongly transverse, fully four times as broad as thick antero-posteriorly; occiput weakly margined above; frons polished, vertex distinctly finely punctate; antennae inserted at extreme lower margin of head, clavate, 11-jointed, the club 5-jointed; third and fourth antennal joints subequal and each about as long as broad, together subequal to the pedicel in length; fifth slightly smaller than the fourth, sixth the smallest; seventh about half as long as broad; eighth, ninth, and tenth also transverse but less strongly so than the seventh; eleventh longer than broad, conical; thorax strongly compressed dorso-ventrally; mesoscutum distinctly broader than long, rounded in front, distinctly finely punctate anteriorly and laterally, the posterior middle for about one-third the length of mesoscutum smooth and polished; scutellum, postscutellum and propodeum polished, the propodeum with two delicate narrowly separated and slightly curved carinae medially; abdomen ovate, shorter than the thorax; first tergite finely striate at base, apical two-thirds smooth; second tergite large, very finely striate at extreme base, otherwise polished; segments beyond the second very short, polished; head, thorax, and abdomen black; antennal scape and legs, except coxae, testaceous; antennal flagellum brownish; wings hyaline.

Male.—Similar in size and color to the female; antennae moniliform, 12-jointed; pedicel about as long as and a little narrower than joint three; joints three, four, and five subequal, a little longer than thick, and slightly thicker than following joints which are distinctly

beadlike and scarcely longer than broad except the last which is conic-ovate.

Type locality.—Cedara, Natal, South Africa.

Type.—Cat. No. 24991, U.S.N.M.

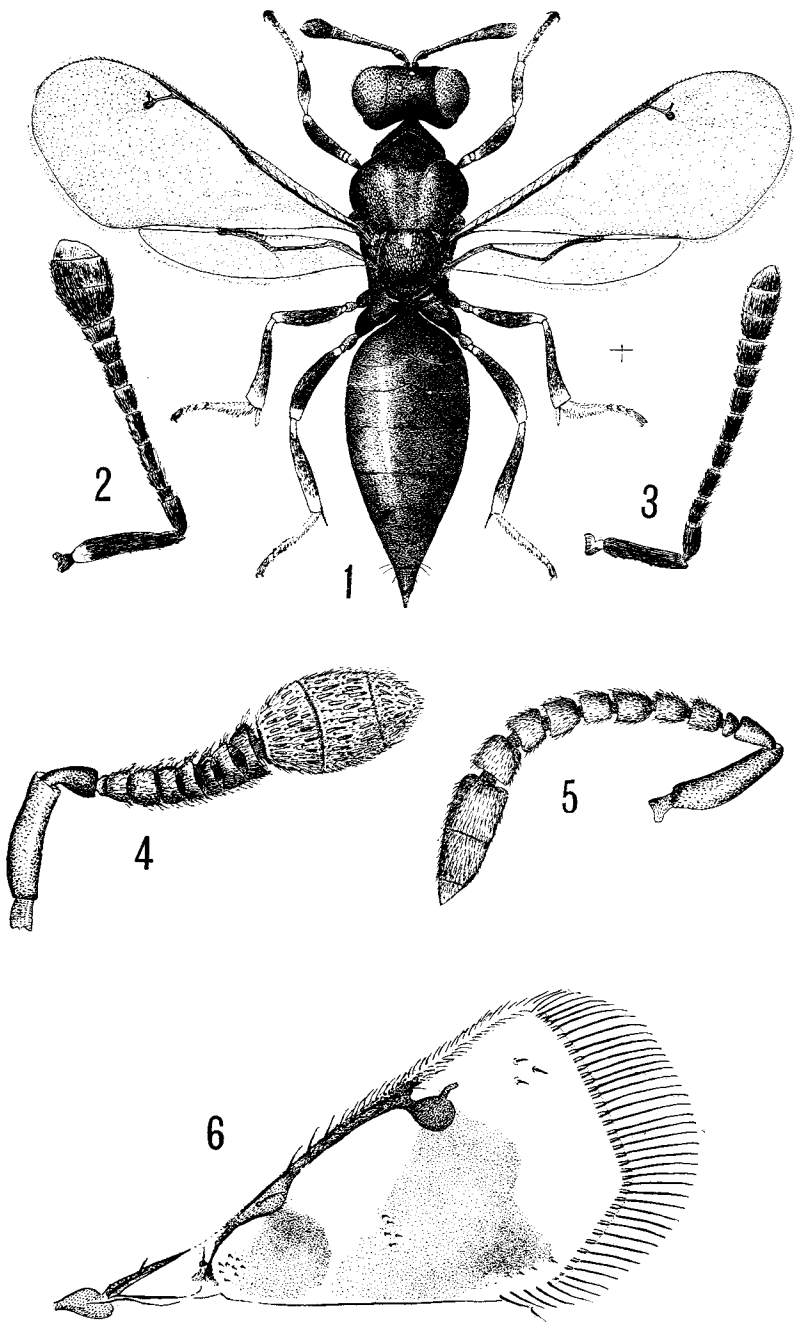
Host.—*Busseola fusca* (Hampson).

Described from twenty-one females and five males mounted on card points and three females and one male on a slide. Additional specimens in alcohol. Material received from C. W. Mally and said to have been reared from the eggs of the above-named stalk borer collected by E. S. Cogan.

EXPLANATION OF PLATE.

All of the figures on this plate were drawn under the supervision of the author by Miss E. Hart, artist of the Branch of Cereal and Forage Insects, U. S. Bureau of Entomology. (All greatly enlarged.)

- FIG. 1. *Calosoter metallicus* Gahan. Adult female.
2. *Calosoter metallicus* Gahan. Antenna of female.
3. *Calosoter metallicus* Gahan. Antenna of male.
4. *Podagrion crassiclava* Gahan. Antenna of female.
5. *Podagrion crassiclava* Gahan. Antenna of male.
6. *Pseudobrachysticha semiaurea* Girault. Forewing of female.



NEW REARED PARASITIC HYMENOPTERA.

FOR EXPLANATION OF PLATE SEE PAGE 24.