

REVISION OF THE NORTH AMERICAN WASPS OF THE SUBFAMILY PLATYGASTERINAE.

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INTRODUCTION.

In taking up the study of the Superfamily Serphoidea in 1915 the writer experienced from the first great difficulty in identifying the various wasps belonging to the large and important Family Platygasteridae. It was in fact impossible to name any species with certainty by the use of the literature available. Ashmead's Monograph of the North American Proctotrypidae, the only work pretending to deal in an exhaustive manner with the group as a whole, is very unsatisfactory, and the present effort is intended to be a thorough revision of a portion of it, namely, the Tribe II, Platygasterini.

As to my method in drawing up this work I may say that I have described fully all of the species known from America north of Mexico. The descriptions are made, as far as possible, in a relative manner. This enables me to omit many useless characteristics such as the pubescence on the thorax, the shape and vestiture of the legs, etc. Descriptions made in an absolute sense seem less useful. The reader is distracted from points more worthy of his attention and valuable time is thereby lost. It is only when one has the types that one can generalize in this way. Isolated descriptions, especially in the large and difficult genus *Platygaster*, should be made with attention to detail. It is patent that the author of such a description could not know absolutely which were the important characteristics and which the unimportant. It is the duty of the monographer to eliminate the commonplace and useless from such descriptions. I may say finally that, except for the various drawings made by Ashmead, this work entirely supplants that part of his Monograph dealing with the Tribe Platygasterini.

A Bausch & Lomb binocular microscope (No. 5 ocular and 24 mm. objective) has been used in the study and comparison of specimens. A disk micrometer, graduated to tenths of a millimeter was used for

all measurements. The figures of the antennae in the genus *Leptacis* were made by the author from sketches prepared by Miss Eleanor Armstrong, an artist in the employ of the Department of Agriculture. The other drawings were made by the author.

The manuscript for this paper was completed in the autumn of 1921 and it has been inadvisable to bring the bibliography of all the species up to date. All of the necessary references to the classification have, however, been added.

PREPARATION.

No special preparation in mounting is necessary with these insects. They are hard and almost indestructible if ordinary precautions are taken. The best way of mounting is to fasten them with shellac to the tips of card points. One specimen should be attached to a point, the latter to be pierced at its broader end by an insect pin. By this means specimens may be preserved indefinitely. There are some so mounted in the National Collection which, although collected many years ago, are still in perfect condition.

It is not advisable to mount the entire specimen on a slide. This may be done with advantage in the case of certain Chalcids but not here. One should, however, mount the antennae in balsam on a slide. In several genera (*Platygaster*, *Leptacis*) the structure of the antennae is of importance in classification.

ACKNOWLEDGMENTS.

The writer is indebted to Mr. S. A. Rohwer, custodian of Hymenoptera, for encouragement and numerous useful suggestions. He has also helped in the general arrangement of the work.

Subfamily PLATYGASTERINAE.

Characters.—Wings veinless; mandibles bidentate; antenna nine or ten jointed, frequently clavate in the female; abdomen petiolate, carinate laterally, composed of six segments in the female and of seven in the male; legs slender, pubescent, with five-jointed tarsi.

The group may be easily recognized by the use of the diagnosis just given. No other group in the Order Hymenoptera has veinless wings.

All of the species are small, none that I have seen being over 4 millimeters in length. Records show that nearly all reared forms are parasitic on the flies of the Family Itonidae. Records of different rearings are in every case doubtful. (See description of *Amitus aleurodinis* Haldeman.)

TABLE TO GENERA.

1. Scutellum densely and evenly covered with appressed pubescence; last two antennal joints in female closely joined..... I. *Amblyaspis* Foerster.
Scutellum not densely and evenly covered with appressed pubescence; terminal antennal joints not closely joined..... 2.
2. Scutellum flattened..... 3.
Scutellum not especially flat, either convex or subconvex..... 6.
3. Antenna in both sexes nine-jointed..... II. *Fidiobia* Ashmead.
Antenna in both sexes ten-jointed..... 4.
4. Terminal three or four joints in the female antenna forming a club..... 5.
Antennae filiform or clavate but the club not formed by a special differentiation in the size of the terminal three or four antennal joints.
VIII. *Platygaster* Latreille.
5. Antennal club in female three-jointed..... III. *Amitus* Haldeman.
Antennal club in female four-jointed..... XI. *Leptacis* Foerster.
6. Antennal club in female three-jointed..... 7.
Antenna without a three-jointed club..... 8.
7. Propodeum not visible in a dorsal view of the insect... III. *Amitus* Haldeman.
Propodeum sloping, visible in a dorsal view..... IV. *Isorhombus* Foerster.
8. Second tergite with two basal foveae; antenna in female without a club formed by special enlargement of the last four joints..... 9.
Second tergite without foveae and never with striae basally; antenna of female with a four-jointed club..... 12.
9. Scutellum with a tuft of hair above; if the tuft is not distinct then the scutellum is very high, conical when seen from the side..... 10.
Scutellum without a trace of such a tuft, not high and conical..... 11.
10. Head cubical seen from above, very full above and behind the eyes.
V. *Isocybus* Foerster.
Head usually distinctly transverse, if somewhat cubical then not so full above and behind the eyes..... VI. *Trichacis* Foerster.
11. Head with a sharp tooth-like projection between the antennae.
VII. *Eritrissomerus* Ashmead.
Head without such a projection..... VIII. *Platygaster* Latreille.
12. Thorax strongly compressed; head flattened antero-posteriorly; abdomen flattened..... IX. *Piestopleura* Foerster.
Thorax not noticeably compressed; head and abdomen not especially flat. 13.
13. Second sternite in female depending sack-like below the second tergite, the following segments forming a tail..... X. *Sactogaster* Foerster.
Abdomen normal..... XI. *Leptacis* Foerster.

I. Genus *AMBLYASPIS* Foerster.

Amblyaspis FOERSTER, Hym. Stud., Heft 2, 1856, pp. 107, 112. *Genotype*.—*A. aliena* Foerster (By original designation). Three species.

Amblyaspis FOERSTER, Ashmead (part), Bull. 45, U. S. Nat. Mus., 1893, p. 266.

Head transverse, more or less circular seen from in front; occiput margined or immargined; ocellocular line usually greater than the lateral ocellar; antennae in both sexes ten-jointed, with a more or less distinct four-jointed club in the female; joints three and four rather large and thick, subequal, thicker than the pedicel or joints five and six; last two joints of the club closely joined; antenna of male more or less similar to that found in *Platygaster*, the joints

cylindrical, loosely joined, thickly covered with short pubescence; thorax longer than wide, higher than wide, convex above; notauli usually absent, sometimes complete; mesonotum separated from the scutellum by a suture; scutellum more or less triangular in outline, rounded apically, thickly covered with appressed pubescence; propodeum with two parallel, median, elevated carinae; propodeum on each side with a ridge running from the base of the posterior wing to the base of the hind coxa; wings pubescent, distinctly ciliate marginally; abdomen as in *Platygaster* but the second tergite not striate and the basal foveae frequently indistinct; in the specimens studied the abdomen in the female is in no instance much longer than the head and thorax united.

TABLE TO SPECIES.

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|---|---------------------------------|
| 1. Abdomen in female twice as long as wide..... | 1. <i>californicus</i> Ashmead. |
| Abdomen in female distinctly less than twice as long as wide..... | 2. |
| 2. Abdomen short, 0.60 mm. long..... | 2. <i>occidentalis</i> Ashmead. |
| Abdomen longer, 1.77 mm. long..... | 3. <i>petiolatus</i> Ashmead. |

1. *AMBLYASPIS CALIFORNICUS* Ashmead.

Amblyaspis californicus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 268.

Female.—Length 1.7 mm. Head twice as wide as long, as wide as the thorax; frons very faintly reticulate, subopaque; lateral ocelli nearer to the anterior ocellus than to the eye margin; vertex bounded posteriorly by a high and sharp ridge; flagellum three-fourths as long as the abdomen, the joints thickly covered with short white hairs; pedicel shorter than joints three and four united, two and one-half times as long as wide; joints three and four thicker, a little longer than wide; joints seven to nine quadrate, slightly produced apically on the outside; last joint conical, as long as the ninth, a little longer than wide; thorax elliptical seen from above, convex dorsally, two-thirds as wide as long; mesonotum faintly reticulate, subopaque, squarely excised posteriorly; notauli absent; abdomen as long as the head and thorax united, as wide as the thorax, polished, the apical tergites punctulate. Mahogany-colored; scape reddish-yellow, tinged with fuscous toward the apex; pedicel and flagellum dark brown; legs yellow, the posterior coxae and posterior femora apically a little darker.



FIG. 1.—*AMBLYASPIS CALIFORNICUS* ASHMEAD. ABDOMEN OF FEMALE.

Male.—Length 1.35 mm. Flagellum, including the pedicel, as long as the thorax, the joints cylindrical and covered with short erect hairs; all antennal joints except the third longer than wide; fourth joint twice as long as the third, cylindrical, two times as long as wide; joints six to nine sub-

equal, not much longer than wide; joint ten conical, sharp at apex, longer than four; abdomen as long as the head and thorax united, as wide as the thorax, four-sevenths times as wide as long, rounded apically; wings long, pubescent, ciliate, tinged with brown.

Type locality.—Marin County, California.

Type.—Cat. No. 2267, U.S.N.M.

Redescribed from the type female and allotype male.

2. *AMBLYASPIS OCCIDENTALIS* Ashmead.

Amblyaspis occidentalis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 267.

Female.—Length 0.8 mm. Whole specimen, except the abdomen, lost; “polished black, impunctured; antennae brown black, the scape pale at base; legs brownish, trochanters, base of tibiae and tarsi, honey yellow. Antennae ten-jointed; pedicel a little shorter than the first two funicular joints together; first and second funicular joints equal, third much shorter and more slender, fourth transverse; club four-jointed, the last two joints closely united, the first two about equal, a little wider than long, rounded off at base. Scutellum triangular, pubescent, very slightly impressed on each side at base, but medially subconvex and not separated from the mesonotum. Metathorax and metapleura pubescent. Wings hyaline. Abdomen as long as the head and thorax together, black, polished, the petiole and base of second segment pubescent”; abdomen distinctly less than twice as long as wide, the last segment alone punctate; second tergite a little longer than wide, nearly twice as wide apically as at base; tergites three to five very short, polished, broadly transverse.

Type locality.—Riley County, Kansas.

Type.—Cat. No. 25425, U.S.N.M.

Redescribed from the type specimen.

3. *AMBLYASPIS PETIOLATUS* Ashmead.

Amblyaspis petiolatus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 268, female and male.—BRUES, Bull. No. 22, Conn. Geol. and Nat. Hist. Survey, 1916, p. 533.

Female.—Length 1.33 mm. Head less than twice as wide as long, not omarginate behind, as wide as the thorax; frons finely reticulate, subopaque; vertex immargined posteriorly; lateral ocelli nearer to the eye margin than to the anterior ocellus; pedicel twice as long as wide, scarcely longer than the third antennal joint; joints eight and nine hardly longer than wide, not produced outwardly as in *californicus*; ten conical, sharply pointed apically, longer than nine; thorax a little over two-thirds as wide as long, convex above, as high as wide; mesonotum faintly reticulate; notauli present, widely separated in front of the scutellum, reaching to the middle of the mesonotum; median lobe of mesonotum truncate posteriorly, touching the scutel-

lum; abdomen a little longer than the head and thorax united, wider than the thorax, less than twice as long as wide, elliptical posterior to the petiole; second tergite as wide as long, widest at the apex where it is twice as wide as at base; following segments united half as long as the second, each one finely punctate, broadly transverse; sixth tergite as long as the two preceding united, broadly rounded apically. Dark reddish brown; legs and antennae (except flagellum) bright yellow; flagellum and petiole yellowish-brown; tegulae rufous posteriorly.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25426, U.S.N.M.

Redescribed from the type. The allotype has been lost or misplaced.

II. Genus FIDIOBIA Ashmead.

Fidiobia ASHMEAD, Journ. Cincinnati Soc. Nat. Hist., 1895, p. 171. (Monobasic.)

Genotype.—*Fidiobia flavipes* Ashmead.

Rosneta BRUES, Bull. Wis. Nat. Hist. Soc., vol. 6, 1908, p. 157. (Monobasic.)

Genotype.—*Rosneta tritici* Brues.

Head transverse, wider than high seen from in front; vertex rounded; lateral ocelli nearer to the eye margin than to the front ocellus; antennae in the female [nine-jointed, short, with a three-jointed club, funicle four-jointed, filiform; antennae in the male nine-jointed, with a distinct three-jointed club; third joint as long and as thick as the second, longer than wide; fourth broadly transverse, very thin; fifth and sixth short, rounded, longer than the fourth; thorax flattened; pronotum seen from above appearing as a transverse curved line, thicker just in front of the tegulae; mesonotum transverse, separated from the scutellum by a fine suture; notauli indicated by broad gashes in the posterior half of the mesoscutum; scutellum broadly transverse, margined laterally; propodeum shorter than the scutellum, with lateral ridges and with two dorsal longitudinal carinae; wings veinless, pubescent, not distinctly ciliate at their margins; abdomen flattened, with no strong growth of pubescence on it; first tergite transverse, with two lateral foveae at its base separated by a median elevation; second tergite longer than wide, with two lateral basal foveae and a shallow depression between the elevations separating them.

Two valid species are known in this genus. Both are found in the Eastern States. *E. flavipes* is recorded as being parasitic in the eggs of *Fidia viticida* on grape vine. It is strange that the species is so often found in sweeping wheat stubble but that the specimens so procured are really *flavipes*, I entertain no doubt for I have compared a number of them with the types. *Rosneta tritici* Brues is identical with *flavipes*. The difference in the length of the abdomen is not of any significance since the apical segments are telescopic.

1. FIDIOBIA FLAVIPES Ashmead.

Fidiobia flavipes ASHMEAD, Cincinnati Soc. Nat. Hist., 1894, p. 171.

Rosneta tritici BRUES, Bull. Wisc. Nat. Hist. Soc., vol. 6, 1908, p. 157.

Female.—Length 0.70 mm. Body somewhat flattened; head as wide as the thorax, twice as wide as long, finely shagreened; frons faintly aciculate, more strongly so below; thorax a trifle longer than wide, broadly rounded anteriorly, narrowed behind the tegulae, with no sculpture to speak of unless it be a faint shagreening; notauli present on posterior half of mesonotum, shallow and broad; scutellum twice as wide as long, polished; abdomen as wide as the head, gradually narrowed anteriorly, as long as the head and thorax united, two-thirds as wide as long, without sculpture and without pubescence; first tergite two and one-half times as wide as long, narrowed anteriorly; second tergite oblong, the sides nearly parallel, slightly over two-thirds as wide as long; basal lateral foveae oblique, shallow, not attaining the middle of the segment; segments two—five mostly concealed beneath the large second segment, narrow if visible at all, sixth segment triangular, wider than long; wings extending half the length of the second segment past the apex of the abdomen, subhyaline, pubescent. Castaneous; legs and antennae stramineous.

Male.—Length 0.70 mm. Differs little from the female except in secondary sexual characters. The antennae of both the male and the female are shown greatly enlarged, in the accompanying illustration.

Type locality.—Ohio.

Type.—Cat. No. 1449, U.S.N.M. Type selected, also 2 paratypes.

The description of the female is based upon the type material in the collection of the United States National Museum. The male is described, or rather its antenna figured, from one of a series of specimens labeled "Ithaca, N. Y., M. V. Slingerland, collector." This series is now deposited in the national collection along with the Ashmead types.

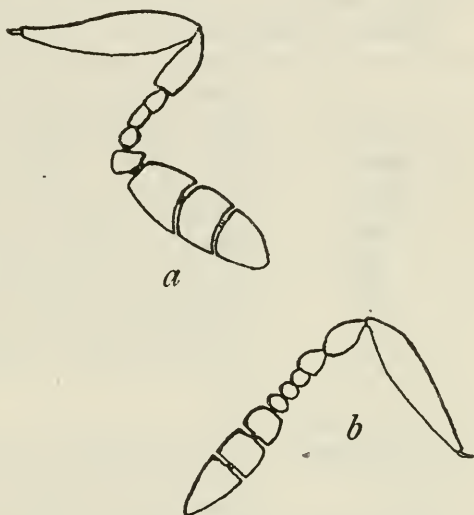


FIG. 2.—FIDIOBIA FLAVIPES ASHMEAD. ANTENNAE.
a. OF THE FEMALE. b. OF THE MALE.

The types were reared by Prof. F. M. Webster from the eggs of *Fidia viticida* on grapevine. I do not know the host of Mr. Slingerland's specimens.

2. FIDIOBIA RUGOSIFRONS Crawford.

Fidiobia rugosifrons CRAWFORD, Ins. Insect. Menst., vol. 4, 1916, p. 141.

Closely allied to *F. flavipes* Ashmead from which it differs in its slightly larger size, more pronounced coloring, and coarser sculpture.

Female.—Length 0.90 mm. Differs from the corresponding sex in *flavipes* in the following manner: Body of a shining black color; antennal club dark brown; the head and most of the thorax, the scutellum excepted, covered with a fine thimble-like sculpture; fourth antennal joint distinctly shorter than the third.

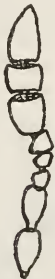


FIG. 3.—FIDIOBIA RUGOSIFRONS CRAWFORD. ANTENNAE OF MALE. SCAPE NOT SHOWN.

Male.—Length 0.80 mm. Similar to the female. Differs from the male of *flavipes* in the antennal structure, which difference can be readily noted by comparing the accompanying figures.

Type locality.—Montourville, Pennsylvania.

Type.—Cat. No. 20786, U.S.N.M. Female and male.

Described from types which bear the additional data, "reared from eggs in wheat stubble; P. R. Myers, Coll.; emerged Apr. 17, 1916."

Mr. Crawford was mistaken in taking both of his specimens for females. His mistake was not surprising, however, since his accuracy was unquestioned until the antennae of both specimens had been mounted and compared.

III. Genus AMITUS Haldeman.

Amitus HALDEMAN, Amer. Journ. Sci., ser. 2, vol. 9, 1850, p. 109. (Monobasic.)

Genotype.—*A. aleurodinis* Haldeman.

Zacrita FOERSTER, Kleine Monographie, 1878, p. 46. (Monobasic.) *Genotype*.—*Z. longicornis* Foerster.

Head transverse; occiput not margined; lateral ocelli as near to the eye margin as to the front ocellus; antennae in female ten-jointed, with the last three joints closely united and forming a club; scape curved, not especially long; joints three, four, and five rather elongate, several times longer than wide; antennae in male ten-jointed, filiform, with all the flagellar joints longer than wide and densely covered with short erect hairs; scape strongly bowed, not long or thick; fourth joint cylindrical, not deformed in any way; thorax more or less flattened above, wider than high; mesonotum large; pronotum narrow seen from above; notauli complete or incomplete; scutellum flattened or convex, unarmed; median episternal groove deep, curved;

metanotum laminate; propodeum not visible from above, perpendicular, without median carinae; abdomen short and broad, not longer than the thorax, composed of six segments in the female and of seven in the male; second tergite striate basally, with two lateral basal foveae; legs slender, with five-jointed tarsi; wings hyaline, pubescent, with long marginal cilia.

1. *AMITUS ALEURODINIS* Haldeman.

Amitus aleurodinis HALDEMAN, Amer. Journ. Sci., ser. 2, vol. 9, 1850, p. 110.

Elaptus aleurodis FORBES, 14th Ill. Rep., 1884, p. 110, pl. 2, fig. 6; female.

Alaptus aleurodis FORBES, Cresson, Syn. N. Amer. Hym., 1887, p. 250.

Head twice as wide as long, as wide as the thorax, slightly emarginate posteriorly, entirely finely reticulate; thorax scarcely longer than wide, mostly finely reticulate; notauli complete, separated behind, diverging widely anteriorly; scutellum convex, bare, faintly reticulate, its apex extending posterior to the apex of the propodeum, the latter visible only as a transverse line, narrower than the metanotum; legs moderately slender, mostly rufous like the rest of the body; tarsi a little paler, dirty yellow in color; wings one-fourth of their own length longer than the entire insect, broad, with long cilia marginally.

Female.—Length 0.84 mm. Pedicel as long as but thicker than the third antennal joint, as wide as the fifth, two and one-half times as long as wide; joint four slender, about as long as but thicker than the third, slightly narrower than the fifth; joint five twice as long as wide, a little shorter than the fourth, slightly longer and narrower than the sixth; seventh scarcely longer than wide, wider than the sixth; joints eight to ten forming a solid club more than three times as long as wide, the parts of which can be distinguished only under the higher powers of the microscope; club not much wider than joint seven, acute apically, without distinct pubescence; abdomen circular seen from above, pointed apically, a little wider than the thorax; second tergite reticulate with shallow striae, the striae nearly reaching the posterior margin of the segment; second tergite three-fourths as long as wide; following segments short, broadly transverse, unsculptured; sixth tergite triangular, transverse, acute at apex; antennae yellow, the joints beyond the third brownish.

Male.—Length 0.88 mm. Pedicel hardly longer than wide, as wide as the scape, the latter a little wider than any of the flagellar joints; joints three to ten subequal in width; three twice as long as wide, shorter than four; joints four to nine gradually shortening distally, the eighth twice as long as wide; joint ten over twice as long as wide, a little longer than the fourth, pointed apically; abdomen rounded; distinctly longer than wide, as wide as the thorax; second tergite as in the female; following ones polished, transverse, the seventh acute apically; antennae yellowish.

Type locality.—Illinois.

Type.—In collection of American Entomological Society.

Other localities.—Pennsylvania and District of Columbia.

Redescribed from a series of specimens in the National Museum labeled, "Par. on *Aleurodes* on Maple leaves; issued Feb. 6, 1874."

I quote Professor Haldeman on the habits of the species:

Parasitic on the larva of *Aleurodes corni* Hald., of which it destroys a great many. I found it with that insect beneath the leaves of *Cornus sericea* on the margin of a water course. It leaps, walks, and flies with facility, and when touched simulates death. I have kept them a week or more, living in confinement. The ova (crushed from the ovaries) are fusiform, rounded at one extremity and produced at the other like the neck of a flask.

IV. Genus ISORHOMBUS Foerster.

Isorhombus FOERSTER, Hym. Stud., Heft 2, 1856, pp. 107, 113. No species originally included.

Vertex seen from in front highly elevated; that part of the head bounded by a line drawn from the middle point of the vertex to the outer margins of the eyes and from thence to the mouth forming a perfect diamond-shaped figure; occiput not separated from the vertex by a sharp carina; antennal club in female three-jointed. Genus in other respects similar to *Leptacis*.

I have seen no specimens referable to this genus. The two species included by Ashmead¹ belong to other genera in the subfamily. *I. hyalinipennis* Ashmead is referred to *Platygaster* and *arizonensis* Ashmead to *Trichacis*.

V. Genus ISOCYBUS Foerster.

Isocybus FOERSTER, Hym. Stud., Heft. 2, 1856, p. 114. Four species.

Genotype.—(*Platygaster ruficornis* Walker)=*Platygaster grandis* Nees. By original designation.

This genus is closely related to *Platygaster* Latreille and *Trichacis* Foerster. It may be separated from the former only by the shape of the head, which is more or less cubical, very full behind and above the eyes. As in *Trichacis* the scutellum is of an irregular shape, never smoothly rounded above and evenly sculptured, and has a more or less distinct tuft of hair above. In *Platygaster* the pubescence is scattered and always denser on the sides than on the top. The abdomen is six segmented in the female and seven in the male. The second tergite is not densely pubescent proximally and has two basal foveae.

Foerster² designated as type the species described by Walker³ under the name *Platygaster ruficornis* Latreille. *P. ruficornis*

¹ Bull. 45, U. S. Nat. Mus., 1893, pp. 276 and 277.

² Hym. Stud., Heft. 2, 1856, p. 114.

³ Ent. Mag., vol. 3, 1835, p. 240.

(Latreille) Walker is not Latreille's species and has been synonymized with *Platygaster grandis* Nees by Dalla Torre.⁴ In the National Museum there is one specimen from Europe labeled "Essex, England, *Isocybus grandis* Nees." I do not know who labeled the specimen but it agrees pretty well with Nees' description.⁵ Compared with specimens of *canadensis* (Provancher) I can find few differences, none fundamental, the most important of which are the slightly coarser sculpture of the mesonotum and the darker color of the antennae.

Only one species is known from North America. The two others included in this genus by Ashmead⁶ do not agree with the diagnosis given above and are placed elsewhere. *Platygaster pallipes* Say is retained as a doubtful species in *Platygaster*. *Isocybus longiventris* Ashmead is redescribed in the same genus.

1. ISOCYBUS CANADENSIS (Provancher).

Platygaster canadensis PROVANCHER, Addit. Fauna Ent. Can. Hym., p. 181.

Monocrita canadensis (Provancher) ASHMEAD, Can. Ent., vol. 19, 1887, p. 126.—

CRESSON, Syn. N. Amer. Hym., 1887, p. 249.

Isocybus canadensis (Provancher) ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 329.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Survey, 1916 (1917), p. 541.

Isocybus nigriclavus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 328.

Isocybus pallipes (Say) ASHMEAD, Can. Ent., vol. 19, 1887, p. 132.—CRESSON, Syn. N. Amer. Hym., 1886, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 328. (Misidentification of Say's species, see p. 109.)

Isocybus pallipes (Say) BRUES, Bull. 22, Conn. Geol. Nat. Hist. Survey, 1916 (1917), p. 541.

Female.—Length 4 mm. Head two-thirds as wide as long, as wide as the thorax, very full behind the eyes, the cheeks being highly convex and much wider than the eyes; occiput and vertex shagreened, the former emarginated, sometimes punctate rugose; frons rugose, finely set with twisted raised lines, reticulated; cheeks sometimes with a sculpture similar to that found on the frons, frequently shagreened, without raised lines; antennal projection depressed down the middle, notched anteriorly; scape slender, long and curved, extending above the dorsal surface of the head; pedicel as long as joint four, shorter and wider than three which is three times as long as wide at apex; joints five to nine wider than four, a little longer than wide, cylindrical; ten as long as three, subacute apically, the upper side curved near the apex; thorax nearly twice as long as wide, more or less flattened above, higher than wide; pronotum roughened and strongly punctate above on the sides; mesonotum usually mostly polished, sometimes mostly sculptured like the frons; notauli deep,

⁴Cat. Hym., vol. 5, 1898, p. 469.

⁵Hym. Affin. Monogr., vol. 2, 1834, p. 300.

⁶Bull. 45, U. S. Nat. Mus., 1893, pp. 3:7-33

complete; lateral lobes coarsely shagreened along their inner margin; posterior margin of mesonotum with long hairs projecting over the scutellar fovea; scutellum transverse, roughened, with a large central space densely covered with short whitish hairs, lateral margins of scutellum very high and sharp, projecting above the surface of the scutellum; propodeum rather finely roughened, densely covered with erect long white hair; median carinae close together and parallel; first tergite as wide as long, slightly narrowed anteriorly, roughened and covered with erect white hair on each side of the median area; median area well defined, widened flask-like anteriorly, much longer than wide; abdomen obovate, a little over twice as long as wide, wider than the thorax, as long as the head and thorax united; second tergite two-thirds as wide as long, three-eighths as wide at base as at apex, without sculpture of any sort; basal foveae deep, not especially large, as long as the first tergite, pubescent; tergites three to six finely shagreened, united three-tenths as long as the second, the third a little the longest; wings brownish, extending half the length of the second tergite past the apex of the abdomen. Black; antenna and legs (except last six joints of the former and the coxae) brownish yellow, shining; antennal club brown, coxae black.

Male.—Length 3 mm. Pedicel one and one-half times as long as wide; as long and as wide as joints three and four; joint three elongate and more or less triangular; four cylindrical, slightly widened below at apex; five cylindrical, a little longer than wide, as wide as four at apex; joints six to nine as wide as four, becoming gradually longer distally; ten very long and acute apically, nearly as long as eight and nine united, three times as long as wide; abdomen sculptured as in the female, spatulate, a little over twice as long as wide, as long as the head and thorax united; tergites three to seven finely shagreened, thickly pubescent, united one-third as long as the second; wings extending the length of the second tergite past the apex of the abdomen. Coloration as in the female; flagellum, including the pedicel, usually brownish, sometimes yellow.

Type locality.—Ottawa, Canada.

Other localities.—Greeley, Colorado; Algona, Iowa; Texas; Michigan.

Type.—One of Provancher's male paratypes is in the National Museum (Cat. No. 25427). The types of *I. nigriclavus* are also in the National Collection (Cat. No. 2306).

Besides the types mentioned above the National Collection has a number of specimens from the Agricultural College in Michigan. Several of these specimens are recorded as having been reared March 10, 1887, from a gall on willow. The others bear only the labels, "June 3, 1887," and "Ag. Coll. Mich."

VI. Genus *TRICHACIS* Foerster.

Trichacis FOERSTER, Hym. Stud., Heft. 2, 1856, p. 115. Three species. *Genotype*.—*Platygaster pisis* Walker. (By original designation.)

This is a genus occupying a position very similar to that formerly held by *Polygnotus*. In other words it is separated from an allied genus, *Isocybus*, by characters which are relative and therefore impossible to define exactly. It is too much to expect that the head in the one group should always remain distinctly transverse and in the other cubical. It is certain that species exist which serve to unite the two. Indeed we have in *Trichacis rufipes* a form which has the head distinctly less than twice as wide as long, a condition approaching that found in *Isocybus*.

Probably the best way to fix the position of *Trichacis* in mind would be to remember that it has all the peculiarities of *Platygaster* except the smooth scutellum with its scanty covering of hairs.

Ashmead, in his monograph of the North American Proctotrypidæ, referred two species belonging to *Trichacis* to the genera *Isorhombus* and *Synopeas*. The species, *Isorhombus arizonensis* Ashmead and *Synopeas cornicola* Ashmead are redescribed below and should be readily recognized if the description is properly used.

TABLE TO SPECIES.

- | | |
|--|----------------------------------|
| 1. Head less than twice as wide as long..... | 1. <i>rufipes</i> Ashmead. |
| Head two or more times wider than long..... | 2. |
| 2. Occiput strongly transversely striate..... | 2. <i>rubicola</i> Ashmead. |
| Occiput not or very finely striate..... | 3. |
| 3. Scutellum very high, conical seen from the side, without a distinct tuft of hair at summit..... | 3. <i>arizonensis</i> (Ashmead). |
| Scutellum low, not conical, with a distinct tuft of hair at summit..... | 4. |
| 4. Abdomen in female less than twice as long as wide..... | 4. <i>cornicola</i> (Ashmead). |
| Abdomen in female twice as long as wide..... | 5. <i>virginiensis</i> Ashmead. |

I. *TRICHACIS RUFIPES* Ashmead.

Trichacis rufipes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 295.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Survey, 1916 (1917), p. 534.

Female.—Length 2.20 mm. Head three-fifths as wide as long, not emarginate posteriorly, wider than the thorax; occiput polished, separated from the vertex by a low but sharp carina; cheeks shagreened; interocellar space polished, shagreened laterally; frons polished, narrowly shagreened laterally, with a few striae above the antennae; pedicel twice as long as wide, as long and as wide as joint three, a little longer and narrower than four; five triangular, as long as four, as long as six but somewhat narrower; six as wide as long, narrowed basally, a little longer than seven; seven to nine a little wider than long; ten less than twice as long as wide, a little longer than the pedicel, subacute apically; thorax four-sevenths times as wide as long, higher than wide; pronotum pubescent, polished; meso-

notum finely shagreened on anterior half, polished otherwise; notauli nearly parallel, deep and wide posteriorly, not quite reaching the pronotum; median lobe broadly truncate posteriorly; scutellum elevated into a transverse ridge, sharply and highly margined laterally, with a tuft of short white hairs on its posterior face, covered all over with long white hairs; petiole a little wider than long, fluted, the median area longer than wide, with a central carina; abdomen elliptical, a little over twice as long as wide, distinctly longer than the head and thorax united; second tergite as wide as long, without striations basally, narrowed anteriorly, the sides straight; foveae deep but not especially large; tergites three to six finely shagreened, about equally long, united four-fifths as long as the second; six a little wider than long, rounded apically, with scattered pubescence; wings slightly tinged with brown, scarcely reaching beyond the apex of the abdomen. Black; legs and scape yellow; the hind coxae and joints two to five of the antenna touched with brown; club-joints fuscous.

Male.—Length, 2.20 mm. Pedicel less than twice as long as wide, as wide as joints three and four, a little longer than three; four cylindrical, as long as two and three united; joints five to nine a little longer than wide; ten conical, acute at apex, longer than four; abdomen wider than the thorax, a little over twice as long as wide, rounded apically, longer than the head and thorax united; segments three to seven finely shagreened, about equal in length, the last shorter, rounded apically; three to seven united a little over half as long as the second. Flagellum, including the pedicel, light brown in color.

Type locality.—Arlington, Virginia.

Allotype locality.—Washington, District of Columbia.

Other localities.—Jacksonville, Florida, and St. Louis, Missouri.

Type.—Cat. No. 2277. U.S.N.M. Female from Arlington, Virginia, selected as type and male from Washington as allotype. Other specimens considered paratypes.

Redescribed from the type series, three females and one male, in the National Museum at Washington. The Missouri specimen was reared from acorns infested with *Balaninus nasicus* and *Blastobasis glandul-ella*.

2. TRICHACIS RUBICOLA Ashmead.

Trichacis rubicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 296.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Sur., 1916 (1917), p. 534.

Trichacis arizonensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 296. (Not *Isorhombus arizonensis* Ashmead, p. 277.)

Trichacis brunneipes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 296.

Female.—Length 1.60 mm. Head twice as wide as long, as wide as the thorax, narrow behind the eyes; occiput strongly and regularly transversely striate, separated from the vertex by a sharp carina;

cheeks flattened, striate; frons finely aciculate, with a few striae above the antennae; pedicel less than twice as long as wide, as wide as joint five, wider than three, as long as three and four united; four as long and as wide as three, about as long as wide; five twice as long as wide, as long as the three preceding joints united, as wide as six; six not quite as long as five; seven to ten subequal in length and width, longer than wide; ten subacute apically, the sides rounded; thorax less than twice as long as wide, flattened above, higher than wide; pronotum unsculptured, sparsely pubescent; mesonotum faintly shagreened anteriorly, polished otherwise; notauli complete, faintly indicated anteriorly; median lobe broadly rounded posteriorly, touching the scutellum; propodeum sparsely pubescent laterally; abdomen apparently only four jointed, elliptical, the length of the head longer than the head and thorax united, as wide as the thorax, two and one-third times as long as wide; first tergite twice as wide as long, polished, not striate, the median area longer than wide; second tergite unsculptured, a little longer than wide; slightly narrowed anteriorly, the sides nearly straight; basal foveae very short, unsculptured; third tergite unsculptured, three times as wide as long, traversed medially by an irregular double row of punctures, from each of which projects a short white hair; fourth tergite two-thirds as wide at base as long, triangular, rounded posteriorly; this segment is transversely elevated on basal two-fifths; in front of the elevation the segment is longitudinally striated, behind it is flattened, polished, and unsculptured; tergites three and four united as long as the second; wings hyaline, reaching slightly beyond the apex of the abdomen. Shining black; flagellum, middle and posterior femora and tibiae, dark brown; scape, pedicel, and rest of legs, yellow.

Male.—Length 1.5 mm. Pedicel a little longer than wide, as wide as joint five, as long as joints three and four united; three triangular, as wide as long, longer than four from points of attachment, narrower than the pedicel; four produced tongue-shaped on the lower side of five, one-third as long as five from tip to tip, very short seen from above; five three times as long as wide, longer than the three preceding joints united; emarginate below at base where joint four is closely attached; joints six to seven twice as long as wide; eight and nine less than twice as long as wide; ten as long as seven, subacute apically; abdomen elliptical, a little longer than the head and thorax united, twice as long as wide; tergites three to seven unsculptured, united two-thirds as long as the second; wings hyaline, extending nearly the length of the last five segments past the apex of the abdomen. Antennae brownish, the scape and pedicel somewhat lighter in color.

Type locality.—Cadet, Missouri.

Allotype locality.—Washington, District of Columbia.

Other localities.—Jacksonville, Florida; Mount Graham, Arizona.

Type.—Cat. No. 2278, U.S.N.M. Female from Cadet, Missouri, selected as type; male of *rubicola* from Washington, District of Columbia, as allotype; others considered paratypes.

Redescribed from the type series, five females and one male, in the National Museum at Washington. Two females were reared by C. V. Riley, June 16, 1883, from a Cecidomyid stem-gall on blackberry at Cadet, Missouri. The others were reared June 9, 1886, from Cecidomyid gall on *Vernonia noveboracensis*, collected at Washington.

I have compared the types of *arizonensis* (Cat. No. 2279, U.S.N.M.) and *brunneipes* (Cat. No. 25428, U.S.N.M.) with the specimens referred to above and can find no specific differences. The type series of *arizonensis* consists of three females and one male, reared by Dr. H. K. Morrison, at Mount Graham, Arizona, from a Cecidomyid gall on wild sunflower. The type of *brunneipes* was not reared. It was collected at Jacksonville, Florida.

This species is a most remarkable one. The structure of the abdomen in the female and of the antenna in the male has no parallel among described Platygasterids. I might create a new genus for it but it is possible to include it in *Trichacis* and I prefer to let it remain there.

3. TRICHACIS ARIZONENSIS (Ashmead).

Isorhombus arizonensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 277. (Not *Trichacis arizonensis* ASHMEAD, 1893, p. 296.)

Female.—Length 1.80 mm. Head more than twice as wide as long, wider than the thorax, flattened in front, slightly emarginate behind; occiput and vertex rounded, polished, pubescent except in the middle; entire face polished, without sculpture; pedicel twice as long as wide, as long as joint ten, as wide as five, a little longer than three; joint three twice as long as wide, as long or nearly as the pedicel, longer than four; four a little longer than wide, as long but slightly narrower than five, as wide as three; six to nine a little longer than wide, as wide as the scape in the middle; thorax two-thirds as wide as long, strongly convex above, a little higher than wide; pronotum mostly polished, pubescent, partly shagreened laterally; mesopleural furrow deep and wide; mesonotum finely shagreened anteriorly, behind with long hairs reaching over the scutellar foveae; notauli attaining anterior third of mesonotum; median lobe broadly truncate apically, not touching the scutellum; scutellum circular seen from above, conically produced and bidentate at the summit when viewed from the side, perpendicular behind, slightly sloping in front, thickly covered with long, evenly distributed white hairs; abdomen broadly

elliptical, as wide as the head, two-thirds as wide as long, as long as the head and thorax united; first tergite twice as wide as long, thickly pubescent laterally, with the median area longer than wide; second tergite as wide as long, smooth, the foveae unsculptured, pubescent basally, tergites three to six very finely shagreened or covered with wavy reticulations, united a little over half as long as the second, the last four segments becoming gradually shorter toward the apex; sixth tergite as long as the fifth, much wider than long; wings slightly infuscated, reaching a little beyond the apex of the abdomen. Black; legs bright brownish-yellow; antennae and coxae dark brown.

Type locality.—Fort Huachuca, Arizona.

Type.—Cat. No. 2270, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The type was reared May 8, 1883, from a Cecidomyid gall on an unknown plant, sent to the Department of Agriculture by H. K. Morrison.

4. TRICHACIS CORNICOLA (Ashmead).

Synopeas cornicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 288.

Female.—Length 1.20 mm. Head more than twice as wide as long, emarginate behind, wider than the thorax; occiput aciculate, separated from the vertex by a carina; cheeks shagreened, convex; length of head above eyes greater than its length below them; frons polished, wider than the greatest diameter of the eyes; pedicel and the four joints following it subequal in width, the pedicel the longest, twice as long as wide; joint three longer than wide, shorter than four, which is one and one-half times as long as wide; five shorter than three, hardly longer than wide; six as long as four; joints seven to nine wider than long; ten as long as two, conical, blunt apically; thorax three-fourths as wide as long, convex above, higher than wide; pronotum mostly smooth and shining, narrowly shagreened medially on the sides; mesonotum finely shagreened anteriorly, along its posterior margin densely covered with long golden hairs which extend over the scutellar fovea; notauli distinct on basal two-thirds of mesonotum; median lobe broadly truncate posteriorly; scutellum flattened above and with the dorsal face sharply distinguished from the posterior; on the transverse ridge is a small, dense tuft of white hairs; scutellum highly margined laterally, sparsely covered with long golden hairs; abdomen broadly elliptical, as long as the head and thorax united, as wide as the head, two-thirds as wide as long; first tergite evenly rounded above, the median area not very distinctly indicated, longer than wide; second tergite a little longer than wide, not sculptured; foveae short and deep, pubescent basally; tergites three to six shining, with an indistinct sculpture, subequal in length, united not quite one-half as long as the second; six a little

longer than the rest, broadly transverse; wings slightly infuscated, extending half the length of the second tergite past the apex of the abdomen. Black; legs and antennae brown, the flagellum, middle and posterior femora, and tibiae, darker.

Male.—Length 1.20 mm. Pedicel longer than wide, as wide as joint three, a little shorter than four; joint three closely united to four, transverse, not quite as wide as four; four somewhat longer than wide, obliquely excised distally; six to nine a little longer than wide; ten as wide as two, as long as three and four united; abdomen as wide as the head, two-thirds as wide as long, a little longer than the thorax; wings extending two-thirds the length of the second tergite past the apex of the abdomen.

Type locality.—Kirkwood, Missouri.

Type.—Cat. No. 2273, U.S.N.M. Type and allotype selected.

Redescribed from the type series, nine females and two males, in the National Museum. They were reared by Miss Mary Murtfeldt April 3, 1887, from a Cecidomyid gall on *Cornus paniculata*.

5. *TRICHACIS VIRGINIENSIS* Ashmead,

Trichacis virginiensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 297.

