

TECHNICAL SERIES, No. 19, PART II.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ENTOMOLOGY.

L. O. HOWARD, Entomologist and Chief of Bureau.

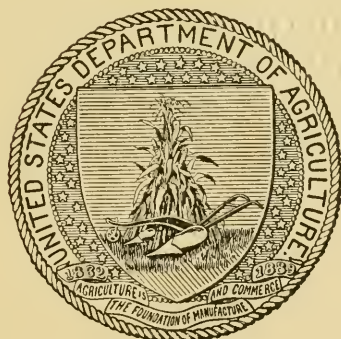
TECHNICAL RESULTS FROM THE GIPSY MOTH
PARASITE LABORATORY.

II. DESCRIPTIONS OF CERTAIN CHALCIDOID
PARASITES.

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ISSUED APRIL 30, 1910.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1910.

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TECHNICAL RESULTS FROM THE GIPSY MOTH PARASITE LABORATORY.

II. Descriptions of Certain Chalcidoid Parasites.

By J. C. CRAWFORD,
Assistant Curator, Division of Insects, U. S. National Museum.

INTRODUCTION.

The new species described in this paper came from material imported from Japan and Europe for the purpose of rearing parasites of the gipsy moth and the brown-tail moth. The work of rearing these parasites is conducted at the Gipsy Moth Parasite Laboratory, now situated at Melrose Highlands, Mass.

In the study of these parasites a Zeiss binocular microscope has been used with magnifications of from 24 to 35. In cases where the description states that the series includes more than one specimen of each sex the description is drawn from one specimen of each sex, and any variations in the other specimens, which are designated as paratypes, are cited.

In considering the genus *Chalcis* it has been deemed desirable to display in a synoptic table not only all of the species of this genus which have been introduced purposely as parasites of the gipsy moth or the brown-tail moth or accidentally included in shipments of parasite material, but also all of the species of the genus known to occur in the United States. In the same way it has been deemed desirable to publish a table separating the common American form from the two species of the genus *Hypopteromalus* accidentally included in shipments of parasite material, and also to separate in a synoptic table the different Japanese species of the genus *Pleurotropis* which have three funicle joints. As pointed out, *P. atamiensis* belongs probably to an undescribed genus.

Family CHALCIDIDÆ Walker.

Subfamily CHALCIDINÆ Howard.

Tribe CHALCIDINI Ashmead.

Genus CHALCIS Fabricius.

Since some of the species of *Chalcis* from Europe and Japan are being introduced into this country, it appears best to give a table of all of the species of the genus known to occur in the United States and to include in this table the exotic species which are involved.

In the following table and descriptions of species the term "tubercle of hind coxæ" refers to a small projection on the ventral side of certain species (fig. 9). The tubercle of the hind femur is the small elevation on the inner side near base and on the lower margin of the femur (fig. 20).

In all of the figures showing the carina which separates the malar space from the face, the drawings are made facing the left.

TABLE OF SPECIES OF THE GENUS CHALCIS.

1. Hind femora on outer side black or black and yellow.....	2
Hind femora on outer side red, or red and yellow, or red and black.....	12
2. Carina at front of malar space not branched, running direct to eye.....	3
Carina at front of malar space branched or directed backward before reaching eye.....	5
3. Hind femora closely punctured, tooth nearest base on lower margin of hind femora triangular. (America).....	<i>ovata</i> Say.
Hind femora almost impunctate, especially the inner side, tooth nearest base of hind femora massive.....	4
4. Hind femora on outer side yellow at base and apex. (America).....	<i>robusta</i> Cresson.
Hind femora yellow only at apex. (America).....	<i>incerta</i> Cresson.
5. Scape in front with a yellow spot.....	6
Scape in front entirely dark.....	7
6. Hind femora mostly yellow. (America).....	<i>tegularis</i> Cresson.
Hind femora mostly black. (America).....	♂ <i>coloradensis</i> Cresson.
7. Inner side of hind femora distinctly, closely punctured.....	8
Inner side of hind femora almost entirely impunctate.....	11
8. Posterior tibiæ behind mostly black.....	9
Posterior tibiæ behind yellow except basally.....	10
9. Hind femora entirely black, hind tibiæ black with a small yellow spot at apex. (America).....	<i>tarsata</i> Dalla Torre.
Hind femora with a yellow spot at apex; hind tibiæ with a yellow annulus near base. (Japan).....	<i>fiskei</i> , new species.
10. Hind tibiæ at base black; a small area beneath antenna smooth; pupal skin light colored. (Japan).....	<i>obscurata</i> Walker.
Hind tibiæ at base yellow or reddish; no smooth area beneath each antenna; pupal skin dark brown. (Europe).....	<i>flavipes</i> Panzer.
11. Wings hyaline; tooth of metathorax less prominent, the outline more obtuse, the front edge directed backward. (Japan).....	<i>paraplesia</i> , new species.
Wings dusky; tooth on metathorax more prominent, the outline more acute, the front edge almost vertical. (Europe).....	<i>minuta</i> Linnaeus.
12. Mesonotum red. (America).....	<i>belfragei</i> Crawford.
Mesonotum black.....	13
13. Face with a distinct carina between antennal fossa and eyes, originating back of anterior ocellus; antennal fossa carinate. (America).....	<i>pedalis</i> Cresson.
Face not so carinate.....	14
14. Antennal fossa very wide, separated from eyes by about length of first joint of funicle.....	15
Antennal fossa narrow; separated from eyes by more than length of first joint of funicle.....	16

