NEW AND LITTLE-KNOWN GUESTS OF THE TEXAN LEGIONARY ANTS.[1]

CHARLES THOMAS BRUES.

THE species included in the present paper are all Ecitophiles which have been collected in the vicinity of Austin, Texas, by Dr. Wm. M. Wheeler, Mr. A. L. Melander, and the author, during the past two winters. The three species of Eciton (*E. schmitti* Em., *E. opacithorax* Em., and *E. cœcum* Latr.) which occur here commonly seem to harbor a larger number and a greater range of myrmecophiles than any other restricted group of ants with which we are acquainted. Their nest mates seem also to be more aberrant forms than those living with the other ants, — a condition which may possibly be produced by two unusual peculiarities of the Ecitons. Their eyes are very small (even absent in the worker of *E. cœcum*), and their power of vision must be correspondingly poor; then, too, their nomadic life must prevent many myrmecophilous forms from living with them, which would otherwise probably occur regularly. *Eciton schmitti* and *E. opacithorax* change the sites of their nests quite frequently and may often be seen marching in columns which extend over long distances, and at such times their guests must either travel along with them or be left to shift for themselves. *Eciton cœcum* is apparently always upon the move, but traveling below the surface of the ground and not venturing out, at least in the daylight.

Insects of three different orders are represented, Diptera, Hymenoptera, and Coleoptera; the new Diptera which belong to the family Phoridæ being among the most peculiar and remarkable of described myrmecophiles.

[1] *Contributions from the Zoölogical Laboratory of the University of Texas*, No. 25.

COLEOPTERA.

CARABIDÆ.

1. Anillus affabilis sp. nov.

Length 2 mm. Rufotestaceous, darker anteriorly, elytra lighter than head and thorax. Head smooth, shining; frontal impressions deep but not large. Antennæ testaceous, scarcely longer than head and thorax, slightly thickened towards apex. Palpi testaceous. Thorax distinctly wider than long, widest near the anterior angles, narrowest at base. The sides arcuate anteriorly and slightly sinuate posteriorly. Surface sparsely but distinctly pubescent. Side margin very narrowly reflexed, distinctly serrate, with four or five teeth near the slightly obtuse posterior angles. Median line delicately but distinctly impressed. Posterior transverse impression arcuate, the surface finely rugose behind it. Elytra considerably wider than thorax, distinctly serrate at the broadly rounded humeral angles and posteriorly to middle, where the teeth become obsolete. Side margin regularly arcuate, not at all angulated. A row of large punctures near the lateral margin, growing smaller and less distinct toward the apex, form an ill-defined, broad lateral stria. Dorsal striæ almost obsolete, the first three very faintly impressed, remainder indistinguishable. Elytra with three long lateral setæ, one at humeral angle, one at posterior third, and one subapical. Just anterior to the first long seta is a shorter one. Elytra sparsely clothed with erect pubescence. Legs pale testaceous.

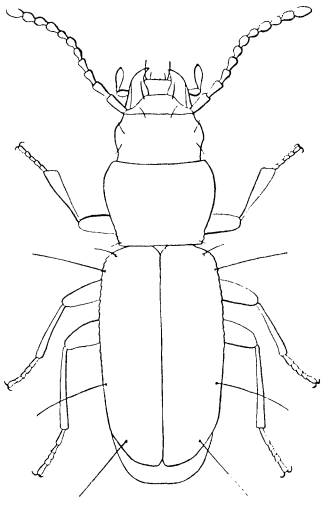

FIG. 1. — *Anillus affabilis* sp. nov.

Described from three specimens collected at Austin, Texas. Two were sifted from a nest of *Eciton cæcum* Latr., and one from a nest of *Solenopsis geminata* Fabr. While *A. affabilis* may not be strictly myrmecophilous, it is evidently partial to ant nests as a habitation.

This species most closely resembles *A. explanatus* Horn, from which it differs in having broadly rounded humeral angles, no angulation of the elytral margin, and by the three large elytral setæ.