Female.—Length 1 mm. Head more than twice as wide as long, wider than the thorax, not emarginate behind; occiput smooth, shining, separated from the vertex by a sharp carina; cheeks subconvex, unsculptured; vertex shagreened laterally; frons smooth and shining; length of head above eyes not greater than length below; pedicel twice as long as wide, longer and wider than joint three; three as long and as wide as four; five narrower, as wide as long, equal to six; seven to nine broadly transverse; ten as wide as nine, less than twice as long as wide, blunt apically; thorax three-fourths as wide as long, as wide as high, somewhat flattened above; otherwise entire thorax as in *cornicola* but the scutellum without such distinct dorsal and posterior faces; abdomen elliptical, twice as long as wide, distinctly longer than the head and thorax united; second tergite as wide as long, not sculptured and with short basal foveae not so distinctly pubescent as in *cornicola*; tergites three to six united nearly as long as the second; four and five equally long, a little longer than three, like the third very finely punctate; six as long as three and four united, polished, triangular, as long as wide, sharply pointed distally; wings brown, reaching a little beyond the apex of the abdomen. Black; antenna, except club, tibiae and tarsi (except last joint of each) and trochanters, yellow; club and parts of legs not mentioned brownish or piceous.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 25429, U.S.N.M.

Redescribed from the type specimen.

VII. Genus ERITRISSOMERUS Ashmead.

Eritrissomerus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 298. Monobasic.

Genotype.—*Eritrissomerus cecidomyiae* Ashmead.

This genus differs from *Platygaster* Latreille only in having the process between the antennae acute at apex, not truncate or emarginate. If one is unable to see this projection he can not place his specimen in the correct genus. Ashmead considered the extraordinary structure of the male antennae peculiar to this genus, but I have specimens in my collection which have the antenna precisely as in *Eritrissomerus cecidomyiae*, the type of the genus and which have the process between the antennae truncated at apex. I consider this genus an artificial one and used it merely for convenience. It should, I believe, be included in the genus *Platygaster* but there is no objection to keeping it separate for the present.

There are five species now included in *Eritrissomerus*. All are from eastern North America, the specific localities being Jacksonville, Florida; Hull, Canada; Albany, New York; and Cabin John, Maryland. My new species *parvus* was found at Cabin John.

The habits of two of the species are known, or rather partially known. *E. cecidomyiae* is parasitic on a *Cecidomyid* infesting hickory and *E. noveboracensis* is recorded as having been reared from a *Cecidomyid* gall.

The following table serves to distinguish all the species included in the genus, there being no exotic forms described.

TABLE TO SPECIES.

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|--|---------------------------------|
| 1. Body rufo-piceous; antennae, except club, yellow..... | 1. <i>pallipes</i> Harrington |
| Body black..... | 2. |
| 2. Vertex rugose, with large transversely directed carinae. | 2. <i>cecidomyiae</i> Ashmead. |
| Vertex aciculate or shagreened..... | 3. |
| 3. Vertex transversely aciculate; legs yellow, rarely somewhat infuscated. | 3. <i>noveboracensis</i> Brues. |
| Vertex shagreened; front legs golden yellow; middle and posterior legs infuscated in part..... | 4. |
| 4. Abdomen longer than the thorax..... | 4. <i>parvus</i> , new species. |
| Abdomen as long as the thorax..... | 5. <i>floridanus</i> Ashmead. |

1. ERITRISSOMERUS PALLIPES Harrington.

Eritrissomerus pallipes HARRINGTON, Trans. Royal Soc., Canada, vol. 5, 1900, p. 191.

The best I can do is to reproduce the original description which I do merely for the sake of completeness. I can not hope that the species will be recognized by it, but it is well to have the description more accessible. Harrington does not say whether the antennal process is acute or not, but it is reasonable to suppose that it was since that character is the only one really peculiar to the genus

The original description follows:

♀.—Length 1.2–1.5 mm. Rufo-piceous, legs yellowish. Head broad, darker than the thorax, microscopically punctate or shagreen; lateral ocelli as far from the eyes as from the central one; antennae yellow, the club dusky, the pedicel as long as the first two joints of flagellum, club joints subquadrate. Thorax and abdomen rufo-piceous, petiole paler; metathorax and petiole pubescent.

♂.—Closely resemble ♀ in size and coloration. Antennae paler; pedicel small, first joint of flagellum minute, closely joined to the swollen second joint, the two together almost egg-shaped, first joint of club small, subtriangular, the following joints quadrate, subpedicellate, terminal joint larger, acuminate.

Described from several female and male specimens obtained near Hull in August.

2. ERITRISSOMERUS CECIDOMYIAE Ashmead.

Eritrissomerus cecidomyiae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 299, pl. 13, fig. 1. females.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Survey, 1916 (1917), p. 534.

Female.—Length 2 mm. Head slightly over twice as wide as long, flattened in front and behind, a little wider than the thorax; occiput roughened, with many longitudinal wavy carinae; checks subconvex, rugose; very strongly shagreened; vertex rugose, with many irregular transversely directed carinae; middle of frons with a longitudinal furrow, into which converge numerous large, curving striae; interocellar area present as a line, carinate, the anterior ocellus intercepting a line connecting the lateral ocelli; lower part of face with straight transverse carinae; malar space polished, unsculptured; antennae rather stout; pedicel twice as long as wide, as wide as joint four and as long as joints three and four united; three longer than wide, narrower than four and closely jointed to it, about as long as four; five and six a little longer than wide, shorter than four; five narrower than four or six which are equally wide; seven to nine broadly transverse, shorter and wider than six; ten as long as four, blunted apically, as wide as nine; thorax three-fourths as wide as long, egg-shaped, strongly convex above, a little higher than wide, strongly shagreened except on the pleural and sternal plates; notauli complete; median lobe pointed posteriorly; scutellum transverse, convex, strongly shagreened, margined laterally, without pubescence; abdomen broadly elliptical, sharply pointed apically, as wide as the thorax, two-thirds as wide as long; first tergite short and wide, the median area wider than long, well defined laterally; second tergite a little longer than wide, twice as wide apically as basally, strongly and regularly striate on basal half, the foveae sparsely pubescent; tergites three to six unsculptured, united one-third as long as the second; six triangular, broadly transverse, sharply pointed apically; wings hyaline, extending slightly beyond the apex of the abdomen. Black; joints three to five of antenna, most of anterior femora, anterior tibiae, other tibiae basally and all tarsi, of the color of gold; rest of appendages shining black or infuscated.

Male.—Length 2 mm. Pedicel a little longer than wide, widened apically, with a tuft of long hairs below at apex, wider than any flagellar joint except the third and fourth: three triangular, transverse, closely joined to the fourth, as wide as two; four a little wider than long, twice as wide as the pedicel, slightly narrowed distally; five to seven a little longer than wide; eight and nine quadrate; ten as long as four, conical, sharply pointed apically; joints six to ten equally wide, a little wider than five; abdomen five-eighths times as wide as long, as long as the thorax; tergites three to seven polished, united less than one-third as long as the second; seven broadly rounded apically; wings hyaline, extending half the length of the second tergite past the apex of the abdomen.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 2280, U.S.N.M.

Redescribed from the type series, one female (selected as type) and two males (one selected as allotype). According to Ashmead these specimens were reared from a Cecidomyid gall on hickory. Two of the types bear no label whatsoever and the other is labeled only, "Jacksonville, Florida." Three other specimens included by Ashmead in the type series do not belong to the same species. They remain undescribed.

3. ERITRISOMERUS NOVEBORACENSIS Brues.

Eritrissomerus noveboracensis BRUES, Bull. Wisc. Nat. Hist. Soc., vol. 8, 1910, p. 48.

The original description is as follows;

Male.—Length 2 mm. Black; legs yellow, sometimes infuscated on the hind femora; antenna piceous brown, scape lighter brown. Head slightly wider than the thorax, very much contracted behind the eyes; about twice as wide as thick. Vertex and occiput finely transversely aciculate. Lateral ocelli more than their diameter removed from the eye margin, about as close as to the median ocellus. Front punctate or slightly transversely aciculate, with a smooth, median slightly impressed line below the anterior ocellus. Face transversely striate. Cheeks sparsely punctate. Mandibles ferruginous. Antennae 10-jointed; scape reaching to the median ocellus; pedicel obovate, twice as long as the first flagellar joint which is half as long and only about one-third as wide as the greatly swollen second joint; two following joints narrow, each about one-half longer than wide; following growing shorter except the last which is longer, narrower, and acuminate. Mesonotum elongate, with two very distinct, complete parapsidal furrows which are closely approximated; its surface shining, faintly punctulate. Scutellum very convex, rounded, with a very distinct carinate margin. Pleurae smooth, shining; the mesopleura with a large impression below and with a few coarse striae just beneath the tegulae. Collar below on the sides closely punctulate. Metapleura thinly hairy, not striated, with a short basal carina above, which forms a triangular area with a second oblique carina lower down on the metapleura. Abdomen elongate, pointed, about one-third longer than the head and thorax united. Petiole and basal third of second segment finely striated, the striae on the sides of the second segment shorter; second segment nearly as long as the following united. Legs bright or honey-yellow; coxae black and the four posterior tibiae sometimes infuscated. Wings hyaline with a slight yellowish tinge.

Described from two specimens (a1360) bred by Dr. E. P. Felt at Albany, New York, April 5, 1907, from a Cecidomyid gall. A third specimen (a1339) was reared May 7, 1907.

The species looks very much like certain species of *Polygnotus*, but the peculiar swollen condition of the second flagellar joint, characteristic of males of the present genus will readily serve to distinguish it from that very extensive genus.

Professor Brues does not say anything about the location of the types, but in all probability they are deposited in the museum at Albany, New York.

4. ERITRISSOMERUS PARVUS, new species.

Female.—Length 1 mm. Head twice as wide as long, slightly emarginate behind, a little wider than the thorax; cheeks subconvex, shagreened; occiput and vertex shagreened, the latter with some inconspicuous striae medially; frons polished, faintly aciculate laterally and below; antennal process sharp, without a median carina; pedicel as wide as joint four, wider than three, not quite as long as three and four united, twice as wide as long; three nearly as long as four; four very little longer than wide, longer than five and six which are slightly transverse, wider; seven to nine rather broadly transverse, as in *cecidomyiae*; joint ten a little longer than four, acute apically, the sides straight; thorax three-fourths as wide as long, strongly convex above, as wide as high; pronotum partly shagreened laterally; mesonotum finely shagreened; notauli complete, meeting in a point posteriorly, the median lobe polished near its apex; scutellum as in *cecidomyiae*; abdomen spatulate, a little wider than the thorax, as long as the head and thorax united, two-thirds as wide as long; first tergite pubescent on the sides; median area quadrate, with several inconspicuous carinae; second tergite as wide as long, twice as wide apically as basally, the sides not much curved; basal foveae closely striate, the striae attaining the middle of the segment; interfoveal area closely striate; tergites three to six polished, united one-third as long as the second; wings hyaline, extending a little more than the length of the last four segments united past the apex of the abdomen. Black; antenna (except last six joints), anterior legs, trochanters, tibiae basally and all tarsi, honey-yellow; rest of legs and antennae piceous.

Type locality.—Cabin John, Maryland.

Type.—Cat. No. 25430, U.S.N.M. Paratype in Collection Fouts.

Described from two females collected by the author, June 3, 1917, on the leaves of hickory.

5. ERITRISSOMERUS FLORIDANUS (Ashmead).

Polygnotus floridanus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 318.

Female.—Length 1.20 mm. Very closely related to *parvus* Fouts, but with the following differences: Frons slightly more distinctly

aciculate laterally and below; abdomen about as long as the thorax; appendages generally lighter colored, the femora and tibiae not so strongly darkened, brownish.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25431, U.S.N.M.

Redescribed from the type specimen. It is mounted on a card point and is in perfect condition.

VIII. Genus PLATYGASTER Latreille.

Platygaster LATREILLE, Gen. Crust. et Ins., vol. 4, 1809, p. 31. (Monobasic.)

Genotype.—*Platygaster ruficornis* Latreille (by original designation).

Polygnotus FOERSTER, Hym. Stud., Heft 2, 1856, pp. 103, 115. (Monobasic.)

Genotype.—*Platygaster striolatus* Nees (by original designation).

Hypocampsis FOERSTER, Hym. Stud., Heft 2, 1856, pp. 108, 115. No species originally included.

Aneuron BRUES, Bull. Wisc. Nat. Hist. Soc., vol. 8, 1910, p. 49. (Monobasic.)

Genotype.—*Aneuron anormis* Brues (by original designation).

Xestonotidea GAHAN, Proc. U. S. Nat. Mus., vol. 56, 1919, p. 524. (Monobasic.)

Genotype.—*Xestonotidea foersteri* Gahan (by original designation).

This genus was rather briefly treated in a former paper by the author. It was shown to be identical with *Polygnotus* Foerster and with several other Foersterian genera as interpreted by Ashmead in his Monograph.⁷ I have found that the genus *Aneuron* Brues⁸ is also a synonym of *Platygaster*. For awhile I considered it distinct, not having seen any such peculiar antennal structure in the great quantity of material at my disposal. However, *Platygaster floridensis* Ashmead and *caryae* Ashmead agree with Brues' description of *Aneuron* except that the female of each species has the third antennal joint, though elongate, distinctly shorter than either the second or the fourth. The structure of the male antenna in these species, though peculiar, is not very far removed from the *Platygaster* type. It is merely a question of degree, and such differences, unless of considerable magnitude can not be used to separate genera. *P. floridensis* has the lower tooth of the mandibles a little longer than the upper; *caryae* has the teeth equal or approximately so, as in most species of *Platygaster*. I can not compare *Aneuron anormis* Brues with other species in terms of mandibular structure since Professor Brues neglected to say anything about such parts in his description.

The distinguishing feature of *Hypocampsis* Foerster seems to be the broad flat abdomen with its wide lateral ventral margins. This peculiarity I do not consider generic. My new species *shastensis* and *lucida* agree in every respect with Foerster's original description of *Hypocampsis*. *Shastensis* was, like Foerster's specimens, reared from the cones of *Abies*, and *lucida* was reared from the cones of a related

⁷ Proc. Wash. Ent. Soc., vol. 22, p. 69 (1920).

⁸ Described in Bull. Wisc. Nat. Hist. Soc., vol. 8, 1910, p. 49.

evergreen tree, *Picea englemanni*. Thomson's species *hyalinata*, *compressicornus*, and *angustula*,⁹ seem to belong to the genus *Platygaster* but is hard to say definitely since some species of *Leptacis* are without a spine on the scutellum. The character of real importance, namely, the presence or absence of foveae on the second tergite, is not discussed at all in Thomson's descriptions.

Xestonotidea Gahan¹⁰ with *foersteri* Gahan as its type, is a typical *Platygaster* species. Foerster would probably have placed it in his genus *Polygnotus*, although the sculpture is delicate. The median lobe of the mesonotum is truncated and touching the scutellum, but the lateral lobes do not touch the upper part of the scutellum, a wide space being left between the two parts. The scutellum is not quite typical of *Xestonotus* Foerster being rather densely pubescent laterally.

This mistake in identification is of no moment, however, for I have specimens showing transition between the wide scutellar suture of *Platygaster* and the narrow one of *Xestonotus* Foerster. As with *Aneurion*, discussed above, the difference is one of degree and is of little or no generic value. *Anopedias error* Fitch may be taken as showing the typical form of *Xestonotus*, with its narrow scutellar suture and parallel, widely separated notauli.

Isorhombus hyalinipennis Ashmead, which seems to form the basis of Ashmead's conception of the genus *Isorhombus*, really belongs to *Platygaster* and forms a division of its own characterized by a sharp differentiation in the color of the funicle and club. Ashmead was in error when he said the antennal clubs of the types were three-jointed. They are really four-jointed (with the first joint only slightly wider than the last funicular joint) although a three-jointed appearance is caused by the differentiation in color of terminal three joints. Other points of interest in connection with the types are: First, the lateral ocelli are less than their diameter distant from the margin of the eye; and, second, the scutellum has the dorsal plate slightly upturned apically. The sculpture of the specimens as a whole is moderately fine, the scutellum and the greater part of the body being faintly shagreened.

The subgenus *Triplatygaster* Kieffer¹¹ with *contorticornis* Ratzeburg as its type, has not been recognized in America. The group is characterized by having the mesonotum very long and indistinctly longitudinally striate, the notauli complete, and the eyes pubescent.

This synonymy necessitates a restatement of the generic diagnosis given in my paper referred to above:

⁹ Öfvers. af K. Vet.-Akad. Förh., 1859, p. 82.

¹⁰ Proc. U. S. Nat. Mus., vol. 56, p. 524

¹¹ Broteria: Serie Zoologica, vol. 11, fasc. 3, 1913, p. 178.

Head broadly transverse to subquadrate; face with a truncate or emarginate projection between the antennae; lateral ocelli close to or remote from the eye margin; mandible bidentate, the teeth equal or unequal; antennae in female 10-jointed, clavate, gradually increasing in thickness toward the tip; antennae in male 10-jointed, filiform, with the fourth joint deformed in some way, usually emarginate below at the base, sometimes widened in the middle with a sharp edge below; thorax short to moderately elongate, the notauli either absent, incomplete, or complete: if complete they may be parallel and widely separated at the base, or converging posteriorly; mesonotum with a wide or narrow suture separating it from the scutellum; scutellum flat or convex, margined laterally, sparsely pubescent or without hair, unarmed or with a short tubercle on its posterior dorsal surface; this tubercle consisting of the upturned edge of the dorsal plate of the scutellum; propodeum short, with two parallel, median, longitudinal, elevated carinae; tarsi 5-jointed; wings, pubescent, ciliate at the margins, veinless; abdomen in female as short as the thorax to several times as long as the head and thorax united, depressed; abdomen in male usually about as long as the thorax; first and second tergites sometimes sparsely pubescent, the former laterally, the latter basally; second tergite in both sexes with two more or less distinct basal foveae, their position indicated by an emargination at the anterior border of the segment.

TABLE TO SPECIES.

1. Scutellum granular or shagreened	2.
Scutellum polished on its dorsal surface, unsculptured.....	26.
2. Occiput smooth, not distinctly sculptured	3.
Occiput striate	4.
Occiput granulose or shagreened.....	14.
3. Mesonotum shagreened; notauli complete, nearly parallel; foveal striations on second tergite extending slightly beyond the apex of the depression; legs fuscous; wings perfectly hyaline, the marginal fringe distinct; abdomen considerably longer than, and one and one-half times as wide as, the thorax, ovate, rounded apically. Head of type male lost.....	1. <i>aphidis</i> Ashmead.
4. Face just above insertion of antennae faintly transversely striate.....	5.
Face just above insertion of antennae strongly transversely striate.....	6.
5. Notauli complete, well indicated	2. <i>americana</i> (Ashmead).
Notauli not indicated anteriorly.....	3. <i>floridensis</i> Ashmead.
6. Head narrower than the thorax; frons strongly elevated across the middle and with a broad and deep longitudinal furrow reaching from the anterior ocellus to the striations below.....	4. <i>obscuripennis</i> Ashmead.
Head never narrower than the thorax.....	7.
7. Face just below anterior ocellus strongly granular with faint striae, the area just below this coarsely transversely striate.....	5. <i>melliscapea</i> (Ashmead).
Face just below anterior ocellus not granular, either striate or shagreened; area below this less coarsely striate.....	8.
8. Upper part of face on sides shagreened.....	9.
Upper part of face on sides striate.....	11.

9. Notauli complete..... 6. *laevicollis* (Ashmead).
 Notauli incomplete..... 10.
10. Occiput with regular carinae, not rugose..... 7. *rufipes* (Ashmead).
 Occiput rugose, without regular carinae..... 8 *caryae* Ashmead.
11. Foveal striae on second tergite not extending beyond the depression posteriorly..... 12.
 Foveal striae extending beyond the depression posteriorly..... 13.
12. Wings infuscated; frons rather finely and evenly striate all over.
 9. *fuscipennis*, new species.
 Wings hyaline; frons coarsely striate on lower half, more finely so above with the striae interrupted medially..... 10. *striaticollis* (Ashmead).
13. Aciculations on sides and upper part of frons very fine and undulating; last abdominal segment in female shorter than the one preceding.
 11. *canadensis* (Ashmead).
 Sides and upper part of frons with distinct, not wavy, striae; last abdominal segment in female longer than the one preceding.... 12. *picipes* (Ashmead).
14. Frons opaque, very faintly shagreened..... 13. *vancouverensis* (Ashmead).
 Frons more or less shining, polished, striate or more strongly shagreened.... 15.
15. Foveae on second tergite not or very indistinctly striate or aciculate..... 16.
 Foveae on second tergite distinctly striate, at least near their apices..... 20.
16. Abdomen in female much longer than the head and thorax united..... 17.
 Abdomen in female not longer than the head and thorax united; legs and antennae dark brown..... 18.
17. Antennae and legs bright yellow or golden colored..... 14. *confusa*, new name.
 Antennae piceous or of a dark brown color; legs never entirely yellow, mostly brownish..... 15. *nigrifemur* (Ashmead).
18. Seventh and eighth antennal joints in male distinctly longer than wide..... 19.
 Seventh and eighth antennal joints about as wide as long; abdomen in male nearly two-thirds as wide as long..... 16. *herickii* Packard.
19. Frons polished, unsculptured; abdomen in male hardly over half as wide as long..... 17. *lampronota*, new species.
 Frons shagreened..... 18. *websteri*, new species.
20. Females..... 21.
 Males..... 25.
21. Last three joints of the antennae black, the others golden-yellow; abdomen not longer than the head and thorax united..... 19. *hyalinipennis* (Ashmead).
 Antennae more uniform in color, the last three joints not so sharply differentiated; abdomen longer than the head and thorax united..... 22.
22. Antennal joints six and seven less than twice as long as wide.
 20. *alnicola* (Ashmead).
 Antennal joints six and seven two or more times as long as wide..... 23.
23. Abdomen extending beyond the apex of the wings when the latter are laid flat upon it..... 21. *shastensis*, new species.
 Abdomen not extending beyond the apex of the wings..... 24.
24. Ninth antennal joint about three times as long as wide; antennae not so slender; abdomen failing to reach the tips of the wings when the latter are laid flat upon it..... 22. *lucida*, new species.
 Ninth antennal joint about four times as long as wide; antennae filiform, extremely slender; abdomen just attaining the tips of the wings.
 23. *gahani*, new species.
25. Second tergite very strongly striate basally..... 20. *alnicola*, (Ashmead).
 Second tergite less strongly striate basally..... 24. *melanocera* (Ashmead).

26. Notauli complete 27.
 Notauli absent 25. *diplosidis* (Ashmead).
 Notauli partially complete 33.
27. Mesonotum separated from the scutellum by a narrow incision; notauli parallel or nearly so 26. *error* Fitch.
 Mesonotum separated from the scutellum by a furrow; notauli converging posteriorly 28.
28. Abdomen in female more than twice as long as the head and thorax united, very flat 27. *compressiventris* (Ashmead).
 Abdomen in female not twice as long as the head and thorax united 29.
29. Females 30.
 Males 32.
30. Antennae very long, the flagellum longer than the thorax. 28. *filicornis* (Ashmead).
 Antennae much shorter, the flagellum shorter than the thorax 31.
31. Abdomen not more than twice as long as wide at apex of second tergite.
 29. *coloradensis* (Ashmead).
 Abdomen distinctly more than twice as long as wide 30. *californica* (Ashmead).
32. Fourth antennae joint viewed laterally about as wide as the third, not much flattened and hardly wider apically than basally. 29. *coloradensis* (Ashmead).
 Fourth antennal joint two or three times as wide as the third, broad and flattened, slightly concave outwardly, much wider apically than basally.
 30. *californica* (Ashmead).
33. Vertex angularly produced over the eyes 34.
 Vertex not produced over the eyes 37.
34. Ocellar triangle shagreened, not distinctly striate and never perfectly smooth. 35.
 Ocellar triangle not shagreened, either striate or smooth 36.
35. Projection of vertex short, rounded, extending very slightly over the eye margin at the middle of its upper edge 31. *solidaginis* (Ashmead).
 Projection of vertex, comparatively long, more acutely produced, extending over the eye margin at its posterior edge 32. *pluto* (Ashmead).
36. Ocellar triangle smooth; head two and one-half times as wide as long; thorax less than one and one-half times as long as wide... 33. *utahensis* (Ashmead).
 Ocellar triangle striate or at least never perfectly smooth, approaching the latter condition in the male; head about twice as wide as long; thorax one and one-half times as wide as long 34. *striaticeps* (Ashmead).
37. Face above middle of eyes and below anterior ocellus, especially on the sides, distinctly and extensively, though often very finely, striate or aciculate.. 38.
 Face in part mentioned not distinctly striate or aciculate 67.
38. Head less than twice as wide as long; frons coarsely transversely striate; first and second tergites not striate 35. *vernalis* (Myers).
 Head at least twice as wide as long; frons less coarsely striate; first and second tergites striate, the second never entirely so 39.
39. Females 40.
 Males 53.
40. Fifth tergite shagreened, aciculate, or striate longitudinally 41.
 Fifth tergite not shagreened, aciculate or striate 43.
41. Fifth tergite longitudinally striate or aciculate; seventh and eighth antennal joints longer than wide 42.
 Fifth tergite strongly shagreened, seventh and eighth antennal joints wider than long 36. *viticola* (Ashmead).
42. Fifth tergite slightly longer than the fourth 37. *leguminicolae* Fouts.
 Fifth tergite nearly twice the length of the fourth... 38. *lupinicola* (Ashmead).

43. Seventh and eighth antennal joints wider than long or about as wide as long. 44.
 Seventh and eighth antennal joints longer than wide. 47.
44. First tergite forming a perfect arc above, not angulate sublaterally and not declivous on the sides, the striae regularly placed and with no particular ones more prominent than others; second tergite neither extensively nor strongly striate. 39. *cynipicola* (Ashmead).
 First tergite flattened above, angulate sublaterally, declivous on the sides, at least not forming a perfect arc above. 45.
45. Abdomen more than twice as long as wide. 40. *actinomeridis* (Ashmead).
 Abdomen not more than twice as long as wide. 46.
46. Last joint of antenna, viewed laterally, twice as long as wide, conical, the apex acute. 41. *artimesiae* (Ashmead).
 Last joint of antenna less than twice as long as wide, the apex not acute. 42. *sallicicola* (Ashmead).
47. Abdomen distinctly longer than the head and thorax united. 43. *virginiensis* (Ashmead).
 Abdomen not distinctly longer than the head and thorax united. 48.
48. Wings not extending beyond the apex of the abdomen. 49.
 Wings extending distinctly beyond the apex of the abdomen. 50.
49. Tarsi of middle legs distinctly longer than the tibiae. 44. *atriplicis* (Ashmead).
 Tarsi of middle legs not distinctly longer than the tibiae. 49a.
- 49a. Joints eight and nine less than twice as long as wide. 45. *asynaptae* (Ashmead).
 Joints eight and nine twice as long as wide. 46. *texana*, new species.
50. First joint of middle tarsi viewed from above about three times as long as wide. 47. *burkei* (Rohwer).
 First joint of middle tarsi four (or a little more) times as long as wide. 51.
51. Fore-wings extending posteriorly half the length of the abdomen past the latter's apex. 48. *hiemalis* Forbes.
 Fore-wings not extending so far posteriorly, reaching slightly beyond the apex of the abdomen. 52.
52. Median area on first tergite with many regularly placed longitudinal carinae. 49. *marylandica*, new species.
 Median area with only one prominent carina. 50. *eurotiae* (Ashmead).
53. Ninth antennal joint not or only very indistinctly longer than wide. 54.
 Ninth antennal joint distinctly longer than wide. 56.
54. Fourth antennal joint much thicker than the pedicel. 36. *viticola* (Ashmead).
 Fourth antennal joint not or very slightly thicker than the pedicel. 55.
55. Abdomen long and narrow, about twice as long as wide; foveae on second tergite with a few striae on their inner slopes and with a few striae extending caudad from their upper margins. 43. *virginiensis* (Ashmead).
 Abdomen broader, less than twice as long as wide; foveae striate over their entire surface, the striae extending fan-shaped upon the second tergite. 41. *artimesiae* (Ashmead).
56. Fourth antennal joint, measured from points of attachment, about as long as the combined lengths of the two joints following it. 44. *atriplicis* (Ashmead).
 Fourth antennal joint much shorter than the two joints following it. 57.
57. Fourth antennal joint sharply produced below at apex. 58.
 Fourth antennal joint rounded apically. 60.
58. Second tergite closely and rather strongly striated at base. 47. *burkei* (Rohwer).
 Second tergite sparsely and finely striate basally. 59.
59. Abdomen three-fourths as wide as long. 48. *hiemalis* Forbes.
 Abdomen three-fifths as wide as long. 51. *atrae*, new species.
60. Abdomen as wide as the thorax. 61.
 Abdomen distinctly narrower than the thorax. 64.

61. Abdomen twice as long as wide..... 62.
 Abdomen less than twice as long as wide..... 63.
62. Pedicel twice as long as wide..... 62a.
 Pedicel one and one-half times as long as wide..40. *actinomeridis* (Ashmead)
- 62a. Fourth antennal joint narrowed at both ends..38. *lupinicola* (Ashmead).
 Fourth antennal joint not narrowed at both ends..46. *texana*, new species.
63. Wings hyaline..... 45. *asynaptae* (Ashmead).
 Wings brownish..... 52. *fumipennis*, new species.
64. Abdomen a little less than twice as long as wide..53. *laticeps* (Ashmead).
 Abdomen not less than twice as long as wide..... 65.
65. First tergite nearly perpendicular on the sides, not flattened laterally.
 49. *marylandica*, new species.
 First tergite with a flattened area along the sides, the lateral edges sharp..... 66.
66. Second tergite rather strongly striate basally, the striae attaining the middle of
 the segment..... 54. *eurae* (Ashmead).
 Second tergite less strongly striate, the striae not attaining the middle of the seg-
 ment..... 43. *virginiensis* (Ashmead).
67. Scape entirely bright yellow or with an annulus of yellow basally..... 68.
 Scape darker, not touched with yellow..... 71.
68. Scape entirely bright yellow 55. *longiventris* (Ashmead).
 Scape yellow basally..... 69.
69. Abdomen in female longer than the head and thorax united..... 70.
 Abdomen in female not longer than the head and thorax united; fourth antennal
 joint in male not emarginate basally, about as long and as wide as the pedicel.
 56. *pentatoma* (Ashmead.)
70. Second tergite in female rather strongly narrowed anteriorly, the sides not par-
 allel; fourth antennal joint in male crescent-shaped as in *hiemalis*.
 57. *semiglaber* (Girault).
 Second tergite in female not much narrowed anteriorly, the sides nearly parallel;
 fourth antennal joint in male not crescent-shaped...58. *linearis*, new name.
71. Head distinctly more than twice as wide as long when viewed from above, wider
 than the thorax across the tegulae..... 72.
 Head not distinctly more than twice as wide as long, not or only slightly wider
 than the thorax..... 76.
72. Second tergite, in the region of the basal foveae, rather strongly longitudinally
 striate, the striae extending into the apical half of the segment.
 59. *errans*, new species.
 Second tergite not so strongly striate, the striae not extending into the apical half
 of the segment..... 73.
73. Abdomen in female less than twice as long as wide..... 74.
 Abdomen in female two or more times as long as wide; fourth joint of male
 antennae not so closely joined to third, not strongly excised at base..... 75.
74. Abdomen broadly rounded posteriorly; segments three to six united half as long
 as the second; fourth joint of male antenna as in *hiemalis* Forbes.
 60. *feltii* Fouts.
 Abdomen more acute posteriorly; segments three to six four-sevenths times as
 long as the second; male unknown..... 61. *tumida* (Ashmead).
75. Abdomen in female broadly rounded posteriorly, not abruptly narrowed from
 the apex of the second segment, the sixth tergite much wider than long, eighth
 and ninth antennal joints in male longer than wide.
 62. *columbiana*, new name.
 Abdomen in female abruptly narrowed posteriorly from the apex of the second
 segment, pointed apically, the last tergite nearly as long as wide, eighth and
 ninth antennal joints in male not longer than wide.. 63. *baccharicola* (Ashmead).

76. Females..... 77.
Males..... 85.
77. Flagellum attenuate, all of the joints considerably longer than wide..... 78.
Ninth antennal joint never very distinctly longer than wide; flagellum stouter,
not so attenuate..... 80.
78. Scutellum transverse, more or less flattened; fourth antennal joint in male hardly
wider apically than the pedicel..... 64. *antennariae* (Ashmead).
Scutellum highly convex..... 79.
79. Scutellum transverse, very high, abdomen in female not or but little longer than
the head and thorax united; fourth antennal joint in male about as wide at the
apex as the pedicel..... 65. *pini*, new species.
Scutellum circular, not so highly elevated; abdomen in female considerably
longer than the head and thorax united; fourth antennal joint in male distinctly
wider at the apex than the pedicel..... 66. *rohweri*, new species.
80. Abdomen not more than twice as long as wide..... 81.
Abdomen distinctly more than twice as long as wide..... 82.
81. Reflexed margin of abdomen broad, usually horizontal, nearly half as wide as the
swollen surfaces of the sternites between them.... 67. *huachucae* (Ashmead).
Reflexed margins of abdomen not so broad, usually sloping steeply inwardly.
68. *astericola* (Ashmead).
82. Abdomen not longer than the head and thorax united..... 83.
Abdomen distinctly longer than the head and thorax united..... 84.
83. Foveal striae on second tergite extending beyond the middle of the segment.
69. *rubi* (Ashmead).
Foveal striae not extending beyond the middle of the segment.
70. *relativa*, new species.
84. Antennae and legs brownish or brownish yellow..... 71. *vernoniae* (Ashmead).
Antennae piceous; legs dark brown to blackish..... 72. *variabilis*, new species.
85. Fourth antennal joint more or less emarginate basally and considerably widened
apically..... 86.
Fourth antennal joint not distinctly emarginate basally and not especially
widened apically..... 88.
86. Flagellum elongate, all the joints considerably longer than wide.
64. *antennariae* (Ashmead).
Flagellum shorter and stouter, none of the joints, except the last, much longer
than wide..... 87.
87. Abdomen about twice as long as wide..... 71. *vernoniae* (Ashmead).
Abdomen less than twice as long as wide..... 67. *huachucae* (Ashmead).
88. Fourth antennal joint distinctly thicker than the pedicel.
72. *variabilis*, new species.
Fourth antennal joint not distinctly thicker than the pedicel.
68. *astericola* (Ashman).

1. PLATYGASTER APHIDIS Ashmead.

Platygaster aphidis, ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 325.—BRUES,
Bull. 22, Conn. Geol. Nat. Hist. Survey, 1916 (1917), p. 541.

Male.—Length 1.6 mm. Head posteriorly almost smooth, not distinctly punctate; frons polished; antennae ten-jointed, black; pedicel as long as the first and second funicular joints together, the first joint small, subtriangular, closely united to the second, the second somewhat swollen and slightly twisted; club six-jointed, the joints

about twice as long as thick, subpedicellate; thorax seen from above about twice as long as wide; notauli complete, meeting in an acute point posteriorly; median lobe of mesonotum, and lateral lobes posteriorly along their inner margins, strongly shagreened; mesopleuræ and lower part of pronotum polished; scutellum circular, convex, margined laterally, distinctly, but not very strongly, shagreened; wings hyaline, extending a little beyond the apex of the abdomen; abdomen about one and one-third times as long and about twice as wide as the thorax, a little less than twice as long as wide, broadly rounded at apex; second tergite at apex a little wider than long; basal fovea well marked but shallow, with a few striae which do not extend posterior to their apices; space between basal foveae traversed by several longitudinal striae. Black, legs dark brown.

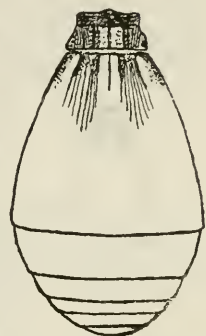


FIG. 4.—PLATYGASTER APHIDIS ASHMEAD. ABDOMEN OF MALE.

Type locality.—Richfield Springs, New York.

Type.—Cat. No. 2305, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The head of the type has been lost and all notes made above regarding it have been taken from the original description. If Ashmead was correct in his observations then *aphidis* is unique in this group of the genus in having the vertex unsculptured. The species is of a rather peculiar appearance with its long and broad abdomen, quite a rarity in the male sex.

2. PLATYGASTER AMERICANA (Ashmead).

Epimeces americanus ASHMEAD, Can. Ent., vol. 19, 1887, p. 129.

Ectadius americanus (Ashmead), CRESSON, Synopsis of Hymenoptera, 1887, p. 249.

Polymecus americanus (Ashmead), ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 279.

Female.—Length 1.9 mm. Head seen from above about twice as wide as long, seen from in front about the width of the eye wider than high; vertex subacute, with fine wavy striae, shagreened on the sides; ocellar triangle and small area just in front of and to the sides of the ocelli, shagreened; sides of frons covered with fine wavy aciculations directed transversely, the aciculations finer in the middle; face just above insertion of antennae rather finely transversely striate; projection between bases of antennae longer than wide, subemarginate at the apex; antennae rather stout; third joint a little longer than wide, a little shorter and considerably narrower than the fourth to which it is closely joined; pedicel about twice as long as wide, slightly longer than the fourth joint and nearly as wide; fifth and sixth joints about as long and as wide as the fourth, distinctly longer

than wide; joints seven to nine quadrate when viewed from the side, the lower angles slightly prominent; last joint about one and one-half times as long as wide, acute at tip; thorax a little less than twice as long as wide; notauli complete; median lobe of mesonotum and inner half of lateral lobes rather finely shagreened; scutellum circular, margined



FIG. 5.—PLATYGASTER AMERICANA (ASHMEAD.) ABDOMEN OF FEMALE.

laterally, shagreened like the thorax; wings of type lost; abdomen a little over twice as long as the thorax; first tergite about twice as wide as long, not distinctly striate, with a rather deep transverse depression across the middle; the dorso-lateral carinae rather prominent, second tergite about twice as long as wide at apical third, three-fifths as wide as thorax across the tegulae, not striate at base; segments after the second more or less cylindrical, the third a little wider than long, wider than high, twice as long as and about as wide at the apex as the first; fourth and fifth tergites subequal in length and width, a little less than twice as long as wide, one-third longer than the third; fourth a little wider basally than apically; last tergite triangular seen from above, a little

longer than wide, half as long as the fifth. Shining black, legs reddish-brown, the coxae and femora darker; scape and pedicel yellowish-brown, the flagellum dark brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24594, U.S.N.M.

Redescribed from one specimen of the type series in the United States National Museum. There are three specimens in the type series but two of them, representing as many species, do not agree with the original description. Each of them has the second tergite distinctly less than twice as long as wide. They remain undescribed, being in rather poor condition.

3. PLATYGASTER FLORIDENSIS Ashmead,

Platygaster floridensis ASHMEAD, Can. Ent., vol. 19, p. 132, female.—CRESSON, Synopsis of Hymenoptera, 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 324, pl. 13, fig. 1, female.

Female.—Length 0.90 mm. Head shaped as in *caryae*, much wider than the thorax; cheeks, occiput and vertex, shagreened, the latter aciculate medially; rest of head more or less shining, shagreened, faintly aciculate just above the antennae; antennae as in *caryae*; joint five shorter than six, very wide, sharply produced below distally; six to nine transverse, as wide as five; thorax a little over two-thirds as wide as long, strongly convex above, higher than wide, the tegulae far down on the sides; pronotum shagreened; mesonotum; finely shagreened; notauli distinct on basal half of mesonotum; median lobe narrowly

truncated posteriorly; scutellum as in *caryae* but without the median groove; abdomen ovate, a little longer, but no wider, than the thorax, twice as long as wide, broadly rounded posteriorly; first tergite as in *caryae*; second not distinctly striate, a little longer than wide; tergites three to six polished, united less than half as long as the second; wings hyaline, extending the length of the last four segments past the apex of the abdomen. Coloration as in *caryae* Ashmead.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24595, U.S.N.M.

Redescribed from two female types in the National Museum. One specimen has the abdomen missing. The male described in Ashmead's Monograph represents a different species. It remains undescribed.

4. PLATYGASTER OBSCURIPENNIS Ashmead.

Platygaster obscuripennis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 325.

Male.—Length 2 mm. Head two and one-half times as wide as long, narrower than the thorax, attached far down on the thorax; checks flattened, oblique, strongly shagreened; occiput rugose, traversed by large wavy carinae; vertex subacute, striate; frons shining, aciculate laterally, striate below, elevated medially into a transverse, broadly rounded ridge as wide as the eyes, this ridge with a deep broad furrow which extends from the anterior ocellus to the striations below; head seen from in front two-thirds as wide as long, the angles rounded; pedicel slightly longer than wide, a little narrower and longer than joint five; joint three triangular, narrower than the pedicel, as wide as long, closely attached to four; four as long as the pedicel, wider than any other joint in the flagellum, as wide as long, strongly excavated below at the base; five as wide as long; joints six to nine slightly wider than long; ten longer than the pedicel, acutely pointed apically, the sides straight; thorax not quite three-fourths as wide as long, of a very peculiar shape, widest before the tegulae, as long before the tegulae as behind it, very broad and rounded anteriorly, flattened above, nearly one and one-half times as wide as high, the pronotum bulging out on the sides above; pronotum shagreened laterally; mesonotum shagreened anteriorly and inwardly on the lateral lobes; median lobe narrowly truncated posteriorly; lateral lobes very broad and long, as wide as the median lobe at its middle; scutellum transverse, flattened, shagreened, sparsely pubescent on the sides, margined laterally; abdomen elliptical, slightly narrower than the thorax, twice as long as wide, as long as the head and thorax united; median area on first tergite quadrate, polished, the ridges sharp, the segment itself twice as wide as long; second tergite as wide as long, slightly narrowed anteriorly, the sides curved; basal foveae deep and broad, finely striate; median area striate; tergites three to seven polished, united three-fourths as long as the second;

three to five equally long, six shorter, equal in length to seven; seven broadly rounded apically; wings slightly infuscated, reaching a little beyond the apex of the abdomen. Shining black; antennae and legs dark brown.