15. Small; abdomen basally red; tooth nearest base of hind femora not larger than rest; hind coxæ of female not toothed. (America)..... *columbiana* Howard.
 Large; abdomen black; tooth basad on hind femora very large; hind coxæ of female toothed. (America)..... *slossonæ* Crawford.
16. Scape in front with a yellow spot. (America)..... *coloradensis* Cresson.
 Scape in front black..... 17
17. Small, about 4^{mm}, wings milky hyaline, lateral teeth on metathorax not prominent. (Europe)..... *fonscolombi* Dufour.
 Larger, about 6^{mm}, wings dusky, lateral teeth on metathorax prominent, acute. (Japan)..... *callipus* Kirby.

CHALCIS OVATA Say.

(Figs. 8-10.)

Chalcis ovata Say, Keating's Narrat. Exped., II, app., p. 326, 1824.

This native species is separated from all the exotic species discussed in this article by the fact that the carina at the front of the



FIG. 8.—*Chalcis ovata*, female
 Head, showing carina at
 front of malar space. (Original.)



FIG. 9.—*Chalcis ovata*, female:
 Ventral view of hind coxa,
 showing tubercle. (Original.)



FIG. 10.—*Chalcis ovata*, female: Hind
 femur and tibia, showing markings.
 (Original.)

malar space runs direct to the eye; in the female the hind coxæ are armed with a small tubercle; the inner side of the hind femora is distinctly punctured, and without a tubercle on the lower margin near base; the hind tibiæ are either with or without a black annulus medially; the form with the annulus is illustrated.

CHALCIS ROBUSTA Cresson.

(Fig. 11.)

Chalcis robusta Cresson, Proc. Ent. Soc. Phila., IV, p. 101, 1865.



FIG. 11.—*Chalcis robusta*, female: Hind femur and tibia, showing markings. (Original.)

CHALCIS INCERTA Cresson.

(Fig. 12.)



FIG. 12.—*Chalcis incerta*, female:
Hind femur and tibia, showing
markings. (Original.)

Chalcis incerta Cresson, Proc. Ent. Soc. Phila., iv,
p. 101, 1865.

Both of the Cuban species, *Chalcis robusta*
and *C. incerta*, are to be found in southern
Florida. The massive basal tooth of the
hind femora distinguishes them from the
other species in the United States.

CHALCIS COLORADENSIS Cresson.

Chalcis coloradensis Cresson, Trans. Amer. Ent. Soc., iv, p. 60, 1872.

In the male of this species the hind femora are black, except the
apex, which is yellow; the female, however, has the femora red;
the hind femora have on the lower edge near base an indistinct
tubercle. I am unable to distinguish *C. tachinæ* Howard from this
species.

CHALCIS FISKEI, new species.

(Figs. 13-14.)

Female.—Length, about 6.5mm. Black, head and thorax strongly,
umbilicately punctured, with long yellowish pubescence; face below
insertion of antennæ rugoso-punctate; antennal fossa extending to anterior ocellus;
carina at front of malar space running back-
ward to join the carina at the rear, making a
triangularly inclosed malar
space; antennæ black,
pedicel short, transverse;
depressed apical margin of
scutellum broad, slightly
emarginate medially; me-
tathorax, back of outer end of metathoracic spiracle, with a toothlike elevation; tegulæ yellow; wings dusky; postmarginal vein about twice as long as the short stigmal; legs black; front and middle legs with the femora apically, the tibiæ at bases and apices, the tarsi, and the anterior tibiæ in front, yellow; a small yellow spot at the apex of the hind femora, and a small yellow spot at the base and one at the apex of the hind tibiæ on the outer side; the hind tarsi entirely yellow;



FIG. 13.—*Chalcis fiskei*, female:
Hind femur and tibia, showing
markings. (Original.)



