

in Ohio, covering the entire latitude of the State. It was also reared at Oxford, Indiana, in 1884. Described in *Insect Life*, Vol. I, p. 338, 1889.

DESCRIPTIONS OF THIRTEEN NEW PARASITIC  
HYMENOPTERA, BRED BY PROF.  
F. M. WEBSTER.

BY WILLIAM H. ASHMEAD.

In this paper I continue descriptions of the interesting new parasitic Hymenoptera, bred and discovered by Prof. F. M. Webster in his entomological work, carried on at the Ohio State Agricultural Experiment Station. Many of these are of especial interest, not only from the fact that they destroy some of the more destructive insect pests of the field and garden, but as representing genera now for the first time noticed to occur in our fauna.

FAMILY CYNIPIDÆ.

SUB-FAMILY EUCCELINÆ.

HEXAPLASTA FÖRSTER.

(1) *HEXAPLASTA MELANOPA*, sp. n. Male—Length, .65 mm. Highly-polished black; knees and tarsi, reddish-brown; wings hyaline, pubescent, the venation light brown, the second abscissa of radius about one-third longer than the first. Antennæ, brown-black, 15-jointed, longer than the body; scape and pedicel united very little longer than the first joint of flagellum, but stouter; first flagellar joint the longest, a little narrowed toward base, about three and one-half times as long as wide at apex, the following joints sub-moniliform, about twice as long as thick. Scutellum striated at sides, the cup very small, elliptic, with a single fovea behind its middle.

Abdomen ovate, sub-compressed; a little longer than the thorax.

*Hab.*—Wooster, Ohio.

Described from a single specimen. The small size and color of the legs readily distinguish the species.

## FAMILY BRACONIDÆ.

### SUB-FAMILY BRACONINÆ.

#### BRACON FABR.

(2) *BRACON FUNGICOLA* sp. n. Female—Length, 3 mm; ovipositor a little longer than the abdomen. Head and thorax, black, highly polished; space between the lateral ocelli and eyes, anterior orbits, face, mouth parts, except apex of mandibles which are black, legs, except the last joint of all the tarsi, and the apical half of posterior tibiæ and their tarsi which are black or dark fuscous, and sides of the abdominal segments one, two, and three and the extreme apical segments, honey-yellow or reddish-yellow; abdomen above delicately shagreened; wings, subfuliginous; the stigma and nervures dark brown.

Antennæ, 30-jointed, a little longer than the body; head transverse; mesonotum with a slight triangular elevation, but the parapsidal furrows are not defined or impressed; scutellum semi-circular, sub-convex; metathorax rounded off posteriorly, smooth, polished; wings with the second abscissa of radius two and one-half times as long as the first, the second sub-marginal cell along its lower margin a little longer than the first, the recurrent nervure not interstitial with the first transverse cubital, but joining an angle in the first sub-marginal cell.

*Hab.*—Wayne County, Ohio.

Bred in April, by Prof. F. M. Webster, from black knot, *Plowrightia morbosa*. This species is probably parasitic on a Coleopteron *Hydnocera verticalis* Say, living in this fungus.

(3) *BRACON RHYSSMATI*, sp. n. Male—Length, 2.1 mm. Brownish-yellow; stemmaticum, eyes, antennæ, except two

basal joints, disks of the three imperfectly defined mesothoracic lobes, metanotum and spots on dorsum of first, second, third, fourth and fifth abdominal segments, brown or blackish; the abdomen, except the two terminal segments, is shagreened. Antennæ 28-jointed, scarcely as long as the body, with the flagellar joints nearly equal, from two to two and one-half times as long as thick; head transverse, the cheeks convex.

*Hab.*—Wooster, Ohio.

Bred by Prof. F. M. Webster from *Rhyssomatus lineaticollis* Say.

SUB-FAMILY RHOGADINÆ.

CLINOCENTRUS HALIDAY.

(4) CLINOCENTRUS TARSALIS, sp. n. Female—Length, 3 mm.; ovipositor not quite the length of abdomen. Brownish-yellow; eyes, stemmaticum, antennæ, except basal joint, all tarsi, the metanotum, except apex, and usually the dorsum of first abdominal segment, black.