Type locality.—Ottawa, Canada.

Type.—Cat. No. 2304, U.S.N.M.

Redescribed from the type male in the National Museum. Nothing is known of the habits of the species.

Only one male of this species is in the national collection but in the series as arranged by Ashmead there were four females labeled as this species by Ashmead. These specimens were collected on grass May 19, 1886, by F. M. Webster and had been labeled by Ashmead as types and assigned along with the male the museum type No. 2304. That they can not be types is obvious because the types were "received from Mr. W. H. Harrington" and collected at Ottawa, Canada.

Ashmead's description of the female¹² does not agree with the male type and seems to have been based on these four females.

This is one of the most remarkable species in the genus *Platygaster*. I know of no other in which the head is narrower than the thorax and of such an extraordinary shape. Ashmead's description gives no hint as to the true structure of the type and is a good example of his futile methods of description.

5. PLATYGASTER MELLISCAPA (Ashmead),

Polymecus melliscapus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 282.

Female.—Length 2.8 mm. Head seen from above slightly over twice as wide as long, about as wide as the thorax across the tegulae; seen from in front the head is the width of the eye wider than high; occiput rugosostriate; vertex subacute, strongly and coarsely transversely striate; cheeks strongly shagreened, rough; space above dorsal one-fourth of eyes to striae on vertex, strongly shagreened, below this area to the antennae strongly transversely striate; projection between the bases of the antennae wider than long, truncate apically; antennae stout, the flagellum gradually incrassated toward tip; scape as long as the next five joints united, not much curved, slightly swollen apically; pedicel about twice as long as wide, nearly as long as the next two joints united; third joint as wide as long, narrowed basally, slightly narrower than and a third shorter than the fourth which is one-fourth longer than wide and a little longer than the fifth; fifth about as wide as long, approximately as long as the sixth; seventh about as wide as long, narrowed slightly basally; eighth and ninth a little wider than long, as wide as the seventh; last joint one-third

¹²Bull. 45, U. S. Nat. Mus., 1893, p. 325

longer than wide at base, abruptly subacute at the apex; thorax distinctly less than twice as long as wide, broadly rounded anteriorly, abruptly narrowed behind the tegulae; notauli complete; mesonotum a little longer than wide, with two short subobsolete carinae anteriorly; middle lobe and upper part of lateral lobes strongly shagreened; upper part of pronotum rather finely shagreened; legs stout, femora and tibiae strongly clavate; wings covered with brown pubescence, extending about to the apex of the fifth abdominal segment; abdomen about twice as long as the thorax; first tergite twice as wide as long, not striate, the dorso-lateral carinae prominent, the space between them about twice as long as wide; second sternite, metapleurae, propodeum laterally, hind coxae below, and foveae basally (on second tergite) densely covered with long grayish-white hairs; second segment almost as wide at the apex as long, very closely joined to the first, as wide at the apex as the thorax across the tegulae, widest at the apex and narrowing gradually to the base, the sides continuous with those of the first tergite; basal foveae on second tergite deep and rather broad, with six or seven striae extending posteriorly from their inner margins to the middle of the segment; abdomen from the apex of the second segment narrowing gradually to an acute point at tip; third segment about one and one-half times as wide as long, without pubescence, the sides oblique; fourth as wide at the apex as long, wider basally than apically, nearly twice as long as the third, with a few scattered hairs laterally; fifth tergite one and three-fifths times as long as wide, with scattered white hairs laterally, about twice as long as the third and considerably narrower than that segment, the sides parallel; sixth tergite triangular, one and one-half times longer than wide at the base, acute at tip, two-thirds as long as the fifth. Shining black, legs (except last tarsal joints which are fuscous), and scape, rufous; flagellum fuscous.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 24596, U.S.N.M.

Redescribed from the type specimen.

6. PLATYGASTER LAEVICOLLIS (Ashmead).

Polygnotus laevicollis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 320.

Male.—Length 1 mm. Head seen from above two and one-half times as long as wide, not excavated posteriorly, slightly convex anteriorly; occiput moderately shagreened; cheeks for the most part unsculptured; vertex shagreened on the sides, transversely striate medially; ocellar space finely shagreened; upper part of frons finely shagreened, more delicately so medially; face above insertion of antennae transversely striate; projection between antennae quadrate, truncate apically, with the lateral edges raised into ridges;

scape rather slender, reaching to the lateral ocelli, not much narrowed proximally and but slightly curved; pedicel slightly longer than wide, much narrowed proximally; third joint very short and so closely joined to the fourth as to make them both look like one joint; fourth joint about as wide as long, greatly swollen, about as thick as the scape and as long as the pedicel; fifth joint as long as wide, as wide as the pedicel; "club 6-jointed, all the joints, except the last, transverse, the last conical, a little more than twice the length of the penultimate"; thorax across the tegulae as wide as the head, one and one-half times as long as wide; notauli complete, meeting in an acute point posteriorly, the latter projecting but slightly over the scutellar fovea; median lobe of mesonotum (except posteriorly where it is indistinctly longitudinally striate) shagreened; lateral lobes inwardly toward the front and medially behind, shagreened, otherwise unsculptured; scutellum convex, shagreened, a little wider than long, sloping posteriorly, margined at the sides; abdomen as long as the thorax, triangular from its base to the apex of the second tergite, as wide as the thorax; first tergite twice as wide as long, the sides oblique; dorso-lateral carinae not very prominent, not pubescent; second tergite a little longer than wide at the apex, twice as wide at the apex as at base, the sides slightly curved; basal foveae well marked, not pubescent, striate on their inner slopes, the striae few and not extending beyond basal third of the segment; tergites beyond the second short and narrowing abruptly to the apex, united about one-third as long as the second; wings extending about the length of the abdomen past its apex, hyaline, broad apically, the pubescence inconspicuous. Black, legs dark brown to piccous; antennae the same color as the front legs, brownish-yellow.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 24598, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The antennal joints beyond the fifth are missing from the type.

7. PLATYGASTER RUFIPES (Ashmead).

Synopeas rufipes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 287, pl. 12, fig. 5, Female.

Female.—Length 1.5 mm. Head seen from above a little over twice as wide as long, somewhat excavated posteriorly, seen from in front broadly elliptical, a little more than the width of the eye wider than high; occiput and vertex strongly striate, the latter rather acute; cheeks strongly shagreened, roughened; ocellar space and frons above and on the sides more finely shagreened than the cheeks, more finely yet in the center of the face where wavy aciculations are discernible; frons just above insertion of antennae rather finely transversely striate;

antennae rather stout; scape long, curved and narrowed basally, slightly curved and widened apically, about as long as the following six joints united; pedicel about twice as long as wide, it and the three following joints subequal in width; third joint two-thirds the length of the second, as long as the fourth; fifth spherical; sixth as wide at the apex as long, slightly narrowed proximally, as wide as the fifth; seventh, eighth, and ninth joints a little wider than long, somewhat longer than the sixth; last joint nearly as long as the pedicel, blunt at the tip and distinctly less than twice as long as wide; thorax shaped as in *melliscapus*; notauli sharply indicated but not attaining the anterior margin of the mesonotum; median lobe of mesonotum finely shagreened (except in the region of the apex where it projects in a rather broad tongue-like plate over the scutellar fovea); lateral lobes of the mesonotum finely shagreened (except in the middle where they are unsculptured); scutellum convex, not very much elevated, somewhat triangular, slightly broadened at the base, but not depressed laterally as in some forms of *Leptacis*, rather densely covered with decumbent whitish hairs; metapleurae and sides of propodeum covered with pubescence similar to that on the scutellum; abdomen spatulate, as long as the thorax and about as wide at the apex of the second tergite as the thorax; first and second tergites without pubescence; first polished, the dorso-lateral carinae not very prominent and the central area only a little longer than wide; second tergite a little wider at the apex than long, much narrower anteriorly; basal foveae distinct, not striate; third, fourth, and fifth tergites much wider than long, subequal in length, becoming rapidly narrower posteriorly; sixth tergite wider than long, subacute at apex; wings extending slightly beyond the apex of the abdomen, greyish brown, pubescent. Shining black; legs (except hind coxae) and antennae (except last five joints), rufous; hind femora brownish; hind coxae and last five antennal joints piceous.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 24597, U.S.N.M.

Redescribed from the type specimen. The species is rather peculiar with its varicolored antennae and slightly broadened scutellum but nevertheless it is a true *Platygaster* and illustrates one of the many variations from the typical form of the genus.

8. PLATYGASTER CARYAE Ashmead.

Platygaster caryae ASHMEAD, Bull. 45. U. S. Nat. Mus., 1893, p. 323.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv. 1916., (1917), p. 540.

Female.—Length 2.30 mm. Head twice as wide as long, wider than the thorax, flattened in front, emarginate behind; cheeks flattened, coarsely shagreened; occiput rugose, with several longitudinal carinae medially; vertex subacute, strongly shagreened, striate medially; interocellar space punctate or granular; face more or less shin-

ing, shagreened, strongly transversely striate below; pedicel two and one-half times as long as wide, as long as joint four, a little longer and wider than three; four as wide as two, obliquely excised at apex, narrower than five; five to nine transverse, each sharply produced below at apex; ten a little shorter than three, not much longer than wide, broadly rounded apically; thorax more than one and one-half times as long as wide, convex above, higher than wide, the tegulae situated one-third down from the dorsal surface; pronotum shagreened; notauli nearly complete, well indicated to anterior fourth of mesonotum, converging posteriorly; mesonotum shagreened, the lateral lobes exteriorly polished, pubescent at their apices; scutellum transverse, highly convex, shagreened, sparsely pubescent, with an indistinct longitudinal furrow dorsally; abdomen broadly elliptical, wider and a little longer than the thorax, somewhat less than one and one-half times as long as wide; first tergite twice as wide as long, polished, the median area quadrate, unsculptured, sharply defined laterally; second tergite about as wide as long; basal foveae deep and broad, oblique, polished, but with numerous striae radiating from them to a little beyond the middle of the segment; median area strongly striate to the apex of the fovea, with a central carina; tergites three to six polished, united less than one-third as long as the second; six broadly transverse, subacute apically; wings hyaline, extending one-half the length of the second tergite past the apex of the abdomen. Black; tegulae, coxae, and first abdominal segment reddish-brown; last six antennal joints fuscous; rest of antenna, and legs, straw colored, the hind legs brownish.

Male.—Length 2.30 mm. Pedicel three times as long as wide, longer and a little narrower than joint four, twice as long as three; three longer than wide, as wide as four; four more than twice as long as wide, curved, cylindrical, with a sharp knife-like edge below; five as long as six, narrower; joints six to nine a little longer than wide, rounded apically; ten longer, subacute apically; abdomen ovate, a little longer than the thorax, two-thirds as wide as long; first tergite as in the female; second not at all striate, otherwise as in female; tergites three to seven polished, united one-third as long as the second; wings extending nearly the length of the second segment past the apex of the abdomen.

Type locality.—Washington, District of Columbia.

Other localities.—Jacksonville, Florida, and St. Louis, Missouri.

Type.—Cat. No. 2303, U.S.N.M. Type female and allotype male selected from specimens from Washington, District of Columbia.

Redescribed from the type series, 10 females and 3 males, in the National Museum in Washington. These specimens were reared, May 8, 1884, from Cecidomyid galls on hickory trees. There are also in the collection numerous paratypes from Jacksonville.

Some of the specimens in the paratype series seem to represent other species but the material is not in good condition for study and no attempt has been made to sort out the forms included. No specimens from St. Louis, Missouri, was found in the collection.

9. *PLATYGASTER FUSCIPENNIS*, new species.

Female.—Length 1.73 mm. Similar in a general manner to *striaticollis* Ashmead. Head twice as wide as long, arcuately emarginate behind, wider than the thorax; cheeks flattened, shagreened; antennae moderately stout; pedicel a little over twice as long as wide, nearly as long as joints three and four united, as wide as four; three narrower than two, three-fourths the length of four, one and one-half times as long as wide, subequal to five (but not narrowed basally); six as long as five but a little wider; seven to nine about as wide as long; ten slightly longer, blunt at tip; mesonotum shagreened; lateral lobes on the outside polished; scutellum strongly shagreened, sparsely pubescent; abdomen the length of the first segment longer than the head and thorax united, as wide as the thorax; median area on first tergite a little longer than wide, with a short carina basally; basal foveae on second tergite deep, with a few short striae on their inner margins, the striae not attaining the middle of the segment; a few striae between the foveae; wings brownish, extending three-fourths the length of the second segment past the apex of the abdomen. Shining black; most of antennae and legs brownish-yellow; joints six to ten of the antenna, hind femora entirely, and tibiae apically, tinged with fuscous.

Type locality.—Glen Echo, Maryland.

Type.—Cat. No. 25432, U.S.N.M.

Described from three specimens collected by the author at Glen Echo. Two bear the data "1917" and the other "VI-16-1919." I know nothing of the habits of the species. Paratypes in Collection Fouts.

10. *PLATYGASTER STRIATICOLLIS* (Ashmead.)

Polygnotus striaticollis Ashmead, Bull. 45, U. S. Nat. Mus., 1893, p. 319.

Male.—Length 1.2 mm. Head shaped as in *laevicollis* Ashmead; occiput rugose; vertex rugose laterally, striate medially; ocellar triangle with a few fine wavy transversely directed striae, very low, a line drawn from lateral ocellus to lateral ocellus across their top margins touching the posterior edge of the anterior ocellus; face around the ocelli shagreened with striae intermingled, below the upper third of eyes striate, finely medially, becoming coarser toward the antennal sockets; projection between antennae shaped as in *laevicollis*; "the pedicel much longer than the first and second funicular joints, which are small, the second being wide at apex than long; club 6-jointed, pilose, the joints loosely joined, and all except the last, transverse monili form"; last joint twice as long as wide, acute at tip; pronotum

shagreened above, strongly longitudinally striate on sides; notauli complete, coming together in a rather broad lobe which almost touches the scutellum; mesonotum shagreened as in *laevicollis*; scutellum indistinctly transverse, convex, shagreened, margined laterally, not hairy; metapleurae, propodeum, first tergite (except in central area which is polished) and bases of foveae on second tergite, covered with short white hair; first tergite twice as wide as long, the dorso-lateral carinae distinct but not prominent, the median area about as wide as long; abdomen about as long as the thorax, shaped as in *laevicollis*; second tergite a little longer than wide at the apex; basal foveae distinct, the striae upon their inner slopes few, extending to the basal third of the segment; third tergite less than twice as long as the fourth, many times wider than long; segments after the second united about one-third as long as the second. Wings whitish, colored as in some *Microgasterines*, projecting the length of the first tergite past the apex of the abdomen, the pubescence sparse and short. Black; legs more or less rufous, the coxae and most of femora and tibiae darker; mandibles rufous; antennae brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24599, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The antennae, except the last two joints; have been lost. The lines quoted above were taken from the original description.

11. PLATYGASTER CANADENSIS (Ashmead).

Ectadius canadensis ASHMEAD, Can. Ent., vol. 20, 1887, p. 50.

Polymecus canadensis (Ashmead), ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 278.

Female.—Length 3.10 mm. Head seen from above about twice as wide as long, flattened posteriorly and feebly convex anteriorly, the cheeks rather full; occiput and vertex traversed by rather coarse, wavy striae; vertex rounded; ocellar space finely shagreened; area around ocelli and above dorsal third of eyes finely shagreened; rest of face (except just above antennal socket where there are a few strong striae) covered with fine wavy aciculations; projection between antennae about as wide as long, truncate apically, carinated laterally; antennae stout, gradually incrassated toward tips; scape about as long as the next five joints united, slightly swollen before the apex; pedicel twice as long as wide, narrowed proximally; third joint about half as long as the second, narrower than the second, a little longer than wide, very closely joined to the fourth which is nearly as long as and a little thicker than the pedicel; fifth and sixth joints subequal in length and width to the fourth; seventh and eighth joints a little longer than wide; ninth quadrate; last joint a little less than twice as long as wide, rather blunt at tip; thorax one

and one-half times as long as wide, rounded anteriorly, truncated posteriorly; pronotum shagreened above and medially on the side; on the anterior, posterior, and lower parts of the lateral plate it is polished, unsculptured; pronotum above traversed longitudinally by two sharp curved ridges which lie directly behind the anterior ends of the notauli; notauli complete, meeting posteriorly in a rather sharp point which projects nearly over the scutellar fovea; median lobe of mesonotum uniformly shagreened; lateral lobes shagreened on the inner sides; scutellum circular seen from above, margined laterally, as strongly shagreened as the mesonotum, not hairy; metapleurae, propodeum laterally, first tergite laterally, and second tergite at the bases of the foveae covered with semierect whitish hairs; abdomen about twice as long as the head and thorax united, widest at the apex of the second tergite where it is slightly narrower than the thorax; first tergite twice as wide as long, the dorso-lateral ridges sharp but not high, the central area a trifle wider than the lateral areas, quadrate, with a few inconspicuous carinae basally; second tergite about one and three-fourths times as long as wide at the apex, the sides parallel on apical half, converging slightly anteriorly; this segment and the first united as long as the thorax; basal foveae well marked, with a few faint striae which do not extend posterior their apices; area between the foveae on each side with a few striae which reach to basal third of the segment; third tergite one and one-half times as wide basally as apically, slightly wider apically than long, the sides straight, oblique; fourth tergite about twice as long as wide, a little wider basally than apically, one and one-half times as long as the third; fifth tergite about three times as long as wide, the sides parallel, slightly longer than the fourth; sixth triangular, as long as the fourth, twice as long as wide, sharply pointed distally; wings extending a little beyond the apex of the fourth segment, subhyaline, pubescent. Black, legs rufous; terminal tarsal joints and flagellum of antenna piceous; scape dark reddish brown; pedicel touched with yellow distally.

Type locality.—Ottawa, Canada.

Type.—Cat. No. 24600, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. This is one of the forms which Ashmead considered belonged in *Polymecus* Foerster. Had he read Foerster more carefully he would have seen that no mention was made of any unarmed scutellum in the group. *Polymecus* Foerster always has the scutellum armed and differs in no way from *Synopeas* Foerster (except in the elongation of the abdomen in the female sex). *Synopeas* and *Polymecus* must both be considered synonyms of *Leptacis* Foerster as will be indicated in my discussion of the genus *Leptacis* on a subsequent page.

12. *PLATYGASTER PICIPES* (Ashmead.)

Polymecus picipes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 282.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 535.

Female.—Length 1.80 mm. Head transverse, about twice as wide as long; occiput rugose; vertex shagreened, with a few strong striae medially, rounded; ocellar space and area round each lateral ocellus rather strongly shagreened; upper half of face on sides with moderately fine striae directed downward toward the center of the face; area directly below anterior ocellus unsculptured; center of face covered with fine wavy aciculations; area just above and to the side of the antennal sockets strongly transversely striate, shining, not rugose; antennal projection quadrate, the edges at apex and on sides ridged, with a delicate median carina; pedicel twice as long as wide, third joint inconspicuously shorter than, and as wide as, the fourth, the latter hardly longer than wide; fifth joint triangular, as wide as long, as long as the fourth; seventh joint about as long as wide; eighth and ninth distinctly transverse; tenth a little longer than wide, broadly rounded apically; thorax short and thick, one and one-half times as long as wide; pronotum shagreened above, strongly longitudinally striate on the sides, medially between the two longitudinal ridges unsculptured; notauli complete, meeting in an acute point posteriorly which projects over the fovea and touches the scutellum; median lobe shagreened, polished posteriorly with a few faint aciculations, anteriorly with the short median ridges obsolescent; lateral lobes shagreened anteriorly and along their inner margins; scutellum convex, transverse, margined laterally, rather strongly shagreened; metapleura, propodeum, first tergite, except median area, and proximal half of basal foveae thickly clothed with short silvery hairs; abdomen to the end of the fourth segment as long as the head and thorax combined; first tergite as in *canadensis* Ashmead; second twice as long as wide at the base, a little wider apically, as wide as the thorax; third about four times as wide as long, the sides oblique; fourth one and one-half times as long as the third, twice as wide as long, the sides oblique, half as wide apically as the second tergite; fifth one and one-third times as long as the fourth, as long as wide at base, the sides distinctly but only moderately oblique; last segment nearly as long as the third and fourth united, about twice as long as wide at the base, sharply pointed apically and with the sides straight; wings brownish, pubescent, extending to the apex of the fifth segment of the abdomen. Black, legs and antennae dark brown to piceous, the tarsi somewhat lighter colored.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 2272, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The original type series consisted of three female specimens. These represent two species. Some time after describing *picipes*, Ashmead saw that two species were represented in his type series and selected one specimen as the type, giving it the type number listed above. I consider this specimen the type and my description is based upon it. The other two specimens remain undescribed.

13. *PLATYGASTER VANCOUVERENSIS* (Ashmead).

Polymecus vancouverensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 281.

Female.—Length 3 mm. Head slightly less than twice as wide as long seen from above, very full behind the eyes, the cheeks wider than the eyes; occiput and vertex uniformly moderately shagreened; cheeks and spot in center of vertex more finely shagreened; ocellar triangle and area around ocelli shagreened as strongly as the occiput and vertex on the sides; frons subopaque, very finely uniformly shagreened, just above the antennal projection with a few small transversely directed carinae; antennal projection truncate distally, excavated with the edges raised; antennae moderately stout; scape slightly curved, a trifle shorter than the six following joints united; pedicel twice as long as wide at apex, as long as the two following joints united and about as thick as the fourth at apex; third joint half as long as the fourth, as long as wide and a little narrower than the fourth; joints four and five subequal in length and width, a little longer than wide; six as wide as long, the sides oblique; seven as wide as long and considerably thicker than the sixth, wider apically than basally; eighth and ninth joints subequal in length and width to the seventh, their outer angles slightly produced; tenth joint as long as the pedicel and a little wider than that joint, ovalo-conical, not acutely pointed, the sides on basal half parallel; thorax about twice as long as wide, shining, a little narrower across the tegulae than the head; pronotum rather strongly shagreened except below and behind on the sides, with a few faint striae below, the two longitudinal ridges neither high nor sharp; mesonotum somewhat flattened; notauli complete; median lobe entirely shagreened, projecting upon the scutellum in a sharp point; scutellum slightly transverse seen from above, shagreened, margined laterally, with a few short scattered hairs on the sides; abdomen about twice as long as the head and thorax united, polished, at the apex of the second segment a little wider than the head, from the second segment narrowing gradually to the apex; first tergite laterally, and second tergite at the bases of the foveae, covered rather densely with white pubescence; first tergite twice as wide as long, the median area a little longer than wide, with a few longitudinal carinae; second tergite one and

one-half times as long as wide at the apex, nearly three times as wide at apex as at base, the sides somewhat curved; foveae distinct, with a few faint striae at their inner margins; third tergite a little longer than the first, about three times as wide as long, the sides oblique; fourth one and one-half times as long as the third, twice as wide across the middle as long, the sides as oblique as those of the third; fifth one and one-third times as long as wide at apex, the sides very slightly oblique, last tergite inconspicuously shorter than the fifth, about one and one-half times as long as wide, sharp at tip, longitudinally aciculate in a rather broad arc at basal third and along the sides to the apical fourth; wings extending to the apex of the fifth segment, hyaline, the pubescence scattered and inconspicuous. Black; antennae, coxae, trochanters, femora, tibiae (except at base) and last joint of each tarsus dark reddish-brown; anterior tibiae, tarsi and tibiae basally, yellowish brown.

Type locality.—Vancouver Island.

Type.—Cat. No. 24601, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. I have removed the antennae from the type and put them on a slide.

14. PLATYGASTER CONFUSA, new name.

Ectadius pallipes ASHMEAD, Bull. No. 1, Col. Biol. Assoc., 1890, p. 9.

Polymecus pallipes (Ashmead), ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 279, pl. 12, fig. 3, female. Preoccupied by *Platygaster pallipes* Say, LeConte Ed. Say, vol. 1, p. 383.

Female.—Length 2.60 mm. Head a little less than twice as wide as long, full behind the eyes, emarginate behind, slightly elevated in the middle of the face; vertex, occiput, interocellar area, and upper part of cheeks strongly shagreened; frons (except immediately above antennae where it is rather finely transversely striate) shagreened, not quite so strongly as are the vertex and occiput; antennal projection emarginate apically, the lateral ridges sharp and with a narrow median projection between them; scape long, rather slender, reaching beyond the lateral ocelli, not much curved, as long as the six following joints united; pedicel distinctly over twice as long as wide, third joint as long as wide, a little narrower than the second, half as long as the fourth; fourth twice as long as wide, as wide as the second; fifth and sixth as long and as wide as the fourth; seventh, eighth, and ninth nearly as long as the pedicel, distinctly longer than wide; last joint as long as the third and fourth united, as wide as the ninth, twice as wide as long, rather blunt at tip, the sides on basal two-thirds parallel; thorax about twice as long as wide; pronotum shagreened (except between the longitudinal ridges above, and below and behind on the sides), not striate anywhere; mesonotum subconvex with two low polished ridges on anterior third; notauli complete; median lobe shagreened,

more finely so posteriorly, pointed at apex; lateral lobes shagreened except laterally on posterior two-thirds; scutellum subconvex, shagreened, indistinctly transverse, margined laterally; metapleurae, propodeum, first sternite, first tergite in apical angles, and second tergite in basal foveae, densely covered with white hairs; abdomen shaped much as in *vancouverensis* Ashmead, distinctly less than twice as long as the head and thorax united; median area on first tergite longer than wide, with a delicate median carina basally; second tergite one and one-half times as long as wide at apex, nearly twice as wide apically as basally; basal foveae deep, smooth except on interior edges where there are a few striae, these not extending posteriorly beyond their apices; third tergite twice as wide at apex as long, wider basally, the sides oblique, straight; fourth as wide at base as long, narrower apically, the sides not quite so oblique as those of the third; fifth twice as long and half as wide as the third, twice as long as wide, the sides parallel; sixth two-thirds as long as the fifth, sharply pointed apically, slightly less than twice as long as wide, shining and unsculptured; abdomen (with exceptions noted above) polished; wings extending to apical third of fifth tergite, faintly infuscated, the pubescence short but densely distributed. Black; legs golden yellow, the coxae reddish-brown; last joint of each tarsus inconspicuously darker; basal six antennal joints golden yellow, the apical joints dark brown; mandibles rufous, yellowish at tips.

Male.—Length 2 mm. Characters common to both sexes are not referred to in the description of the allotype. Pedicel slightly less than twice as long, as wide as the scape at apex; third joint button-shaped, wider than long, closely joined to the fourth and much narrower than the fourth; fourth thicker than the scape at its widest part, extraordinarily thickened, recalling the males in the genus *Eritrissomerus*; fifth joint very slightly longer than wide; following joints longer than wide, becoming a little more elongated toward the apex of the antenna; tenth joint narrower, three times as long as wide, as long as the fifth and sixth united, sharply pointed apically; abdomen spatulate, blunt posteriorly, as long as the head and thorax united, wider at the apex of the second segment than the thorax across the tegulae; wings extending half the length of the abdomen past its apex. Antennae uniformly golden yellow.

Type locality.—Greeley, Colorado.

Type.—Cat. No. 2122, U.S.N.M.

Redescribed from the type material in the United States National Museum. Ashmead's original type series consisted of four females and two males. One of these males is not *confusa*, having (among other differences) the legs and antennae dark brown. I have identified one of the male types of *Platygaster nigrifemur* Ashmead as belonging to this species.

15. *PLATYGASTER NIGRIFEMUR* (Ashmead).

Ectadius nigrifemur ASHMEAD, Bull. No. 1, Col. Biol. Assoc., 1890, p. 10.

Polymecus nigrifemur (Ashmead), ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 280.

Female.—Length 3 mm. Head more or less oblong seen from above, with the angles rounded, somewhat less than twice as wide as long, slightly emarginate behind, subconvex in front, a little wider than the thorax; head entirely uniformly shagreened and shining except just above the bases of the antennae where it is transversely aciculate; cheeks convex, subangulate exteriorly, and wider antero-posteriorly than the eyes; pedicel twice as long as wide, as long as joints three and four united, as wide as four, slightly wider than three; joint three as long as wide, scarcely narrowed basally; four a little longer than wide, subequal to five and six, cylindrical, not narrowed apically or basally; joints seven to nine about as wide as long; ten a little longer than three and four united, subacute apically, the sides curved; thorax two-thirds as wide as long, as wide as the abdomen, flattened above, higher than wide; pronotum finely shagreened laterally; mesonotum shagreened, except medially on the lateral lobes; notauli complete, the median lobe pointed apically; scutellum transverse, convex, shagreened, margined laterally, pubescent on the sides; metapleurae, propodeum, first tergite laterally, first sternite, and second in the foveae, densely covered with matted silvery hairs; abdomen one and seven-tenths times as long as the head and thorax united; median area on first tergite not sharply defined, longer than wide, with several short carinae basally; basal foveae on second tergite broad and deep, polished as is also the rest of the abdomen; median area unsculptured; wings hyaline, extending slightly beyond the apex of the fifth tergite. Black; antennae piceous; legs brown.

Male.—Length 2.5 mm. Joint three of antenna half as long, and about half as wide as four, as wide as long; four a little wider than long, cylindrical, curved above, wider than any of the following joints, as long as the pedicel; joints five to nine a little longer than wide; ten longer than three and four united, sharply pointed apically, the upper side regularly curved; abdomen elliptical, longer by the length of the first segment than the head and thorax united, a little over twice as long as wide, narrowly truncated apically; segments three to seven united about half as long as the second; wings reaching the length of the last two segments past the apex of the abdomen.

Type locality.—Greeley, Colorado.

Type.—Cat. No. 2123, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, two females and three males, in the collection of the National Museum at Washington. One female type has the head and wings lost. All specimens mounted on card points.

16. PLATYGASTER HERRICKII Packard.

Platygaster herrickii PACKARD, Third Rep. U. S. Ent. Comm., p. 220.—RILEY, Proc. U. S. Nat. Mus., vol. 8, p. 420, pl. 23, fig. 6, male.—ASHMEAD, Can. Ent., vol. 19, 1887, p. 132.—CRESSON, Syn. of Hym., 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 324.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 540.

Aneurhynchus aneurus PROVANCHER, Addid, Fauna Ent. Can., 1887, p. 176, male.

Female.—Length 2 mm. Body moderately robust, beautiful in outline and sculpture; head as wide as the thorax, about twice as wide as long, flattened in front, slightly excavated posteriorly; cheeks very full, convex, swelling out from the posterior margin of the eyes; head shining, shagreened; frons medially polished; area just above the insertion of the antennae covered by quite a number of large transverse carinae, the carinae not quite reaching to the eye margin; ocelli triangularly situated, the lateral ones elliptical, a trifle nearer to the eye margin than to the anterior ocellus; scape slender, nearly as long as the head is high, two-thirds as long as the flagellum; pedicel a little more than twice as long as wide, as wide as joint four, nearly as long as joints three and four united, narrowed basally, third joint slightly longer than wide, half as long as the pedicel; joint five about as wide and as long as the fourth, as long but slightly narrower, than the sixth; joints six through nine subequal in length and width, a little longer than wide; joint ten a little longer than the ninth, distinctly narrower than the ninth, twice as long as wide; it is rounded above at the apex, acute below; thoracic ratio: length 38 (0.844 mm.), width 25, height 28; dorsum of thorax shagreened finely scaly (except the lateral lobes of the mesonotum which are polished on the sides near the tegulae); notauli complete, deeply indicated; median lobe of the mesonotum strongly narrowed posteriorly, truncated just in front of the scutellum, its free end reaching over the scutellar fovea; pronotum mostly polished, with a narrow band of shagreening medially; mesepisternum polished, with the dorsal suture rather deep, Λ -shaped; sterno-pleural suture distinct; scutellum circular seen from above, evenly convex, finely scaly, sparsely pubescent, with the lateral margins rather low; propodeum laterally and metapleurum densely covered with long brownish hairs; tegulae polished, ferruginous apically; abdomen elliptical, 1.10 mm. long, as wide as the thorax, twice as long as wide, convex above and below; first tergite not quite twice as wide as long, pubescent laterally and along its posterior margin, its anterior edge raised as a narrow transverse rim; median area of first tergite a little longer than wide, with an obsolescent median carina; first sternite densely pubescent, the hairs similar to those on the dorsum of the same segment and on the sides of the propodeum; second tergite polished, about one-fifth of its own length longer than wide, twice as wide at the apex as at the base, the sides slightly curved; basal foveae deep and broad but

rather short, densely pubescent, polished, with several carinae along their inner margins; second sternite densely pubescent basally; tergites three to six polished, subequal in length, each traversed by a row of short white hairs; last five segments united not quite half as long as the second; sixth tergite triangular, sharply pointed apically, a little wider than long, one-third as wide as the third segment; wings hyaline, 1.83 mm. long, with a short marginal fringe. Black; legs varying from piceous to light brown or stramineous, the anterior tibiae apically and all tarsi pale; antennae dark brown.

Male.—Length 1.5 mm. Pedicel a little longer than the fourth joint, twice as long as wide, twice as long and twice as wide as joint three; fourth joint wider than any of the following joints, not much longer than wide, cylindrical; fifth joint as long and as wide as the pedicel; joints six to nine subequal, cylindrical, about one and one-half times as long as wide, wider and longer than joint five, thickly covered with white hairs which equal in length half of the diameter of the joints to which they are attached; joint ten three times as long as wide, as wide as joint nine; abdomen obovate, with the apical segments distended a little less than two-thirds as wide as long, rounded apically, segments three to seven polished, each traversed by a row of short white hairs.

Localities.—Western and Northern States.

Described from a series of 21 specimens. Eight of them, four females and four males, are labeled "448" with the dates varying from March 24 to April 15, 1884. Ten specimens are labeled "448" and were reared, as several other labels indicate, during the period April 4–19, 1889, from old wheat stubble. No more data in regard to this material is available, either on the pins or in the files of the Bureau of Entomology. A male specimen labeled "*Aneurhynchus aneurus* Prov. Type" is in the national collection and belongs to this species. This specimen is mentioned by Ashmead but can not be a type, as the original description makes no reference to the male. There is also in the collection a female specimen from Pickaway County, Ohio, labeled: "Reared from *Phytophaga destructor*; 3–1–21; W. H. Larrimer Coll.; Lafayette No. 20115."

The species does not seem to show any marked variation. Some of the males are less strongly sculptured than others. The posterior part of the mesonotum in such specimens tends to become smooth and polished.

17. *PLATYGASTER LAMPRONOTA*, new species.

Female.—Length 1.09 mm. Head twice as wide as long, slightly emarginate behind, a little wider than the thorax; cheeks convex shagreened posteriorly; occiput finely aciculate; interocellar area shagreened; frons polished; antennae filiform; pedicel as wide as

joint six, as long as joints five and six or three and four united; three and four equally wide, narrower than two; three a little shorter than four; five and six subequal, a little longer than wide, wider than six; ten as long and as wide as the pedicel, conical, pointed apically; flagellum longer than the thorax; thorax two-thirds as wide as long, convex above, higher than wide; pronotum finely shagreened laterally; mesonotum polished, finely shagreened anteriorly; notauli complete, the median lode narrowly rounded posteriorly; scutellum circular, polished, finely shagreened on the sides, sparsely pubescent; abdomen the length of the last two segments longer than the head and thorax united, broadly elliptical, wider than the thorax, twice as long as wide; median area on first tergite quadrate, without sculpture, the ridges high and sharp; second tergite slightly longer than wide; narrowed anteriorly, the sides curved, not striate basally; foveae short, not distinctly striate; between the foveae not sculptured; tergites three to six unsculptured, united three-fifths the length of the second; six as wide as long, sharply pointed apically; wings brownish as in *fuscipennis* Fouts, extending the length of the last four segments united past the apex of the abdomen. Body entirely dull rufous, the tarsi lighter.

Male.—Length 1.28 mm. Pedicel twice as long as wide, as wide as joint five, but longer, as long as ten; three a little longer than wide, less than half as wide as the pedicel, closely joined to four which is wider and shorter than the pedicel, widened apically, the sides curved, not emarginate; joints five to nine a little longer than wide, the ends rounded; pronotum not so extensively shagreened as in the female; abdomen long, egg-shaped, as long as the head and thorax united, as wide as the thorax, not quite twice as long as wide, convex above and below; segments three to seven united one-third as long as the second; wings brownish, extending two-thirds the length of the second tergite past the apex of the abdomen. Legs somewhat lighter colored than in the female.

Type locality.—Martinez, California.

Type, and Allotype.—Cat. No. 25433, U.S.N.M. Paratype in Collection Fouts.

Described from two females and one male from Martinez, California, reared by Mr. H. W. Turner, January 6–23, 1863, from flower bud galls of *Isosoma* (?) on *Baccharis pilularis*.

The specimens are labeled in T. Pergande's handwriting and the following is an extract from the notes on his cage 2964:

Jan. 2, '83 Rec. to-day from H. W. Turner, Martinez, Calif., a lot of galls, which are the deformation of flower buds of *Baccharis pilularis*, produced as it seems by a species of *Isosoma*, as no Cecid. larvae were found in all which were examined; however, they may prove to be only parasites. Several of the single galls are mostly grown

together into a compact mass which sometimes is quite globular, mostly, however, each gall is quite distinct. They are of a soft, white spongy texture inside and contain several cylindrical elongated cells. When fresh the color of the galls externally is purplish and pale yellowish green. The larvae are white and dorsally and ventrally beset with stiff bristles which enables them to move back and forward in their cell quite easily. Some larvae are mounted on slide 3/1/105; the rest are placed in jar to breed. Coll. Dec. 12, '82. Jan. 6, '83, one Proctotrypid issued to-day. Jan 20, '83 two Proctotrypids issued to-day.

18. *PLATYGASTER WEBSTERI*, new species.

Female.—Length 2 mm. Head twice as wide as long, oblong, excavated behind, slightly wider than the thorax, full behind the eyes, entirely shagreened and shining (except immediately above the antennae where it is strongly transversely striate); cheeks strongly convex, as wide as the eyes; pedicel slightly over twice as long as wide, as wide as joint five, a little wider than four, shorter than three and four united; three longer than wide, half as long as two, narrower than four; four three-fourths as long as two, as long as five; joints six to nine a little longer than wide, wider than five; ten blunt at apex, the sides parallel; thorax two-thirds as wide as long, subconvex above, a little higher than wide; pronotum finely shagreened laterally; mesonotum strongly shagreened, the lateral lobes polished outwardly; notauli complete, deeply marked; median lobe sharply pointed apically; scutellum circular seen from above, convex, shagreened, sparsely pubescent; metapleurae, propodeum, hind coxae, first tergite laterally and apically, first sternite, second basally, and second tergite in the basal foveae, densely covered with white pubescence; abdomen broadly elliptical, twice as long as wide, a little wider than the thorax, as long as the head and thorax united, pointed apically; first tergite excavated on the sides, the median area longer than wide, with an incomplete median carina; second a little longer than wide, not much narrowed basally, the sides nearly straight; basal foveae deep and wide, unsculptured, with long pubescence at their bases; median area with raised border, unsculptured; tergites three to six polished, united half as long as the second; three and four equal in length, five longer: six as long as five, wider than long, pointed apically; wings slightly tinged with brown, extending three-fifths the length of the second tergite past the apex of the abdomen; ovipositor sometimes slightly exerted. Shining black; antennae piceous, hind coxae black; legs uniformly dark brown.

Type locality.—Wooster, Ohio (?).

Type.—Cat. No. 25434, U.S.N.M. Two paratypes in Collection Fouts. Described from four females labeled, "On grass, Webster, May 19, 1886." No locality is mentioned and I doubtfully suggest the above, Professor Webster having been in Wooster working on entomology about that time

This beautiful species is easily recognized, the color of the wings and the shape and sculpture of the abdomen being characteristic.

19. *PLATYGASTER HYALINIPENNIS* (Ashmead).

Isorhombus hyalinipennis ASHMEAD, Can. Ent., vol. 19, 1887, p. 129, female.—
CRESSON, Syn. of Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus.,
1893, p. 276, pl. 12, fig. 2, male.

Female.—Length 1.50 mm. Head transverse, twice as wide as long, a little wider than the thorax, rather full behind the eyes; head mostly shagreened; frons finely shagreened, moderately striate just above the insertion of the antennae; vertex separated from the occiput by a blunt ridge; antennae long and slender, the flagellum gradually increasing in thickness toward tip: last three joints somewhat thicker than the others, black; joints eight and nine transverse; ten longer than wide, blunt apically; thoracic ratio; length 25 (0.555 mm.), width 17, height 19; mesonotum subconvex, shagreened, shining, notauli distinct to the middle of the mesonotum, strongly diverging anteriorly; median lobe narrowed apically, rounded, nearly touching the scutellum; scutellum convex, shagreened, with high margins laterally, sparsely pubescent on the sides; dorsal plate of the scutellum turned upward slightly at apex, forming a small tubercle: the length of the abdomen is to the length of the thorax as 30 is to 25; abdomen spatulate, almost two-thirds as wide as long, sharply pointed apically, more strongly pubescent on the first tergite and the second at base, laterally and ventrally; second tergite about as wide as long, without sculpture (except on the inner sides of the short basal foveae, where it is striate); segments three to six united a little less than half as long as the second, polished and shining; last segment triangular, broadly transverse, acute at apex; abdomen widest at the apex of the second segment, the sides anterior and posterior to this point straight, forming a continuous line; first segment half as wide as the second at apex; legs rather long and slender, the hind femora reaching to the apex of the second abdominal tergite; wings hyaline, without cilia, reaching far past the apex of the abdomen.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25435, U.S.N.M.