FIG. 14.—*Chalcis fiskei*,
female: Head, showing
carina at front of malar
space. (Original.)

the hind femora, and a small yellow spot at the base and one at the apex of
the hind tibiæ on the outer side; the hind tarsi entirely yellow;

hind femora on the lower margin with a triangular tooth near base, the space between this tooth and the apex of the femur occupied by about a dozen teeth, those in the middle of the series the largest and almost as large as the basal tooth, the teeth in the series decreasing in size from the middle toward both ends; hind femora distinctly punctured on the inner side; first segment of abdomen smooth, having a spot on each side with setigerous punctures; second segment at sides and on base with large setigerous punctures, the dorsal apical part of the segment with small punctures; the following segments basally smooth, the apical margins with fine punctures mixed with large setigerous punctures, sixth segment entirely covered with large punctures.

Male.—Length, about 6.5^{mm}. Similar to the female, but with more yellow on the legs, the front and middle tibiæ mostly yellow, the spots on the hind tibiæ larger and occasionally meeting, making a yellow stripe on the outer side; teeth along the lower margin of the femora smaller.

Habitat.—Japan.

Described from 12 specimens reared at the Gypsy Moth Parasite Laboratory from material received from Prof. Trevor Kincaid and Prof. S. I. Kuwana. This is a parasite of Tachinidæ.

Type.—Cat. No. 12789, U. S. National Museum.

CHALCIS OBSCURATA Walker.

(Figs. 15-16.)

Chalcis obscurata Walker, Trans. Ent. Soc. London, f. 1874, p. 399.

In this species the hind coxæ of the female have a small tubercle; the hind tibiæ are yellow except the extreme base, which is black; the face immediately below the antennal fossa is smooth and polished, especially a spot below the insertion of each antenna; the hind femora are distinctly punctured on the inner side and without a tubercle near the base. This species and the following resemble superficially the form of *C. ovata* which has the hind tibiæ without the medial black annulus but the structure of the carina at the front of the malar space readily separates them. This Japanese species is a parasite of *Porthetria dispar* and has been reared by G. Ojima, Kumamoto, and S. I. Kuwana, Tokyo.



FIG. 16.—*Chalcis obscurata*, female: Head, showing carina at front of malar space. (Original.)

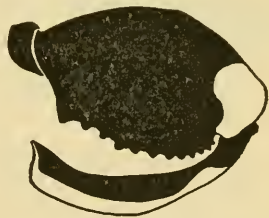


FIG. 15.—*Chalcis obscurata*, female: Hind femur and tibia, showing markings. (Original.)

CHALCIS FLAVIPES Panzer.

(Figs. 17-18.)

Chalcis flavipes Panzer, Fauna Insect. German, VII, p. 78, 1801.

FIG. 17.—*Chalcis flavipes*, female:
Hind femur and tibia, showing
markings. (Original.)

the table. It, also, is parasitic on *Porthetria dispar*.

This European species closely resembles the above, having the tubercle on the hind coxæ of the female, and the inner side of the hind femora punctured and without the tubercle near base, but is separated by the characters given in



FIG. 18.—*Chalcis flavipes*, female: Head, showing carina at front of malar space. (Original.)

CHALCIS MINUTA Linnæus.

(Figs. 19-21.)

Vespa minuta Linnæus, Syst. Nat., Ed. 12, I, p. 952, 1767.

In this European species the hind femora have a tubercle near base on the inner side below. The inner side of the hind femora is not distinctly punctured. In the female the hind coxæ are without



FIG. 19.—*Chalcis minuta*, female:
Hind femur and tibia, showing
markings. (Original.)



FIG. 20.—*Chalcis minuta*, female:
Hind femur, inner side, showing
tubercle near base. (Original.)



FIG. 21.—*Chalcis minuta*, female:
Head, showing
carina at front of
malar space.
(Original.)

a tubercle. This species and the following superficially resemble *C. ovata*, but are distinguished by the form of the carina at the front of the malar space, as well as by having the inner side of the hind femora impunctured and with a tubercle near base. It is a parasite of flies of the family Sarcophagidæ, which are scavengers on the dead pupæ of the gipsy moth.