Head and thorax smooth, shining, with the middle mesothoracic lobe posteriorly depressed and somewhat rugulose; metathorax rugose; wings hyaline, the nervures, except stigma and the second branch of radius, light brown; the stigma and second branch of radius, yellowish. Abdomen ovate, not longer than the head and thorax united, compressed at apex, dorsally for a little more than two-thirds its length, longitudinally striated, its apex smooth and shining; the first segment is not quite twice as long as its breadth at apex, but longer than the second; the third segment is about two-thirds the length of the second; ovipositor black, clothed with sparse whitish hairs.

*Hab.*—Central Ohio.

SUB-FAMILY BLACINÆ.

PYGOSTOLUS HALIDAY.

(5) PYGOSTOLUS AMERICANUS, sp. n. Male—Length 1 mm. Head and thorax black, polished; abdomen and legs brownish-yellow; basal two joints of antennæ and trophi, whitish;

flagellum black. Head subglobose, the eyes whitish; antennæ 12-jointed, longer than the body, very gradually thickened toward apex, the flagellar joints long, cylindrical, sparsely pubescent. Thorax subovoid, the mesonotum wider than long, the disk somewhat flat, without furrows; metanotum yellowish toward apex, the surface smooth, delicately but distinctly areolated; wings hyaline fringed, the stigma and nervures brown; the cubitus arises from the basal nervure at about two-thirds its length, the discoidal cell therefore petiolated; first abscissa of radius not quite as long as the first transverse cubital; marginal cell large, but open. Abdomen oval, the first and second segments longitudinally aciculated, the rest smooth, shining; segments one, two and three occupy most of the surface, the second being the largest, the others, after the third, exceedingly short, somewhat retracted.

*Hab.*—Lafayette, Indiana.

Bred by Prof. F. M. Webster, from wheat stubble infested by the Hessian fly.

In the paucity of antennal joints this species differs from all other described forms, and this difference, in connection with the peculiarities noticed in the abdomen, render it easy of recognition.

#### SUB-FAMILY MACROCENTRINÆ.

##### AMICOPLUS FÖRSTER.

(6) *AMICOPLUS CRAMBI*, sp. n. Male—Length, .32 mm. Brownish-yellow; head black; mandibles and palpi pale or yellowish-white; legs paler than body.

Head transverse, the frons, above insertion of antennæ, impressed; face subconvex with a deep fovea between antennæ; mandibles conically pointed, feebly bidentate at apex; antennæ very long and slender, much longer than the body, multiarticulate, about 38-jointed, pubescent.

Thorax very distinctly trilobed, the middle lobe not attaining to the base of the scutellum, the lateral lobes with a longitudinal impression; metathorax longer than wide at base, with delicate lateral carinæ separating the metapleura from

EXPLANATION OF PLATES II AND III.

PLATE II.

- Fig. 1.—*Encyrtus bucculatricis* Howard. Female.  
Fig. 2.—Gall made by *Lasioptera muhlenbergiae*, on *Muhlenbergia mexicana*.  
Fig. 3.—*Hippocephalus multilineatus* Ashmead. Female.  
Fig. 4.—*Lygocerus niger* Howard. Female.  
Fig. 5.—*Encyrtus flavus* Howard. Female.  
Fig. 6.—*Encyrtus flavus* Howard. Male.

PLATE III.

- Fig. 1.—*Websterellus tritici* Ashmead. Female.  
Fig. 2.—*Websterellus tritici* Ashmead. Male.  
Fig. 3.—*Pachyneuron micans* Howard. Female.  
Fig. 4.—*Allotria tritici* Fitch.  
Fig. 5.—*Perilitus americanus* Riley. Female.  
Fig. 6.—Illustrating position of cocoon of *Perilitus* under body of *Megilla maculata*.

ACKNOWLEDGEMENTS.

Fig. 1 of Plate II was secured through the kindness of Dr. J. A. Lintner, State Entomologist of New York.

Figs. 2, 5, 6, of Plate II, and Figs. 1, 2, 6, Plate III, are from the Ohio Agricultural Experiment Station.

Fig. 4, of Plate II, and Figs. 3, 4, 5, of Plate III, were received through the kindness of the United States Department of Agriculture.

Fig. 3, of Plate II, from Prof. E. A. Popenoe, of Manhattan, Kansas.

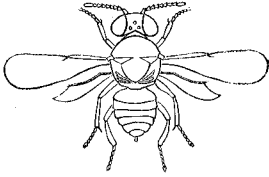


Fig. 1.