The type and paratype were studied in drawing up the description. A female paratype in Ashmead's type series belongs to a different species (in *Leptacis*) as yet undescribed. The male described by Ashmead (1893) is a different and new species belonging to the genus *Platygaster* but is in poor condition for description.

This species represents another extreme in the genus *Platygaster*. The antennal color pattern is unique and the tubercular scutellum, while not unique, is certainly very extraordinary.

20. PLATYGASTER ALNICOLA (Ashmead).

Polymecus alnicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 283.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 535.

Female.—Length 2 mm. Head shaped as in *pallipes* Ashmead; face not elevated in middle; occiput, vertex, most of cheeks, interocellar area, and face around the ocelli strongly shagreened, much as in *pallipes*; rest of face finely shagreened, without well marked transverse striae above antennal sockets; antennal process truncate anteriorly, the sides only slightly ridged; antennae moderately slender, the joints, except the scape, combined about equal in length to the thorax; scape thickened subapically, a little shorter than the five succeeding joints united, pedicel slightly over twice as long as wide, about as long as the two following joints united, a little wider than the fourth; third joint as wide as long, narrowed basally, as wide as the fourth, half as long as the fourth; fifth and sixth about as long as the fourth, a little thicker, seventh nearly as long as and considerably thicker than the second; eighth and ninth distinctly but not much longer than wide, slightly shorter than, but as wide as, the seventh; tenth joint oblong-oval, as long as the second, twice as long as wide; a little narrower than the ninth, obtuse at tip; thorax twice as long as wide; pronotum shagreened on the sides of the median area; notauli complete; median lobe of mesonotum rather strongly shagreened, the two lines on anterior third narrow and depressed, not very distinct; lateral lobes shagreened anteriorly along their inner margins, and along their outer margin to apical half, otherwise polished; scutellum transverse, highly convex, margined laterally, shagreened and with a few short white hairs on the sides; metapleurae, propodeum, first tergite laterally, and second tergite at extreme base in the foveae, sparsely covered with short white hair; abdomen a little longer than the head and thorax united, as wide as the thorax, shaped somewhat as in *pallipes* but shorter than in that species; segments one and two united as long as the thorax; median area on first tergite quadrate, the dorsolateral ridges sharp and rather prominent; second tergite about as long as wide apically, somewhat narrowed basally, the sides feebly curved; basal foveae broad and deep, covered with strong striae which radiate fan shaped nearly two-thirds the length of the segment from the base; area between the foveae with a few short striae laterally; third tergite four times wider at base than long, three-fifths as long as the fourth the sides oblique; fourth tergite twice as wide at base as long, the sides oblique, straight, continuing the sides of the third; fifth as wide at base as long, the sides not quite as oblique as those of the two preceding segments; last segment as long as the fourth, one and one-half times as long as wide, acutely pointed apically; front wings extending to the apex of the fifth segment, hyaline, covered thickly

with short pubescence. Black; antennae and last joint of each tarsus uniformly dark brown; legs reddish brown, the front tibiae, middle and hind tibiae at base, and tarsi, tinged with yellow.

Male.—Length 1.70 mm. Pedicel twice as long as wide, narrowed proximally; third joint one-third as long as the second and much narrower, closely jointed to the fourth; fourth a little shorter than, but conspicuously thicker than the second, not as thick as in *pallipes*, indistinctly emarginate proximally; joints four to nine, inclusive, seen laterally slightly but distinctly longer than wide; ten conical, pointed, distinctly longer than the second; abdomen slightly shorter than the head and thorax united, about as wide as the thorax, twice as long as wide, broadly rounded apically, not much narrowed basally; front legs a little lighter than in the female, yellowish, the femora medially brownish; antennae dark brown.

Type locality.—District of Columbia.

Type.—Cat. No. 24602, U.S.N.M.

Redescribed from the types in the United States National Museum. They were reared April 30 and May 1, 1884, from a Cecidomyid gall, *Cecidomyia serrulata* Osten Sacken found on alder. This species with its moderately short abdomen in the female is intermediate between such forms as *vancouverensis* Ashmead and *herrickii* Paskard.

21. PLATYGASTER SHASTENSIS, new species.

Female.—Length 2.50 mm. Body flattened, rather broad seen from above; head viewed dorsally a little over twice as wide as long, emarginate behind, the cheeks rather full; frons feebly convex; occiput, cheeks (except near the eyes), and vertex (with the exception of a feebly striate area just behind the ocelli), strongly shagreened, much as in *vancouverensis*; upper part of frons more finely shagreened, traversed longitudinally by a median unsculptured furrow; face below middle of eyes finely transversely striate, the striae rather distant from one another; antennae long and slender; scape long, slightly curved basally, shagreened dorsally, not quite as long as the next four joints united; pedicel thrice as long as wide, not much narrowed basally; fourth joint equal in width to the third, one and one-half times as long as the third, narrower than the second, about four times as long as wide, the sides parallel; joints five to nine, inclusive, equally long, five narrower, a little wider than the fourth; joints six to nine about three times as long as wide, equally wide; joint ten three times as long as wide, acutely pointed, widest proximally, the sides oblique; thorax more or less flattened above, a little wider than high; anterior face of pronotum perpendicular, hardly visible above, distinctly shagreened along the upper edge; pronotum polished laterally, unsculptured; mesopleurae unsculptured, with the median furrow rather deep; notauli complete, meeting in a rounded point which touches the

scutellum; median lobe of mesonotum with two short, prominent, longitudinal ridges anteriorly and a distinct median longitudinal furrow extending from its anterior border to its apical third, shagreened in this furrow and toward the apex; lateral lobes very slightly shagreened in their inner posterior corners, otherwise polished, hairless; scutellum transverse, flattened, margined laterally, polished (except on sides where it is faintly shagreened), from the middle sloping abruptly posteriorly to the propodeum; metapleurae, propodeum laterally, first tergite sparsely on the sides, and basal foveae proximally, covered with short white hair; abdomen twice as long as the head and thorax united, broad and very much flattened, the second tergite distinctly wider than the thorax across the tegulae; first tergite a little over twice as wide as long; median area quadrate, elevated, the dorsolateral ridges sharp and prominent, elevated anteriorly and posteriorly, a longitudinal carina traversing the depression but not attaining either end of the segment; second tergite three-fifths as wide at apex as long, not much narrowed basally, the sides on apical half nearly parallel, very slightly curved, anteriorly abruptly curved; basal foveae short and deep, with a few faint striae confined within their borders, the space between the foveae with a few faint striae half their length; abdomen beyond the apex of the second segment gradually narrowing to tip; third tergite as long as wide at base, slightly narrower posteriorly, the sides straight; fourth as long as wide at apex, a little broader basally, half as wide through the middle as the second tergite apically; fifth two-thirds as wide as long, the sides parallel, a little narrower than the fourth medially; six as long as the fifth, as wide as long, sharply pointed apically, unsculptured, with a fringe of hairs laterally; wings hyaline, extending to apex of fourth segment. Black; legs and antennae piceous.

Type locality.—Palmerlees Ranch, Oregon.

Type.—Cat. No. 25436, U.S.N.M. Paratype in Collection Fouts.

Described from two female specimens from Palmerlees Ranch, Oregon, reared by J. E. Patterson, September 8, 1915, from the cones of *Abies shastensis*, and recorded in the Bureau of Entomology under Hopkins U. S. No. 14200m.

The species is probably parasitic on some Cecidomyid inhabiting the cone.

The extraordinary flatness of the body and the peculiar structure of the mesonotum serve to distinguish the species from closely allied ones.

22. PLATYGASTER LUCIDA, new species.

Female.—Length 2 mm. Shape of body somewhat similar to that found in the females of *shastensis*, the abdomen just as flat as in that species but the thorax less depressed, higher than wide; head rather finely shagreened, more finely on the frons just above the antennae

where it is smooth, not distinctly striate; head shaped as in *shastensis*, the vertex rounded; median impression below anterior ocellus distinct but very shallow, not so deep as in *shastensis*; antennae very long and slender; scape extremely elongate, narrowed basally and not much thickened distally; pedicel about four times as long as wide at apex, club-shaped; third joint a little over thrice as long as wide, very slender, less than half as wide as the second at apex, a little over half as long as the second; fourth about four times as long as wide at apex, narrower at base, distinctly narrower at apex than the second; fifth about as long as the second, as wide as the fourth; joints six to ten, inclusive, a little less than thrice as long as wide, wider medially, the last joint rather sharply pointed apically, the sides on basal two-thirds approximately parallel; pronotum as in *shastensis*; mesonotum convex; notauli complete; median lobe shagreened, gradually becoming smooth toward apex where it is sharply pointed; lateral lobes shagreened only along the inner margin, polished otherwise; scutellum transverse, margined laterally, highly convex, polished in the middle, shagreened laterally; metapleurae and propodeum on the sides sparsely covered with short grayish hairs; first and second tergites without pubescence; abdomen strongly flattened, one and one-half times as long as the head and thorax united, much wider than the thorax; first tergite twice as wide as long, the median area subconvex, elevated, but with the dorsolateral ridges rounded, inconspicuous; second tergite distinctly wider at apex than long, narrower basally; basal foveae deep and broad, with faint striae on their inner slopes; area between them with a few short striae; tergites beyond the second broadly transverse, becoming gradually narrower toward apex; six as wide as long, sharply pointed apically, the sides straight; wings tinged with brown, extending nearly the length of the last three segments past the apex of the abdomen. Black, antennae and legs piceous, the anterior tibiae apically and all tarsi somewhat lighter, tinged with yellow.

Type locality.—Mount View, Colorado.

Type.—Cat. No. 25437, U. S. N. M. Paratype in Collection Fouts.

Described from two female specimens from Mount View, Colorado, reared by J. H. Pollock, September 5, 1916, from cones of *Picea engelmanni* and recorded in the Bureau of Entomology under Hopkins U. S. No. 14284*b*. Specimens belonging to the genus *Laspeyresia* and also some unidentified Diptera were reared from the same galls. It is probable that *lucida* is parasitic on the Diptera (Cecidomyids), inhabiting the cones.

23. PLATYGASTER GAHANI, new species.

Female.—Length 2.50 mm. Habitus of *lucida* Fouts; the abdomen, however, not so strongly flattened, the second sternite distinctly, but not extraordinarily swollen; head in shape and sculpture very

similar to that of *shastensis*, but with the transverse striae above and to the sides of antennae finer, more indistinct and wavy; antenna extremely long, the flagellum longer than the thorax, all the joints much longer than wide; scape reaching above lateral ocelli, not much curved basally and only slightly swollen apically, a little shorter than the four following joints united; pedicel slightly over thrice as long as wide near the apex, nearly one-third as long as the scape but much narrower, considerably wider than any of the following joints which are subequal in width; third joint about two-thirds as long as the fourth, a little over three times as long as wide, very slightly but distinctly narrower than the fourth; joints four to ten inclusive subequal in length and width, about four times as long as wide, the sides parallel; joint ten bluntly pointed apically, the sides parallel nearly to tip; thorax in shape, sculpture, and pubescence as in *lucida* but the median lobe of mesonotum not at all sculptured on apical third; abdomen distinctly but not much wider than the thorax, slightly less than three times as long as wide, broadly elliptical in shape; first tergite twice as wide as long, its anterior edge highly elevated, shaped as in *lucida*, the median area with a carina apically; second tergite with its sides slightly curved, the width to the length as twenty is to twenty-three; basal foveae deeper than in *lucida*, strongly striae all over, the striae extending almost to the middle of the segment; tergites three to six, inclusive, about equal in length, the sides straight and slanting posteriorly at an angle of about 45° from a line drawn down the middle of the abdomen; last tergite as wide as long, pointed apically; none of the tergites sculptured, except the second as mentioned above; length of abdomen to length of thorax as five is to four; wings hyaline, reaching to, but not beyond, the tip of the abdomen. Shining black; legs and antennae piceous.

Type locality.—Quincy, California.

Type.—Cat. No. 25438, U.S.N.M. Two paratypes in Collection Fouts.

Described from four specimens reared by F. P. Keen, September 20, 1915, from cones of *Abies concolor*, and recorded in the Bureau of Entomology under Hopkins U. S. No. 14201*m*. The type specimens of *Laspeyresia pallidibasalis* Heinrich were reared from these cones and recorded under the same number but have probably no connection with the present species.

P. gahani is especially remarkable because of the peculiar structure of the antennae, joints four to ten being subequal in length and width. This peculiarity is approached but not quite attained in *lucida* Fouts. The males of *gahani* and *lucida* can not be distinguished by any character mentioned above. When they are found they will probably have to be determined by being definitely associated with the females.

This species is named after my friend and colleague, Mr. A. B. Gahan.

24. *PLATYGASTER MELANOCERA* (Ashmead).

Synopeas melanocerus ASHMEAD, Can. Ent., vol. 19, 1887, p. 130.—CRESSON, Syn. of Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 289.

Platygaster gracilis ASHMEAD, Can. Ent., vol. 19, 1887, p. 132.—CRESSON, Syn. of Hym., 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 326.

Male.—Length 1.84 mm. Head shaped as in *P. rohweri* Fouts; occiput and vertex more finely shagreened than in *rohweri*; interocellar area and region around ocelli shagreened, more finely than on occiput and vertex; frons (except on sides above where it is shagreened) shining, very finely aciculate, with a few transverse aciculae just above bases of antennae; malar space shagreened; antennae stout but rather long, all the joints, except the third, considerably longer than wide; pedicel two and one-half times as long as wide, tapering from the middle proximally, as long as the fifth joint but not so wide and not so thickly pubescent; third joint as long as wide, closely joined to the fourth; fourth as long as fifth and as thick as the scape at the latter's thickest part, slightly emarginate basally and about one and one-half times as long as wide; joints five and six subequal in length and width to seven, eight, and nine, about twice as long as wide; thorax about as high as wide, in structure and sculpture as in *rohweri* except that the scutellum is not quite so shining, distinctly shagreened medially; pubescence on thorax and first and second tergite as in *rohweri*; first tergite a little less than twice as wide as long, not strongly striate anywhere, median area slightly elevated entirely and basally elevated along the anterior edge, without a median carina; abdomen about as long as the head and thorax united, slightly narrower at apex of second tergite than the thorax across the tegulae, highly convex above and below, more than half as high as the thorax, seen from above broadly elliptical in outline; second tergite about one and one-half times as long as wide, narrowed basally; basal foveae distinct, not very deep, rather strongly striate, the striae numerous and extending fan-shaped to the middle of the segment; space between foveae with a very short median carina; segments beyond the second short, becoming narrower toward apex; last segment perpendicular; wings hyaline, rather thickly pubescent, extending the length of the terminal four segments past the apex of the abdomen. Shining black; mandibles basally, antennae, tegulae, coxae, middle and hind femora (except at extreme bases), middle hind tibiae on the outside, and last joint of each tarsus, dark brown to piccous; remaining parts of appendages stramineous with slight variations.

Type locality.—Jacksonville, Florida.

Type.—The type of *melanocera* is lost.

Type of gracilis.—Cat. No. 24603, U.S.N.M.

Redescribed from the male determined by Ashmead and described by him in his Monograph (p. 289). I have been unable to find the female type in the collection but the original description makes it clear that the type was a female. The shape of the abdomen is the distinguishing character of the species, being remarkably narrow, and convex above and below. *Platygaster gracilis* Ashmead I cannot separate from this species. The legs and tegulae are slightly darker and the seventh joint of the antennae is distinctly emarginate below on basal half. This latter character I believe to be an aberration and color characters are too unstable to be of any value. The last joint of one antenna and the last six joints of the other are lost from the type of *gracilis*. Otherwise it is in good condition.

25. PLATYGASTER DIPLOSIDIS (Ashmead).

Polygnotus diplosidis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 306.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 540.

Polygnotus pinicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 307.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 539.

Female.—Length 1.2 mm. Body rather short and stout; head seen from above a little over twice as wide as long, flattened behind, convex in front; occiput aciculate; cheeks behind finely shagreened; vertex transversely striate, with a transverse median carinae, finely shagreened laterally; ocellar triangle and extreme upper part of face on sides faintly shagreened, the rest of the face finely aciculate, not striate anywhere; antennae stout; flagellum shorter than the thorax, gradually incrassated toward tip; scape short, slightly curved basally, not much thickened before the apex, about as long as the next five joints united, as wide as any of the last four joints; pedicel distinctly less than twice as long as wide, narrowed but not curved proximally, as wide apically as the sixth, a little longer than the seventh; third and fourth joints equal in length and width, as long as wide, closely joined, much narrower than, and half as long as, the second; five about as wide but a little longer than four, about as long as but narrower than six; six a little narrower and shorter than seven, eight or nine which are subequal in width and length, each as long as wide; ten longer than the pedicel, nearly as wide as nine, one and one-half times as long as wide, blunt apically; thorax very short, strongly convex above, as wide as high, less than one and one-half times as long as wide seen from above, as wide as the head; pronotum finely aciculate to shagreened (except medially above and a narrow line posteriorly on the sides where it is polished); longitudinal ridges not well defined, the median area therefore not definitely bounded, faintly shagreened; mesonotum strongly convex, separated

from the scutellum by a deep furrow, without notauli; scutellum transverse, very highly convex, unsculptured, subacute at top, the posterior face encroaching upon the anterior, with a distinct, though shallow and broad, longitudinal groove down the center; metapleurae, propodeum, and first sternite sparsely covered with moderately long greyish hair; abdomen as long as the thorax, slightly narrower, about twice as long as wide, spatulate, subacute at tip, short behind the second segment; first tergite about three times as wide as long, hairless; median area as wide as long, traversed longitudinally by a few carinae; dorso-lateral carinae on first tergite obsolescent; second tergite a little wider at apex than long, narrower basally, the sides near apex curved; basal foveae deep and broad, finely striate, the striae extending to the middle of the segment; area between the foveae with a few carinae; segments three to six inclusive united three-fourths as long as the second, abruptly narrowing to apex; tergites three, four, and five equal in length; six longer, nearly twice as wide as long, triangular in outline, subacute at tip; wings hyaline, extending the length of the last three tergites past the apex of the abdomen. Dark amber colored, the appendages uniformly brown.

Male.—Length 1 mm. Antennae stout; pedicel one and one-half times as long as wide, widest at middle; third joint very narrow, as wide as long; fourth a little shorter than second, wider apically than second, its apex produced outwardly, seen from above twice as wide as at base; joint five subequal in length and width to the fourth; five to nine equally wide, a little longer than wide, as long as the pedicel; ten as long as three and four united, as wide as but longer than the pedicel, conic-ovate; abdomen short, broad, less than twice as long as wide; wings extending a little over half the length of the abdomen past its apex. Legs sometimes touched with yellow.

Type locality.—New Brunswick, New Jersey.

Other localities.—District of Columbia, Montana, Massachusetts, North Carolina.

Type.—Cat. No. 2282, U.S.N.M. Type selected.

Redescribed from the type series, four females, in the United States National Museum. My description of the male is based on specimens in the type series of *pinicola* Ashmead. The types were reared February 12, 1891, by Prof. J. B. Smith from a Cecidomyid, *Diplosis*, species, found on pine. The types (Cat. No. 2283, U.S.N.M.) of *pinicola* Ashmead were reared, May 14 1879, from *Cecidomyia pini-inopsis* Osten Sacken, found on pine needles. I have examined two series of this species from the Division of Forest Insects, Bureau of Entomology, and recorded under the numbers, "Hopk. U. S. 110800 and 9910i." The former series consists of seven specimens from Missoula, Montana, reared by D. T. Harvey, November 8, 1915, from a Cecidomyid found on *Picea engelmanni*. There is also under this

number a vial containing many specimens. The other series consists of seven specimens from Islington, Massachusetts, reared May 20, 1915, from pine twigs. Pitch and white pine are mentioned in the notes, but I do not know which has connection with the *Platygasters*. I also have another series of six specimens from Tryon, North Carolina, reared from pine and recorded in the Bureau of Entomology under Hopk. U. S. No. 1483c.

This species is a very interesting one. It is unique among our species in having the notauli absent. The peculiar structure of the scutellum recalls aberrational forms of *P. vernalis* Myers, and it may be that forms will be found with the scutellum deeply notched. I have found some variation in color. The types are dark amber colored, while much of the more recent material has the body shining black.

26. *PLATYGASTER ERROR* Fitch.

Platygaster error FITCH, Sixth N. Y. Rep., p. 76, pl. 1, fig. 4.

Anopedias error Fitch, ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 291.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 533.

Female.—Length 1.22 mm. Body polished, without definite sculpture; head a little wider than the thorax, not quite twice as wide as long, scarcely emarginate posteriorly; frons polished; low ridge separating vertex from occiput shagreened, otherwise head is without sculpture; antennae slender, considerably longer than the head and thorax united; pedicel twice as long as wide, as long as the two following joints united; fourth joint twice as long as the third, as long as the fifth, not quite twice as long as wide; sixth joint as long as the fifth, indistinctly wider; seventh, eighth, and ninth joints slightly longer and wider, subequal in length and width; tenth as wide as ninth, a little longer; thoracic ratio: length 21 (0.466 mm.), width 14, height 16; mesonotum subconvex; notauli deep, nearly parallel, widely separated and curving outwardly in front of the scutellum; scutellum a trifle longer than wide, polished, sparsely pubescent, evenly convex; scutellum separated from the mesonotum by a deep, narrow, impressed line, its surface on a level with that of the mesonotum; abdomen elliptical, slightly narrower than the thorax, a little over twice as long as wide, as long as the head and the thorax united; first segment finely fluted, not much wider than long, the dorsolateral ridges distinct; second tergite as wide as long, strongly narrowed anteriorly from its apex; foveae small, short, the striae short and continuous across the base of the segment; segments following the second polished, united not quite as long as the second; wings hyaline, with a rather long marginal fringe on both pairs. Black antennae of a uniform dark brown color; legs brown, the tibiae and tarsi somewhat lighter.

Male.—Length 1 mm. Similar to the female in most respects. Pedicel twice as long as wide, as wide and as long as joint five; third joint as wide as long, narrower than the pedicel; fourth joint as long as the pedicel, and also as wide (except at apex where it is broadened and rather sharp on the outside); inside edge of fourth joint not appreciably curved; joints six to nine subequal, twice as long as wide, thickly covered with short white hairs; tenth joint as wide as the ninth, distinctly longer than joints three and four united; abdomen spatulate, rounded apically, narrower than the thorax, less than twice as long as wide.

Type locality.—New York.

Other localities.—Washington, District of Columbia: Arlington, Virginia; and Lafayette, Indiana.

Type.—Cat. No. 1840, U.S.N.M. Type female selected.

Described from Fitch's type material, six females and one male. Only one female is in good condition. I could not even decide whether the male really belongs to this species. The type of my description of the male is a specimen reared by Prof. F. M. Webster from *Diplosis tritici*.

27. PLATYGASTER COMPRESSIVENTRIS (Ashmead).

Polymecus compressiventris ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 282.

Female.—Length 3 mm. Head about twice as wide as long seen from above, emarginate behind, the cheeks wide; frons convex, with a short indistinct furrow below the anterior ocellus; vertex, interocellar area, frons on sides, very faintly shagreened, polished medially, just above the antennal process with a few faint transverse aciculae; antennal process short and broad, truncate, the anterior edge not raised; "pedicel oval, not quite as long as the first and second funicular joint united; first funicular joint narrowed, but twice as long as thick; the second stouter, obconic; third and fourth about equal, obconic, but longer than the second; the three following joints bell-shaped, loosely joined, the last conical, longer than the preceding"; thorax about as high as wide, slightly flattened above; a narrow, vertical band medially placed on the pronotum shagreened; central area of pronotum unsculptured (except at edges where there are a few striae), wider below, the ridges curved outwardly below and inwardly above; notauli complete, meeting in a sharp point posteriorly; median lobe of mesonotum shagreened, polished posteriorly; lateral lobes shagreened on a wide band along the sides of the notauli; scutellum transverse, considerably flattened; margined laterally, polished and unsculptured, with a few fine hairs on the sides; metapleurae and pronotum laterally covered with short pubescence; first tergite sparsely pubescent laterally, a little less than twice as wide as long, its anterior edges highly elevated, the median area quadrate, with an

indistinct central carina on its posterior face; length of abdomen to that of head and thorax united as seven and one-half is to three; abdomen extraordinarily flattened, looking as thin as a sheet of paper when viewed from the side, at the middle of second segment three-fifths as wide as the thorax across the tegulae; second tergite two and one-half times as long as wide, as wide at base as at apex, widest just before middle; basal foveae very short, indistinct because covered with short white hair, with striae not extending beyond their margins; apex of the second tergite broadly rounded, semicircular as are the apices of all the tergites (except the terminal one), the sides curved; third tergite two-thirds as long as the second, twice as long as wide at base, the sides nearly parallel, diverging very slightly anteriorly; fourth tergite two-thirds as long as the third, twice as long as wide, as wide as the third at apex, the sides parallel; fifth two-thirds as long as the fourth, one and one third times as long as wide, as wide as the fourth, the sides parallel; last tergite as long as the fifth, pointed apically, the sides straight; wings hyaline. Reddish brown; antennae, palpi, and legs golden yellow; "the flagellum slightly infuscated toward tip."

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 24604, U.S.N.M.

Redescribed from the type specimen in the United States National Museum. The antennae and interior wings were lost before I saw the type.

A remarkable form. The extraordinarily flat abdomen and the peculiar structure of the apices of the tergites serve to distinguish the species.

23. *PLATYGASTER FILICORNIS* (Ashmead).

Polynotus filicornis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 321.

Female.—Length 1.5 mm. Body rather short and stout; head seen from above about twice as wide as long, the cheeks rather full; occiput excavated, margined; occiput, vertex, and cheeks behind, shagreened; interocellar area and extreme upper part of frons on sides more finely shagreened; frons laterally very faintly aciculate, below on sides with a few faint transverse striae, otherwise polished, unsculptured; antennae long and slender, gradually incrassated toward tips, the flagellum about as long as the abdomen, all of its joints longer than wide; pedicel nearly three times as long as wide at apex, slightly narrowed proximally; third joint twice as long as wide, the sides parallel, about half as long as the second, a little over half as long as the fourth; fourth two and one-half times as long as wide, very slightly narrowed proximally, narrower than the second; joints five and six about twice as long as wide, as wide as the pedicel and as long as the fourth; joints seven to ten, inclusive, thicker,

about twice as long as wide, the last ovalo-conical; thorax short, thick, about as wide as high, approximately two-thirds as wide as long, moderately convex; pronotum as in *compressiventris*, but the median area wider above than below, not sculptured; notauli complete, meeting in a rounded tip posteriorly; median lobe shagreened, polished posteriorly, without the two anterior ridges; lateral lobes mostly polished, with a narrow shagreened band inwardly; scutellum transverse, strongly convex, margined laterally, polished, the anterior angles finely shagreened; abdomen about as long as the head and thorax united, as wide as the thorax, broadly elliptical, about twice as long as wide, flattened above, convex below; first tergite about twice as wide as long, slightly elevated anteriorly, rounded above, the median area narrow and not well defined; second tergite about a fourth longer than wide, a little over half as wide anteriorly as posteriorly, the foveae distinct, deep, without pubescence at base, the striae numerous, moderately fine, and extending slightly beyond the apices of the foveae; tergites three and four about equal in length, the former wider, the sides of both oblique; fifth half as long as the fourth, narrower; sixth triangular, pointed apically, as long as the third; wings subhyaline, extending slightly beyond the apex of the abdomen. Black; antennae and legs shining brown, the tibiae and tarsi a little lighter.

Male.—Length 1.5 mm. Abdomen distinctly longer and narrower than the thorax, subconvex above, more highly convex below, obvate, broadly rounded posteriorly, a little over twice as long as wide; last tergite perpendicular; wings extending about half the length of the abdomen past its apex.

Type locality.—District of Columbia.

Type.—Cat. No. 24605, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, three females and one male. The females are in good condition. The male, however, has the head and most of the legs missing. Ashmead merely mentioned the male in his description so I am unable to give any further particulars in regard to its missing parts. The distinguishing features of this species are the short thorax in both sexes and the long antennae in the female.

29. PLATYGASTER COLORADENSIS (Ashmead).

Polygnotus coloradensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 320.

Female.—Length 1.2 mm. Head shaped as in *flicornis*; occiput, vertex (more finely medially), and cheeks behind, shagreened; frons finely aciculate above on the sides, finely diagonally striate to the sides of the antennal sockets, otherwise polished; interocellar area very finely shagreened; thorax shaped as in *flicornis*, more finely

sculptured however, the lateral lobes of the mesonotum polished; scutellum not quite so strongly convex as in *filicornis*, otherwise identical in shape and sculpture; metapleurae, propodeum laterally, first tergite and sternite (the former laterally), and second tergite and sternite basally (the former in the foveae), densely covered with rather long silvery pubescence; abdomen about as long as the head and thorax united, broadly elliptical, as wide as the thorax, the segments behind the second proportionately shorter than in *filicornis*; first tergite a little over twice as wide as long, the anterior and posterior edges moderately elevated; median area well defined, with several indistinct longitudinal carinae (sometimes none); second tergite as wide apically as long, narrower basally, the sides curved; foveae broad, short, moderately deep, unsculptured, the area between them narrow, with a short median carina; terminal segments as in *filicornis*; wings hyaline, extending the length of the last three segments past the apex of the abdomen. Black; antennae and legs brown, the front tibiae and all tarsi (except the last joint of each) tinged with yellow.

Male.—Length 1.2 mm. Pedicel less than twice as long as wide medially, swollen; third joint half as long as the fourth, as wide as long, slightly narrower than the fourth; fourth about one and one-third times as long as wide, narrower than the pedicel, not much emarginated basally; following joints to the tenth subequal in length and width, about one and one-half times as long as wide; joint the longer than the second, conical, pointed, widest at the base, the sides nearly straight; abdomen shorter than the head and thorax united, conex above and below, shaped as in the female, except that segments three to ten are relatively shorter; wings extending the length of the terminal six segments past the apex of the abdomen.

Type locality.—Fort Garland, Colorado.

Type.—Cat. No. 2301, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, three females and two males. One of the females has the antennae lost; otherwise the types are in perfect condition. According to Ashmead these specimens were reared June 25, 1883, from a Cecidomyid gall on sage bush, collected by L. Bruner. They bear the number "31200, June 18-25, 1883."

The carinae between the abdominal foveae are subject to variation. In one female they are numerous and extend a little beyond the apices of the foveae. Usually they are few, two or three, and do not reach beyond the foveae.

30. *PLATYGASTER CALIFORNICA* (Ashmead).

Polygnotus californicus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 321.

Female.—Length 1.5 mm. Very close to *coloradensis*, identical except in a few particulars; the anterior edge of the first tergite not at all elevated, the median area polished, without a central carina;

second tergite about as long as wide; basal foveae as in *coloradensis*, with or without faint striae on their inner slopes, with a few hairs basally; area between foveae with or without a few fine striae; abdomen about two and one-half times as long as wide, a little longer than the head and thorax united; segments three to six inclusive about of equal length, narrowing to the sixth, the sides of all straight and continuous; last tergite about as long as wide, pointed apically, with a row of short white hairs laterally; each of the tergites three to five traversed by a row of short white hairs; wings subhyaline sometimes brownish, extending slightly beyond the apex of the abdomen. Black; appendages colored as in *coloradensis* Ashmead.

Male.—Length 1.3 mm. Pedicel about twice as long as wide, twice as long and considerably wider than the third joint seen from the side; joint three a little longer than wide, closely joined to and about half as wide as the fourth; fourth joint a little shorter than the second, much wider, twice as wide apically as basally, slightly emarginate; joints five to nine, inclusive, equal in length and width, about one and one-third times as long as wide, a little wider than the pedicel; last joint as long as the third and fourth united, shaped as in *coloradensis*; abdomen shaped as in *coloradensis* but wider, distinctly wider than the thorax; wings infuscated, extending the length of the last six segments past the apex of the abdomen.

Type locality.—San Francisco and Alameda, California.

Type.—Cat. No. 2302, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, five females and eight males. These specimens were reared by A. Koebele, January 10 and 23, 1883, and July 16 and December 17 and 19, 1885, from a Cecidomyid gall found on *Baccharis pilularis*.

31. PLATYGASTER SOLIDAGINIS (Ashmead).

Polygnotus solidaginis ASHMEAD Can. Ent., vol. 19, 1887, p. 131.—CRESSON, Syn. of Hym., 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 307.

Polygnotus angulatus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 319.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 540.

Female.—Length 1.40 mm. Head twice as wide as long, not emarginate behind, flattened in front, more or less oblong seen from above, distinctly wider than the thorax; occiput and vertex striate as in *striaticeps* but usually more finely so; cheeks convex, nearly as wide as the eyes, aciculate-shagreened; projection of vertex broadly rounded, rather sharp, not extending far over the margin of the eye, its edge raised and the upper surface roughened; interocellar area finely shagreened; frons aciculate on the sides and below, with several

striae above the insertion of the antennae; pedicel twice as long as wide, as long as joints three and four united, as wide as four; three a little longer than wide, narrower than four; five equal to four; six wider, slightly longer than wide; seven to nine wider than six, as wide as long; ten as long as the pedicel, sharply pointed apically, the upper side slightly curved; thorax three-fourths as wide as long, broadened and rounded anteriorly, convex above, as high as wide; pronotum aciculate; mesonotum shining, faintly shagreened on anterior half; notauli distinct on basal half, the median lobe rounded posteriorly; scutellum transverse, highly convex, polished, sparsely pubescent; abdomen elliptical, a little over twice as long as wide, narrower than

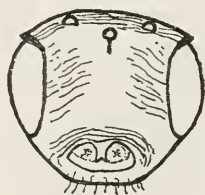


FIG. 6.—PLATYGASTER
SOLIDAGINIS (ASHMEAD).
HEAD OF FEMALE,
FRONT VIEW.

the thorax, as long as the head and thorax united, pointed apically; first tergite strongly fluted, nearly perpendicular on the sides; dorsolateral ridges near the edge of the segment, the median area transverse, subconvex; second tergite a little longer than wide, not much narrowed anteriorly, the sides but slightly curved; tergites three to six unsculptured, equally long, united somewhat over half as long as the second; six a little wider than long, subacute; legs piceous; trochanters, all tibiae basally, anterior tibiae apically, and all tarsi (except the last joint of each); yellowish.

The relative length of the abdomen is variable, due to the telescoping of the terminal segments. Sometimes it is as long as the head and thorax united and at other times scarcely longer than the thorax.

Male.—Length 1.30 mm. Projection of vertex somewhat less prominent than in the female; pedicel one-half longer than wide; third joint triangular, transverse, as wide as the pedicel, narrower than the fourth; four as long as the pedicel, widened and with a short projection below at apical third, rounded apically, not much longer than wide; joints five and six oval, one and one-half times as long as wide, narrower than four; seven to nine as long and indistinctly wider than five and six; ten as long as three and four united, pointed apically, the sides parallel nearly to the apex; abdomen a little longer and narrower than the thorax, not quite twice as long as wide; wings hyaline, extending one-third the length of the abdomen past its apex.

The coloration of the legs is variable. They may be mostly yellow (partly brown), or mostly black (partly yellow). One male has the abdomen as wide as the thorax, another as wide as the thorax and distended, as long as the head and thorax united.

Type locality.—Jacksonville, Florida.

Other localities.—Mount Holly Springs, Pennsylvania; Raleigh, North Carolina.

Type of solidaginis.—Cat. No. 24606, U.S.N.M. The female and allotype male selected.

Type of angulatus.—Cat. No. 25439, U.S.N.M. Type male selected.

Redescribed from the type series, eight females and three males. They were reared by Ashmead at Jacksonville, Florida, from *Cecidomyia nebulosa* Ashmead MS.

I have reared many specimens from black blister galls on *Solidago* collected in the valleys around Mount Holly Springs, Pennsylvania. The galls are numerous in June and July and the plants are spotted with them. A species of Eulophid was also reared from the galls.

The Museum contains specimens from Raleigh, North Carolina, reared April 11, 1902, from stem galls on aster and recorded in the North Carolina Department of Agriculture under Cat. No. 271.

The specimens Ashmead refers to¹³ as having been reared by Doctor Riley at Bushberg, Missouri, were really reared by Theodore Pergande and are now the types of my new species *variabilis* hereinafter specifically described.

The specimens reared by Miss Murtfeldt from a gall on *Solidago* at Kirkwood, Missouri, also belongs to *variabilis*.

32. PLATYGASTER PLUTO (Ashmead).

Hypocampsis pluto ASHMEAD, Can. Ent., vol. 19, 1887, p. 131, female.—CRESSON, Syn. of Hym., 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 298, pl. 12, fig. 10, female.

Female.—Length 1.50 mm. Head over twice as wide as long, not emarginate behind, flattened in front, wider than the thorax; occiput and vertex strongly transversely striate; vertex produced over the eyes, the projection long and narrowly rounded, seen from above extending to the outer margin of the eye, situated behind the middle of the head; cheeks flattened, shagreened; interocellar area finely shagreened; frons polished, unsculptured (except above the antennae where there are a few striae); pedicel twice as long as wide, as long as joints three and four united, wider than four; joint three as wide as long, half as long as four, narrower; five a little longer than four, one and one-half times as long as wide, as wide as four; six to nine a little longer than wide, oblong, wider than two; ten longer than the pedicel, over twice as long as wide, blunt at apex, the sides parallel; pronotum aciculate laterally; mesonotum shagreened, more finely so posteriorly; notauli briefly indicated, the median lobe broadly rounded posteriorly, projecting upon the scutellum; scutellum circular, highly convex, polished, sparsely pubescent laterally; abdomen broadly elliptical, as long as the head and thorax united, slightly wider than the thorax, a little less than twice as long as wide;

¹³Bull. 45, U. S. Nat. Mus., 1893, p. 307

second tergite a little wider than long; basal foveae distinct, striate, the striae not reaching beyond the middle of the segment; tergites three to six unsculptured, united over half as long as the second; six wider than long, truncated apically; ovipositor exerted, the sheath as long as the second segment; wings subhyaline, reaching a little beyond the apex of the abdomen. Black; legs and antennae dark brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24607, U.S.N.M.

Redescribed from the type. There are no ecological data connected with the specimen.

Ashmead's drawing of the type¹⁴ is almost wholly at variance with the specimen supposed to have been figured as may be seen by comparing the former with the description written above. In the type the notauli are incomplete; the antennae are gradually incrassated toward tip; the abdomen is wider than the thorax and less than twice as wide as long. Moreover Ashmead does not mention in the description nor show in the drawing the peculiar structure of the vertex, the distinguishing character of the group to which the species belongs.

33. PLATYGASTER UTAHENSIS (Ashmead).

Polygnotus utahensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 314.

Female.—Length 1.20 mm. Short and stout, with the appearance of some of the species of *Teleas*; head shaped as in *pluto* but not wider than the thorax, and with the projection more acute, situated over the posterior margin of the eye, in the middle of the head as seen from above; occiput and vertex posteriorly, transversely striate; cheeks strongly convex, aciculate-shagreened; interocellar area polished, unsculptured; frons faintly aciculate laterally, not striate below; joint three of antenna a little longer than wide, narrower and shorter than four; four not much longer than wide, as long as five but a little narrower; six as long and as wide as five, slightly longer than wide; joints beyond the sixth missing (all of them undoubtedly a little longer than wide); thorax three-fourths as wide as long, highly convex above, as wide as high; pronotum finely aciculate; mesonotum polished, unsculptured; notauli distinct on basal half, the median lobe truncated posteriorly; scutellum transverse, convex, highly polished, sparsely pubescent; abdomen as wide as the thorax, broadly ovate, a little over three-fourths as wide as long; first tergite angulate sublaterally, the median area quadrate, traversed by many longitudinal carinae; second tergite five-sixths as long as wide; basal foveae short, striate, the striae not reaching beyond their apices; area between the foveae with several carinae extending as far posteriorly as the striae; tergites three to six unsculptured, united one-

¹⁴Bull. 45, U. S. Nat. Mus., 1893, pl. 12, fig. 10

third as long as the second; six very wide, several times as wide as long, rounded apically; wings hyaline, extending the length of the second tergite past the apex of the abdomen. Black; legs and antennae dark brown; tarsi lighter.

Type locality.—Pariah, Utah.

Type.—Cat. No. 2291, U.S.N.M. Female selected as type. Male as allotype.

Redescribed from the type female. Ashmead mentioned a male in his original description. I have examined his male type and find it to belong to the genus *Leptaecis*. It remains undescribed.

The type reared in July, 1881, from a Cecidomyid gall on *Artimesia 3-dentata*.

34. PLATYGASTER STRIATICEPS (Ashmead).

Polygnotus striaticeps ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 308.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 537.

Female.—Length 1 mm. Head twice as long as wide, oblong, as wide as the thorax, slightly emarginate behind, subconvex in front; cheeks convex, striate above, shagreened below; occiput and vertex strongly arcuately striate, the latter rounded above, projecting slightly over the middle of the eyes in a broadly rounded lobe; interocellar area transversely striate; frons aciculate, obliquely on the sides and transversely below; pedicel twice as long as wide, as long as joints three and four united, a little wider than four; joint three as wide as long, hardly narrower than four; four a little longer than wide, slightly longer than five, which is as wide as long; six much wider, as long as wide; joints seven to nine longer than wide, somewhat longer than six; thorax two-thirds as wide as long, convex above, as high as wide; pronotum faintly aciculate laterally; mesonotum shagreened on anterior half, polished posteriorly; notauli distinct on basal two-thirds, the median lobe narrowly rounded posteriorly; scutellum a little wider than long, convex, polished, sparsely pubescent; abdomen broadly elliptical, as wide as the thorax, a little less than twice as long as wide; first tergite regularly rounded above, with many longitudinal carinae, not angulate on the sides; second tergite as long as wide, strongly narrowed anteriorly, the sides straight; basal foveae short, not reaching to the middle of the segment, striae reaching past the middle of the segment; between the foveae the anterior edge is raised and from it extend several short carinae; tergites three to six unsculptured, united half as long as the second; six wider than long, rounded apically; wings hyaline, extending the length of the last four segments past the apex of the abdomen. Body dark reddish brown (except the tarsi which are paler, dull whitish in color).