CHALCIS PARAPLESIA, new species.

(Figs. 22-23.)

Female.—Length, about 5.5^{mm}. Head and thorax coarsely, umbilicately punctured, face below insertion of antennæ rugoso-punctate; the carina at front of the malar space runs almost to eye, then obliquely backward and upward to join carina at rear; malar space shiny, weakly sculptured; depressed apical margin of scutellum deeply emarginate; metathorax at sides with a small toothlike projection; tegulæ yellow; wings hyaline; legs black, marked with yellow; all the tarsi, tips of all femora, bases and tips of front and middle tibiæ, a line on front of anterior tibiæ, and apical third of hind tibiæ and a spot near base, yellow; hind femora on inner side with small, sparse, indistinct punctures; hind femora on inner side below with a distinct tubercle near base; lower margin of hind femora with a sawlike tooth near base, followed by a series of about ten smaller teeth, these decreasing in size to apex of femora; abdomen smooth, second segment and following segments at sides with some large punctures and apically minutely punctured.

Male.—Length, 5^{mm}. Similar to the female, but the tooth of the metathorax represented by a slightly raised carinate ridge.

Habitat.—Japan.

Described from 6 specimens reared at the Gypsy Moth Parasite Laboratory from material collected by Prof. Trevor Kincaid and Prof. S. I. Kuwana. This species is parasitic in the pupæ of Sarcophagidæ.

Type.—Cat. No. 12791, U. S. National Museum.

This species is closely related to *C. minuta* Linnæus, but is distinguished by the hyaline wings and the less prominent tooth on the metathorax, which has the front edge running backward instead of almost vertical, as in *minuta*. The male of *minuta* occasionally has almost hyaline wings and is then easily separated by the strong teeth of the metathorax, the teeth being about as prominent in the male as in the female.

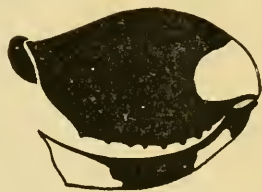


FIG. 22.—*Chalcis paraplesia*, female: Hind femur and tibia, showing markings. (Original.)

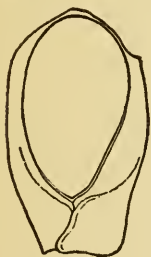


FIG. 23.—*Chalcis paraplesia*, female: Head, showing carina at front of malar space. (Original.)

CHALCIS FONSCOLOMBEI Dufour.

Chalcis fonscolombi Dufour, Ann. Soc. Ent. France, x, p. 16, 1841.

This European parasite of Sarcophagidæ often has the basal half of the hind femora black; the hind tarsi are red at base and apex and black medially, the red part ornamented with a small yellow spot; the hind femora have a small tubercle on the inner side below near the base; the hind coxæ of the female are without a tubercle.

CHALCIS CALLIPUS Kirby.

Chalcis callipus Kirby, Journ. Linn. Soc. London, Zool., xvii, p. 75, 1883.

In this species the hind coxæ of the female are without a tubercle, the hind femora are very sparsely punctured on the inner side and have a tubercle near the base; the carina at the front of the malar space has, before reaching the eyes, a branch directed backward.

Of this species only one female has been seen, collected at Nishigahara, Tokyo, Japan, by Prof. S. I. Kuwana, with the record "bred from the pupa of a gipsy moth, July 12, 1908."

Family PERILAMPIDÆ Foerster.

Genus PERILAMPUS Latreille.

PERILAMPUS INIMICUS, new species.

Female.—Length, about 2^{mm}. Deep violaceous, with purple reflections, the head, metathorax, and abdomen more bluish; face not carinate; face and vertex impunctate, with scattered pubescence on the vertex; scape of antennæ blue or greenish, flagellum reddish brown, beneath more reddish; first joint of flagellum hardly longer than the pedicel; thorax umbilicately punctured, parapsidal areas along inner side, with a broad smooth area; punctures on disc of scutellum more separated, leaving a more or less distinct smooth line along center; wings hyaline; legs brown, hind legs in front purple; knees, anterior tibiæ in front, bases and tips of all tibiæ, and the tarsi entirely, light testaceous; apical margin of first abdominal segment straight.

Male.—Length, about 2^{mm}. Similar to the female; apical two-thirds of scape swollen and flattened in front, with a slight constriction between the normal base and the swollen part; legs with more light color at the bases and apices of tibiæ.

Habitat.—Japan.