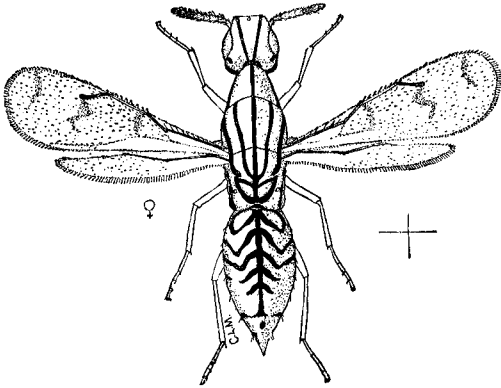


Fig. 3.



Fig. 2.

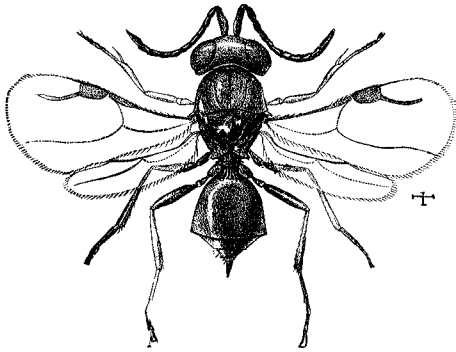


Fig. 4.

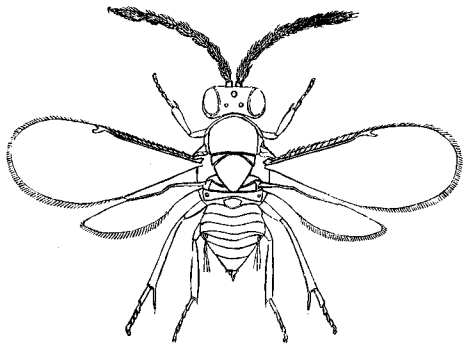


Fig. 6.

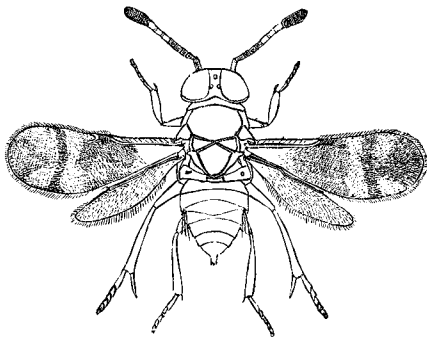


Fig. 5.

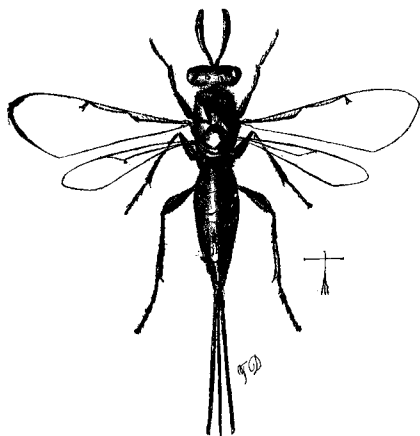


Fig. 1.

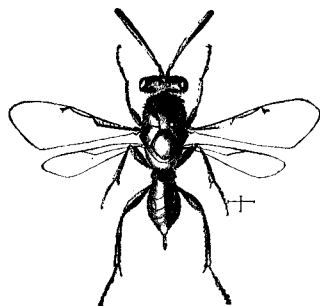


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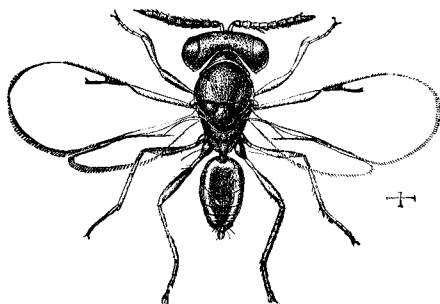


Fig. 3.

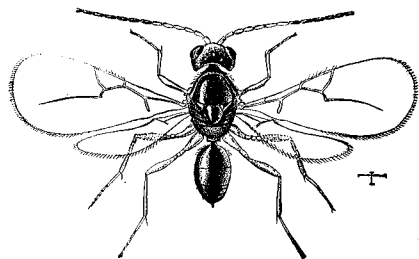


Fig. 4.