Male.—Length 1.10 mm. Pedicel a little longer than wide, as long and as wide as joint four; joint three as wide as long, two-thirds

as long as four; four one and one-third times as long as wide, cylindrical, not widened toward the apex; joints six to nine about as long and as wide as four; abdomen ovate, as wide as the thorax, three-fifths as wide as long, rounded apically; segments three to seven united half as long as the second; wings hyaline, extending the length of the last five segments past the apex of the abdomen.

Type locality.—Newhall, Los Angeles County, California.

Paratype locality.—San Diego, California.

Type.—Cat. No. 2284, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, four females and three males. According to Ashmead six of these specimens were reared in July, 1886, by A. Koebele, from a Cecidomyid gall on an evergreen shrub (*Bigelovia* or *Artimesia*, species) taken at Newhall, Los Angeles County, California. There is also one female in the type series labeled as having been reared from *Aspidiotus* or *Bigelovia*, by the same observer at San Diego, California.

The males vary greatly in size, two being 0.60 mm. in length.

35. PLATYGASTER VERNALIS (Myers).

Polygnotus vernalis MYERS, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 255.

This species seems to be extremely variable, not commonly so as in most other species, but in a most remarkable way. Messrs. Myers and McConnell have reared many specimens of *vernalis* from the puparia of the Hessian Fly and have found among them forms which have the scutellum divided into two lobes by a deep longitudinal furrow, and the mesonotum divided into six lobes by three furrows, one median and two oblique, the latter converging toward the scutellar fovea. The thorax is much shortened in these variants, being no longer than wide or even wider than long and flattened above, wider than the head. This variation is not confined to one sex. Of the ten specimens in the Museum showing such variation, seven are males and three females. All stages of transition are illustrated in this series of ten specimens. When the variation is slight only the scutellum is affected and is divided by a furrow. The mesonotum is next affected and is divided first by a median furrow and later by two oblique ones.

All of the specimens recorded are from the Eastern States—Pennsylvania, Maryland, Virginia and West Virginia. The type and allotype are from Hagerstown, Maryland, and bear the National Museum Cat. No. 21135. I have recently received a number of specimens of *vernalis* collected by W. H. Larrimer in various parts of Ohio and Indiana. Several of them were observed in April ovipositing in the eggs of *Phytophaga destructor* Say.

36. PLATYGASTER VITICOLA (Ashmead).

Polygnotus viticola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 313.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 527.

Female.—Length 1.9 mm. Head twice as wide as long, not at all excavated behind, the cheeks straight, oblique; occiput strongly striate, the striae curved; cheeks striate (except narrowly anteriorly where they are unsculptured); vertex subacute, striate on the sides and smooth medially; interocellar area finely shagreened; frons covered with extremely closely placed obliquely directed aciculae; antennae stout, the flagellum (including the pedicel) a little shorter than the thorax; club joints wider than long; thorax about three-fourths as wide as long; pronotum shagreened above on the sides, below finely aciculate, polished posteriorly; median area wider than long, narrowed posteriorly, finely shagreened in front and polished behind; mesonotum convex, finely shagreened all over, less distinctly so on lateral lobes medially; notauli distinct, not sharply indicated on anterior half of mesonotum; median lobe broadly rounded posteriorly; metapleurae, propodeum, first sternite, and second sternite basally, are all covered very densely with beautiful silver hairs; first and second tergites not pubescent; abdomen as long as the head and thorax united, as long as in *atriplicis*, a little over three-fourths as wide as the thorax, convex above and below; first and second tergites highly polished; first very slightly elevated anteriorly, the median area flattened, traversed longitudinally by three low carinae; basal foveae on second tergite narrow and rather shallow; striae extending to the middle of the segment; no striae between foveae; tergites three and four each with a row of pits across their center from every one of which projects a short white hair; fifth tergite very strongly shagreened except on extreme apex, with scattered punctures medially near the base; sixth tergite more finely shagreened, not punctate; wings hyaline, extending a little beyond the apex of the abdomen. Black to dark reddish-brown, shining; antennae piceous; legs brown, the tarsi and tibiae lighter, touched with yellow; last joint of each tarsus piceous.

Male.—Length 1.3 mm. Antennae stout; pedicel twice as long as wide; third joint wider than long, as wide as the pedicel; fourth broad and flattened, hardly narrowed basally, much wider than the pedicel; joints five and six a little longer than wide, as wide as and slightly longer than joints seven to nine (which are about as long as wide), pilose; last joint as wide as the ninth, a little shorter than the third and fourth united, conical, sharply pointed apically; abdomen long and slender, slightly over twice as long as wide, a little shorter than the head and thorax combined, narrower than the thorax, rounded

posteriorly; wings hyaline, extending the length of the last four segments past the apex of the abdomen. Antennae dark brown; tarsi lighter than in the female.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 2290, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, three females and nine males. They were reared, according to Ashmead, on March 31, 1882, from a Cecidomyid gall on the petiole of a grapevine leaf, collected on the grounds of the Department of Agriculture. One male has been lost off the point and several others are more or less damaged but as a whole the specimens are in good condition. All are mounted on card points.

37. PLATYGASTER LEGUMINICOLAE (Fouts).

Platygaster leguminicolae FOUTS, Proc. Ent. Soc. Wash., vol. 22, 1920, p. 69.

The species was sufficiently well described originally. The types, 29 specimens, were reared from the clover seed midge (*Dasynura leguminicola* Lintner).

Type locality.—Forest Grove, Oregon.

Type.—Cat. No. 22799, U.S.N.M.

38. PLATYGASTER LUPINICOLA (Ashmead).

Polymecus lupinicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 281.

Female.—Length 1.6 mm. Head twice as wide as long, slightly emarginate behind, flattened in front, as wide as the thorax; occiput transversely striate; cheeks subconvex, shagreened posteriorly; frons finely aciculate, diagonally so on the sides; antennae attenuate, the flagellum as long as the thorax; pedicel more than twice as long as wide, as wide as joint six, wider than either of the joints three, four, or five; joint three longer than wide, two-thirds as long as four and nearly as wide; four twice as long as wide, equal to five; six a little longer and wider; seven and eight as long as six but somewhat wider, less than twice as long as wide; nine a little wider than eight; ten as long as the pedicel, acutely pointed apically, the sides curved; thorax two-thirds as wide as long, higher than wide, convex and sparsely pubescent dorsally; pronotum aciculate; mesonotum hairy, polished; notauli indicated on basal half, the median lobe broadly rounded behind; scutellum transverse, strongly convex, polished above, pubescent behind and on the sides; wings hyaline; abdomen lost, "longer than the head and thorax together, pointed at apex, contracted from the apex of the second segment; the fourth segment is one-third longer than the third; the fifth and sixth nearly twice the length of the fourth; segments three and four with a transverse row of punctures; fifth aciculated except at base." Black; antennae and legs piceous; tarsi fuscous.

Male.—Length 1.5 mm. Pedicel twice as long as wide, as wide as joints three and four; three slightly longer than wide, indistinctly more than half as long as the pedicel; four as long as the pedicel, narrowed basally and apically; following joints about one and one-third times as long as wide; ten twice as long as wide, longer than joint two, pointed apically; abdomen broadly elliptical, four-sevenths times as wide as long, as long as the head and thorax united, as wide as the thorax; segments three to seven united half as long as the second; wings hyaline, reaching the length of the last five segments past the apex of the abdomen. Coloration as in female.

Type locality.—San Francisco, California.

Type.—Cat. No. 2271, U.S.N.M. Type female and allotype male selected.

Redescribed from the type material, two females and two males. The female types have no abdomens, the latter having been lost before I saw the specimens.

In Ashmead's type series are two other specimens, a male and a female, which represent another species. They are referable to the other group of the genus in which the head is thick anterior-posteriorly and the sculpture strong. Ashmead described the male of this later species as *lupinicola* since he mentions the notauli as being complete. The species *lupinicola* must, however, be restricted to the female which was described first and has therefore been made the electotype.

All of the specimens mentioned above were reared November, 1885, from a Cecidomyid gall on *Lupinus athorea*, collected Mr. Albert Koebele.

39. PLATYGASTER CYNIPICOLA (Ashmead).

Polygnotus cynipicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 314.—BRUES, Bull. 22, Conn. Geol. and Nat. Hist. Surv., 1916 (1917), p. 538.

Female.—Length 1 mm. Head about twice as wide as long through the middle, slightly emarginate behind, the cheeks rather full; head sculptured as in *asynaptae*, wider than the thorax; antennae very short and stout, gradually thickened toward apex; scape strongly curved basally, gradually incrassated distally; pedicel about twice as long as wide, broadly elliptical, as wide as the fourth joint; third joint much narrower than the second, one-third as long as the second, about as wide as long; fourth joint a little wider than long; fifth a little narrower but slightly longer than the fourth; six about as wide as long, narrowed basally, as long as the seventh but narrower, wider than the pedicel; joints seven to nine, inclusive, a little wider than long; ten narrower than the ninth, as long as the fourth and fifth united, conic-ovate, pointed apically, the sides not parallel; thorax two-thirds as wide as long, strongly convex dorsally, shining; pronotum polished, finely aciculate except along posterior edge on sides; mesonotum finely shagreened; notauli very shortly indicated basally,

the median lobe blunt, not projecting over the fovea; scutellum transverse, highly convex, margined laterally, polished, with a few short scattered hairs on its surface; metapleurae, propodeum, and first tergite at edge, pubescent; abdomen as long as the thorax, convex above and below, broadly elliptical posterior to the first tergite, the first segment forming a sort of neck to the rest; second tergite as wide as long, nearly twice as wide apically as basally, a little narrower than the thorax across the tegulae; foveae with a few short striae on their inner slopes; length of second tergite to those following united as nine is to five; tergites three to five equally long, narrowing apically; six wider than long, blunt at apex; wings hyaline, extending a little beyond the apex of the abdomen. Dark reddish, brown; antennae dark brown, the legs lighter.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 2292, U.S.N.M. Type selected.

Redescribed from the type series, five females. There are no male specimens in the type series. Ashmead labeled one specimen as the male and described it but it proves to be a female.

This species is one of the smallest now included in the genus *Platy-gaster*. It has somewhat the appearance of *diplosidis* Ashmead.

The types were reared July 3, 1883, from a Cynipid gall, *Neuroterus batalus* Fitch.

40. PLATYGASTER ACTINOMERIDIS (Ashmead).

Polygnotus actinomeridis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 317.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 539.

Female.—Length 1.3 mm. Head twice as wide as long, not emarginate behind, a little wider than the thorax, subconvex in front; occiput finely striate; cheeks subconvex, faintly shagreened above and behind; frons indistinctly aciculate above on the sides, more strongly aciculate below; antennae rather stout, joints seven to nine inclusive being about as wide as long, slightly produced below at their apices; pedicel twice as long as wide, longer and wider than joints three to five; three longer than wide, narrower than four; four slightly longer and wider than five, a little longer than wide; five longer and wider than three; ten twice as long as wide, acutely pointed apically, its upper side curved; thorax finely shagreened, highly convex above; notauli distinct on basal half of mesonotum; median lobe narrowly truncated before the scutellum; scutellum slightly transverse, highly convex, polished, sparsely pubescent; abdomen elliptical, about twice as long as wide, as wide as the thorax, as long as the head and thorax united; first tergite longitudinally fluted, as is also the second tergite between the basal foveae; median area on first tergite quadrate, flat; second tergite a little longer than wide, the sides nearly straight; basal foveae finely striate, the striae reaching slightly past the middle of the segment; tergites three to six

unsculptured, united two-thirds as long as the second; six slightly wider than long, rounded posteriorly; wings hyaline, reaching to the apex of the abdomen. Black; antennae piceous; pedicel brown; legs dark brown; anterior tibiae apically, and all tarsi (except the last joint of each), yellowish.

Male.—Length 1.15 mm. Pedicel one and one-half times as long as wide, as wide as joint three; three transverse, as wide as four; four oblong, not enlarged apically, as long as two; following joints a little longer than wide; abdomen ovate, slightly shorter than the head and thorax united, as wide as the thorax, twice as long as wide, rounded apically; tergites three to seven half as long as the second; wings hyaline, extending the length of the last four segments past the apex of the abdomen.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 2297, U.S.N.M. Type female and allotype male selected.

Redescribed from the types, one female and two males, reared April 23, 1884, from a Cecidomyid gall on *Actinomeris squarrosa* Nuttall. One of the paratypes is off point and lost.

The National Museum possesses several specimens of what I take to be this species from Kirkwood, Missouri, reared from a species of *Lasioptera* infesting honey locust. The Cecidomyid host of these specimens and of the types of *actinomerids* are so different that I hesitate to make any definite statement in regard to the identity of the parasites.

41. PLATYGASTER ARTIMESIAE (Ashmead).

Polygnotus artimesiae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 309.

Female.—Length 1.4 mm. Head twice as wide as long through the middle, a little wider than the thorax across the tegulae, not excavated behind; occiput and vertex rather finely striate, as in *asynaptae*; ocellar triangle finely shagreened; frons finely diagonally aciculate, more strongly so toward the malar space; pedicel twice as long as wide, as long as joints three and four united; third joint narrower than the second, two-thirds as long as the fourth; four a little longer than wide, slightly wider than the pedicel; five spherical, as wide as the pedicel; six as long as four, a little wider at apex than four, narrowed basally; joints seven, eight, and nine subequal in width and length, about as wide as long, a little wider than six; last joint conical; thorax two-thirds as wide as long; pronotum finely shagreened; median area broadly transverse, polished, with a few short, faint, transversely directed striae along the sides, wider above than below, the sides curved above; mesonotum strongly convex, rather strongly shagreened on anterior half, polished posteriorly; notauli reaching to the middle of the sclerite, the median lobe

rounded posteriorly at apex; scutellum transverse, very highly convex, narrowly margined laterally, polished, sparsely pubescent; metapleurae, propodeum, and first sternite, pubescent; first and second tergites not pubescent; abdomen spatulate, with the broadest part just behind the middle, one and three-fourths times as long as wide; first tergite distinctly less than twice as long as wide, the median area broad, with three or four longitudinal carinae, a little longer than wide, wider than the lateral areas, the dorso-lateral ridges prominent, perpendicular outwardly; second tergite five-sixths times as long as wide; basal foveae strongly striate, the striae extending about to the middle of the segment; space between foveae strongly striate, the striae short, not attaining the apices of the foveae; remaining segments united half as long as the second; tergites three, four, and five subequal in length; six slightly longer, subacute apically, a little wider than long; wings hyaline, extending slightly beyond the apex of the abdomen. Dark reddish brown; antennae and legs brown, the tarsi and tips of anterior tibiae lighter.

Male.—Length 1 mm. Antennae rather stout; pedicel globular, scarcely longer than wide, as long as joint four and about as wide as that joint at the middle; third joint minute, half as wide as the pedicel, about as wide as long; four much widened apically, obliquely excised basally, the lower side straight; joints five to nine inclusive moniliform, as long as wide, as wide as the fourth; tenth joint as long as the two preceding united and as wide as either, shaped as in *asynaptae*; abdomen spatulate, slightly longer than, but just as wide as, the thorax, broadly rounded apically; wings extending the length of the second tergite past the apex of the abdomen.

Type locality.—Lancaster, Los Angeles County, California.

Type.—Cat. No. 2286 U. S. N. M. Type female and allotype male selected.

Redescribed from the type series of 21 specimens. They were reared by A. Koebele, December 6, 1887, from a Cecidomyid gall found on *Artemisia californica*.

The striations on the second tergite are susceptible to some variation. Sometimes the median striae extend to the middle of the tergite and at other times are much shorter.

42. PLATYGASTER SALICICOLA (Ashmead),

Polygnotus salicicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 305.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 539.

Female.—Length 1.5 mm. Head twice as wide as long through the middle of the occiput, slightly excavated behind, a little wider than the thorax across the tegulae; occiput rather strongly transversely striate; cheeks shagreened posteriorly; interocellar area very faintly shagreened; frons covered with fine undulating aciculate; anten-

nae short and stout, the club joints wider than long; thorax three-fourths as wide as long, convex above; pronotum finely shagreened, the carinae obsolescent; notauli faintly indicated on basal half of mesonotum; mesonotum (except median lobe posteriorly and lateral lobes outwardly) finely shagreened; scutellum circular, with a narrow margin laterally, polished, with a few scattered short white hairs; metapleura, propodeum, and first sternite covered with short white hairs; first and second tergites without pubescence; abdomen a little longer than the thorax, broadly elliptical; median area on first tergite broad and flat, not much elevated, the lateral areas narrow; striae on second tergite strong and extending a little beyond the middle of the segment; following segments not sculptured, each traversed by a row of short white hairs; wings hyaline, extending a little beyond the apex of the abdomen. Dark reddish brown to blackish; antennae and legs brown, the coxae and femora a little darker.



FIG. 7.—PLATYGASTER SALICICOLA (ASHMEAD).
ABDOMEN OF FEMALE.

Male.—Length 1.15 mm. Head lost; abdomen as long and as wide as the thorax, more or less egg-shaped, truncate behind, three-fourths as wide as long; segments three to seven united one-third as long as the second; wings slightly touched with brown, extending nearly the length of the second tergite past the apex of the abdomen. Coloration as in female.

Type locality.—Los Angeles, California.

Type.—Cat. No. 2281, U.S.N.M. Type male and allotype female selected.

Redescribed from the type material, eight females and one male, reared by A. Koebele from a Cecidomyid gall on the midrib of willow.

The females vary in size and color, one specimen being one millimeter long and of a pale brownish color. In order that it may not be necessary to consult the original description I quote Ashmead in regard to the antennal structure of the male: "pedicel oval, not longer than the second funicular joint; first funicular joint moniliform; second thickened at tip, and longer than any of the club joints except the last; club joints except the first, not longer than thick, the last pointed, fusiform, twice as long as the penultimate."

43. PLATYGASTER VIRGINIENSIS (Ashmead).

Polygnotus virginiensis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 309.

Polygnotus proximus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 312.

Female.—Length 1.3 mm. Head shaped as in *viticola*; occiput more finely striate than in *viticola*; cheeks shagreened and with aciculae posteriorly; frons very finely and obliquely aciculate, shining;

antennae long and slender, the flagellum a little longer than the thorax, very gradually thickened apically, all the joints longer than wide; pedicel a little over twice as long as wide, as wide as the sixth joint at apex; third joint twice as long as wide, two-thirds as long as the fourth and a little narrower; fourth twice as long as wide, a little narrower than the pedicel; fifth as long and as wide as the fourth, narrowed at both ends; sixth longer and wider, narrowed basally; joints seven to nine subequal, wider, about one-half longer than wide, the sides parallel; ten as wide as nine, conic-ovate, rather blunt apically; thorax two-thirds as wide as long, a little narrower than the head, strongly convex above, shining; pronotum aciculate laterally, unsculptured before the tegulae; median area transverse, slightly narrowed posteriorly, smooth and shining; mesonotum strongly convex, finely shagreened toward the front, unsculptured posteriorly, sparsely pubescent; notauli incomplete, indicated on basal third of mesonotum; median lobe broadly rounded behind as in *viticola*; scutellum strongly convex, higher than the middle of the mesonotum, margined laterally, smooth and shining, pubescent posteriorly on the sides; metapleurae, propodeum, and first and second sternite covered with short white pubescence; first and second tergites not pubescent; abdomen longer than the head and thorax united, narrower than the thorax across the tegulae, convex above and below; median area on first tergite convex, not well defined, with three longitudinal carinae, the dorsolateral ridges low; first tergite roundedly elevated anteriorly, the elevated portion smooth, the carinae stopping at its base; striae on second tergite reaching to or a little beyond the middle of the segment; tergites three to five each with a row of punctures (interrupted medially) across it, hairs rising from the pits; last tergite laterally and on posterior half with long scattered hairs; wings hyaline, not quite reaching to the apex of the abdomen. Black; antennae and legs dark brown, the tarsi (except last joint of each) and anterior tibiae apically, lighter, touched with yellow.

Male.—Length 1.3 mm. Pedicel twice as long as wide, widest before the apex, as long but not quite as wide as joint four; third joint button-shaped, half as long and about as wide as the fourth; fourth slightly narrowed basally, not emarginate, and not widened apically; joints five to nine distinctly longer than wide, cylindrical, pilose; last joint as long as the third and fourth united, conical; abdomen spatulate, twice as long as wide, seven-ninths times as wide as the thorax across the tegulae, about as long as the thorax; first and second tergites more highly convex than in the female; the striations on second tergite fewer than in the female, shorter between the foveae; wings extending the length of the head past the apex of the abdomen. Coloration as in the female.

Type locality.—Arlington, Virginia.

Other localities.—District of Columbia.

Type.—Cat. No. 24608, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, four females and three males, in the collection of the United States National Museum. *P. proximus* Ashmead I can not separate from this species. The males vary considerably in size, the length varying from 0.9 mm. to 1.3 mm. One male of *proximus* has the fourth antennal joint widened apically, more or less sharply produced at lower angle, wider than the third.

Altogether there are thirteen specimens of this species in the National Museum, the type series of *proximus* (Cat. No. 2289, U.S. N.M., type and allotype selected) consisting of six specimens. The types of *virginiensis* were collected, not reared; those of *proximus* were reared from *Cecidomyia c.-ananassa* Riley on cypress.

44. PLATYGASTER ATRIPLICIS (Ashmead).

Polygnotus atriplicis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 308.

Female.—Length 1.5 mm. Head shaped as in *salicicola*, twice as wide as long; occiput striate as in *salicicola*; cheeks shagreened; interocellar space almost smooth, very faintly aciculate; frons covered with wavy aciculae; antennae more slender than in *salicicola*, the club-joints longer than wide; thorax two-thirds as wide as long, shaped as in *salicicola*, more highly polished; pronotum shagreened, below on the sides longitudinally aciculate, polished behind; median area polished, wider than long, the carinae appearing as sutures, curved outwardly in the middle; mesonotum faintly shagreened anteriorly, finely aciculate in middle of median lobe, otherwise polished; scutellum convex, with a narrow margin laterally, polished, with a few short hairs on sides; metapleurae, propodeum laterally, and first sternite, covered with white pubescence; first and second tergites without pubescence; abdomen the length of the first segment longer than the thorax, as wide as the head, distinctly wider than the thorax; median area on first tergite quadrate, higher than in *salicicola*; second tergite strongly striate basally, the striae not quite reaching to the middle of the segment; wings hyaline, reaching to apex of abdomen. Black; antennae and most of legs piceous; tibiae in part, and tarsi, lighter in color.

Male.—Length 1.3 mm. Differs from the female in antennal and abdominal characters. The abdomen is a little longer and wider than the thorax, broadly rounded apically; wings extending slightly beyond the apex of abdomen; legs as in female; antennae piceous.

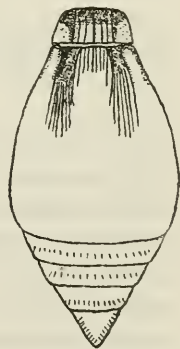


FIG. 8.—PLATYGASTER ATRIPLICIS (ASHMEAD). ABDOMEN OF FEMALE.

Type locality.—Los Angeles County, California.

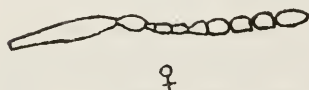
Type.—Cat. No. 2285, U.S.N.M. Type and allotype female selected.

Redescribed from the type material in the collection of the United States National Museum. This material consists of six females and three males, reared, during April and May, from a Cecidomyid gall on *Atriplex canescens*. One of the females is minus the head and another the abdomen.

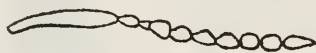
45. PLATYGASTER ASYNAPTAE (Ashmead.)

Polygnotus asynaptae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 315.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 538.

Female.—Length 1.7 mm. Head seen from above nearly three times as wide as long through its middle; excavated behind, the cheeks moderately full, rounded; occiput strongly transversely striate; cheeks finely shagreened behind, smooth in front and below; vertex subacute, smooth anteriorly; striate posteriorly; interocellar area practically unsculptured, shining; frons very finely aciculate,



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FIG. 9.—PLATYGASTER ASYNAPTAE (ASHMEAD). ANTENNAE.

more strongly so toward the malar space, where the aciculae are oblique; a short, shallow, indistinct groove below anterior ocellus; antennae short but rather slender, the flagellum much shorter than the thorax, gradually incrassated toward tip, the joints seven to nine, inclusive, distinctly but only slightly longer than wide; pedicel a little less than twice as long as wide; third joint a little longer than wide, narrower than the fourth (which is narrower than the second, two-thirds as long as the second and subequal in length and width to the fifth, a little longer than wide); joint six as long as the fifth, slightly wider, as long as the seventh but narrower; last joint as long as the third and fourth united, blunt apically, as wide as the ninth; thorax about twice as long as wide, highly convex dorsally, not compressed, as wide across the tegulae as the head; pronotum finely shagreened over most of its surface, sparsely covered with short, appressed, white pubescence, the median area smooth, highly polished, its sides straight; mesonotum highly convex, shining, shagreened in parts, with four areas of longitudinally placed rows of appressed pubescence; anterior ridges obsolescent, converging posteriorly; notauli distinct to the middle of the segment, meeting in a truncate lobe posteriorly; lateral lobes posteriorly with a growth of long hairs projecting over the scutellar fovea; scutellum transverse, highly elevated, somewhat flattened dorsally, with a narrow margin laterally, rather thickly clothed with short silvery appressed pubescence; metapleurae

and propodeum densely pubescent, the silvery hairs decumbent on the former, erect on the latter; first and second tergites hairless; abdomen broadly elliptical, about as long as the head and thorax united, a little over twice as long as wide; first tergite slightly over twice as wide as long (proportion variable), the anterior edge elevated, with many regularly placed longitudinally carinae (sometimes coalescing); median area quadrate, carinate, the dorsolateral ridges not prominent, sometimes obsolete, the tergite evenly rounded above; second tergite about as wide apically as long, twice as wide at apex as at base; basal foveae long and deep, striate, the striae radiating to a little beyond the middle of the segment; area between the foveae with a few short carinae; tergites three to five inclusive, subequal in length and width, the sides oblique, straight; last tergite triangular, as long as the first, one and one-half times as wide as long, blunt apically, the sides straight; wings hyaline, reaching to the apex of the abdomen. Black; antennae and legs dark reddish brown to piceous; tarsi and anterior tibiae at tips yellowish brown.

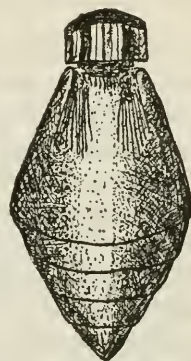


FIG. 10.—PLATYGASTER
ASYNAPTAE (ASHMEAD).
ABDOMEN OF FEMALE.

Male.—Length 1.6 mm. Mesonotum more strongly shagreened than in the female, polished on posterior half; antennae moderately stout; pedicel one-half times as long as wide; third joint about as wide as the second, as long as wide, a little over half as long as the second, not very closely joined to the fourth; fourth about as long as the pedicel, distinctly wider, about one-half longer than wide, straight, not obliquely excised below, a little wider apically than basally; joints five to nine inclusive subequal in length and width, as wide as the fourth at apex, very little longer than wide; last joint as long as third and fourth united, conical, sharply pointed apically; abdomen as long as the thorax, wider, spatulate, convex above and below, indistinctly less than twice as long as wide, broadly rounded apically; coloration as in female.

Type locality.—Maywood, Illinois.

Type.—Cat. No. 2295, U.S.N.M. Type female and allotype male selected.

Host.—*Asynapta*, species on willow.

Redescribed from the type series, nine females and seven males. The types are mounted on points and are, as a whole, in pretty good condition. The heads are lost from four specimens, three females and one male (the male has lost the thorax as well as the head). Two specimens originally included in type series represents an undescribed species of *Leptacis* Foerster.

Some variation is evident in this species; the notauli are subject to fluctuation as regards their length and depth; the sculpture and slope of the first tergite varies also; color changes always in the species of *Platygaster*, so no special mention of such variation is necessary.

46. *PLATYGASTER TEXANA*, new species.

Female.—Length, 1.3 mm. Head about three times as wide as long, scarcely excavated posteriorly, distinctly wider than the thorax, with rounded exterior angles; head seen from in front triangular, wider than high, evenly convex above; vertex traversed by a few grooves, not acute; interocellar area faintly reticulate, much wider than high; frons shining, faintly reticulately shagreened above on the sides, obliquely striate medially, more strongly so below; antennal process short, rounded apically; mandibles bidentate, the teeth equal; antennae slender, the flagellum about as long as the thorax; pedicel twice as long as wide, as long as joints three and four united, as wide as the seventh; third joint half as long as the fourth, narrower, bell-shaped; fourth joint as long as the fifth, wider; joints seven to nine twice as long as wide, oblong; last joint longer, acuminate; thorax a little less than twice as long as wide, highly convex above, about as high as wide; notauli faintly indicated basally; mesonotum anteriorly finely reticulate; median lobe of mesonotum narrowly truncated posteriorly; scutellum highly convex, polished, sparsely pubescent; middle tarsi about as long as the tibiae; abdomen approximately twice as long as wide (as wide as the thorax), posteriorly with a slight tail-like effect; second tergite about as wide as long, with a number of foveal striae strongly indicated to the middle of the segment; segments three to six united shorter than the second, polished, each traversed by a row of hair punctures; last segment as long as wide, triangular, narrowly rounded apically; wings hyaline, reaching to the base of the sixth tergite; black, scape, pedicel, mandibles and legs (except coxae and dilated parts of femora and tibiae) reddish-brown.

Male.—Length 1 mm. Pedicel twice as long as wide, nearly as long as joints three and four united, as wide as five; joint three very short, button-shaped, narrower than two; four as long as five but wider, scarcely longer than wide, rounded posteriorly and with the sides parallel; joints five to nine subequal, one and one-half times as long as wide, cylindrical; tenth joint acuminate, three times as long as wide; abdomen about as long and as wide as the thorax, approximately twice as long as wide; wings extending the length of the posterior metatarsus past the apex of the abdomen.

Type locality.—Uvalde, Texas.

Type.—Cat. No. 25855, U.S.N.M. Paratype in author's collection.

Described from one female (type) and two males (allotype and paratype) reared by J. C. Hamlin, June 1, 1921, from (?) *Dactylopius confusus*.

The female may be separated from the same sex in *asynaptae* by noticing the relative lengths of the terminal antennal joints. In *texana* the joints eight and nine are twice as long as wide.

The male would be more likely confused with *lupinicola* but the fourth antennal joint in that species is narrowed at both ends.

47. PLATYGASTER BURKEI (Rohwer).

Polygnotus burkei ROHWER, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 170.

The description given by Mr. Rohwer is incomplete and I doubt if the species could be recognized by it. The figure of the female antenna seems to be correct. This species does not come very close to *diplosidis* Ashmead. It is nearest related to *hiemalis* and *eurotii* and may be distinguished from them by using my key to the species. I append the following notes to Mr. Rohwer's description:

Female.—Length 1.2 mm. Head twice as wide as long; occiput finely striate; frons finely obliquely aciculate; thorax seven-tenths times as wide as long, convex above, a little narrower than the head; pronotum shagreened laterally except at the outer edges of its posterior border; median area finely shagreened; mesonotum finely and uniformly shagreened, the anterior carinae obsolete; notauli short but sharply indicated, the median lobe subacute posteriorly; scutellum transverse, highly convex, smooth and shining, not distinctly margined laterally; abdomen a little longer than the thorax, as wide as the thorax across the tegulae, about three-fifths times as wide as long; first tergite strongly raised anteriorly, very short, the median area distinctly wider than long, with an obsolescent median carina; last four tergites not sculptured, with a row of hairs across each one; wings hyaline, extending a little beyond the apex of the abdomen.

Male.—Length 1.2 mm. Pedicel as in female; fourth joint very wide apically, narrowed basally, the lower side produced apically; following joints a little longer than wide; abdomen as long as the thorax, rounded posteriorly, one-third longer than wide; first tergite a little over twice as wide as long; second as in female, a little wider than long, strongly striate on basal half; wings hyaline, extending half the length of the abdomen past its apex. Color as in female.

Type locality.—Placerville, California.

Redescribed from the types (Cat. No. 19638) in the United States National Museum. They were reared from "a Cecidomyid which lives under the bark at the base of the needles of *Pinus ponderosa*." The type series consists, not of four females and four males as stated by Mr. Rohwer, but of seven females and one male (the allotype). The antennae have shriveled a little and the sexes are not very easy to distinguish. There are numerous other specimens in the Museum with the same ecological data. They are all mounted on points and placed in the systematic collection.

This species is rather variable. The characters of color and size are inconstant and the comparative lengths and widths of the last four abdominal segments in the female are not definite. The segments are telescopic and may be protruded or retracted so that the transverse row of hairs may be in the middle of the exposed part of the segment or under the preceding segment.

48. *PLATYGASTER HEIMALIS* Forbes.

Platygaster heimalis FORBES, Psyche, vol. 5, 1889, p. 39.

Polygnotus heimalis (Forbes), ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 311.—

BRUES, Bull. 22, Conn. Geol. Nat. Hist., Surv., 1916 (1917) p. 537.

Female.—Length 1.4 mm. Head twice as wide as long, not emarginate posteriorly, shining; occiput rather finely transversely striate, the vertex nearly smooth, striate medially; interocellar area faintly shagreened; frons finely obliquely aciculate; antennae rather slender, all of the joints longer than wide; pedicel twice as long as wide; fourth joint as long and as wide as the sixth; fifth a little narrower; joints seven to nine one and one-half times as long as wide, cylindrical; ten as long as five and six united, sharply pointed apically; thorax about two-thirds as wide as long, convex above, highly polished; pronotum aciculate laterally; median area transverse, unsculptured, the carinae curved outwardly in the middle; mesonotum finely shagreened anteriorly, mostly polished; notauli short, the median lobe rounded apically, broader than in *burkei*; scutellum transverse, convex, unsculptured; abdomen a little longer than, but only as wide as, the thorax; first tergite twice as wide as long, rounded above; median area not distinctly defined, the longitudinal carinae numerous and none more prominent than others: foveae on second tergite with a few striae extending to about the middle of the segment; area between the foveae with a few short carinae; each of the last four tergites with row of hairs across it (sometimes hidden under the segment in front); wings hyaline, extending half the length of the abdomen past its apex. Black; antennae and legs in most part piceous; apices of anterior tibiae and tarsi (except last joint of each) lighter, brownish.

Male.—Length 1.4 mm. Head slightly emarginate posteriorly; mesonotum anteriorly with fine undulating aciculae; third antennal joint button-shaped, distinctly narrower than the pedicel; fourth joint more than twice as wide apically as basally, wider apically than the scape, strongly produced below, almost L shaped, the inner surface of the L curved; joints five to nine about one and one-half times as long as wide; abdomen egg-shaped, narrowed anteriorly, about as long as and a little wider than the thorax, seven-tenths times as wide as long; first two segments shaped and sculptured as in the female; wings hyaline, extending half the length of the abdomen past its apex. Coloration as in female.

Type locality.—Champaign, Illinois.

Type.—The location of type unknown to author.

Habitat.—North America.

Described from reared specimens from Indiana, Illinois, North Dakota, Nebraska, and Oregon. The species probably occurs wherever the Hessian Fly infests wheat for it is one of the most important parasites of that destructive insect. *Heimalis* and *vernalis* are among the most frequently reared parasites of *Phytophaga destructor* Say. Specimens of *Platygaster vernalis* emerge from the puparia of the Hessian Fly in the spring and specimens of *heimalis* in the fall.

Variations with the exception of size are not common in this species. Some specimens may be twice the size of others but the proportions remain fairly constant. I have examined several thousand specimens in the entomological laboratory at Carlisle, Pennsylvania, and find that with the uniformity in sculpture and color comes uniformity in the number of specimens in the sexes. The males are not more numerous than the females as is the case with *Platygaster vernalis* Myers.

Ashmead in his Monograph says that we have types of this species in the National Museum. I can find none and believe he was mistaken. None of the specimens in the systematic collection bear the date 1888, the year in which Forbes reared the types.

49. PLATYGASTER MARYLANDICA. new species.

Female.—Length 1.10 mm. Head twice as wide as long, elliptical seen from above, scarcely emarginate posteriorly, flattened in front, wider than the thorax; occiput rather strongly striate; cheeks flattened, shagreened; frons mostly polished, finely aciculate and shagreened above on the sides, aciculate below; pedicel twice as long as wide, nearly as long as joints three and four united, about as wide as four; three longer than wide, narrower than two, two-thirds the length of four; four as long and as wide as five, one and one-half times as long as wide; six wider than five, as long as wide at apex; seven and eight a little longer than wide; nine as wide as long; ten longer than the pedicel, blunt at apex, the sides parallel nearly to the tip; thorax higher than wide, strongly convex above; pronotum aciculate laterally; mesonotum shining, finely shagreened (except on median lobe posteriorly, and on the lateral lobes); notauli briefly indicated before the scutellum, the median lobe truncated posteriorly; scutellum transverse, very high and convex, polished, sparsely pubescent laterally; abdomen elliptical, the sides regularly curved, as wide as the thorax, twice as long as wide, as long as the head and thorax united, pointed apically; first tergite regularly arched above, with numerous longitudinal carinae, without a flattened area sublaterally; second tergite slightly longer than wide, the sides curved; basal foveae not very dis-

inct, striate, the striae not quite attaining the middle of the segment; area between the foveae shortly fluted; segments three to six united three-fifths as long as the second, unsculptured; wings hyaline, reaching to the apex of the abdomen. Black; antennae and legs piceous; trochanters brownish; anterior tibiae apically, all tibiae basally, and all tarsi (except the last joint of each) yellow.

Male.—Length 1.10 mm. Pedicel twice as long as wide; joint three wider than long, half as long and as wide as two; four as long as the pedicel, very little longer than wide, widened just below the apex, subacute below; joints five to nine as long as the pedicel; six to nine one and one-third times as long as wide; ten as long as two and three united, acute apically; abdomen obovate, rounded behind, narrower than the thorax, slightly over twice as long as wide, strongly convex above, nearly as long as the head and thorax united; tergites three to seven short, united half as long as the second, each traversed by a row of punctures; wings hyaline, extending two-thirds the length of the second tergite past the apex of the abdomen. Coloration as in the female.

Type locality.—Glen Echo, Maryland.

Type.—Cat. No. 25440, U.S.N.M. Six paratypes in Collection Fouts.

Described from two females and nine males which I collected at Glen Echo, July 19, 1919, on the leaves of *Liriodendron tulipifera* Linnaeus. The species is probably parasitic on some gall making Dipteron infesting the tulip tree.

The female paratype has the abdomen and part of the antennae lost. All the types are mounted on card points.

50. PLATYGASTER EUROTIAE (Ashmead).

Polygnotus eurotia ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 315.

Female.—Length 1.3 mm. Habitus of *hiemalis*; head a little over twice as wide as long, slightly emarginate posteriorly; occiput and cheeks behind transversely aciculate; vertex rounded, striate medially finely shagreened laterally; frons with fine wavy aciculae; antennal structure as in *hiemalis*, all the joints longer than wide; thorax seven-ninths times as wide as long, slightly narrower than the head; pronotum aciculate on the sides, smooth posteriorly; median area transverse, unsculptured; mesonotum convex, highly polished, with a few faint wavy aciculae anteriorly; notauli distinct on basal two-thirds of mesonotum; median lobe rounded posteriorly as in *hiemalis*; first tergite with a few hairs on its edges; second hairless; abdomen shaped generally as in *hiemalis*, a little more pointed apically, slightly longer than the thorax; first tergite twice as wide as long, elevated anteriorly; dorsolateral ridges well defined, the median area quadrate, smooth, with a median carina; second tergite a little longer

than wide apically, twice as wide apically as basally, strongly striate at base, the striae reaching the middle of the segment, the striae between the foveae nearly as long; mixed in with these striae between the foveae are three longitudinal carinae, one median and two sub-lateral; remaining segments unsculptured; three to five equally long; six triangular, wider than long, subacute apically; wings hyaline; extending about the length of the last three tergites past the apex of the abdomen. Black; legs and antennae piceous; tarsi brown.

Type locality.—San Bernardino County, California.

Type.—Cat. No. 2293, U.S.N.M. Type selected.

Redescribed from the two types in the United States National Museum. They were reared April 17, 1887, from a Cecidomyid gall on *Eurotia canata*.

51. PLATYGASTER ATRAE, new species.

Female.—Length 1.10 mm. The description of *cynipicola* applies almost equally well to this species. *Atræ* differs in having the eighth and ninth antennal joints not distinctly wider than long, and in having the abdomen as long as the head and thorax united, more pointed apically. Coloration as in *cynipicola*; wings hyaline.

Male.—Length 1.20 mm. Pedicel a little less than twice as long as wide, slightly longer and narrower than joint four; three as wide as long, much narrower than two or four; four about as long as wide at apex, widened apically and subacute below; five as wide as long; six to nine slightly longer than wide, cylindrical, as long as four; ten longer than the pedicel, sharply pointed apically, the sides curved; abdomen longer than the thorax, twice as long as wide; last five segments united one-third as long as the second; wings hyaline, extending one-half the length of the second tergite past the apex of the abdomen. Coloration as in the female; antennae and legs brown; tarsi paler, yellowish.

Type locality.—Fort Grand, Arizona.

Type.—Cat. No. 25442, U.S.N.M. Paratype in Collection Fouts.

Described from two females and one male reared by H. K. Morrison, June 5, 1882, from the goldenrod stem gall of *Oedaspis atra* Loew and recorded in the Bureau of Entomology under Pergande's number "2733⁰¹."