The Californian *A. debilis* Lec. has been recorded from Texas by Schwarz, but the species here described differs in having the elytra serrate near the humeri. The original three-line description of *A. debilis* Lec.[1] would not serve for identification, but Horn[2] mentions that the elytra have the "margin not serrate."

STAPHYLINIDÆ.

2. Ecitonidia wheeleri Wasmann.[3]

A second specimen of this species was found April 20, 1901, in a nest of *Eciton schmitti* Em., the same species with which the type specimen was discovered. It is nearly as large as the worker ants and quite similar in color and movements, so that it is rather difficult to distinguish among a large number of ants. It is undoubtedly mimetic of the ants, but whether its resemblance enables it to deceive the ants as to its identity would seem very doubtful. The probability of its resemblance being due to some outside influence of natural selection is heightened by the fact that it must be exposed to insectivorous animals as it marches along in the columns of the ants, which are often seen in broad daylight and hence are exposed more than most species of ants with their attendant myrmecophiles.

3. Ecitopora tenella Wasmann.[4]

The original types of this species were part of a collection of numerous specimens from a nest of *Eciton schmitti* collected during October at Austin. Since that time we have found another species of this genus, the second to be recorded from North America.

North American Species of Ecitopora.

Thorax one and one-half times as wide as long, strongly arcuate on the sides, length 3 mm. . . . . *laticollis* sp. nov.

Thorax but slightly wider than long, almost straight on the sides, length 2–2.3 mm. . . . . *tenella* Wasm.

[1] *Trans. Amer. Phil. Soc.*, vol. x, N.S., p. 397.

[2] *Trans. Amer. Ent. Soc.*, vol. xv, p. 26.

[3] Neue Dorylinengäste, *Zool. Jahrb.*, Abth. f. Systematik, Bd. xiv, Heft 3, p. 69.

[4] *Loc. cit.*

4. **Ecitopora laticollis** sp. nov.

Length 3 mm. Pale fuscous; head black, elytra almost testaceous, thorax somewhat darker on the disk. First two abdominal segments with a lighter band at apex, abdomen elsewhere fuscous, legs alutaceous. Antennæ fuscous, paler on three basal joints; beyond the third joint they are very gradually thickened toward the tips, joints 4–10 being not quite twice as wide as long. Eleventh joint conical, slightly longer than the two preceding. Thorax one and one-half times as wide as head and one and one-half times as wide as long; widest at the middle, before which it is rather sharply narrowed; behind it is not so strongly narrowed. Front margin of the thorax somewhat concave on each side of the middle. Elytra not wider than the thorax at their base. Abdomen at base as wide as the prothorax, acuminate.

This species resembles *E. tenella* in general color and appearance, but is larger, with darker head and much wider thorax.

Described from numerous specimens collected in a nest of *Eciton schmitti*, February, 1901.

HISTERIDÆ.

5. **Ulkeus intricatus** Horn.[1]

Two specimens of this remarkable histerid were collected in a nest of *Eciton opacithorax* Em., March 24, 1901. They agree very well with Horn's original description, except that the frontal carinæ are divergent, not convergent above, and the network of fine raised lines upon the discal portion of the thorax is very faintly outlined in some places.

Horn makes no mention of the peculiar structure of the setæ with which the body is clothed. All the hairs upon the body are provided with long barbs. Those upon the head have the barbs shortest and scattered upon the central spine, but easily distinguished from it. Those upon the remainder of the body have no distinct central spine except at base, beyond which they split up into about five or six sharp barbs. Upon the dorsal surface of the body each forms a sort of stiff brush, which is flattened so as to appear very slender when seen from the side, but quite spreading when viewed from the front.

[1] *Trans. Amer. Ent. Soc.*, vol. xii (1885), pp. 142–143.

There can be no doubt that this histerid is a true myrmecophile of *Eciton opacithorax* Em., for Wasmann mentions it as occurring in North Carolina near a nest of the same ant.[1]

6. **Echinodes setiger** Lec.

We have found this histerid in company with *Eciton cæcum*, although very rarely. It is not uncommonly seen, however, in nests of *Solenopsis geminata* Fabr. and various species of Pheidole.

HYMENOPTERA.

PROCTOTRUPIDÆ.