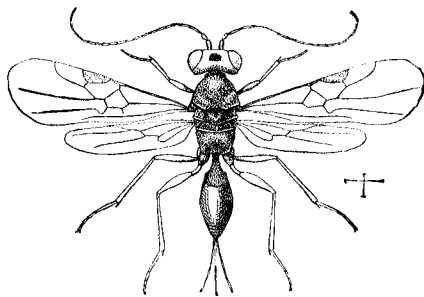


Fig. 5.

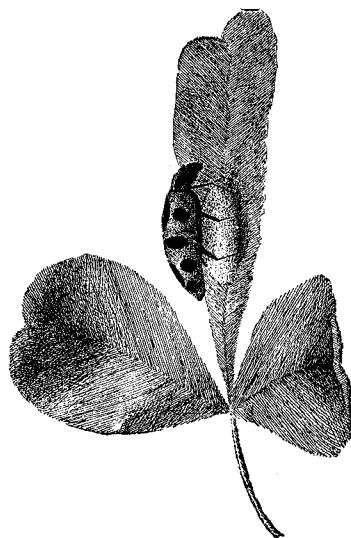


Fig. 6.

the metanotum; wings hyaline, the stigma and venation yellowish; the submedian cell a little longer than the median; recurrent nervure not interstitial, joining the apical angle of the first submarginal cell; second submarginal cell subquadrate, the first abscissa of radius very nearly as long as the second; legs long and slender, the tarsi of anterior legs longer than their tibiæ, the tarsi of middle and hind legs about of an equal length with their tibiæ, the tibial spurs of hind legs very long.

Abdomen almost linear, smooth, the spiracles of first segment prominent, first and second segments very long, the second the longer; all the following segments united not longer than the second.

*Hab.*—Indiana.

Bred by Prof. F. M. Webster, from *Crambus zeellus*.

#### SUB-FAMILY ALYSIINÆ.

#### PHÆNOCARPA FÖRSTER.

(7) PHÆNOCARPA FUNGICOLA, sp. n. Male—Length, 1.6 mm; black, polished; collar, pleura, and mesonotum more or less piceous or dark rufous; mandibles, two basal joints of antennæ, legs, and petiole of abdomen, yellow. Head much wider than the thorax, the cheeks full, the occiput concave, the face convex; antennæ 23-jointed, nearly twice the length of body; thorax with the parapsidal furrows only slightly indicated anteriorly, the mesonotum with a fovea just in front of the base of the scutellum and connected with the latter by a very delicate carina that separates the basal fovea of the scutellum into two divisions; metanotum as long as wide, with a median carina, the surface almost smooth, with only some feeble transverse striæ posteriorly; wings hyaline, fringed, the venation yellowish, stigma lanceolate, second sub-marginal cell one and one-half times as long as the first, almost pointed at apex, the second transverse cubital being so extremely short; second discoidal cell wanting.

*Hab.*—Wooster, Ohio.

Bred by Prof. F. M. Webster, from Dipterous insects living in black fungus. This insect is not a true *Phænocarpa*, but belongs to Förster's sub-genus *Spanista*.



## FAMILY ICHNEUMONIDÆ.

## SUB-FAMILY TRYPHONINÆ.

## MASOLEPTUS GRAV.

(8) *MESOLEPTUS FUNGICOLA*, sp. n. Male—Length, 3 mm.; black, polished; head large, subquadrate, wider than thorax, the occiput concave; eyes very large, extending to base of the mandibles; clypeus and mandibles, except outer tooth, brownish-yellow, fimbriate. Antennæ filiform, 20-jointed, pubescent, the basal four joints pale or yellowish, the following brown-black. Thorax above convex, trilobed, the scutellum with a deep fovea across the base, mesopleura smooth, metanotum punctate and distinctly areolated. Legs, including coxæ, brownish-yellow, the hind coxæ with a dusky blotch at base. Wings hyaline, strongly iridescent, the stigma and nervures piceous or dark brown, the areolet oblique, sessile. Abdomen longly petiolated, the petiole linear about four times as long as thick, shagreened, and with a longitudinal median furrow beyond the basal one-third, the spiracles situated a little before the middle; body of abdomen long-ovate, its first and second segments (two and three with petiole) margined with red at apex, they, as well as the basal portion of the third segment, longitudinally aciculated, the segments beyond smooth, polished.

*Hab.*—Wooster, Ohio.

Bred by Prof. F. M. Webster, from fungus, the host being unknown.