52. PLATYGASTER FUMIPENNIS, new species.

Female.—Length 1.3 mm. Habitus of *virginiensis* but the abdomen not so elongate; head twice as wide as long, not emarginate behind, about as wide as the thorax; occiput transversely striate; frons aciculate; antennae rather slender, all the joints longer than wide; joints six to ten subequal in width, wider than the pedicel; pedicel much wider than joints two to five which are subequal in width; six to nine equally long, a little longer than wide; abdomen elliptical,

shorter than the head and thorax united, about twice as long as wide, a little wider than the thorax; median area on first tergite quadrate, sharply defined laterally, flattened; basal foveae on second tergite rather short, with a few striae which extend slightly beyond their apices but do not reach the middle of the segment; a few short striae between the foveae; apical segments not sculptured; wings brownish, extending the length of the last four segments past the apex of the abdomen. Black; antennae piceous, legs dark brownish.

Male.—Length 1.3 mm. Antennae slender, all the joints longer than wide; joint four nearly twice as long as wide, scarcely widened apically, distinctly shorter than the two following joints united; joints five to nine a little longer than wide, rounded at the ends; abdomen spatulate, as wide as the thorax, a little less than twice as long as wide, broadly rounded apically; wings brownish, extending the length of the last five segments past the apex of the abdomen.

Habitat.—United States.

Type.—Cat. No. 25442. Two paratypes in Collection Fouts.

Described from four females and one male, each bearing the label "4⁰³, 161 F 85." The labels are in Theodore Pegande's handwriting. No notes filed under this number can be found in the files of the Bureau of Entomology, and it is therefore impossible to give the locality and name of the host.

53. PLATYGASTER LATICEPS (Ashmead).

Polygotus laticeps ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 311. Male, not female.

Male.—Length 1.58 mm. Head a little more than twice as wide as long, flattened in front and behind; frons rather strongly striate (except medially), with straight carinae above the insertion of the antennae; ocelli large, the lateral ones placed halfway between the eye margins and the anterior ocellus; occiput striate; antennae rather elongate, the joints beyond the third longer than wide and densely covered with short white hairs; pedicel twice as long as wide, as long and as wide as joint five; third joint as long as wide, as wide as joint four, indistinctly wider than the pedicel; joint four twice as long as wide, not or scarcely widened apically, about as long as the pedicel; joints five to nine subequal, twice as long as wide, cylindrical; joint ten long, pointed, three times as long as wide; thoracic ratio: length 31 (0.69 mm.), width 22, height 24; mesonotum convex, shining, shagreened; notauli distinct to the middle of the mesonotum, not posteriorly; median lobe of mesonotum truncate posteriorly, nearly touching the scutellum; scutellum convex, polished above, faintly shagreened laterally, with its dorsal plate turned up a little apically, a condition found in a more advanced stage in *Platygaster hyalinipennis* Ashmead; abdomen a little longer and narrower than

the thorax, spatulate, rounded posteriorly, not quite twice as long as wide (33 to 18 being the exact proportions); first tergite twice as long as wide, elevated medially, the elevation rounded and traversed by many longitudinal grooves; second tergite a little longer than wide, almost twice as wide apically as basally, the sides slightly curved; basal foveae rather deep, the striae reaching the middle of the segment, neither numerous nor strongly indicated; tergites three to seven polished, subequal in length, each traversed by a row of punctures; wings hyaline, with short cilia marginally. Black; antennae dark brown; legs brown, the trochanters, tibiae and tarsi somewhat lighter.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 2461, U.S.N.M.

Described from the type. The females originally included in the type series represent a new species and are now the types of my new species *Platygaster errans*.

54. PLATYGASTER EUURAE (Ashmead).

Polygnotus euurae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 318.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 540.

Male.—Length 1.3 mm. Head twice as wide as long through the middle, slightly emarginate behind, a little wider than the thorax, occiput transversely striate, more finely than in *virginiensis*; cheeks shagreened posteriorly; vertex subacute, aciculate laterally, nearly smooth medially; interocellar area highly polished, very finely aciculate; frons with fine diagonally directed wavy aciculae; flagellum a little shorter than the thorax; pedicel less than twice as long as wide, as wide as joint three, slightly narrower than joint four; three transverse; joints four to nine subequal in length and width, distinctly longer than wide, as long as the pedicel; ten a little longer than three and four united, sharply pointed apically; thorax very short and broad, nearly as wide as long, strongly convex above; pronotum aciculate on sides; median area transverse, unsculptured, slightly narrowed posteriorly; mesonotum shining, with the two anterior carinae low but distinct; area to the sides of these carinae shagreened; between them narrowly shagreened anteriorly; otherwise mesonotum not sculptured; notauli distinct on basal half of mesonotum, the median lobe as in *virginiensis*; scutellum as in *virginiensis*, slightly flattened dorsally; metapleurae, propodeum and first and second sternites densely covered with short silvery pubescence; first and second tergites with a few scattered hairs; abdomen four-sevenths times as wide as long, broadly rounded behind, a little longer than the thorax; first tergite not quite twice as wide as long, elevated

anteriorly and posteriorly, the sides oblique; median area longer than wide, not distinctly margined laterally, with a median carina; second tergite more than twice as wide apically as basally, the sides straight except near the apex; basal foveae shallow, strongly striate, the striae reaching to the middle of the segment; median area broad, elevated anteriorly, with several short carinae; following segments short, broadly transverse, united a little less than half the length of the second; wings broad, hyaline, extending half the length of the second tergite past the apex of the abdomen. Dark brown; antennae the color of the abdomen; legs lighter brown; tarsi touched with yellow.

Type locality.—St. Louis, Missouri.

Type.—Cat. No. 2299, U.S.N.M.

Redescribed from the two male types. Both were reared from the Tenthredinid gall *Euura s.-nodus* Walsh. Ashmead says in the original description, "The species is unquestionably parasitic on inquilinous Cecidomyious flies known to inhabit this gall, and not on the Tenthredinid."

55. *PLATYGASTER LONGIVENTRIS* (Ashmead).

Isocybus longiventris ASHMEAD, Can. Ent., vol. 19, 1887, p. 130.—CRESSON, Syn of Hym., 1887, p. 249.—ASHMEAD, Bull, 44, U. S. Nat. Mus., 1893, p. 330.

Female.—Length 1.2 mm. Head very thick and broad, wider than the thorax, twice as wide as long through the middle, strongly convex anteriorly and deeply emarginate posteriorly; cheeks convex; occiput and cheeks behind finely aciculate; vertex and most of frons highly polished; frons below finely diagonally aciculate; antennae rather short, stout; joints seven to nine a little longer than wide, thick; ten as long as three and four united, oval, broadly rounded apically; thorax twice as long as wide, not very strongly convex above; pronotum aciculate anteriorly on the sides; mesonotum polished; notauli indicated by two short lines not more than half as long as the scutellum; scutellum circular, evenly convex, highly polished, without pubescence, first and second tergites without pubescence; abdomen strongly flattened above and below, subconvex on second sternite, as wide as the thorax; length of abdomen to that of head and thorax united as four is to three; first tergite about twice as wide as long, evenly rounded above, with regularly placed carinae, the median area not defined; foveae on second tergite narrow, with a few faint striae extending a little beyond their apices; area between the foveae broad, unsculptured; segments beyond the second polished; wings hyaline, extending to the apex of the first tergite. Reddish brown; legs and antennae (except club which is brown) bright yellow.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24609, U.S.N.M.

Redescribed from the type specimen. This species in habitus recalls certain ones of those in the group of *vancouverensis* and *compressiventris*. The sculpture is entirely different however.

56. PLATYGASTER PENTATOMA (Ashmead).

Anopediast pentatomus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 292.

Female.—Length 0.7 mm. Head shaped somewhat as in *longiventris* but not emarginate behind, a little over half as long as wide; occiput and cheeks convex, the former entirely, the latter posteriorly, finely shagreened or aciculate; frons polished, convex, without sculpture except around the bases of the antennae where it is finely aciculated; pedicel about one and one-half times as long as wide, much wider than joint three which is as long as wide; joint four as wide as three and very slightly longer than four; joints seven to nine about as wide as long, as wide as the pedicel; ten two-thirds as wide as long, convex dorsally, unsculptured except on pronotum laterally where it is finely aciculate; notauli short, the median lobe sharply pointed posteriorly; scutellum as in *longiventris*, but pubescent; abdomen elliptical, slightly shorter than the head and thorax united, as wide as the thorax, twice as long as wide, pointed apically; first tergite twice as wide as long, not elevated anteriorly, the median area not well defined; second tergite indistinctly longer than wide, nearly twice as wide apically as basally, the sides slightly curved; striae extending to the apices of the foveae; area between the foveae with a few short carinae and striae which do not extend beyond their apices; last four segments subequal in length, united half as long as the second; ovipositor exerted for a short distance; wings hyaline, extending slightly beyond the apex of the abdomen. Amber-colored; scape yellowish, tinged with fuscous apically; joints two to six of antenna yellowish, the other joints fuscous; legs entirely yellowish brown, darker on femora and tibiae.

Male.—Length 0.6 mm. Similar generally to the female; third antennal joint a little wider than long, narrower than the fourth joint; four as wide and as long as the pedicel, narrowed basally, produced below at apex, the lower side straight; joints five to seven as long as four, one and one-half times as long as wide; joints eight to ten lost; abdomen elongate, elliptical, two and one-half times as long as wide, as long as the head and thorax united, as wide as the thorax; wings extending the length of the last four segments past the apex of the abdomen. Appendages as a whole lighter colored than in the female mostly yellow; flagellum brownish.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 24610, U.S.N.M.

Redescribed from the type. The male, peculiar in the extreme elongation of the abdomen, is here described for the first time. It was in the national collection determined by Ashmead.

57. *PLATYGASTER SEMIGLABER* (Girault).

Polymecus semiglaber GIRAULT, Proc. U. S. Nat. Mus., vol. 58, 1920, p. 177.

The following description may be considered to consist of additions and corrections to Mr. Girault's original description.

Female.—Length 1.33 mm. Head twice as wide as long, very slightly excavated posteriorly; frons polished, faintly aciculate below; occiput with few transverse raised lines; antennae finely pubescent, the relative proportions of the joints as follows: Length 48, 13, 6, 8, 8, 12, 11, 11, 11, 16; width, 9, 7, 5, 6, 6, 9, 9, 10, 8, 8; length of thorax 15 (0.333 mm.), width 11, height 12; notauli briefly indicated posteriorly, nearly meeting in front of the scutellum; scutellum circular, polished, without any trace of a tubercle; length of abdomen 0.80 mm.; the following abdominal proportions are taken from a specimen on a slide; relative length of segments 17, 68, 24, 22, 24, 36; width. 22, 40, 30, 28, 26, 20; the last tergite is narrowed toward tip, blunt; the ovipositor may or may not be extended; those specimens on the slide have it so because they were subjected to pressure by the cover glass.

Male.—Length 1 mm. Relative proportion of antennal joints as follows: Length 45, 12, 7, 14, 7, 8, 8, 8, 8, 16; width, 10, 8, 6, 16, 8, 8, 8, 8, 7; fourth joint crescent-shaped, deeply excavated on the lower side at base, its attachment to fifth joint on the back of the crescent; antennae sparsely covered with short hairs; joints 5-10 with a short pedicel between each; abdomen about as long as the head and thorax united, broadly elliptical, twice as long as wide, as wide as the thorax.

Type locality.—Albany, New York.

Type.—Cat. No. 20610, U.S.N.M.

The types were reared from the galls of *Rhopalomyia hirtipes* by Dr. E. P. Felt. The type series consists of four females and one male mounted on a card point and a male head and four females mounted on a slide.

The measurements noted in the description were made by means of a disk micrometer graduated to tenths of a millimeter. In measuring the antennae and abdomen I used a Bausch and Lomb microscope, 160 mm. draw tube, No. 5 ocular and 4 mm. objective. All other measurements in this paper, more particularly those of the thorax, were made with the use of a Bausch and Lomb binocular microscope, No. 5 ocular and 24 mm. objective. With the latter combination 45 divisions in the visual field equal one millimeter.

58. *PLATYGASTER LINEARIS*, new name.

Polymecus lasiopterae GAHAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 217. (Preoccupied by *lasiopterae* Kieffer and Jörgensen, Centralb., Bakt. Paras. Insect., pl. 27, 1910, p. 401.)

Gahan's description should be used in connection with my own.

Female.—Length 1.22 mm. Head not quite twice as wide as long, slightly emarginated posteriorly, wider than the thorax, without distinct sculpture of any sort; antennae short, the pubescence not visible except under the high power of the microscope; relative proportions of the antennal joints as follows: Length, 40, 14, 5, 7, 8, 10, 10, 10, 10, 15; width, 8, 7, 5, 6, 6, 7, 8, 8, 8, 8; thoracic ratio: Length 15 (0.333 mm.), width 9, height 12; mesonotum convex, polished, its narrow, rounded median lobe touching the scutellum; notauli very faint and short, diverging rapidly anteriorly; abdomen nearly twice as long as the head and thorax united, remarkably flat, polished, with little pubescence except near its tip; second tergite not quite as wide as the thorax, longer than wide; basal foveae small, with a few faint striae at their apices; segments three to six united nearly twice as long as the second; wings hyaline, iridescent, reaching to the apex of the fourth segment. Black; base of scape, trochanters, all tibiae at base, and all tarsi, more or less testaceous.

Male.—Length 1 mm. Pedicel twice as long as wide, as wide as joint five; third joint broadly transverse, button shaped, a little wider than the pedicel; fourth joint as thick as the scape, less than twice as long as wide, only slightly curved; joint five about as long as wide, as wide as the pedicel; following joints to the tenth subequal, longer than wide, as wide as the fifth; tenth joint sharply pointed, as long as the third and fourth united; abdomen elliptical, nearly three times as long as wide, as wide as the thorax, a little longer than the head and thorax united, rounded apically; wings reaching beyond the apex of the abdomen, with short cilia marginally.

Type locality.—Elk Point, South Dakota.

Type.—Cat. No. 20397, U.S.N.M.

Redescribed from the type series, six females and one male, reared by C. N. Ainslie from *Lasioptera* species infesting *Muhlenbergia*. The specimens are recorded in the Bureau of Entomology under Webster No. 11838.

59. *PLATYGASTER ERRANS*, new species.

Platygaster laticeps ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 311 (female, not male).

Female.—Length 1.7 mm. Head a little over twice as wide as long, more or less lenticular in shape, not excavated behind, the cheeks oblique and narrow, subconvex; occiput very strongly transversely striate; cheeks shagreened; vertex rounded, striate; intercellular area

finely shagreened; frons mostly polished, unsculptured, faintly aciculate below; antennae rather stout; pedicel two and one-half times as long as wide, not much narrower basally, as wide as joint five (which is a little narrower than four); three a little longer than wide, narrower than the pedicel; joints six to nine about as wide as long; ten as long as the pedicel, conical, pointed apically; thorax three-fourths as wide as long, convex dorsally; pronotum longitudinally aciculate on the sides; median area unsculptured, the sides curved below, straight above; mesonotum finely shagreened on anterior half, otherwise polished; notauli distinct on posterior half, the median lobe broadly rounded posteriorly; scutellum very high, evenly convex, broadly margined laterally, polished, pubescent on the sides; abdomen a little longer than the head and thorax united, as wide as the thorax four-fifths as wide as the head; first tergite twice as wide as long, hardly elevated anteriorly, the median area distinctly transverse, with many closely placed longitudinal carinae; basal foveae very strongly striate, the striae extending nearly to the apex of the second segment, median area on second tergite elevated anteriorly, with six short longitudinal carinae; terminal segments unsculptured, each traversed by a row of short white hairs; wings hyaline, extending the length of the last four segments past the apex of the abdomen. Black; antennae and most of the legs dark brown to piceous; tarsi and anterior tibiae yellowish.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 24612, U.S.N.M. Three paratypes in Collection Fouts.

Described from ten female specimens from Jacksonville, Florida. These specimens formerly constituted the greater part of the type series of *Polygnotus laticeps* Ashmead, but they differ specifically from the male, the true type of that species.

60. PLATYGASTER FELTII Fouts.

Platygaster feltii FOUTS, Proc. Soc., Wash., vol. 22. 1920, p. 70.

This species was sufficiently well described in the reference mentioned above. The type series consists of nine specimens from Austin, Texas, reared by Dr. E. P. Felt, March 19, 1919, from the gall of *Walshomyia texana* Felt on cedar.

Type.—Cat. No. 22800, U.S.N.M.

61. PLATYGASTER TUMIDA (Ashmead).

Polygnotus tumidus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 310.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 538.

Female.—Length 1.5 mm. Head a little over twice as wide as long, scarcely emarginate behind, in front feebly convex; occiput very strongly and closely transversely striate; cheeks flattened, sha-

greened above, unsculptured below; vertex acute; interocellar area finely shagreened; frons above unsculptured, below faintly aciculate; antennae stout, the flagellum distinctly shorter than the thorax; joints one to five longer than wide, three the narrowest, four and five subequal, shorter than two; six as long as wide; seven to nine a little wider than long, widened apically; ten as long as two, broadly rounded apically, the sides parallel; thorax three-fifths as wide as long, narrower than the head, strongly convex above, higher than wide; pronotum finely aciculate on the sides; median lobe of mesonotum in greater part finely shagreened, truncated posteriorly, the notauli very short; lateral lobes finely shagreened anteriorly; scutellum circular, highly convex, polished, sparsely pubescent; abdomen broadly elliptical, pointed apically, longer than the thorax (but not as long as the head and thorax united), slightly narrower than the thorax, three-fifths as long as wide; median area on first tergite with several longitudinal carinae; second tergite as wide at apex as long, twice as wide at apex as at base, the sides straight; basal foveae long, shallow, extending to the middle of the segment, striate, the striae hardly reaching their apices; a few short carinae between the foveae; tergites three to six unsculptured, united half as long as the second; wings hyaline, extending slightly beyond the apex of the abdomen. Shining black; antennae piceous; legs brownish; tarsi, anterior tibiae apically and middle and posterior tibiae basally, touched with yellow.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 2288, U.S.N.M.

Redescribed from the type specimen in the National Museum, reared February 25, 1881, from the gall of *Cecidomia symmetrica* Osten Sacken, a growth common on the leaves of various oaks.

62. PLATYGASTER COLUMBIANA, new name.

Polygnotus alnicola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 310. (Preoccupied by *Polymecus alnicola* Ashmead, described in Bull. 45, U. S. Nat. Mus., 1893, p. 283.)

Female.—Length 1 mm. Head a little over twice as wide as long, shaped as in *laticeps*; occiput and vertex strongly striate, more finely so than in *laticeps*; cheeks aciculate; frons highly polished, flattened, with a few aciculae below; antennae stout; pedicel twice as long as wide; third joint much narrower, nearly half as long as the pedicel, as long as wide; joints four and five two-thirds as long and about as wide as two; each of joints seven to nine a little wider than long, broader apically; ten one-half longer than wide, blunt at tip, the lower side straight; thorax five-sixths as wide as the head, three-fifths as wide as long, strongly convex above, shining and unsculptured except as mentioned below; pronotum with very fine wavy aciculae on the sides; median area as in *laticeps*; mesonotum very strongly

convex medially and curving downward posteriorly, recalling the form found in *diplosidis* Ashmead, with a few faint aciculae on anterior half; notauli indicated on basal fourth, the median lobe broadly rounded behind; scutellum as in *laticeps* but pubescent and more narrowly margined laterally; abdomen a little shorter than the head and thorax united, ovate, rounded on the sides toward the apex, subacute apically, as wide as the thorax, two-thirds as wide as long; first tergite sculptured as in *laticeps*, without pubescence; second as wide as long, without pubescence, twice as wide apically as basally, the sides curved, sculptured as in *laticeps* except that the lateral striae do not extend beyond the middle of the segment; terminal segments unsculptured, united half as long as the second, each with a row of white hairs across its middle; wings hyaline, extending the length of the last two segments past the apex of the abdomen. Black; antennal club, coxae, and last joint of each tarsus piceous; scape and legs (except tarsi and anterior tibiae apically which are touched with yellow) reddish-brown.

Male.—Length 1.3 mm. Antennae moderately slender; pedicel one-third longer than wide; third joint nearly as wide as the pedicel, transverse, half as long as the fourth which is as long and a little wider than the pedicel, not much narrowed basally, its lower side straight; joints five to nine subequal in length and width, distinctly, but only slightly, longer than wide; joint ten as long as three and four united, acute at apex; abdomen egg-shaped, a little longer than the thorax, convex above and below, twice as long as wide, rounded posteriorly; wings hyaline, extending a little beyond the apex of the abdomen.

Type locality.—District of Columbia.

Type.—Cat. No. 2287, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, three females and one male. The male is here described for the first time. The types were reared July 31, 1886, from a Cecidomyid gall in the flower bud of Alder.

63. PLATYGASTER BACCHARICOLA (Ashmead).

Polygnotus baccharicola ASHMEAD, Can. Ent., vol. 19, 1887, p. 132.—CRESSON, Syn. of Hym., 1887, p. 250.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 306 (pl. 13, fig. 2, female).—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 539.

Female.—Length 1 to 1.2 mm. Head a little over twice as wide as long; occiput striate; cheeks shagreened; vertex, interocellar area, and space around lateral ocelli, shagreened; frons above highly polished, below finely aciculate; antennae moderately stout, gradually thickened toward tip; joints three and four united distinctly shorter and a little narrower than the second; four slightly longer and wider

than three; five and six subequal, a little longer but no wider than four, a trifle longer than wide; seven as long as wide; eight and nine as wide as the scape, distinctly wider than long; ten one and one-half times as long as wide, conical with both sides curved; thorax three-fourths as wide as long, strongly convex above, as wide as the head; pronotum finely shagreened in lower anterior corners; mesonotum nearly entirely finely shagreened, only a band along the posterior margin being polished; notauli finely indicated on basal half, the median lobe broadly rounded behind; scutellum transverse, strongly convex, shining and unsculptured, margined laterally; abdomen elliptical, about as long as the head and thorax united, a little narrower than the thorax, twice as long as wide; first tergite without pubescence, three times as wide as long, evenly rounded above, with regularly placed longitudinal carinae; median area not well defined; second tergite without pubescence, a little longer than wide, two-thirds as wide anteriorly as posteriorly; foveae narrow and shallow, finely striate along their inner slopes, the striae extending but half the length of the foveae past their apices; interfoveal area with a few indistinct carinae as long as the foveae; last segment as long as the two preceding, about as long as wide, pointed apically; last four segments united one-third the entire length of the abdomen; wings hyaline, reaching a little beyond the apex of the abdomen. • Black; antennae and legs dark brown; anterior tibiae apically and basally, other tibiae basally, and all tarsi (except the last joint of each) yellowish.

Male.—Length 0.8 mm. Antennae very short, the flagellum considerably shorter than the thorax; pedicel twice as long as wide, much wider than and four times as long as joint three; joint four three-fourths as long as two, much wider than two or any other joint following it, broadened apically and sharply produced below at apex; joints five to seven rounded, as long as wide; eight and nine distinctly transverse, a little wider than seven; ten twice as long as wide, as long as three and four united, acute at tip, the lower side straight; abdomen spatulate, narrowly rounded posteriorly, as long as the thorax, narrower, twice as long as wide; wings hyaline, reaching the length of the head past the apex of the abdomen.

Type locality.—Florida.

Type.—Cat. No. 2863, U.S.N.M. Type male and allotype female (on same pin) selected.

Host.—*Cecidomyia baccharicola* Ashmead MS.

Redescribed from the type series, seven females and one male. Ashmead originally included 18 specimens in his type series but I find 10 of these represent several species differing from those selected as the types. They remain undescribed.

The sculpture on the mesonotum is susceptible to variation. Although usually entirely shagreened the mesonotum may be sometimes extensively polished posteriorly.

64. *PLATYGASTER ANTENNARIAE* (Ashmead).

Synopeas antennariae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 288.

Amblyaspis antennariae (Ashmead) BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 533.

Female.—Length 1.4 mm. Head twice as wide as long, not emarginate behind, the cheeks strongly convex, shagreened above; occiput transversely aciculate; interocellar triangle very low, not distinctly sculptured; space around lateral ocelli finely shagreened; frons not distinctly sculptured above, sometimes with extremely faint aciculations, diagonally aciculate below; antennae elongate and rather slender; pedicel two and one-half times as long as wide, as wide as joint six apically; joint three longer than wide, half as long and half as wide as the pedicel, two-thirds as long and very little narrower than four; four and five subequal, one and one-half times as long as wide, a little shorter than six; joints seven to nine as long and as wide as six, about twice as long as wide; ten a little wider and longer, twice as long as wide, subacute apically, the sides rounded; thorax two-thirds as wide as long, flattened above, as wide as the head; pronotum finely longitudinally aciculate below on the sides, above polished, without sculpture; mesonotum flattened finely shagreened on anterior half, polished posteriorly; notauli distinct on basal two-thirds, widely separated, the median lobe broadly rounded posteriorly; scutellum transverse, subconvex, highly polished, narrowly margined laterally; abdomen as long as the head and thorax united; first and second tergites without pubescence; median area on first longer than wide; lateral foveae on second striate, the striae extending very slightly beyond their apices; interfoveal area with three short carinae, one median; tergites beyond the second not sculptured, with a row of hairs across each; wings hyaline, extending the length of the last segment past the apex of the abdomen. Amber-colored; antennae dark brown; legs yellowish brown.

Male.—Length 1 mm. Differs little from the female in general structure and color; antennae elongate, all the joints longer than wide; pedicel broad, twice as long as wide, as wide as any of the flagellar joints except the second and last; third joint half as long as the pedicel, a little over half as wide; fourth joint slightly wider apically than the pedicel, much widened at the apex, one and one-fourth times as long as wide, the proportions varying with different degrees of shrinkage (usually one and one-half times as long as wide); abdomen as long as the head and thorax united, long-ovate, as wide

as the thorax, twice as long as wide, rounded posteriorly; wings hyaline, extending the length of the last four segments past the apex of the abdomen. Color lighter than in the female, the legs often bright yellow; antennae brownish.

Type locality.—Milwaukee, Wisconsin.

Type.—Cat. No. 2274, U.S.N.M. Type male and allotype female selected.

Host.—*Cecidomyia antennaria* Wheeler.

Redescribed from the types, fifteen females, and ten males. It seems likely that the specimens were killed too soon after emerging to attain their normal color. The shrinkage of the male antenna lends support to this view. The sculpture on the second tergite is subject to variation, the striae being more numerous and stronger in some individuals than in others.

64. PLATYGASTER PINI, new species.

Female.—Length 1.5 mm. Shape of the body somewhat as in *antennariae* but the thorax not so flattened, higher than wide seen from the side. Head twice as wide as long, slightly emarginate behind, the cheeks subconvex viewed from above; occiput transversely striate, more coarsely so than in *antennariae*; cheeks finely shagreened; interocellar area and space around lateral ocelli indistinctly shagreened; frons mostly polished, unsculptured, below and on the sides finely shagreened; flagellum as long as the thorax; antennal joints two to five, inclusive, equally wide; joint six a little wider; seven to ten subequal in width, slightly wider than six; pedicel two and one-half times as long as wide, about as long as joints three and four united; three half as long as two; four and five equally long; six a little longer; seven to nine slightly longer than six; ten as long as the pedicel, acute apically, the sides rounded; thorax nearly twice as long as wide, strongly convex above, distinctly narrower than the head; pronotum finely longitudinally aciculate below, polished behind; mesonotum polished; notauli widely separated and extending to the anterior third of the mesonotum the median lobe broadly rounded; scutellum transverse, very highly elevated, narrowly margined laterally, polished and without pubescence above; abdomen elliptical, of a similar form to that found in *antennariae*, twice as long as wide, as wide as the thorax; median area on first tergite about as wide as long, longitudinally carinate; second tergite as long as wide; basal foveae feebly striate, the striae reaching about the middle of the segment; tergites three to five equally long, unsculptured, with a row of hairs across each; six longer, broadly rounded apically, with a row of hairs around its edge; last four tergites united as long as the second; wings hyaline, extending the length of the last segment past the apex of the abdomen. Shining-black; antennae and legs piceous, the tarsi (except the last joint of each) paler.

Male.—Length 1 mm. Antennae piceous, pubescent; pedicel twice as long as wide; twice as long as the third joint; joint three spherical, as wide as the second; four about as wide as two, scarcely widened apically; joints five to ten about one and one-half times as long as wide, cylindrical; ten as long as three and four united, sharply pointed apically.

Type locality.—Manitou, Colorado.

Type.—Cat. No. 25443, U.S.N.M. Paratype in Collection Fouts.

Described from two females and one male reared by J. H. Pollock, May 4, 1916, from a *Cecidomyid* on *Pinus edulis* and recorded in the Bureau of Entomology under "Hopk. U. S. No. 13800^e."

This species might possibly be placed in the group having the upper part of frons aciculate. The face is not, however, aciculate, but faintly shagreened and must be observed closely before any decision is made. In the type and allotype the upper part of the face is not at all sculptured. It is only in the female paratype that shagreening of the upper part of the frons occurs.

66. *PLATYGASTER ROHWERI*, new species.

Female.—Length 1.3 mm. General appearance of *pini* Fouts; body elongate; thorax higher than wide; abdomen flattened; head twice as wide as long, not excavated behind, the cheeks subconvex; occiput transversely striate; cheeks aciculate above, shagreened below; interocellar area shining, not distinctly sculptured; space around ocelli indistinctly shagreened; frons mostly unsculptured, finely diagonally aciculate below; antennae elongate, not much thickened toward apex, the flagellum distinctly longer than the thorax; pedicel twice as long as wide, as long and about as wide as joint six; joint three half as long as two, very little narrower than four; four and five subequal, a little shorter and narrower than two, cylindrical; six to nine subequal, about twice as long as wide, cylindrical; ten as long as three and four united, as wide as nine, pointed, the sides on basal two-thirds parallel; thorax convex above; pronotum aciculate laterally; mesonotum mostly polished, finely shagreened anteriorly; notauli distinct on basal half of mesonotum, the median lobe broadly rounded behind; scutellum circular, convex, not so highly elevated as in *pini*, without sculpture and without pubescence above, narrowly margined laterally; abdomen the length of the last segment longer than the head and thorax united, rather strongly flattened above and below, slightly narrower than the thorax; first tergite rounded above, the median area not well defined; second tergite as wide as long, twice as wide apically as basally; interfoveal space with a few very short carinae; foveae striate, the striae reaching the middle of the segment; following tergites polished; wings hyaline, extending to the apex of the abdomen. Black; antennae and legs (except tarsi, tibiae, femora basally, and trochanters, which are brownish) piceous.

Male.—Length 1.2 mm. Antennae rather slender, dark brown in color; pedicel one and one-half times as long as wide, as wide as but distinctly shorter than, joint five; three nearly as wide as two, two-thirds as long as two, half as long as four; fourth joint wider than the second, about one-half longer than wide, moderately produced below before the apex; joints five to nine nearly twice as long as wide, as wide as the pedicel; ten as long as three and four united, conical, subacute apically; abdomen elliptical, rounded behind, a little shorter than the head and thorax united, slightly less than half as wide as long, narrower than the thorax; tergites three to seven united nearly as long as the second; wings hyaline, extending the length of the second tergite past the apex of the abdomen.

Type locality.—Hilt, California.

Other localities.—Colestin and Ashland, Oregon.

Type.—Cat. No. 25444, U.S.N.M. Three paratypes, one female and two males, in Collection Fouts.

The type series, consisting of three females and six males, was reared from the cones of *Abies concolor* and *Pinus lamburtiana*.

More concise data is given in the field notes: Hopk. U. S. 10871⁶², one female and three males from Hilt, California, reared, June 2, 1914, by P. D. Sergeant from the cones of *Pinus lamburtiana*; Hopk. U. S. 125380², two females and one male from Colestin, Oregon, reared by J. M. Miller from the cones of *Abies concolor*; Hopk. U. S. 10833³, two males from Ashland, Oregon, 4,000 feet (1,220 meters) altitude, reared June 4, 1914, by P. D. Sergeant from the cones of *Pinus lamburtiana*.

67. PLATYGASTER HUACHUCAE (Ashmead),

Polygnotus huachucae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 316.

Female.—Length 1.3 mm. Head a little over twice as wide as long, moderately emarginate behind, subconvex in front, as wide as the thorax; occiput and cheeks above with fine wavy aciculae; vertex subacute, unsculptured; interocellar area aciculate laterally; space around lateral ocelli polished; frons for the most part polished, with faint diagonal aciculae below; antennae more slender than in *vernoniae*; pedicel twice as long as wide, about as wide as joints four to six; joint three half as wide as two, a little longer than wide, nearly as long as four, which is two-thirds as long as two; joints five and six equal, slightly longer than four; seven to nine a little longer than wide, slightly wider than six; ten a little longer than three and four united, conical, subacute at tip; thorax broader than in *vernoniae*, scarcely higher than wide; pronotum laterally with fine vertically directed aciculae; mesonotum mostly polished, finely shagreened anteriorly; notauli briefly indicated, not reaching the middle of the mesonotum,

the median lobe truncate posteriorly; scutellum circular, convex, polished, sparsely pubescent, narrowly margined laterally; abdomen as long as the head and thorax united, as wide as the thorax, twice as long as wide; striae on second tergite fine and extending to the middle of the segment; interfoveal area with five short striae; tergites beyond the second not sculptured, each transversed by a row of short white hairs; wings hyaline, extending the length of the last segment past the apex of the abdomen. Black; antennae and legs fuscous; pedicel, anterior tibiae apically, and all tarsi (except the last joint of each) brownish.

Male.—Length 1 mm. Antennae piceous, structurally indistinguishable from those of *vernoniae* Ashmead; abdomen spatulate, a little shorter than the head and thorax united, three-fourths as wide as long; segments three to seven united half as long as the second; wings hyaline, extending nearly the length of the second tergite past the apex of the abdomen. Legs brownish, tarsi and anterior tibiae apically, yellowish.

Type locality.—Fort Huachuca, Arizona.

Type.—Cat. No. 2296, U.S.N.M. Type male and allotype female selected.

Redescribed from the type series, twelve females and one male. This material was reared "from a Cecidomyid pod-like gall on an unknown plant, sent to the department by H. K. Morrison." Ashmead¹⁵ says there are some specimens in the type series which were reared from a Cecidomyid stem gall on sunflower. I can not find any specimens with such data. All the type specimens in the Museum are labeled as having been reared on June 6 and 16, 1883, and bear the number "3107."

One female specimen has the reflexed plate on the side of the abdomen oblique, not horizontal, as the others have it.

68. PLATYGASTER ASTERICOLA (Ashmead).

Polygnotus astericola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 320. Female (in part) and male.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 518.

Female.—Length 0.8 mm. Head twice as wide as long, as wide as the thorax, slightly emarginate behind, strongly convex in front; occiput aciculate; cheeks convex, shagreened; frons polished, unsculptured except below where there are faint diagonally directed aciculae; antennae rather stout, the flagellum distinctly shorter than the thorax; pedicel twice as long as wide, as wide as joint six, but longer, as long as joint ten; joint three half as long as two, a little narrower than four; four and five subequal, as long as six but narrower; joints seven to nine as wide as long; ten conical,

¹⁵Bull. 45, U. S. Nat. Mus., 1893, p. 317.

a little longer than wide, longer than nine, acutely pointed apically, its lower side straight; thorax as wide as high, moderately convex above; pronotum finely aciculate laterally; mesonotum mostly polished, finely shagreened anteriorly; notauli distinct on basal half of mesonotum, the median lobe broad and truncated posteriorly; scutellum transverse, highly convex, narrowly margined, polished, pubescent as in *vernoniae*; abdomen distinctly less than twice as long as wide, broadly elliptical, subacute apically, as wide as the thorax, a little shorter than the head and thorax united; second tergite as wide as long, not much narrowed anteriorly; striae few and not extending past the apices of the foveae; space between the foveae with a number of short carinae; last four tergites united a little over half the length of the second; tergites three and four subequal; five half as long as four; six as long as four, much wider than long, rounded apically; wings slightly infuscated, extending the length of the last four segments past the apex of the abdomen. Black; antennae and most of legs dark brown; apices of front tibiae, tibiae basally, and tarsi (except the last joint of each) yellowish in color.

Male.—Length 0.8 mm. Antennae very short, the flagellum much shorter than the thorax; pedicel one and one-half times as long as wide, a little wider than the third joint, as wide as but distinctly longer than the fourth; joint three transverse, slightly narrower than four which is a little longer than wide, not at all widened apically, in fact somewhat narrowed; five as wide as long, a little wider than four; joints six to nine distinctly transverse, as wide as five; ten a little shorter than three and four united, sharply pointed apically, the sides curved; abdomen egg-shaped, a little longer but no wider than the thorax, twice as long as wide; wings hyaline, extending a little more than the length of the last five segments united past the apex of the abdomen.

Type locality.—Holderness, New Hampshire.

Type.—Cat. No. 2300, U.S.N.M. Type male and allotype female selected.

Redescribed from the type material, four females and one male. These specimens were reared May, 1884, from a Cecidomyid gall on *Aster* collected by A. Koebele.

In the male type the second tergite is more strongly striate than in the females.

69. PLATYGASTER RUBI (Ashmead).

Polygnotus rubi ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 315.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 538.

Female.—Length 1 mm. Head twice as wide as long, not emarginate behind, feebly convex in front; occiput aciculate; cheeks subconvex, finely shagreened above; vertex subacute; interocellar area polished, unsculptured; frons without sculpture except below where

it is finely aciculate; flagellum about as long as the thorax; pedicel twice as long as wide, as long and as wide as joint ten which is the longest in the flagellum, a little narrower than six; joint three minute, as long as wide, distinctly narrower than four; four slightly longer than wide, as wide as, but shorter than, two; five as long as four, a little narrower; six longer than wide, a little shorter than the pedicel, longer than joints seven to nine, which are as wide as long; thorax slightly longer than wide, as wide as high, moderately convex above, as wide as the head; pronotum on the sides finely longitudinally aciculate; notauli widely separated, as long as the scutellum; median lobe truncated posteriorly; scutellum transverse, highly convex, unsculptured, finely pubescent; abdomen elliptical, more strongly narrowed posteriorly than anteriorly, as long as the head and thorax united, a little over twice as long as wide, distinctly narrower than the thorax; second tergite slightly longer than wide, three-fifths as wide anteriorly as posteriorly, the sides curved slightly near the apex; foveal striae few and extending a little beyond the middle of the segment; a short carina between the foveae as in *relativa*: tergites three to six unsculptured, united three-fifths the length of the second; three to five equally long, each traversed by a row of hairs: six distinctly longer than three and four united, wider than long, narrowly rounded posteriorly; wings hyaline, extending a little beyond the apex of the abdomen. Reddish-brown; antennae and legs brown; pedicel, anterior tibiae, and tarsi (except the last joint of each) paler touched with yellow.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 2294, U.S.N.M. Type selected.

Redescribed from the two types in the National Museum. They were reared March 30, 1886, from *Cecidomyia farinosa* Osten Sacken found on blackberry. Ashmead¹⁶ says that Prof. J. B. Smith has reared the same species from a gall on blackberry at New Brunswick, New Jersey. I have not seen the specimens and can not verify his determination.

70. PLATYGASTER RELATIVA, new species.

Platygaster astericola ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 320 (female in part).

Female.—Length 1 mm. Very closely related to *astericola* Ashmead, differing from that species in the following particulars: abdomen elliptical, a little shorter than the head and thorax united, slightly narrower than the thorax, a little over twice as long as wide; second tergite distinctly, but only very slightly, longer than wide; basal foveae long, reaching to the middle of the segment, with several faint striae extending a little beyond their apices; interfoveal area on sec-

¹⁶ Bull. 45, U. S. Nat. Mus., 1893, p. 315.

ond tergite elevated anteriorly, with a short median carina, and several inconspicuous striae to either side of it; last four tergites united three-fourths as long as the second, slightly shorter than the width of the third; sixth tergite broader than long, distinctly shorter than three and four united, subacute apically; wings hyaline, extending beyond the apex of the abdomen. Coloration as in *astericola* Ashmead.

Type locality.—Holderness, New Hampshire.

Type.—Cat. No. 25445, U.S.N.M. Two paratypes in Collection Fouts.

Described from four female specimens originally included by Ashmead in the type series of *Platygaster astericola* and with the same ecological data.

This species differs from *variabilis* and *vernoniae* in not having the abdomen longer than the head and thorax united, and from *rubi* in having the striae on the second tergite faint and not extending beyond the middle of the segment. This character seems to be the only one separating *relativa* from *rubi* and it may be that they are synonymous in spite of their different host records.

The relative length of the wings and abdomen varies somewhat. The wings may extend the length of the last four segments or only the length of segment six past the apex of the abdomen.

71. PLATYGASTER VERNONIAE (Ashmead).

Polygnotus vernoniae ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 317.—BRUES, Bull. 22, Conn. Geol. Nat. Hist. Surv., 1916 (1917), p. 539.