7. **Ceraphron croceipes** sp. nov.

Female. Length 1 mm. Black, shining, feebly punctured. Antennæ ten-jointed, black, scape ferruginous except at tip, where it is darker; pedicel pale at tip, constricted towards base, one and one-half times as long as first flagellar joint; second joint as long as first but stouter, not transverse; 3–5 equal in length, but gradually wider; 6 and 7 broadest, subequal, quadrate; last joint as long as two preceding, and as wide at base, acutely conically pointed at tip. Head finely punctured and white pubescent. Frontal cavity deep, circular in outline, bare, and impunctured. Groove in front of anterior ocellus punctiform. Mandibles dark yellow, palpi pale. Collar black, with a lemon-yellow stripe on each side. Thorax very delicately punctulate and white pubescent; mesonotum with a small tooth at each anterior angle. Axillæ broadly meeting in front of the scutellum, which is one-half longer than wide and fringed with stout golden bristles on the sides, except near the apex, its sides strongly areolated anteriorly. Postscutellum rounded at tip, its sides sinuate and white pubescent. Metathorax polished, its posterior angles produced and carinate. Metapleuræ smooth, obliquely striolate behind, and bounded by two carinæ above. Tegulæ piceous, wings subhyaline, slightly infuscated toward apex. Abdomen polished black, the second segment twice as long as the following segments, coarsely striolate at base, with a tuft of white pubescence at each anterior angle. Third and fourth segments about equal, fifth and sixth shorter and equal. Legs, including coxæ, wholly deep yellow, except the apical joint of all the tarsi, which is piceous. Posterior coxæ with a bunch of yellow hairs posteriorly.

Described from a female specimen collected in the galleries of a nest of *Eciton cæcum* Latr., at Austin, Texas, Feb. 3, 1901.

[1] Ein neuer Eciton-Gast aus Nord-Carolina, *Deut. Ent. Zeit.*, Heft 2 (1897), p. 281.

This species is quite closely allied to *C. pedalis, flaviscapus, glaber*, and *carinatus*, but is distinct from all by the form of the antennæ, axillæ, postscutellum, and maculation of collar.

Ecitonetes gen. nov.

Head globose, with a deep longitudinal frontal depression. Ocelli in a triangle, small and close together. Eyes oval, one-half as long as head and one-half as wide as long, coarsely faceted. Antennæ inserted on projections near the base of the clypeus; ten-jointed in female, scape stout, one and one-half times as long as eye, pedicel one-half longer than first flagellar joint, slender. Antennæ thickest at the seventh joint; last joint about one-third as long as scape and obtusely pointed at tip, equal in length to pedicel. Maxillary palpi long, four-jointed, last joint somewhat swollen; mandibles indistinctly bidentate. Thorax oval, the prothorax not visible from above. Mesonotum oval, rounded before and behind, considerably narrower than the head, and without any furrows or grooves. Scutellum absent, or at least not separated from that part of the mesonotum which extends over the place usually occupied by the scutellum. Metathorax produced into small teeth on extreme lateral and latero-posterior angles; much reduced, sloping on the sides and narrowed behind. Wings very small, about as long as distance between posterior ocelli or length of third antennal joint, with a strong vein along the costal margin and three strong bristles on the apical front margin, each about as long as the wing. Abdominal petiole very short, the abdomen squarely truncate at the base, where it is about as wide as the thorax. Abdomen oval, acuminate, with six visible segments, the first of which is as long as the rest together, second and third subequal, each about one-fourth as long as first. Legs rather short, stout; femora, especially posterior pair, swollen; anterior and posterior tibial spurs well developed. First joint of all tarsi elongated and longer than the three following; claws simple.

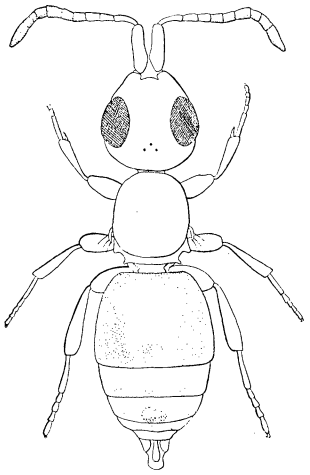

FIG. 2.—*Ecitonetes subapterus* ♀, sp. nov.