## SUB-FAMILY PIMPLINÆ.

## MENISCUS SCHIÖDTE.

(9) *MENISCUS 4-CINCTUS*, sp. n. Male—Length, 6 mm.; black, polished; face below antennæ pale rufous; two basal joints of antennæ, clypeus and mandibles pale brownish-yellow; palpi pro- and meso-sternum, anterior and middle legs, including coxæ, second joint of trochanters of hind legs and knees, an irregular spot on each side of mesoscutum an-

teriorly but not meeting, apex of scutellum and metascutellum, and a triangular spot on the posterior angles of the metathorax, white or yellowish-white; hind legs reddish-yellow; the first joint of trochanters, annulus on their femora at base and another before apex, their tibiæ, except the white annulus at base and the tibial spurs and tarsi, fuscous or brown; abdominal segments one, two, three, and four, with a narrow reddish-yellow band at apex, venter pale with lateral blotches on each segment.

Antennæ brown-black, 34-jointed, acuminate, a little shorter than the body. Mesonotum trilobed, the metathorax rounded behind, nearly smooth, but under a high power lens exhibiting fine, transverse aciculations; legs rather slender, the tarsi longer than tibiæ, the claws pectinated; wing hyaline, the venation pale, the areolet small, oblique; abdomen linear, longer than the head and thorax united, with the genital sheaths large and broad.

*Hab.*—Catawba Island, Ohio.

Bred by Prof. F. M. Webster, from an unknown leaf-roller.

This species comes nearest apparently to *M. superbus* Prov., but differs in the color of legs and abdomen.

## FAMILY CHALCIDIDÆ.

### SUB-FAMILY PTEROMALINÆ.

#### TRIBE SPHEGIGASTRINI.

#### SYNTOMOPUS WALKER.

(10) *SYNTOMOPUS AMERICANUS*, sp. n. Female—Length, 2.5 mm. Bronzy-green, the occiput, pleura and metathorax purplish; abdomen, black, with an æneous tinge; legs, except the knees, tibiæ and tarsi, æneous or metallic, tibiæ and tarsi, except a blotch on the hind tibiæ toward base, brownish-yellow or honey-yellow. Head and thorax closely punctate or squameous, head transverse, wider than the thorax; antennæ, 13-jointed, the scape, except at extreme base, and the pedicel, æneous; flagellum brown-black, subfiliform, the

first joint the longest, the others to the sixth subequal, all a little longer than thick, the sixth quadrate. Thorax above flattened, the pronotum transverse-quadrate, as in *Eurytoma*, the mesothoracic furrows distinct only anteriorly; scutellum rather large, with the axillæ large, triangular and approaching more nearly together than in any other genus in this tribe, in this respect more like some of the Encyrtids; metathorax, long, with a delicate central carina; wings hyaline, iridescent, the nervures brownish, the marginal and post-marginal veins about equal, the stigmal vein being scarcely two-thirds the length of the marginal and sub-clavate. Abdomen distinctly petiolated, clavate, the body, as viewed from above, somewhat triangular; the petiole is stout, finely rugose, and a little longer than the hind coxæ, the rest of the abdomen smooth, shining, the second segment very long, occupying most of its surface, with a deep sulcus at base.

Male—Length, 2.2 mm. Agrees with the female, except it is more decidedly metallic-green, with all the tibiæ banded with brown, the antennæ filiform with the joints less compact, while the body of the abdomen is ovate.

*Hab.*—Wooster, Ohio.

Bred by Prof. F. M. Webster, from Dipterous larvæ.

#### TRIBE PTEROMALINI.

#### POLYSCELIS THOMSON.

(11) *POLYSCELIS WEBSTERI*, sp. n. Female—Length, 2.5 mm. Head and thorax bronzed green, closely punctate; prosternum bluish; abdomen pointed-ovate, æneous; antennæ 13-jointed, the scape pale-yellowish, the pedicel and flagellum dark-brown; legs, except hind coxæ, yellowish.