Described from 6 specimens reared from cocoons of *Glyptapanteles japonicus* Ashmead at the Gipsy Moth Parasite Laboratory, from material received from Prof. Trevor Kincaid and Prof. S. I. Kuwana.

Type.—Cat. No. 12793, U. S. National Museum.

Family PTEROMALIDÆ Walker.

Subfamily PTEROMALINÆ Ashmead.

Tribe PTEROMALINI Ashmead.

Genus HYOPTEROMALUS Ashmead.

Since the type species of this genus has a well-developed neck to the metathorax and a short but plainly visible petiole, it does not well fit in the place in Doctor Ashmead's tables in which he has put it. The following table based on antennal characters and the color of the legs separates both sexes:

TABLE OF SPECIES OF THE GENUS HYOPTEROMALUS.

- | | |
|---|--------------------------------------|
| 1. First joint of funicle elongate, longer than the pedicel..... | 2 |
| First joint of funicle not elongate, scarcely longer than the pedicel. (America.) | |
| | <i>tabacum</i> Fitch. |
| 2. Femora and tibiæ light testaceous. (Japan.)..... | <i>apantelephagus</i> , new species. |
| Hind femora green; other femora partly dark; in female the tibiæ mostly dark. | |
| (Europe.)..... | <i>pæcilopus</i> , new species. |

HYOPTEROMALUS APANTELOPHAGUS, new species.

Female.—Length, about 2.75^{mm}. Bluish green, the head distinctly wider than the thorax; head, pronotum, mesonotum, and metathorax between the lateral folds, with thimblelike punctures; antennæ light brown, the scape testaceous; transverse line near rear of scutellum distinct; neck of metathorax with sculpture similar to that on basal part; lateral folds well developed; median carina wanting or very slightly indicated; wings hyaline, veins testaceous, postmarginal vein as long as the marginal, the stigmal vein distinctly shorter; coxæ blue-green, the rest of the legs yellowish testaceous, the femora and tibiæ more or less suffused with brownish; abdomen smooth, shiny, narrow, the apical segments finely lineolated.

Male.—Length, about 2^{mm}. Similar to the female except in secondary sexual characters; head and thorax more greenish than in the female; abdomen basally with a large yellowish spot; legs less suffused with brownish than in the female.

Habitat.—Japan.

Described from 6 females and 6 males from the series reared at the Gypsy Moth Parasite Laboratory from *Glyptapanteles japonicus*, received from Prof. Trevor Kincaid and Prof. S. I. Kuwana.

Type.—Cat. No. 12973, U. S. National Museum.

HYOPTEROMALUS PÆCILOPUS, new species.

Female.—Length, about 3^{mm}. Green or bluish-green; head slightly wider than the thorax; head, pronotum, mesonotum, and metathorax

between the lateral folds with thimblelike punctures; antennæ dark brown, the scape basally testaceous; transverse line on scutellum distinct, the punctures back of it larger than those immediately in front of it; neck of metathorax with sculpture similar to that of basal part; median carina distinct, lateral folds well developed; wings hyaline, veins testaceous; marginal and postmarginal veins subequal in length, the stigmal vein shorter; coxæ green, front and middle femora brown with a metallic tinge, basal half of middle and hind tibiæ brown; hind femora green; knees, front tibiæ, apical half of middle and hind tibiæ, and all tarsi yellowish; abdomen smooth, shiny, the apical segments finely lineolated.

Male.—Length, about 2^{mm}. Similar to the female, except in secondary sexual characters; the scape entirely testaceous; tibiæ entirely light, slightly suffused with brownish; front and middle trochanters light, abdomen with a light spot basally.

Habitat.—Europe.

Described from 2 specimens reared at the Gipsy Moth Parasite Laboratory from *Glyptapanteles* sp.

Type.—Cat. No. 12974, U. S. National Museum.

Family EULOPHIDÆ Foerster.

Subfamily ENTEDONINÆ Ashmead.

Tribe ENTEDONINI Ashmead.

Genus PLEUROTROPIS Foerster.

The species described from Japan by Ashmead in the genus *Derostenus* have lateral carinæ on the metathorax and a distinct ring-joint to the antennæ, so that they are properly to be referred to the genus *Pleurotropis*.

The following table will separate the females of the species from Japan which have 3 joints in the funicle; *P. atamiensis* Ashmead has 4 joints in the funicle and is probably an undescribed genus.

TABLE OF SPECIES OF THE GENUS PLEUROTROPIS.