Female.—Length 1 mm. Closely related to *rohweri* Fouts, but the abdomen not so elongate; head distinctly less than twice as wide as long, not emarginate behind; occiput transversely aciculate; cheeks subconvex, shagreened above; interocellar area finely aciculate; space around lateral ocelli indistinctly aciculate; frons mostly polished, with a few faint diagonally directed aciculae below; antennae short, the flagellum (including pedicel) distinctly shorter than the thorax; pedicel twice as long as wide, about as wide as joint six; joint three much narrower and less than half as long as two, two-thirds as long and a little narrower than four; four a little longer than six, not quite as wide, slightly longer and wider than five; joints seven to nine as wide as long, slightly widened apically; ten shorter than three and four united; thorax as in *rohweri*, higher than wide, strongly convex above; pronotum aciculate laterally, polished posteriorly; mesonotum mostly unsculptured, shagreened anteriorly; notauli distinct on basal half of mesonotum, widely separated behind, the median lobe broadly rounded posteriorly; scutellum transverse, strongly convex, margined laterally, polished, sparsely covered with white pubescence on the sides and above; abdomen shaped as in *rohweri* but not so elongate, a little longer than the head and thorax united, narrower than the

thorax, two and one-half times as long as wide; first tergite hairless, sculptured as in *rohweri*; second tergite about as wide as long, more than half as wide anteriorly as posteriorly; basal foveae finely striate, four or five of the striae extending to the apical third of the segment; interfoveal area with numerous closely placed striae about as long as the foveae; last four tergites united shorter than the second, each traversed by a row of hairs; tergites three and four equal; five a little longer; six as long as three and four united, as wide as long, narrowly rounded apically; wings hyaline, reaching to the apex of the abdomen. Black; antennae and legs of a uniform brown color, the flagellum darker.

Male.—Length 0.8 mm. Antennae of a similar construction to that found in *rohweri* Fouts; third joint wider than long; fourth joint curved above and widened apically, wider than the pedicel; following joints about as wide as long; ten as long as the pedicel, hardly longer than wide, pointed apically, the sides rounded; abdomen more or less elliptical but rather broader basally than in related species (*rohweri*, *pini*, etc.), a little longer than the thorax, slightly more than twice as long as wide; tergites three to seven united half as long as the second; wings hyaline, extending the length of the last five segments past the apex of the abdomen. Color as a whole somewhat lighter than in the female.

Type locality.—Arlington, Virginia.

Type.—Cat. No. 2298, U.S.N.M. Type male and allotype female selected.

Redescribed from the types, three females and one male. According to Ashmead these specimens were reared June 15 and 17, 1886, from a Trypetid gall on *Vernonia noveboracensis*.

72. *PLATYGASTER VARIABILIS*, new species.

Female.—Length 1.3 mm. Head twice as wide as long, scarcely excavated behind, wider than the thorax, flattened in front; occiput finely striate; cheeks faintly shagreened above; interocellar area shagreened; frons polished, finely aciculate below; pedicel twice as long as wide, as wide as joint six, longer than any of the flagellar joints except the tenth; joints three to five, inclusive, subequal in width, narrower than the pedicel; three two-thirds as long as four; four longer than five, as long as six; joints seven to nine subequal in length and width, as wide as long, wider than six; ten twice as long as wide, conical, acute apically, longer than three and four united; thorax as wide as high, three-fourths as wide as long, convex above; pronotum finely shagreened laterally; mesonotum evenly convex, shining, shagreened anteriorly; notauli extremely short, much shorter than the scutellum, the median lobe narrow and truncated posteriorly; scutellum transverse, convex, broadly margined laterally, rather

densely pubescent on the sides; abdomen distinctly longer than the head and thorax united, as wide as the thorax; second tergite sculptured as in *relativa*; tergites beyond the second not sculptured, each traversed by a row of short white hairs; wings hyaline, not quite attaining the apex of the abdomen. Shining black to pale brown; antennae dark brown; legs of varying shades of brown, sometimes dark and sometimes lighter, with the anterior tibiae apically and the tarsi of a paler color.

Male.—Length 1 mm. Pedicel one and one-half times as long as wide, as wide as joint five; third antennal joint nearly as wide as the pedicel, a little wider than long; four as long and as wide as the pedicel, slightly widened apically; following joints (except the tenth) rounded, not longer than wide; ten as long as three and four united, conical, sharply pointed, the sides curved; abdomen broadly elliptical, somewhat shorter than the head and thorax united, narrower than the thorax, twice as wide as long, narrowly rounded posteriorly; second tergite four-fifths as wide as long, rounded anteriorly, the sides curved; segments three to seven united less than half as long as the second; wings hyaline, extending half the length of the second tergite past the apex of the abdomen.

Type locality.—Bushberg, Missouri.

Type.—Cat. No. 25446, U.S.N.M. Eleven paratypes in Collection Fouts.

Described from 28 females and 4 males, reared by Theodore Pergande, September 21, 1876, from galls on *Solidago*.

Mr. Pergande's note reads as follows: "Found in Bushberg, Mo., on *Solidago*, Hymenopterous galls in the shape of little seedpods growing out where the seed would have been; they are about $\frac{3}{16}$ of an inch in length, round and with the ends straight; of a reddish brown color, covered with fine white hairs; in the gall there is an oval cell with mostly one, sometimes two or three larvae in it. Sept. 21, 1876. Many Hymenopterous parasites issued, mounted and marked 700P."

Since the above was written I have received a large series of specimens of *variabilis* from R. W. Leiby, of the North Carolina State Department of Agriculture. The specimens are from Raleigh, North Carolina, and were reared September 18-30, 1921, from the galls of *Rhopalomyia carolina* or *R. solidaginis* on goldenrod. Mr. Leiby expressed doubt in his letter as to the identity of the host.

The specimens in this series are all darker in color than the types. Mr. Leiby suspected that there were two species represented, since in some instances parasites issued from the host to the number of 25 and in other cases only to 2 to 4. The individuals reared in large numbers are somewhat smaller than the others but they are certainly the same species.

SPECIES OF UNCERTAIN POSITION.

PLATYGASTER ACICULATA Ashmead.

Platygaster aciculatus Ashmead, Bull. 45, U. S. Nat. Mus., 1893, p. 32.

The original description is as follows:

Male.—Length 1.4 mm. Black, shining; vertex, occiput and cheeks finely shagreened; face transversely aciculated; sides of prothorax, mesonotum, mesopleura beneath the wings and the metapleura all distinctly longitudinally aciculated; the parapsides, scutellum, and the lower portion of mesopleura smooth, polished. Antennae 10-jointed, rufo-piceous; the flagellum subclavate; pedicel longer and stouter than the first and second funicular joints together, the latter scarcely longer than thick, the following joints to the last transverse, the last short, conic. Parapsidal furrows deep, distinct. Scutellum elevated, cushion-shaped. Legs rufo-piceous, tips of anterior femora and their tibiae and the articulations of the middle legs yellowish. Wings clear hyaline, entirely devoid of pubescence. Abdomen oval, smooth, polished, the petiole not longer than thick, striated and pubescent, the second segment with some striae at base.

Type locality.—Pennsylvania.

Type.—In Berlin Museum.

Described from a single specimen labeled "Penn., Zimmerman."

This species would probably fall under the group having the scutellum shagreened and the notauli complete, although Ashmead says nothing about the sculpture of the scutellum in the description quoted above.

PLATYGASTER ANDRICIPHILA Ashmead.

- (?) *Xestonotus andriciphilus* ASHMEAD, Can. Ent., vol. 19, 1887, p. 128, female.—
CRESSON Syn. N. Amer. Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U. S.
Nat. Mus., 1893, p. 266, female.

The following is Ashmead's description:

Female.—Black; face finely punctate; antennae and legs brownish-yellow. Mesonotum with two sharply defined parallel furrows. Scutellum not greatly prolonged, but subcompressed at sides. Wings hyaline.

Habitat.—Jacksonville, Florida.

Type in Collection Ashmead.

Originally described from one specimen reared from the Cynipid oak gall, *Andricus blastophagus* Ashmead.¹⁷

The type has been lost.

PLATYGASTER PALLIPES Say.

Platygaster pallipes SAY LeConte's Ed. Say, vol. 1, p. 383

Say's original description is as follows:

P. pallipes.—Body black; antennae fuscous, moniliform; basal joint honey yellow wings hyaline; abdomen polished, much depressed; widest near the tip and obtuse, gradually and rectilinearly a little narrowed to the base; feet whitish-yellow.

Length one-thirtieth of an inch.

¹⁷Bull. 45, U. S. Nat. Mus. p. 266.

Ashmead's redescription of *pallipes*¹⁸ is based on specimens conspecific with the paratype of *Isocybus canadensis* Provancher (see p. 11). They disagree with the description quoted above in such a remarkably way that I can not see how Ashmead could have made the mistake in identification which he did.

IX. Genus PIESTOPLEURA Foerster.

Piestopleura FOERSTER, Hym. Stud., Heft 2, 1856, p. 144, no. 4 (Monobasic).

Genotype.—*Platygaster catillus* Walker (by original designation).

Catillus FOERSTER, Hym. Stud., Heft 2, 1856, pp. 107, 111 (Monobasic).—*Genotype*.—*Platygaster catillus* Walker (by original designation).

This genus, which has not as yet been correctly recognized outside of Europe, differs from *Leptacis* only in having the scutellum more strongly compressed. Since compression to a certain degree is common in many species of *Leptacis* the character is not so very distinctive. Still it seems best to retain the genus until intermediate forms, if there are any, are found.

Ashmead's species *maculipes*¹⁹ is a *Leptacis* species. It has the thorax and head only slightly compressed.

X. Genus SACTOGASTER Foerster.

Sactogaster FOERSTER, Hym. Stud., Heft 2, 1856, pp. 108 and 113. Two species

Genotype.—*Epimeces ventralis* Westwood.

Head traverse, the vertex subacute to rounded, the occiput margined; ocelli 3, disposed in a triangle, the lateral ones about their width from the eye margin; antennae 10-jointed in both sexes, in the female terminating in a 4-jointed club, in the male the first flagellar joint very closely joined to the second, causing the flagellum to appear 7-jointed; pedicel obconic, as long as first two flagellar joints; first four joints of flagellum cylindrical, the first joint half as long as second, the third a little shorter than first, fourth slightly larger in diameter than any of preceding, triangular; thorax ovoid, convex above, not compressed laterally, the notauli indicated basally on the mesonotum; scutellum convex, transverse, armed with a thorn at apex, bifoveated at base, covered with silvery pubescence; propodeum short, with a median divided carina, it and the metapleura covered with silvery or hoary pubescence; front wings veinless, with short cilia; legs clavate, tibial spurs 1, 1, 1; basal joint of hind tarsi more than twice as long as second.

Some explanation is needed in regard to this diagnosis. The characteristics of the female are well known and are correctly described above, but those of the male are less well known in several instances doubtful. This is due to the fact that the females are very readily recognized while the males are so easily confused with forms in closely related genera that authors have chosen to omit

¹⁸Bull. 45, U. S. Nat. Mus., 1893, p. 328.

¹⁹Bull. 45, U. S. Nat. Mus., 1892 'p. 265.

them in their descriptions or have not recognized them. Foerster in his diagnosis of the group contents himself with saying in regard to the male: "Das Männchen zeichnet sich dadurch aus, dass das erste Geisselglied sehr klein und mit dem zweiten innig verwachsen ist, die Geißel also wirklich unter der scharfsten Loupe nur siebengliedrig erscheint." Foerster described this character from specimens reared from *Cecidomyia pisi*.²⁰

Keiffer says of the male²¹ in his description of *Sactogaster millefolii*:

Chez le mâle, les articles 3 et 5 sont petits, guere plus longs que gros, le 3^e obconique, le 4^e le plus gros de tous, deux fois aussi gros et deux fois aussi long que le 3^e, fortement convexe dorsalement, droit ventralement, 6^e a peine plus long et plus gros que le 5^e, 7-10 grossis et formant la massue, a piene plus long que gros, avec un petiole un peu transversal, à poils aussi long que le tiers de l'épaisseur des articles, 7-9 subcylindriques, ayant de chaque côte, pres de l'extrémité, une lamelle hyalines.

Species belonging to *Sactogaster* have been referred to *Platygaster* (by Walker) and to *Synopeas* (by Thomson). The species whose habits are known are parasitic on Cecidomyids.

TABLE TO SPECIES.

- | | |
|---|---------------------------------------|
| 1. Last tergite three or more times longer than wide..... | 2. |
| Last tergite not more than twice as long as wide..... | 1. <i>anomaliventris</i> Ashmead |
| 2. Sixth tergite about three times as long as wide; third tergite slightly grooved or striate in the anterior angles..... | 2. <i>longiventris</i> , new species. |
| Sixth tergite five or more times longer than wide..... | 3. |
| 3. Sixth tergite about five times as long as wide; third tergite strongly shagreened. | 3. <i>howardi</i> Ashmead. |
| Sixth tergite a little over six times as long as wide; third tergite longitudinally striate in a band which widens on the side..... | 4. <i>mucronata</i> , new species. |

1. *SACTOGASTER ANOMALIVENTRIS* Ashmead.

Sactogaster anomaliventris ASHMEAD, Can. Ent., vol. 19, 1887, p. 130, female.—
 CRESSON, Synopsis of Hymenoptera, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 285.

Female.—Length 1 mm. Head twice as wide as long, wider than the thorax, shagreened or finely reticulate all over, more coarsely so posteriorly; vertex separated from the occiput by a low rounded ridge; thoracic ratio, length 18, width 13, height 14; notauli distinct, not quite reaching the anterior margin of the mesonotum; scutellum broadly transverse, covered with short white hairs; spine short, directed backward and slightly upward; abdomen one and one-half times as long as the head and thorax united; tail as long as the second sternite; second tergite considerably narrower than the thorax, polished, as long as the thorax is wide (0.29 mm.); third tergite very narrow, transverse, polished; fourth tergite shagreened in a broad band across its median line, more than twice as long as the third, about twice as wide as long; fifth a little longer, quadrate, shagreened

²⁰ Hym. Stud., Heft 2, 1856, p. 113.

²¹ Broteria, Serie Zool., fasc. 13, vol. 11, 1913, p. 194.

and more or less punctate as is also the fourth; sixth tergite shagreened, with a few indistinct longitudinal striae, less than twice to two and one-half times as long as wide, pointed apically; second sternite evenly rounded below and behind, indistinctly angulate above where its upper margin is visible to the apex of the second tergite, its posterior margin reaching to the apex of the fourth segment; sides of the second sternite evenly subconvex, without any deep foveae; relative proportions of the segment, length 14, width 9, height 9; wings hyaline, the anterior pair without marginal cilia. Black (tinged with an amber color in the older specimens); trochanters, apex of anterior tibiae, and all tarsi except the last joint of each, paler or yellowish; appendages as a whole very dark colored.

Type locality.—Jacksonville, Florida.

Other localities.—Hagerstown, Maryland; Cabin John, Maryland; and Carlisle, Pennsylvania.

Type.—Cat. No. 25447, U.S.N.M. Type and two paratypes.

The types, as well as other collected material, have been used in drawing up the above description. Ashmead's types are faded, so the more recently collected specimens are used in describing color characters.

The species is susceptible to more or less variation. Relative lengths and widths of the abdominal segments vary somewhat, especially of the sixth tergite. As stated in my description this segment may be two and one-half times as long as wide. In the types it is less than twice as long as wide.

The specimens from localities other than Jacksonville were collected by the author at various times (July–August, 1915–1920). I have collected the species on the leaves of wild cherry trees, poplar trees, and black locust trees.

The male specimens mentioned in Ashmead's Monograph belong to the genus *Leptacis*. Since they were not mentioned in the original description their affinities need not be indicated here. They remain undescribed.

2. SACTOGASTER LONGIVENTRIS, new species.

Female.—Length 2 mm. Head twice as wide as long when seen from above, distinctly, but not excessively, wider than high; seen from in front, feebly triangular, the angles rounded; frons strongly shagreened, more strongly so on the lower part of the face and along the inner margins of the eyes, striate and roughened just above the insertion of the antennae; bases of antennae partially covered by a long triangular spine about the length of the last antennal joint, concave above and with its lateral margins extending upward and laterally to form the margins of the antennal foveae; interocellar line twice as great as the ocellocular: ocellocular line

equal to the diameter of the lateral ocellus; interocellar space, vertex and occiput more coarsely shagreened than the cheeks, with a coarser sculpture than any part of the face except in the region of transverse striations just above the bases of the antennae; occiput immargined; antennae with a distinct 4-jointed club; scape club-shaped, curved, narrowed basally, broadened medially to apically, slightly emarginate at the apex and with a thin lamellated edge on its inner margin, the lamella not apparent near the base of the scape; funicle joints densely covered with rather long white hair, club joints also covered with white hair but not so long as on the funicle; first club joint triangular, about as wide as long; second and third club joints equally long, as long as the first, broadly transverse and produced on the outside into a blunt spine; terminal joint obconical, blunted apically, one and one-half times as long as the penultimate; thorax strongly convex above; pronotum, anteriorly and superiorly, and mesonotum, shagreened; pronotum anteriorly transversed longitudinally by two small but sharply marked carinae extending almost to the suture separating the pronotum from the mesonotum; mesonotum with two short, shallow, but indistinct furrows anteriorly; notauli nearly complete, sharply indicated posteriorly; scutellum covered with white hairs; spine short and blunt, flattened above; episternum with a few arcuate striae above; pleurum sparsely hairy anteriorly, thickly so posteriorly, polished, separated from the propodeum by a high rounded ridge; propodeum except on posterior part of ridge, hairless and polished; wings slightly smoky, darker at the apical margins; abdomen about twice as long as the thorax; first tergite hairy, second strongly convex above, slightly less than twice as long as wide, with a slight median longitudinal elevation anteriorly, perfectly smooth and polished, with a few minute scattered hairs laterally; third tergite about three times as wide as long, polished except in the anterior angles where there are a few faint grooves or striae; fourth tergite quadrate, delicately shagreened and sparsely hairy, more coarsely shagreened laterally, a narrow anterior triangular space smooth and polished; fifth tergite one and one-half times as long as wide, distinctly but not sharply, ridged above, shagreened or faintly longitudinally grooved except on its extreme anterior margin and a rather narrow border posteriorly; sixth tergite about as long as the two preceding, narrowed from apical one-third to an acute point from which issues the ovipositor, longitudinally striate except at extreme base and apical one-fourth; second sternite a little longer than the thorax broadly rounded below and behind, orbicular, curving upward behind till one can perceive an aperture extending to the apex of sternite three, against the base of which it fits tightly; in the upper part of this segment on each side just a little anterior to the middle is a deep smooth wide pit of a similar shape to that made by *Myrmelion*

in the sand, except that its side is a little steeper anteriorly; four or five grooves run out of this pit and extend in a short curve posteriorly. Black; mandibles, base of scape, anterior tibiae, and all tarsi yellow; scape apically and front legs, except parts mentioned above, brownish; rest of legs and antennae piceous.

Described from one specimen collected at Cabin John, Maryland, by the author on May 20, 1917. No ecological data are available. The specimen was probably collected while sweeping in the forest.

The type is in the author's collection.

This species is easily separated from all of our described species of *Sactogaster*. The length of the abdominal "tail" distinguishes it from all except *howardii*.

3. SACTOGASTER HOWARDII Ashmead.

Sactogaster howardii ASHMEAD, Can. Ent., vol. 20, 1888; Bull. 45, U. S. Nat. Mus., 1893, p. 285.

Female.—Length 2.4 mm. Head about the same shape as in *mucronata* Fouts, about twice as wide as long seen from above, rather full behind the eyes, in front feebly convex; broadly rounded on the sides; seen from in front the head is more or less hexagonal, about as wide as high, the part of the head over the eyes dome-shaped and half as high as the eyes are long, projecting above the eyes about as far as head projects below the eyes; vertex rather acute, rolled up into a ridge which extends laterally a little beyond the lateral ocellus; projection between antennae as in *mucronata* Fouts; head and thorax, except pleurae, lower part of pronotum and the venter, finely and evenly shagreened as in *mucronata*; fourth antennal joint about twice as long as wide; notauli nearly complete, faint anteriorly; wings hyaline; tail of abdomen one-tenth longer than the length of the body preceding it; second sternite about twice as long as wide when viewed laterally, extending to apex of second segment, rounded below and apically and flattened above, made to appear like a thick hook by the incision which penetrates to the circular depression at its middle; second tergite rather strongly shagreened on its apical fourth, otherwise smooth and shining, remaining tergites strongly shagreened with indications of diagonal striations; third tergite about twice as wide as long, one-third shorter than the fourth which is a little longer than wide; fifth tergite as long as the sixth which is three times as long as wide and pointed apically; sides of the sixth parallel to the apical third of the segment. Black; scape, pedicel, funicle, anterior and middle trochanters, front legs (except coxae and last tarsal joint), middle and posterior tibiae at their basal half, and tarsi (except terminal joints) yellow or yellowish brown;

abdomen (more particularly the unsculptured second tergite and sternite), coxae, middle and posterior femora, and tibiae on apical half, amber-colored to dark brown.

Type locality.—Washington, District of Columbia.

Type.—No. 25448, U.S.N.M.

Described from the type specimen.

4. SACTOGASTER MUCRONATA, new species.

Female.—Length 2 mm. Face, cheeks, vertex and occiput finely and evenly shagreened; vertex rounded, not acute; projection between antennae narrow, subacute at apex; third antennal joint slightly shorter and a little narrower than fourth which is about twice as long as wide; fifth and sixth antennal joints subequal, nodose, about as wide as the fourth; mesonotum and upper part of pronotum finely shagreened; remainder of thorax (except scutellum) smooth and shining; notauli extending slightly anterior to the middle of the mesonotum; spine on scutellum short, straight; wings hyaline; first tergite very short, hardly visible beneath a ring of silvery hair which extends upon the second tergite; second sternite extending to the apex of the third segment; fourth tergite one and one-half times as long as the third, a little less than twice as long as wide, finely longitudinally striate except at extreme apex; second tergite not at all sculptured; third quadrate, longitudinally striate in a transverse band which widens on the side; fifth tergite about as long as the two preceding, a little over three times as long as wide, finely longitudinally striate all over; sixth tergite about as long as the three preceding, a little over six times as long as wide, slightly swollen just before the apex and subacute at tip, finely longitudinally striate except at and near the apex; third to last segment inclusive as long as rest of body. Black; shining brilliantly under a strong light; base of scape, trochanters, anterior tibiae (except at middle), tibiae of middle and posterior legs at extreme bases, and all tarsi (except last joint of each), amber colored.

Type.—Cat. No. 25449, U.S.N.M. Type and paratype. Paratypes in author's collection.

Type locality.—Carlisle, Pennsylvania.

Described from five specimens collected by the author. Two specimens were collected July 16, 1920, on the leaves of a mulberry tree. The other three were collected July 16 and 27 on the leaves of a wild cherry tree within a few feet of the mulberry tree just referred to.

This species comes closest to *howardii* of Ashmead. It is, however, very readily distinguished from that species by the color of the scape and by the sculpture and structure of the abdomen, characters used in the key to the species.

In these two forms, *mucronata* and *howardii* we have extreme elongation of the tail of the abdomen. In no other described species from North America does the tail of the abdomen equal in length the body anterior to its base.

Some of the characters described above are not constant. It seems that the proportion of the last segment to the three preceding is rather fixed, but the length of this segment in proportion to its width varies greatly, the segment being in some instances a little over five times, and in others slightly more than six and one-half times as long as wide. The two paratypes which have the former proportion are also shorter in their entire length than the paratype with the more elongate sixth segment. The smaller specimens measure 1.5 mm. from the front of head to the tip of the sixth segment. The type and the remaining paratype are of about the same size and proportion as the larger paratype mentioned above.

SPECIES OF UNCERTAIN POSITION.

SACTOGASTER VARIPES Harrington.

Sactogaster varipes HARRINGTON, Trans. Royal Soc. Canada, vol. 5, 1900, p. 190.

The original description is as follows:

Female.—Length 0.7 mm. Black microscopically punctate. Legs piceous, base of tibiae and tarsi yellowish. Scape of antennae pale. Scutellum with sharp awl-like spine; sides of metathorax and base of abdomen with silvery pubescence. Terminal segments of abdomen forming deflexed tail, which is shorter than second segment; second segment polished, terminal segment finely punctulate.

Male.—Closely resembles female except in shape of abdomen and antennae.

Described from one female and one male taken in August, Hull. The female very closely resembles *S. anomaliventris*, except in the shape of the second ventral segment which is much flatter.

Descriptions must be particularly accurate in this group to be of any value in identification. The one just quoted is not of much use.

XI. Genus LEPTACIS Foerster.

Leptacis FOERSTER, Hym. Stud., Heft 2, 1856, pp. 107, 112 (four species). *Genotype*.—*Platygaster tipulae* Kirby. (By original designation.)

Ectadius FOERSTER, Hym. Stud., Heft 2, 1856, pp. 108, 113, 144. (Monobasic.) *Genotype*.—*Platygaster craterus* Walker. (By original designation.)

Synopeas FOERSTER, Hym. Stud., Heft 2, 1856, pp. 108, 114 (sixteen species). *Genotype*.—*Platygaster sosis* Walker. (By original designation.)

Anopedias FOERSTER, Hym. Stud., Heft 2, 1856, pp. 108, 114. No species originally included.

Ceratacis THOMSON, Ofvers Svensk. Vet.-Akad. Forh., Heft 16, 1859, pp. 69, 78. (Monobasic.) *Genotype*.—*Ceratacis flavipes* Thomson. (By original designation.)

Dolichotrypes CRAWFORD and BRADLEY, Proc. Ent. Soc. Wash., vol. 13, 1911, p. 124. (Monobasic.) *Genotype*.—*Dolichotrypes hopkinsi* Crawford and Bradley. (By original designation.)

I have seen types only of the genus *Dolichotrypes*. All synonymy is therefore based on a study of the original description and of identified specimens in my own and in the National Collection.

Species which belong to *Leptacis* have been referred to *Psilus* (by Spinola), to *Platygaster* (by Haliday, Walker, Curtis, and Taschenburg), to *Ichneumon* (by W. Kirby), to *Synopeas* (by Thomson), to *Ceraphron* (by Say), to *Piestopleura* (by Ashmead), and to *Amblyaspis* (by Ashmead and Brues). More exact data on this matter can be obtained by consulting volume five of Dalla Torre's *Catalogus Hymenopterorum*. In studying our fauna the notes given above will suffice.

Synopeas is really inseparable from *Leptacis* although many species can be placed definitely in one genus or the other by the use of Foerster's generic key²² and the descriptions following it. I have numerous specimens in my own collection showing transition in the structure of the scutellum. Typical *Synopeas* Foerster has the scutellum broad and depressed basally, with a short thorn at tip. Considerable difference is found in typical forms of *Leptacis* Foerster where the scutellum is elongate and produced into a long acute spine posteriorly.

The presence of a low and flat scutellum is the only character used by Foerster to separate *Anopedias* from related genera (*Synopeas*, *Leptacis*, etc.). Variation in scutellar structure seems to be of no generic value throughout the entire subfamily. *Leptacis striatifrons* Ashmead, undoubtedly a true *Leptacis* species, runs to *Anopedius* in Foerster's generic key.²³

Ectadius of Foerster includes forms which, except in the elongation of the abdomen in the female sex, are typical of *Synopeas* Foerster. *Dolichotrypes* runs to *Ectadius* in Foerster's generic key²⁴ and agrees with Foerster's description on page 113.

Species should agree in every particular with the following diagnosis before they are assigned to the genus *Leptacis*:

Head transverse; lateral ocelli nearer the eye margin than to the anterior ocellus; antennae 10-jointed in both sexes, in the female with a more or less distinct 4-jointed club; in the male the antennae may be covered with long or short erect hairs, and may have the fourth joint excavated basally, or swollen medially without any excavation, or cylindrical; mandibles bidentate, the teeth equal; thorax usually more or less compressed, frequently elongate; notauli incomplete or complete; scutellum usually with a spine or tubercle at apex, flat or convex, either wide or narrow at the base; wings veinless, pubescent, ciliate at the margins; abdomen in both sexes convex above and below, not flattened as in *Platygaster*; abdomen

²² Hym. Stud., Heft. 2, 1856, p. 108.

²³ Idem.

²⁴ Idem., p. 107.

in the female as short as the thorax to many times as long as the head and thorax united; first tergite short, covered with white pubescence; second tergite the longest, with white pubescence basally, without foveae unless they are minute and obscured with hairs.

TABLE TO SPECIES.

1. Scutellum more or less elongate, usually produced posteriorly into a spine; if the spine is short and tubercle-like it forms always a continuation of the upper surface of the scutellum..... 2.
- Scutellum short, widened basally, with a tubercle (rarely absent) at apex; the tubercle projects upward to a certain extent and has the appearance of being attached to the scutellum, not prolonging its dorsal surface..... 10.
2. Spine absent or shorter than the rest of the scutellum..... 3.
- Spine longer than the rest of the scutellum..... 7.
3. Spine absent, the scutellum perpendicular behind.... 1. *striatifrons* Ashmead.
- Spine present..... 4.
4. Body yellowish or rufous in color..... 5.
- Body shining black..... 6.
5. Thorax about twice as long as wide, rather strongly compressed.
 2. *maculipes* (Ashmead).
 - Thorax less than twice as long as wide, not particularly compressed
 3. *minuta* (Ashmead).
6. Legs mostly shining black..... 4. *pennsylvanica*, new species.
- Legs mostly lighter colored..... 5. *pallipes*, new species.
7. Abdomen wider than the thorax..... 6. *americana* (Ashmead).
- Abdomen about as wide as thorax..... 8.
8. Fourth antennal joint longer than the second and third united (males).... 9.
- Fourth antennal joint shorter than the second and third united. Pedicel not twice as wide as the third joint..... 7. *rugiceps* (Ashmead).
- Pedicel more than twice as wide as the the third joint.. 8. *puncticeps* Ashmead.
9. Antennal joints four and five united longer than joints three and four.
 9. *gahani*, new species.
 - Antennal joints four and five united as long as the fourth.
 10. *longipes* (Ashmead).
10. Notauli complete..... 11.
- Notauli incomplete..... 13.
11. Frons rough, transversely rugose..... 11. *ashmeadi*, new name.
- Frons smooth, shagreened..... 12.
12. Abdomen in female many times as long as the head and thorax united.
 12. *hopkinsi* (Crawford and Bradley).
 - Abdomen in female about as long as the head and thorax united.
 13. *punctata* Ashmead.
13. Mesonotum protuberant in front of the scutellum..... 14.
- Mesonotum flattened in front of the scutellum..... 17.
14. Abdomen in female considerably longer than the head and thorax united.
 14. *longiventris* Ashmead.
 - Abdomen in female not longer than the head and thorax united..... 15.
15. Wings tinged with brown..... 15. *flavicornis* Ashmead.
- Wings hyaline..... 16.
16. Spine of scutellum moderately long, directed upward; area on either side of mesonotal lobe densely pubescent..... 16. *cynipsiphila* Ashmead.
- Spine of scutellum very short, a mere protuberance; area on either side of mesonotal lobe not so densely pubescent..... 17. *globata*, new species

17. Antennae with a club (females)..... 18.
 Antennae without a club (males)..... 24.
18. Scape bright yellow or reddish yellow..... 19.
 Scape tinged with brown or piceous..... 20.
19. Abdomen longer than the head and thorax united, narrowed tail-like beyond the second segment..... 18. *auripes* (Ashmead).
 Abdomen not longer than the head and thorax united, not tail-like apically..... 19. *incerta* (Ashmead).
20. Abdomen longer than the head and thorax united.... 20. *inermis* (Ashmead).
 Abdomen not longer than the head and thorax united..... 21.
21. Mesonotum more or less flattened in front of the scutellum..... 22.
 Mesonotum highly convex; length of body 1.10 mm. 21. *rufiscapa* (Ashmead).
22. Notauli absent..... 23.
 Notauli present, reaching nearly to the anterior margin of the mesonotum..... 22. *bradleyi*, new species.
23. Frons reticulate..... 23. *breviventris* (Ashmead).
 Frons transversely aciculate..... 24. *aciculata*, new species.
24. Scape yellow or reddish-yellow..... 25.
 Scape brown or fuscous for the most part..... 26.
25. Fourth antennal joint wider than joints eight, nine, or ten..... 21. *ruficapa* (Ashmead).
 Fourth joint narrower than joints eight, nine or ten... 24. *aciculata*, new species.
26. Thorax rather long and narrow; notauli nearly complete... 25. *floridana* (Ashmead).
 Thorax shorter, notauli absent..... 27.
27. Abdomen longer than the thorax, twice as long as wide..... 26. *pubescens* (Ashmead).
 Abdomen shorter than the thorax, less than twice as long as wide..... 24. *aciculata*, new species.

1. *LEPTACIS STRIATIFRONS* Ashmead.

Plate 1, fig. 1.

Leptacis striatifrons ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 273.

Female.—Length 1.20 mm. Frons shining, with many transverse carinae, some of which are curved and in some cases incomplete; vertex separated from the occiput by a high, sharp carina which touches the posterior eye margin; occiput shagreened, with an inconspicuous interrupted, transverse carina midway; thorax more or less elongate, higher than wide, strongly convex above; pronotum and mesonotum finely shagreened, pubescent; notauli absent; mesonotum with an inconspicuous median lobe posteriorly, on each side of which is a row of white hairs projecting over the scutellar fovea; scutellum triangular seen from above, abruptly narrowed behind the middle; upper surface of scutellum flat, making a right angle with the posterior face which is perpendicular; scutellum laterally densely covered with long silvery hairs; abdomen as long as the thorax, elliptical, twice as long as wide; second tergite a trifle longer than wide, polished; last tergite as long as four and five united, wider than long, shagreened; wings with a short fringe, subhyaline, shining black; antenna (except club), front and middle legs entirely, and tarsi or hind legs golden yellow; antennal club and coxae piceous; trochanters, femora and tibiae (of hind legs) brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25450, U.S.N.M.

Redescribed from the type specimen.

2. LEPTACIS MACULIPES (Ashmead).

Plate 1, fig. 2.

Catillus maculipes ASHMEAD, Can. Ent., vol. 19, 1887, p. 128.—CRESSON, Syn. of N. Amer. Hym., 1887, p. 249.

Piestopleura maculipes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 265.

Female.—Length 0.70 mm. Rather slender; head wider than the thorax; thorax compressed, strongly convex above; frons shagreened, convex, shining and with transverse striae below; vertex bordered posteriorly by a high, sharp carina; occiput smooth, finely shagreened; mesonotum convex, truncated posteriorly; notauli absent; scutellar fovea hard to find; median lobe of mesonotum touching the upper surface of the scutellum; scutellum triangular, flat and sparsely pubescent above, with its upper surface prolonged into a short spine-like projection; scutellum with a few silvery hairs laterally; abdomen as long as the head and thorax united, elliptical, a little over twice as long as wide, convex above and below; second tergite as wide as long, not sculptured apically; last four tergites unsculptured, united nearly as long as the second; tergites three to five subequal in length, united as long as six; sixth tergite as long as wide, subacute apically; wings narrowly fringed, subhyaline. Mahogany oolor, the antennae and legs yellowish brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25451, U.S.N.M.

Redescribed from the type specimen.

3. LEPTACIS MINUTA (Ashmead).

Plate 1, fig. 3.

Amblyaspis minutus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 269.—BRUES, Connecticut State Geol. Nat. Hist. Surv., Bull. No. 22, 1916 (1917), p. 532.

Female.—Length 0.80 mm. Frons shining, faintly shagreened, without a median impressed line, not striate above the antennae; head seen from in front wider than high, strongly rounded above; vertex separated from the occiput by a low but sharp carina; occiput flat, polished; thorax slightly narrower than the head, two-thirds as wide as long, convex dorsally, shining, with fine sculpture above; mesonotum truncate behind, without a median lobe, its posterior edge touching the scutellum, thereby practically obliterating the scutellar fovea; notauli absent; scutellum narrow, convex above, polished, pubescent laterally, produced apically into a spine which reaches as far as the base of the first abdominal segment; abdomen slightly wider than the thorax, two-thirds as wide as long, strongly convex above and below; second tergite as wide as long, polished, narrowly pubes-

cent basally; last four tergites united one-fourth as long as the second, becoming abruptly narrowed apically; tergites three to five subequal, very short, apparently unsculptured; sixth tergite as long as four and five united, broadly transverse, subacute apically; wings hyaline, with long fringes of cilia at their margins. Reddish brown; antenna, except club, mandibles and legs, yellow; antennal club brown.

Type locality.—Washington, District of Columbia.

Paratype-locality.—St. Louis, Missouri.

Type.—Cat. No. 2268, U.S.N.M. Type selected.

Host.—*Cecidomyia*, species in squash.

Redescribed from type material, eight females, in the United States National Museum. Types from Washington were not found in the collection.

4. *LEPTACIS PENNSYLVANICA*, new species.

Plate 1, fig. 4.

Female.—Length 0.80 mm. Elongate, with the thorax strongly compressed; head wider than the thorax, twice as wide as long, attached rather low on the prothorax; frons shining, aciculate, striate above the antennae; head seen from in front scarcely wider than high, flattened above; vertex bordered posteriorly by a sharp carinae; occiput faintly shagreened; thorax strongly convex above, more or less arched, over twice as long as wide, pubescent and finely shagreened dorsally; mesonotum truncated apically, its margin projecting over the base of the scutellum; scutellar fovea absent; notauli absent; scutellum shaped as in *minutus* but with the spine truncate apically and with the posterior face of the scutellum perpendicular, forming a right angle with the lower surface of the spine; abdomen a little wider than the thorax, as long as the head and thorax united, elliptical, strongly convex above and below, about twice as long as wide; second tergite two-thirds as wide as long, polished, narrowly pubescent at base; last four tergites united half as long as the second, polished; tergites three to five subequal, longer than in *minutus*; sixth tergite as long as four and five united, transverse, rounded apically; wings hyaline, with long cilia. Shining black; proximal half of scape, trochanters, front tibiae, all tarsi (except last joint of each), middle and posterior tibiae basally, yellowish; middle and hind tibiae for the most part, and the last joint of each tarsus, light brown.

Type locality.—Carlisle, Pennsylvania.

Type.—Cat. No. 25452, U.S.N.M. Nine paratypes in Collection Fouts.

Described from sixteen female specimens collected by the author on the flowers and flower buds of milkweed. The dates of collection range from the 1st to the 21st of July. Eight specimens were collected on July 1, 1918; one on July 2, 1918; and seven on July 21, 1920.

5. LEPTACIS PALLIPES, new species.

Female.—Length 0.90 mm. Body moderately robust, entirely polished except for the anterior dorsal surface of the thorax and for the vertex; head lenticular, seen from above twice as wide as long, slightly wider than the thorax; frons, occiput, and cheeks without visible sculpture; antennae nearly bare, the pubescence obscure; thorax convex above, slightly higher than wide, less than twice as long as wide; mesonotum slightly excavated and hairy on each side of a narrow lobe which touches the base of the scutellum; scutellum about one and one-half times as long as wide, triangular, sharply pointed at the narrow angle, sparsely pubescent, arched; seen from the side the upper surface continues that of the mesonotum and is nearly straight; the spine projects apically as far as the base of the first abdominal segment, is as long as the propodeum and thickens rapidly proximad; the spine moreover, is a little less than one-half the length of the rest of the scutellum, its lower part transparent; abdomen as wide as the head, slightly longer than the thorax, strongly convex above and below, broadly ovate in outline, two-thirds as wide as long; first tergite entirely, and second narrowly at base, sparsely pubescent; second tergite as wide as long, four times as long as the following segments united; terminal tergites broadly transverse, faintly shagreened medially; sides of the abdomen regularly curved; wings hyaline, with long cilia apically, extending nearly the length of the thorax past the apex of the abdomen. Shining black; scape, pedicel and legs, except posterior femora and tibiae apically, which are infuscated, yellow; antennae dark brown; last joint of each tarsus piceous.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 25453, U. S. N. M. Paratype in the author's collection.

Described from two female specimens collected by the author, June 21 and August 6, 1917 (type), on the leaves of a Catalpa tree.

6. LEPTACIS AMERICANA (Ashmead).

Plate 1, fig. 6.

Amblyaspis americanus ASHMEAD, Can. Ent., vol. 19, 1887, p. 129.—CRESSON SYL. N. Am. Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 269.

Female.—Length 1 mm. Very similar to *longipes* from which it differs as follows: Mesonotum squarely excised posteriorly, without a lobe projecting upon the base of the scutellum; spine of scutellum not sharply pointed apically, seen from the side not much narrowed toward the base; abdomen wider than the thorax, two-thirds as wide as long; second tergite as wide as long; wings projecting the length of the second tergite past the apex of the abdomen. Shining black; legs golden-yellow; posterior femora distally slightly, and the tibiae distally, strongly infuscated; tarsi stramineous.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25454, U.S.N.M.

Redescribed from the type specimen.

7. *LEPTACIS RUGICEPS* (Ashmead).

Plate 1, fig. 9.

Amblyaspis rugiceps ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 269.

Male.—Of much the same appearance as the three preceding species; head distinctly wider than the thorax; frons rugose, traversed by numerous carinae, the latter interrupted medially below the ocelli; vertex separated from the occiput by a high, sharp ridge; occiput finely reticulate; antennae attenuate; hairs on the flagellum not as long as the joints are wide; thorax two-thirds as wide as long, slightly higher than wide, polished, pubescent above; mesonotum pubescent on either side of a short truncate lobe which touches the base of the scutellum; notauli absent; scutellum short, wider than long (not counting the spine which is highly elevated and extends to the base of the first abdominal segment); the spine is as long as the rest of scutellum and is nearly straight, parallel with the dorsal surface of propodum; posterior face of the scutellum perpendicular, making a right angle with the lower surface of the spine; abdomen as long as the thorax, nearly twice as long as wide, elliptical; second tergite as wide as long; polished; following segments narrow, subequal, the last a little longer than any of the others; wings hyaline, extending nearly the length of the abdomen past its apex, with cilia of moderate length on their margins. Shining black; legs and antennae stramineous; apical half of the flagellum brown.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 25455, U.S.N.M.

Redescribed from the type specimen.

8. *LEPTACIS PUNCTICEPS* Ashmead.

Leptacis puncticeps ASHMEAD Bull. 45, U. S. Nat. Mus., 1893, p. 275.