Head transverse, fully three times as wide (or a little more) as thick antero-posteriorly; eyes ovate; clypeus aciculated; mandibles rufo-piceous, the right four-, the left three-dentate, the inner tooth blunt; antennæ 13-jointed, the flagellum sub-clavate, about twice as long as the scape, the first funicular joint, including the two ring-joints, a little longer than the pedicel, the following joints very slightly and gradually shortening,

but widening, the last funicular joint being transverse; club stout, fusiform, 3-jointed. Thorax with the parapsidal furrows indicated only anteriorly for two-thirds the length of the mesonotum, entirely wanting on the posterior one-third; metanotum produced at apex and covering the short petiole of abdomen, the nucha distinct, the spiracles ellipsoidal, the superior margin of the metapleura covered with whitish hairs; wings hyaline, pubescent, the venation pallid, the marginal vein about two-thirds the length of the submarginal, the post-marginal a little longer than the stigmal, the latter ending in a small stigma; legs as in *Pteromalus*.

Abdomen ovate, subsessile, shaped as in *P. puparum* Linn.; first body segment the longest, the second and third about equal, together not longer than the first, the fourth shorter than the fifth.

Male—Length, 2 mm. Agrees with the female in color, except the flagellum is beautifully banded with white and brown, each alternate joint being contracted; the abdomen is brownish-yellow, except toward apex above; while the legs, including all coxæ, are yellowish-white.

The legs are of a peculiar structure, closely resembling those found in the genus *Platymesopus* Westwood.

The anterior tibiæ are subclavate, while the middle tibiæ are clavate with the outer edge much dilated, forming toward apex a leaf-like expansion, which is fuscous.

*Hab.*—Lafayette, Indiana.

Described from several specimens in both sexes, bred by Prof. F. M. Webster, from galls of *Aulax* sp.

This is the first species of this genus to be described in our fauna, the others being found in Sweden. The male, with its banded white and brown antennæ, is truly a lovely little chalcid. Nothing is known of the habits of the two European species.

#### SUB-FAMILY ENTEDONINÆ.

#### CHRYSOCHARIS FÜRSTER.

(12) CHRYSOCHARIS COMPRESSICORNIS, sp. n. Female—Length 2 mm. Head and thorax squameous, blue with a green-

ish-metallic tinge in certain lights; metathorax, including the post-scutellum, æneous; legs, except coxæ, white; abdomen æneous-black; antennæ 8-jointed, black, the scape with a light yellowish stripe beneath; flagellum pilose, the joints compressed or flattened; the funicle 3-jointed, loosely joined, the first the longest, almost as long as the 3-jointed club, the other two joints subequal, the second being about three times as long as wide, the third only two and a half times as long as wide; club 3-jointed, the joints compacted, the sutures scarcely distinguishable. Thorax with the mesothoracic furrows not defined posteriorly, the surface where they should be being only slightly depressed; metathorax short with a delicate median carina, the spiracles round; wings hyaline, iridescent, the nervures pale; the marginal vein is very long, nearly twice the length of the subcostal vein; the stigmal short, oblique, while the post-marginal is well developed.

Abdomen ovate, petiolated, the petiole short but distinct, punctate, constricted at base; second segment the longest, occupying about one-third of the surface of abdomen proper, the following segments all very short.

*Hab.*—Columbus, Ohio.

Bred by Prof. F. M. Webster from a Cynipidous Gall, *Aulax* sp. on *Lactuca*.

#### SUB-FAMILY TETRASTICHINÆ.

#### TETRASTICHOIDES ASHMEAD.

(13) *TETRASTICHOIDES LASIOPTERÆ*, sp. n. Female—Length 1.8 mm., black, subopaque; antennæ, brown; scape, tegulæ, trochanters, apical third of all femora, and all tibiæ and tarsi, light brownish-yellow; mandibles piceous. Head transverse, antero-posteriorly very thin, the frons concave, the cheeks flat; antennæ 10-jointed with two ring-joints, clavate, extending to tegulæ, the first funicular joint slender, cylindrical, the two following broadened, subequal. Mesonotum without a longitudinal impressed median line; scutellum with four impressed lines; metathorax short, with a delicate median keel, forked at apex; wings hyaline, the venation pale yellowish.

Abdomen sessile, broadly ovate, not longer than the head and thorax united, but a little wider than the thorax, highly polished, impunctate.

Male—Length, 1.5 mm. Agrees with female in color, but is smaller and narrower, with the flagellum filiform, the joints contracted at apex, covered with very long black bristles, while the abdomen is elongated and much narrower than the thorax.

*Hab.*—Central Ohio.

Bred by Prof. F. M. Webster, from a Cecidomyiid Gall, *Lasioptera* sp., found on *Muhlenbergia mexicana*.