1. Median lobe of mesothorax at apex with two large foveæ....	<i>bifoveolatus</i> Ashmead.
Median lobe of mesothorax at apex without foveæ.....	2
2. Legs, including femora, testaceous.....	<i>mitsukurii</i> Ashmead.
Legs with the femora dark.....	3
3. Head above with deep thimblelike punctures.....	4
Head above weakly sculptured.....	<i>nawai</i> Ashmead.
4. Hind tibiæ whitish.....	<i>orientalis</i> , new species.
Hind tibiæ dark colored.....	<i>howardi</i> , new species.

PLEUROTROPIS ORIENTALIS, new species.

Female.—Length, about 1.5^{mm}. Bronzy black, with green or purple reflections, the vertex and base of abdomen more greenish, the metathorax distinctly green; vertex with coarse thimblelike punctures, the frontal declivity above transverse groove smooth, below furrow with finer punctures, those below the insertion of the antennæ still finer; antennæ brown; mesonotum reticulate, parapsidal furrows not very apparent; scutellum reticulate all over, basally the lines more regular and longitudinal; metathorax smooth, median and lateral carinæ distinct; femora green, tibiæ testaceous, tarsi more whitish; first segment of abdomen medially at apex and following segments finely punctured.

Male.—Unknown.

Habitat.—Japan.

Described from 5 specimens reared from *Glyptapanteles japonicus* at the Gipsy Moth Parasite Laboratory, from material received from Prof. Trevor Kincaid and Prof. S. I. Kuwana.

Type.—Cat. No. 12975, U. S. National Museum.

PLEUROTROPIS HOWARDI, new species.

Female.—Length, about 2^{mm}. Green, with bluish reflections, the sides of the scutellum, the apical part of the parapsidal areas, and the pleuræ purplish-black; face below the transverse furrow bluish, with fine thimblelike punctures down to the insertion of antennæ, below this still more finely and weakly punctured; above the furrow with coarse thimblelike punctures; antennæ green; pubescence of eyes distinct; mesothorax coarsely reticulate, the parapsidal furrows not very distinct anteriorly, posteriorly formed by triangular depressed areas which resemble scars, each with a single setigerous puncture; median lobe of mesonotum strongly emarginate at apex; scutellum at sides longitudinally striate, the apical portion reticulate, leaving the median basal area smooth; metathorax smooth, medially with two carinæ close together, lateral carinæ distinct; first segment of abdomen basally smooth, green, beyond this the abdomen purplish-black and finely punctured; legs green, the tarsi white, apically brown.

Male.—Unknown.

Habitat.—Japan.

Described from 8 specimens reared from cocoons of *Glyptapanteles japonicus* at the Gipsy Moth Parasite Laboratory, from material received from Prof. Trevor Kincaid and Prof. S. I. Kuwana.

Type.—Cat. No. 12976, U. S. National Museum.

Named in honor of Dr. L. O. Howard, under whose direction the parasite work is conducted.

Subfamily EULOPHINÆ Howard.

Tribe EULOPHINI Ashmead.

Genus DIMMOCKIA Ashmead.

DIMMOCKIA SECUNDUS, new species.

Female.—Length, about 2^{mm}. Bright green, the face and occiput covered with very fine, close striæ; antennæ brownish testaceous, the scape lighter colored; ring-joint distinct, pedicel shorter than first joint of funicle, about as long as joint 2; joints 2-4 subequal, only slightly longer than wide; club showing only 2 joints; mesonotum and metathorax between the lateral folds with fine thimble-like punctures, those of the scutellum finer than on the middle lobe of the mesonotum, those of the axillæ still finer and becoming in part fine striæ; scutellum with a median longitudinal line of punctures which are finer than the rest; median and lateral carinæ of metathorax very distinct; mesepisternum with thimblelike punctures; mesepimeron below finely reticulate, the upper part smooth; metapleuræ and metathorax laterad of lateral carinæ rugose; legs light yellow, the hind coxæ at base above with a small green spot; abdomen green, the apical margins of abdominal segments brownish; first and second segments smooth, the others with very fine lineolations.

Male.—Unknown.

Habitat.—Japan.

Described from 5 female specimens reared at the Gipsy Moth Parasite Laboratory from *Glyptapanteles japonicus*, from material received from Prof. Trevor Kincaid and Prof. S. I. Kuwana.

Type.—Cat. No. 12977, U. S. National Museum.

In this genus the funicle is 4-jointed and the club shows only 2 joints, so that the antennæ show 9 joints instead of 10 as given by Doctor Ashmead in his Classification of Chalcidoidea.