Male.—Length 1 mm. Head distinctly less than twice as wide as long, full behind the eyes, wider than the thorax, finely reticulate (more strongly so on the occiput and cheeks); frons shining, faintly reticulate; lateral ocelli nearly touching the eye margin; vertex separated from the occiput by a rounded elevation; scape as long as the following five joints united, a little thicker than the pedicel, not strongly curved; pedicel twice as long as wide, piriform, strongly narrowed basally; third joint about half as long and less than half as thick as the pedicel, twice as long as wide, as long as but narrower than joint four; four less than twice as long as wide, narrower and shorter than the pedicel; joints five and six subequal, one and one-half times as long as wide, as long as but narrower than the fourth;

joints seven to nine subequal, cylindrical, one and one-half times as long as wide, ten twice as long as wide, pointed apically, as wide as nine; thoracic ratio: Length 20, width 12, height 14; thorax convex above, entirely polished and without sculpture; notauli short, nearly parallel; scutellum (not counting the spine) transverse, ridgelike, rather thickly pubescent, its posterior face perpendicular; spine long and thin, rodlike, extending straight backwards as far as the apex of the propodeum; abdomen as long as the thorax, elliptical behind the first segment, twice as long as wide, as wide as the thorax, highly polished; second tergite longer than wide, strongly narrowed anteriorly; following segments short, transverse; wings brownish, pubescent, with long marginal cilia, as long as the head, thorax, and abdomen united. Shining black; antennae yellow, the last four joints brown; legs mostly reddish-yellow, the hind femora and tibiae apically fuscous; spine of scutellum, propodeum and first abdominal segment, yellowish.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25470, U.S.N.M.

Other locality.—Carlisle, Pennsylvania.

Redescribed from the type and from a male specimen collected by the author at Carlisle (July 2, 1918).

9. LEPTACIS GAHANI, new species,

Plate 1, figs. 7, 8.

Female.—Length 1.20 mm. Closely related to *americana* from which it differs only in the slightly narrower abdomen. I have vainly sought further differences. Perhaps the males would be more useful in this connection but unfortunately I have no males of *americana*. The figure illustrating the antennae of the female type is equally applicable to *americana*.

Male.—Length 1.20 mm. Differs little from the female. Antennae long and slender, with nodes between joints seven to ten; flagellum covered with erect whitish hairs about two and one-half times as long as the joints are wide; abdomen about as long as the thorax, spatulate, two-thirds as wide as long.

Type locality.—Glen Echo, Maryland.

Type.—Cat. No. 25456, U.S.N.M. Three paratypes in the author's collection

Described from seven specimens, one female and six males, collected by the author, July 15, 1919, on the leaves of *Cercis canadensis* Linnaeus.

This species is named after my friend, A. B. Gahan, a recognized authority on Parasitic Hymenoptera.

10. *LEPTACIS LONGIPES* (Ashmead).

Plate 1, fig. 5.

Amblyaspis longipes ASHMEAD, Can. Ent., vol. 19, 1887, p. 128.—CRESSON Syn. N. Amer. Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U.S. Nat. Mus., 1893, p. 270 (pl. 11, fig. 10, male).

Male.—Length 1.60 mm. Robust; polished except for the parts mentioned below; head less than twice as wide as long, deep behind the eyes, the cheeks wide, oblique; frons, vertex, and occiput finely shagreened; thorax shaped much as in *pallipes*, four-sevenths time as long as wide, a little higher than wide, as wide as the head; mesonotum convex above, finely shagreened, constructed posteriorly as in *pallipes*; scutellum long, highly elevated, the sides steep, the upper surface practically straight; spine acuminate, projecting well beyond the base of the first tergite, longer than the rest of the scutellum, seen from the side gradually widening basally; legs very long and stout, of a golden-yellow color, the tarsi stramineous; abdomen as long and as wide as the thorax, two-thirds as wide as long, ovate, rounded posteriorly; first tergite less than twice as wide as long, pubescent only on the sides, one-third as long as the second; second tergite a little longer than wide, rather strongly narrowed basally where there are two small patches of silvery pubescence in the places assumed by foveae in *Platygaster* and *Trichacis*; second tergite and those following it with a narrow shagreened band along their distal margins; tergites three to seven very short, the seventh scarcely shorter than sixth, faintly shagreened; wings hyaline, with the cilia matted, extending five-sixths the length of the abdomen past its apex. Shining black, scape, legs, and spine of scutellum, golden yellow; rest of antenna dark brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25457, U.S.N.M.

Redescribed from the type specimen.

Ashmead's figure (pl. 11, fig. 10) is of no value. I do not know where he got his figure of the female antenna since there was never any female described. In this connection it may be well to say that the only use that can be made of Ashmead's figures in his monograph is to obtain some conception of the habitus of the various genera described therein. The figures are not sufficiently accurate to be useful in specific identification.

11. *LEPTACIS ASHMEADI*, new name.

Leptacis rugiceps ASHMEAD, Bull. 45, U.S. Nat. Mus., 1893, p. 272, pl. 12, fig. 1, female only. (Not (*Amblyaspis*) *Leptacis rugiceps* Ashmead, same reference, p. 269.)

Female.—Length 1.20 mm. Moderately robust; head rather large and thick, a little wider than the thorax, its length to its width as 10 is to 17; frons roughened, transversely rugulose, with a median

carina, which, although prominent and sharp below the middle, is obsolescent above; vertex and occiput shagreened, the former with a rougher sculpture, not separated from the latter by a sharp ridge; cheeks subconvex, finely reticulate; antennae finely pubescent; thorax three-fifths as wide as long, slightly higher than wide, shagreened, more coarsely so on the pronotum; notauli complete, meeting in a point posteriorly; mesonotum evenly shagreened; median lobe projecting partly over the scutellar fovea, subacute; lateral lobes not so near the scutellum, with a scanty fringe of white hairs extending posteriorly and touching the scutellum; scutellum broad and more or less depressed, wider than long (not counting the length of the spine which is slightly recurved, as long as the rest of the scutellum); abdomen not quite as long but approximately as wide as the thorax, obvate, two-thirds as wide as long; second tergite as wide as long, without visible sculpture; following segments broadly transverse, polished; wings hyaline, without marginal cilia, extending nearly the length of the abdomen past its apex. Black; antennal club, coxae, femora and hind tibiae, except at base, dark brown or piceous; rest of appendages yellowish-brown.

Type locality.—Jacksonville, Florida.

Paratype locality.—Arlington, Virginia.

Type.—Cat. No. 25458, U.S.N.M.

Redescribed from the type specimen. I have been unable to find any Jacksonville specimens marked "type" in the national collection and have chosen a paratype female from Arlington, Virginia, as lectotype. The male mentioned by Ashmead in the original description and figured on plate 12 of his Monograph represents a new species of *Leptacis*.

12. LEPTACIS HOPKINSI (Crawford and Bradley).

Dolichotrypes hopkinsi CRAWFORD and BRADLEY, Proc. Ent. Soc. Wash., vol. 13, 1911, p. 124 pl. 8 (female only).

Female.—Length 4.5 mm. The original description and figure accompanying it make this species easy to identify. The following diagnosis will help in determining the species: Mostly smooth and highly polished. Length of the thorax 0.49 mm.; of the abdomen 3.99; of the first segment of the abdomen 0.41 mm.; of the second 0.1 mm.; of the third 0.73 mm.; of the fourth 1.43 mm.; of the fifth 0.32 mm. The segments composing the tail are more or less opaque, a condition due to a kind of fine sculpture on them.

The lengths given above will of course vary within certain limits but the proportions remain fairly constant.

Male.—The male types for this species are females and represent a new species of *Leptacis*. See *Leptacis bradleyi*, new species.

Type locality.—West Virginia.

Type.—Cat. No. 13829, U.S.N.M.

Descriptions based on the type material, six female specimens, located in the collection of the National Museum at Washington.

It was not surprising that this remarkable species should have been wrongly placed. At first sight it seems to differ greatly from other described species, as indeed it does. However, when the student compares *hopkinsi* with species such as *Leptacis auripes* (Ashmead) he will see that the differences concern themselves with proportions only. The general principle of elongation is present the same as it is in *Platygaster*.

The habits, so far as known, are discussed in the original description. Professor Comstock found many specimens on a newly cut oak stump near Falls Creek, New York. They were inserting the slender part of the abdomen into the intercellular spaces of the wood near the bark.

13. LEPTACIS PUNCTATA Ashmead,

Leptacis punctatus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 272.

Female.—Length 1 mm. Head a trifle wider than the thorax, not quite twice as wide as long, finely granulose (as is also the thorax except on the pleural sclerites); frons flattened or subconvex, with or without a delicate median furrow, with a low ridge between the antennae; vertex highly elevated behind, separated from the occiput by a high sharp ridge; occiput finely reticulate, not so strongly sculptured as the frons; thorax convex above, higher than wide, nearly three-fifths as wide as long; notauli complete, converging to a sharp point posteriorly; mesonotum constructed as in *ashmeadi* Fouts; scutellum evenly rounded above, wider than long; spine as long as, or slightly shorter than, the rest of the scutellum, nearly straight or decidedly recurved, acute at apex; abdomen shorter than the thorax to as long as the head and thorax united, narrower than the thorax, elliptical, two-thirds as wide as long to half as wide as long, sometimes flattened above and below posterior to the second segment; second tergite as wide as long, polished; following tergites transverse, of variable length, depending on whether they are retracted or extended, sometimes when united two-thirds as long as the second, polished; sixth tergite scarcely wider than long to much wider than long; pointed apically, nearly as long as the two preceding united; wings tinged with brown or hyaline, the anterior ones without marginal cilia. Black; scape, funicle, anterior and middle legs (except the coxae of both and sometimes part of the tibiae and femora of the latter), bases of tibiae and the tarsi completely, yellowish brown or golden colored.

Type locality.—Jacksonville, Florida.

Paratype locality.—Arlington, Virginia.

Type.—Cat. No. 25459, U.S.N.M.

Redescribed from the type series, four females, in the National Museum. No males were found in the type material and since this sex was not described by Ashmead, but only listed, I do not take the trouble to mention it above. It is probable that the specimen from Washington, if there was any, was the male type.

The species is variable as the description shows. The sculpture of the face varies and the relative length of the abdomen changes as the posterior segments are extended or retracted. The color varies somewhat also. One specimen has the legs mostly golden-yellow with the hind legs infuscated in part.

14. *LEPTACIS LONGIVENTRIS* Ashmead.

Plate 1, fig. 10.

Leptacis longiventris ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 273.

Female.—Length 1.20 mm. Head wider than the thorax, twice as wide as long, slightly emarginate behind; head and thorax, except pleural plates and mesonotal knob, shining, finely and irregularly aciculate; vertex rounded behind, separated from the occiput by an inconspicuous carina; lateral ocelli their diameter from the eye margin; thorax two-thirds as wide as long, convex above, distinctly higher than wide, nearly as high as long; notauli absent; mesonotum with a polished, slightly elevated protuberance, just in front of the scutellum; on either side of the protuberance the margin is obliquely incised and pubescent; scutellum convex, transverse, with a minute spine apically; abdomen one and two-fifths times as long as the head and thorax united, shaped somewhat as in the females of the genus *Eurytoma*, deeper below the lateral carina than above it, elliptical when seen from the side, nearly three times as long as wide, higher than the thorax; second tergite twice as long as wide, strongly convex, polished (as is also the rest of the abdomen except the last tergite); tergites three–five short, transverse, subequal; sixth tergite triangular, a little longer than wide, aciculate, pointed apically; ovipositer exerted in the paratypes, as long as the abdomen, not visible in the type; wings hyaline, the anterior ones without marginal cilia. Black; antennae, except the club, and legs, except the tarsi, dark brown; club piceous; tarsi stramineous.

Male.—Length 1 mm. Abdomen a little longer than the thorax, not quite as high, more strongly convex below than above, elliptical, twice as long as wide; second tergite two-thirds as long as wide; following segments subequal in length, and, with the exception of the terminal one, broadly transverse, united not quite one-half as long as the second; antennae pubescent, dark brown in color.

Type locality.—District of Columbia.

Paratype locality.—Virginia.

Type.—Cat. No. 2269, U.S.N.M. Type female and allotype male selected.

Redescribed from the type series, three females and one male. The type and allotype are from Washington; the two paratypes are from Virginia and bear the date "Oct. 10, 1880."

This species is one of the most remarkable in the genus. The peculiar structure of the mesonotum, and the great size and strange shape of the abdomen are not duplicated in any of the species known to me.

15. *LEPTACIS FLAVICORNIS* Ashmead.

Plate 1, fig. 11.

Leptacis flavicornis ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 275 (female only).

Amblyaspis flavicornis (Ashmead) BRUES, Connecticut Geol. Nat. Hist. Surv. Bull. No. 22, 1916 (1917), p. 533.

Female.—Length 0.90 mm. Of the type of structure represented by *longiventris* Ashmead; head scarcely wider than the thorax, twice as wide as long, not emarginate behind; frons shining, faintly shagreened; vertex and occiput shagreened, the former bounded posteriorly by a high, sharp carina; "the antennae in the female end in a 4-jointed club, the joints of which, except the last, are not longer than wide; the funicle is slender, the second joint a little longer than the first, the third and fourth being small"; thorax convex, three-fourths as wide as long, higher than wide, scarcely longer than high; finely shagreened except on pleural plates and on mesonotal knob; notauli absent; mesonotum as in *longiventris* but more elevated behind, the knob less in evidence, its upper surface polished; scutellum as in *longiventris*, the tubercle scarcely visible, located far down on the scutellum; abdomen as long as the thorax, elliptical, one and one-third times as long as wide; second tergite about as long as wide; following segments short, united about half as long as the second, wings tinged with brown, with short cilia. Black; antennae, except the club, bright yellow; legs, except middle and posterior femora and tibiae, and last joint of each tarsus, yellow; parts just made exception of are dark brown in color.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 25460, U.S.N.M.

Redescribed from the type specimen. The male from Florida represents a new species of *Leptacis*. It is in too poor a condition to be described.

16. *LEPTACIS CYNIPSIPHILA* Ashmead.

Leptacis cynipsiphila ASHMEAD, Can. Ent., vol. 19, 1887, p. 129 (female only).—

CRESSON, Syn. N. Amer. Hym., 1887, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 274.,

Female.—Length 1.50 mm. Closely related to *flavicornis*, *longiventris* and *globata*, with which species it forms a distinct division characterized by the gibbous mesonotum; head wider than the thorax, dis-

tinety (but not greatly) more than twice as wide as long, seen from above its front and hind margins approximately straight; frons with a beautiful fine shagreening, with a small shallow impression medially; vertex and occiput finely shagreened, the former bounded posteriorly by a low but sharp carina; "funicle slender, the second joint longer than the first, the third and fourth small, but a little thicker than the second; club 4-jointed, the joints, except the last, as wide as long; "relative proportions of the thorax as follows: length 28, width 21, height 24; mesonotum and pronotum shagreened; mesonotum highly elevated posteriorly, densely pubescent on either side of the median lobe which is abruptly curved downward; scutellum as in *flavicornis* but the tubercle more in evidence, directed upward; abdomen elliptical, slightly narrower and longer than the thorax, not quite two-thirds as wide as long, without sculpture of any sort; second tergite a trifle longer than wide; following segments broadly transverse, the terminal one triangular, nearly as long as the three preceding united, polished; wings hyaline, somewhat whitish, the anterior ones without marginal cilia. Black; antenna, except club, brownish yellow; club brown-black; mandibles and legs, except coxae and middle and posterior femora, reddish yellow; coxae and femora, except the anterior ones, dark brown.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 2861, U.S.N.M.

Redescribed from the type specimen. The male specimen mentioned by Ashmead belongs to a new species. I do not describe it because I believe that species based on single specimens as types are undesirable in this difficult group.

17. LEPTACIS GLOBATA, new species.

Plate 2, figs. 12, 13.

Female.—Length 1.1 mm. Very closely related to *cynipsiphila*. It differs from my description of that species as follows: frons without a median impression; ridge between vertex and occiput very high and sharp; antennae as shown in figure; thoracic ratio: length 23, width 16, height 19; protuberance of mesonotum perfectly circular, evenly convex, polished, not abruptly turned downward posteriorly; area to either side of the protuberance not conspicuously pubescent; scutellum transverse, densely pubescent; spine as in *flavicornis*; abdomen 0.57 mm. long, elliptical, four-sevenths times as wide as long, sharply pointed apically; second tergite as wide as long, polished, without sculpture; following tergites also without sculpture, the three following the second subequal in length, becoming abruptly narrower posteriorly; sixth tergite slightly longer than the three preceding, triangular, much broader at the base than long; middle and hind femora, and hind tibiae, stramineous; coxae black.

Male.—Length 1.10 mm. Similar in most respects to the female. Antennae 0.77 mm. long; abdomen rather broadly elliptical, as long as but narrower than, the thorax, two-thirds as wide as long, 0.422 mm. long.

Type locality.—Washington, District of Columbia.

Type.—Cat. No. 25461, U.S.N.M. Type, allotype, and four paratypes.

Described from 25 females and 7 males collected by the author, April 28 and 29, 1921, on the leaves of *Tilia americana* Linnaeus.

Nine specimens are mounted on card points, the rest are in alcohol and are retained in my collection.

18. LEPTACIS AURIPES (Ashmead).

Polymecus auripes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 283.—BRUES, Connecticut State Geol. Nat. Hist. Surv., Bull. No. 22, 1916 (1917), p. 535.

Female.—Length 1 mm. Head wider than the thorax, less than twice as wide as long, entirely distinctly shagreened, more strongly so above, in the region of the vertex and occiput; vertex rounded behind; notauli briefly indicated anteriorly; mesonotum with a short median projection posteriorly; scutellum pubescent, foveated at base, with a short straight spine above; abdomen a little longer than the head and thorax united, gradually contracted into a tail from the apex of the second segment; third segment one-half the length of the fourth; fifth twice as long as wide, and as long or a little longer than third and fourth segments united. Mahogany-colored; antennae and legs bright golden yellow; head black.

Type locality.—Virginia.

Type.—Cat. No. 25462, U.S.N.M.

Redescribed from the type specimen. The antennae (except one scape) and several of the legs, are lost.

19. LEPTACIS INCERTA (Ashmead).

Plate I, fig. 14.

Anopediis incertus ASHMEAD, Can. Ent., vol. 19, 1887, p. 130.—CRESSON, Syn. Hym., 1888, p. 249.—ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 292.

Female.—Length 1.3 mm. Head wider than the thorax, a little over twice as wide as long; frons subopaque, finely and beautifully shagreened, with a few punctures at upper angles; vertex, occiput, and cheeks also finely shagreened; vertex separated medially from the occiput by a low carina; antennae finely pubescent, about as long as the head and the thorax united; the relative lengths and widths of joints are shown adequately in the accompanying illustration; thorax a trifle higher than wide, slightly more than two-thirds as wide as long, finely shagreened above and on the sides of the pronotum; notauli absent; mesonotum with a very short median projection be-

hind, not reaching across the fovea; scutellum broad and depressed, the tubercle scarcely visible; abdomen about as long as the head and thorax united, convex above and below, four-sevenths times as wide as long, widest near the apex of the second tergite, from which part it diminishes rapidly to a point; second tergite a fifth longer than wide, not sculptured at all; tergites three to six also polished, the last nearly as long as the three preceding, much wider than long; wings hyaline, without a marginal fringe, extending but little beyond the apex of the abdomen. Shining black; antennae and legs mostly rufous; antennal club, coxae, and middle and hind femora, dark brown or piceous.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25463, U.S.N.M.

In writing the foregoing description I have examined the two female types in the National Museum. I found no males in the collection, a matter which is of small importance since this sex was not mentioned in the original description.

The absence of any appreciable spine might keep the species out of *Leptacis*, as limited by the older classification, but the general shape of the scutellum and the absence of foveae on the second tergite are typical of the genus as I understand it.

20, LEPTACIS INERMIS (Ashmead).

Plate 1, fig. 15.

Synopeas inermis ASHMEAD, Bull. No. 1, Col. Biol. Assoc., 1890, p. 10, female.—

ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 287.

Female.—Length 1.5 mm. Body unusually long and slender for a species of this genus; head wider than the thorax, less than twice as wide as long, entirely finely shagreened; vertex not separated by a carina from the occiput, the latter faintly rugulose; antennae long and slender, as long as the abdomen, finely pubescent; thorax as wide as high, a little over three-fifths as wide as long, somewhat flattened above; notauli delicately indicated on posterior half of mesonotum, widely separated before the scutellum, the space between them forming a broad short lobe projecting partly over the scutellar fovea; scutellum rather broad, polished, sparsely pubescent on the sides, with an inconspicuous tubercle apically; abdomen long, elliptical when seen from above, convex above and below, one-fifth of its entire length longer than the head and thorax united; abdomen polished, pubescent only on the first and sixth segments; second tergite three-fourths as wide as long; following segments about equal, the sixth conical, a little longer than wide; wings hyaline, reaching far beyond the apex of the abdomen, with long marginal cilia. Black; scape at base, and legs entirely, stramineous; antenna brown, the club piceous.

Type locality.—West Cliff, Colorado.

Type.—Cat. No. 25464, U.S.N.M.

Redescribed from the type. One of the antennae has been mounted in balsam on a slide.

This species is remarkable in that it combines a broad, depressed scutellum with wings longly ciliate marginally. I had tried several years ago to retain Foerster's genus *Synopeas* by attempting to prove that in this group nonciliate wings always accompany a broad and depressed scutellum. *Leptacis inermis* served to frustrate my hopes in the matter.

21. *LEPTACIS RUFISCAPA* (Ashmead).

Plate 1, figs. 18, 19.

Synopeas rufiscapus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 288. Female and male.

Female.—Length 1.30 mm. Head twice as wide as long, not excavated posteriorly, subopaque by reason of its being uniformly finely shagreened; head seen from in front circular; vertex separated from the occiput by a carina; thorax as wide as high, one-third longer than wide; mesonotum convex, truncate posteriorly, the notauli absent; scutellum without pubescence above, with the tubercle absent; abdomen two-thirds as wide as long, broadly elliptical, abruptly narrowed posteriorly; second tergite not longer than wide; abdomen a little longer than the thorax, of about the same width; wings hyaline, with a short but distinct marginal fringe of hairs. Black; first six joints of antennae, mandibles, all of legs (except the coxae), and the hind femora and tibiae, rufous; rest of antennae and legs black or brownish-black.

Male.—Length 1.50 mm. Abdomen as long as the thorax, more or less ovate but not much narrowed anteriorly; second tergite with a narrow shagreened line posteriorly; anterior wing with the cilia either plastered down with shellac or not present.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 2275, U.S.N.M. Type female and allotype male selected.

Description based on female and male types in the National Museum. An antenna of each specimen is mounted in balsam on a slide. In the male the front and hind pair of legs are somewhat lighter colored than in the female.

22. *LEPTACIS BRADLEYI*, new species.

The following description is based on the "male" types of *Dolichotypes hopkinsi*, Crawford and Bradley, originally described and figured in 1911.²⁵

Female.—Length 1 mm. Frons subconvex, evenly rounded, very faintly reticulate; occiput more strongly reticulate, separated from the vertex by a blunt ridge; antennae as illustrated in connection

²⁵ Proc. Ent. Soc. Wash., vol. 13, 1911, pp. 124, 125.

with the original description; thoracic ratios: Length 20, width 12, height 14; spine of scutellum nearly straight in one specimen and strongly recurved in the other, about half as long as the rest of the scutellum; abdomen about twice as long as wide, as wide as the thorax, of a more slender shape than shown in the figure referred to above; second tergite as long as wide, widest apically, not medially as shown in the figure; tergites three to six polished, without visible sculpture; sixth tergite triangular, distinctly longer than wide, acutely pointed and with straight sides, not curved as shown in the original figure; hind wings with a long ciliary fringe. Shining black; scape yellow at base, rest of antenna dark brown; coxae, femora and tibiae, dark brown; trochanters golden yellow; tarsi stramineous.

Type locality.—Fall Creek, New York.

Type.—Cat. No. 25465, U.S.N.M. Type and paratype.

Described from the two types, deposited in the National Museum by Crawford and Bradley.

The original description of this species as the male of *Dolichotypes hopkinsi* is followed by a note saying that Professor Comstock found numerous specimens on a newly cut oak stump near Fall Creek. Nothing more is said regarding their habits.

23. LEPTACIS BREVIVENTRIS Ashmead.

Leptacis breviventris ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 273. Female in part only.

Amblyaspis breviventris (Ashmead) BRUES, Conn. State Geol. Nat. Hist. Surv., Bull. No. 22, 1916 (1917), p. 533.

Female.—Length 0.7 mm. Robust; head scarcely wider than the thorax, twice as wide as long; frons covered with fine undulating elevations reticulate in a way but with the lines rounded and subobsolete; occiput finely reticulate, separated from the vertex by a blunt ridge; antennae a little longer than the head and thorax united, inconspicuously pubescent; proportions of the thorax as follows: Length 18, width 13, height 15; mesonotum somewhat flattened, squarely excised posteriorly; notauli absent; scutellum convex, polished, not much wider than long, with the raised lateral margins far down on its sides; spine short, straight, blunt at apex; abdomen broadly elliptical, as long and as wide as the thorax, entirely smooth and shining; second tergite a little wider than long; terminal tergites broadly transverse, united one-third as long as the second; sixth tergite wider than long, triangular, with a rounded apex; wings hyaline, twice as long as the thorax, the anterior pair without distinct marginal cilia. Black: antenna (except the club) mandibles, front legs, and all tarsi, yellow or light brown; rest of legs dark brown to lighter shades of the same color, the femora the darkest.

Type locality.—Washington, District of Columbia.

Type—Cat. No. 25466, U.S.N.M.

Redescribed from the type specimen. The male type from Washington does not represent the same species as the female and is therefore not described here. Two females from Virginia and Maryland, belonging to the type series, also represent different species. They too remain undescribed.

The characteristics which distinguished this species are as follows: The finely reticulate frons; the slightly flattened and truncately excised mesonotum; the polished and regularly shaped abdomen; and the hyaline wings without cilia on the anterior pair.

24. *LEPTACIS ACICULATA*, new species.

Plate 1, figs. 16, 17.

Female.—Length 1.27 mm. Head about as wide as the thorax, full behind the eyes; frons transversely aciculate in a manner common to many species of *Platygaster*; vertex separated from the occiput by a high, sharp ridge; occiput shagreened; antennae rather long and slender, shortly pubescent, thoracic ratio: Length 25, width 17, height 20; mesonotum convex, shagreened, sparsely covered with short white hairs; notauli absent; mesonotum behind with a short U-shaped plate extending over the fovea to the scutellum; fovea traversed by short white hairs; scutellum highly convex, densely covered with short white hairs; spine of scutellum very short, acute, directed upwards; abdomen 0.62 mm. long, elliptical, two-thirds as wide as long, a little longer than the thorax, pointed apically; second tergite a little longer than wide, polished, without sculpture; next three tergites short, subequal in length, narrowing rapidly toward the apex, polished; last tergite triangular, not quite as long as the three preceding united, polished, considerably wider than long; wings slightly brownish, the anterior pair without cilia. Black; mandibles, base of scape, trochanters, most of anterior tibiae, and all tarsi (except the last joint of each) yellow; antennae brown and fuscous, the club darker; rest of legs brown and black, with varying shades of each, the bases of the tibiae, as is usual in this group, lighter.

Male.—Length 1 mm. Similar to the female in most respects. Antennae, especially the scape, rather long and slender; abdomen as long as the thorax but distinctly narrower, elliptical, broadly rounded posteriorly, two-thirds as wide as long; apex of second tergite with a narrow shagreened band (more distinct in some specimens than in others); tergites following the second narrow, each traversed apically by a narrow shagreened band. Black; appendages as a whole lighter colored than in the female; the antenna may be yellow with the terminal joints a little darker or the whole antenna may be yellowish brown or blackish, always darker distally; the legs likewise vary

greatly in color but are rather dark in the majority of specimens; the antennae and front legs and also all tarsi always have a fair percentage of yellow.

Type locality.—Glen Echo, Maryland.

Type.—Cat. No. 25467, U.S.N.M. Type, allotype and three paratypes. All on one pin.

Described from 13 specimens, 10 males and three females, collected by the author in the spring of the year 1917. The dates vary from April 29 to June 19.

I believe this to be the most variable species I have described so far. It is fortunate that we have so many specimens as false conceptions would arise otherwise. Care should be taken not to be too strict in interpreting comparative lengths in which the abdomen as a whole figures. In proportion as the terminal segments are extended or retracted the abdomen will actually be longer or shorter. It is only the first and second segments that remain in constant proportion, not in constant length, and this is because they are not telescopic.

It may be well to mention here that the size of the insect is not constant. One of the female paratypes is only 0.88 mm. in length, and several of the male paratypes are as long as 1.22 mm.

25. LEPTACIS FLORIDANA Ashmead,

Plate 1, fig. 20.

Leptacis floridanus ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 272. Male and female.

Male.—Length 1.10 mm. Head twice as wide as long, distinctly wider than the thorax, entirely shagreened, more coarsely so than in *rufiscapa*; thoracic ratio: Length 27, width 15, height 19; notauli distinct, nearly reaching to the margin of the pronotum; mesonotum shagreened, spine distinct but not very long, directed straight backward; abdomen obovate, as long and as wide as the thorax; second tergite as long as wide, without sculpture of any sort; segmental ratios (petiole not included): Lengths, 15, 2, 2.2, 2.2, 3; widths, 15, 11, 9, 6, 4; tergites 3–6 shagreened; wings hyaline, without cilia. Black; base of scape and parts of legs reddish yellow; femora, tibiae for the most part, and last joint of each tarsus, brownish.

Type locality.—Jacksonville, Florida.

Type.—Cat. No. 25468, U.S.N.M. Type selected.

Description based on male type. An antenna is mounted in balsam on a slide.

Two males and one female included by Ashmead in the type series do not belong to this species. They remain undescribed. The male selected agrees best with the original description.

26. LEPTACIS PUBESCENS Ashmead.

Plate 1, fig. 21.

Leptacis pubescens ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 275. Male.

Male.—Length 1.50 mm. Head distinctly but only slightly more than twice as wide as long, wider than the thorax, shagreened; vertex separated from the occiput by a carina; thoracic ratio: Length 32, width 20, height 22; mesonotum pubescent; notauli absent; scutellum transverse, pubescent all over, more strongly so on the sides; spine very short, sharp, directed upwards; abdomen a little longer and narrower than the thorax, elliptical, twice as long as wide; second tergite with an indistinct narrow shagreened band along its posterior margin; following segments similarly sculptured; segmental ratios (not counting the petiole): Lengths, 22, 2, 2, 2, 2; widths, 19, 17, 16, 14, 10, 5; wings hyaline, with a very short marginal fringe. Black; scape below, pedicel, and anterior legs yellowish brown; rest of legs mostly dark brown and piceous.

Type locality.—District of Columbia.*Type*.—Cat. No. 25469, U.S.N.M.

Description based on the type located in the National Museum. An antenna and the right hind leg are mounted in balsam on a slide.

SPECIES OF UNCERTAIN POSITION.

SYNOPEAS NIGRIPES (Ashmead).

Synopeas nigripes ASHMEAD, Bull. 45, U. S. Nat. Mus., 1893, p. 286.

This was originally described as follows:

Male.—Length 1 mm. Black, shining, with a microscopic sculpture; the face highly polished, with a median impressed line; lateral ocelli twice their width from the margin of the eye. Antennae 10-jointed, black, the flagellum thickened toward the apex, covered with sparse white hairs; pedicel as long as the first and second funicular joints together, the first funicular joint small, rounded; club joints, except the last, longer than wide, the last ovate. Mesonotum with two delicate furrows; scutellum convex, with a subobsolete tubercle at tip; metapleura opaque, sparsely pubescent; metanotum subpubescent. Legs entirely black, the tarsi piceous tegular black. Wings clear hyaline. Abdomen ovate, petiolate, as long as the thorax, the petiole and the base of second segment striated, the third, fourth, fifth, and sixth, segments with a transverse row of punctures.

Habitat.—Washington, District of Columbia.

Type in Collection Ashmead. (Original description.)

I am not sure whether this species belongs in *Leptacis* or *Platygaster*. The spined scutellum would seem to indicate the former genus but the striated first and second tergites certainly exclude it from that group and point rather to *Platygaster*. Inasmuch as the type has been lost I can not place the species definitely in one genus or the other.

HOST CATALOGUE.

The following is a list of the various insect hosts referred to in this paper:

COLEOPTERA.

Balaninus nasicus Say.

Trichacis rufipes Ashmead. Doubtful record.

Fidia viticida Walsh.

Fidiobia flavipes Asmead.

DIPTERA.

Aspidiotus, species on *Bigelovia*.

Platygaster striaticeps Ashmead.

Asynapta, species on willow.

Platygaster asynaptae Ashmead.

Cecidomyia antennaria Wheeler.

Platygaster antennariae Ashmead.

Cecidomyia baccharicola Ashmead MS.

Platygaster baccharicola Ashmead.

Cecidomyia C. ananassa Riley.

Platygaster virginiensis Ashmead.

Cecidomyia farinosa Osten Sacken on Blackberry.

Platygaster rubi Ashmead.

Cecidomyia pini-inopsis Osten Sacken.

Platygaster diplosidis Ashmead.

Cecidomyia serrulata Osten Sacken.

Platygaster alnicola Ashmead.

Cecidomyia symmetrica Osten Sacken on Oak.

Platygaster tumida Ashmead.

Dactylopius confusus.

Platygaster texana Fouts.

Dasyneura leguminicola Lintner.

Platygaster leguminicolae Fouts.

Diplosis tritivi Felt.

Platygaster error Fitch.

Cecidomyid gall on Actinomeris squarrosa Nuttall.

Platygaster actinomeridis Ashmead.

Cecidomyid gall on Alder.

Platygaster columbiana Fouts.

Cecidomyid gall on Artemisia californica.

Platygaster artimesiae Ashmead.

Cecidomyid gall on Aster.

Platygaster astericola Ashmead.

Platygaster relativa Fouts.

Cecidomyid gall on Atriplex canescens.

Platygaster atriplicis Ashmead.

Cecidomyid gall on Baccharis pilularis.

Platygaster californica Ashmead.

Cecidomyid gall on Blackberry.

Trichacis rubicola Ashmead.

Cecidomyid gall on Cornus paniculata L'Herblay.

Trichacis cornicola Ashmead.

Cecidomyid gall on Eurotia canata.

Platygaster eurotiae Ashmead.

Cecidomyid gall on Grapevine.

Platygaster viticola Ashmead.

Cecidomyid galls on Hickory trees.

Eritrissomerus cecidomyiae Ashmead.

Platygaster caryae Ashmead.

Cecidomyid gall on *Lupinus_atherea*.

Platygaster lupinicola Ashmead.

Cecidomyid galls on *Pinus ponderosa*.

Platygaster burkci Rohwer.

Cecidomyid gall on Sage brush.

Platygaster coloradensis Ashmead.

Cecidomyid galls on *Solidago*.

Platygaster solidaginis Ashmead.

Platygaster variabilis Fouts.

Cecidomyid gall on Willow.

Platygaster salicicola Ashmead.

Cecidomyid on *Picea engelmanni*.

Platygaster diplosidis Ashmead.

Cecidomyid on *Pinus edulis*.

Platygaster pini Fouts.

Lasioptera species on *Muhlenbergia*.

Platygaster linearis Fouts.

Oedaspis atra Loew.

Platygaster atrae Fouts.

Phytophaga destructor Say.

Platygaster herrickii Packard.

Platygaster hiemalis Forbes.

Platygaster vernalis Myers.

Rhopalomyia hirtipes Osten Sacken.

Platygaster semiglaber Girault.

Trypetid gall on *Vernonia noveboracensis*.

Platygaster vernoniae Ashmead.

Walshomyia texana Felt.

Platygaster feltii Fouts.

HEMIPTERA.

Aleurodes species.

Amitus aleurodinis Haldeman.

HYMENOPTERA.

Andricus blastophagus Ashmead.

Platygaster andriciphilus Ashmead.

Ewura s.-nodus Walsh. From gall.

Platygaster ewurae Ashmead.

Isosoma (?) galls on *Baccharis pilularis*.

Platygaster lampronota Fouts.

Neuroterus batatus Fitch.

Platygaster cynipicola Ashmead. Doubtful record.

LEPIDOPTERA.

Blastobasis glandulella Riley.

Trichacis rufipes Ashmead. Doubtful record.

GENERAL COLLECTING AND REARING RECORDS.

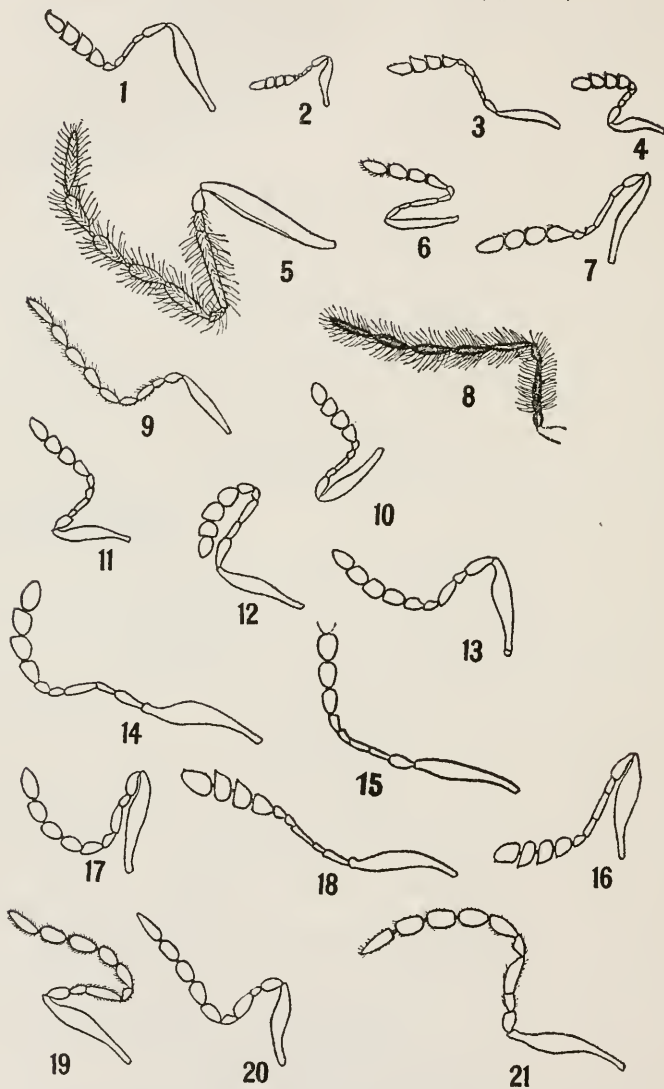
Abies concolor (reared from cones).

Platygaster gahani Fouts.

Platygaster rohweri Fouts.

Abies shastensis (reared from cones).

Platygaster shastensis Fouts.



ANTENNAE OF VARIOUS SPECIES OF LEPTACIS.

FOR EXPLANATION OF PLATE SEE PAGE 139.

Black locust (collected on leaves).

Sactogaster anomaliventris Ashmead.

Catalpa (collected on leaves).

Leptacis pallipes Fouts.

Cercis canadensis Linnaeus (collected on leaves).

Leptacis gahani Fouts.

Grass (collected on leaves).

Platygaster websteri Fouts.

Hickory (collected on leaves).

Eritrissomerus parvus Fouts.

Liriodendron tulipifera Linnaeus (collected on leaves).

Platygaster marylandica Fouts.

Milkweed (collected on leaves and flower buds).

Leptacis pennsylvanica Fouts.

Mulberry (collected on leaves).

Sactrogaster mucronata Fouts.

Oak (collected on stump).

Leptacis hopkinsi Crawford and Bradley.

Leptacis bradleyi Fouts.

Picea engelmanni (reared from cones).

Platygaster lucida Fouts.

Pinus lambertiana (reared from cones).

Platygaster rohweri Fouts.

Populus (collected on leaves).

Sactogaster anomaliventris Ashmead.

Tilia americana Linnaeus (collected on leaves).

Leptacis globata Fouts.

Wild cherry (collected on leaves).

Sactogaster anomaliventris Ashmead.

Willow (reared from gall).

Isocybus canadensis Provancher.

EXPLANATION OF PLATE.

- FIG. 1. Antenna of *Leptacis striatifrons* Ashmead. Female.
2. Antenna of *Leptacis maculipes*. Female.
3. Antenna of *Leptacis minuta*. Female.
4. Antenna of *Leptacis pennsylvanica* Fouts. Female.
5. Antenna of *Leptacis longipes* Ashmead. Male.
6. Antenna of *Leptacis americana* Ashmead. Female.
7. Antenna of *Leptacis gahani* Fouts. Female.
8. Antenna of *Leptacis gahani*. Fouts. Male.
9. Antenna of *Leptacis rugiceps* (Ashmead). Male.
10. Antenna of *Leptacis longiventris* Ashmead. Female.
11. Antenna of *Leptacis flavicornis* Ashmead. Female.
12. Antenna of *Leptacis globata* Fouts. Female.
13. Antenna of *Leptacis globata* Fouts. Male.
14. Antenna of *Leptacis incerta* Ashmead. Female.
15. Antenna of *Leptacis inermis* Ashmead. Female.
16. Antenna of *Leptacis aciculata* Fouts. Female.
17. Antenna of *Leptacis aciculata*. Fouts. Male.
18. Antenna of *Leptacis rufiscapa* Ashmead. Female.
19. Antenna of *Leptacis rufiscapa* Ashmead. Male.
20. Antenna of *Leptacis floridana* Ashmead. Male.
21. Antenna of *Leptacis pubescens* Ashmead. Male.

INDEX.

This index includes the generic and specific names of Platygasterinae referred to in this paper. Valid generic names are in bold face type, valid specific names in roman, and synonyms in *italics*. The generic name following the author's name indicates the genus in which the species is placed. When the author's name is in parenthesis the species was described in a genus different from the one to which it is assigned in this paper. When the generic name is in roman the species listed under the genus were erroneously assigned to this genus and the genus is not treated in this article.

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