8. **Ecitonetes subapterus** sp. nov.

Length 2 mm. Light ferruginous, except the apical three joints of the antennæ, which are black; a sinuous dark band on the first abdominal segment, lighter toward the sides and hind margin; the narrow posterior margins

of second and third segments, and an oval spot on the third segment, dark. Eyes but little convex, finely hairy. Ocelli almost equidistant, small, and rather close together. Basal half of antennæ lighter than body, almost yellow. Thorax convex above, somewhat darker than the head. Abdomen smooth, without striæ or grooves, convex above and rather sharply convex below, so that the median line is quite sharply defined. Ovipositor black.

Described from one female specimen, collected in a nest of *Eciton cœcum* Latr., at Austin, Texas, during February, 1901.

While searching for the myrmecophilous Phoridæ in the nests of the large blind driver ant I chanced upon this small insect, which, from its actions and color, simulated one of the very smallest of the Eciton workers. Had it not been for its exceedingly small size and more robust build it would undoubtedly have passed unobserved among the ants. On examination with a lens, however, it was easily recognized as a proctotrupid. I have been unable to refer it to any described genus, although its place in the Ceraphronidæ is quite certain. It seems most closely related to Lagynodes Först., from which it differs by the ten-jointed antennæ, shorter scape, distinct ocelli, absence of groove on mesonotum, absence of scutellum, and shorter legs. The dark spot upon the third abdominal segment when strongly magnified is seen to consist of a network of raised black lines, which are coarser and more distinct posteriorly. This structure is interesting, as we know that at the same relative position on the abdomen of other Eciton myrmecophiles (Phoridæ) we also find a spot where the integument is peculiarly modified. This suggests some possible way that these blind ants may have of recognizing their habitual nest mates by means of markings which they can perceive by touch.

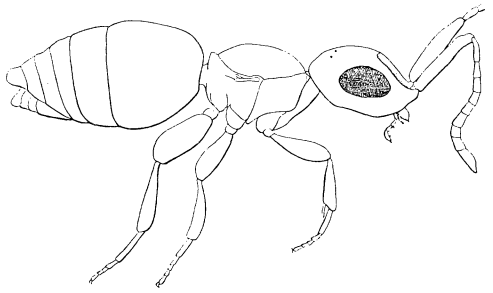

FIG. 3. — *Ecitonetes subapterus* ♀ sp. nov.

9. **Telenomus texanus** sp. nov.

Female. Length 1 mm. Black, shining, smooth, except thorax, which is very finely punctured. Antennæ piceous, lighter at base and apex of scape and apex of pedicel. Mandibles yellowish at tips. Head but little more than twice as wide as long antero-posteriorly, sparsely white pubescent. Face shining, smooth, vertex distinctly reticulate with fine impressed lines, reticulation extending down for some distance along the inner border of the eye. Front ocellus in a depression, lateral ones contiguous with eye margin. Eyes black, sparsely covered with short white hairs. Antennæ eleven-jointed; pedicel one and one-half times as long as first flagellar joint, which is nearly twice as long as thick; second and third thicker, but of same length as first; fourth small, transversely oval; fifth larger, transverse; three basal joints of club nearly equal, subquadrate; last joint conical. Thorax as wide as head, more thickly and finely hairy, and not so shining. It is also reticulate, but less noticeably than the head. Wings fusco-hyaline, marginal vein three-fourths as long as stigmal, wing margins strongly fringed. Abdomen very shining, slightly longer than thorax; second segment about as wide as long; the apical three segments fringed with fine white bristles. Legs and coxæ deep yellow; hind femora infuscated on middle portion, tibiæ, also, to a less degree. Tarsi paler, except last joint, which is black.

Described from a female specimen collected in a nest of *Eciton cæcum* Latr., near Austin, Texas, during March, 1901. The insect was found among the ants at a distance of several inches below the surface of the ground.

As all the other members of this genus are egg parasites it is possible that this species may be parasitic upon some guest of the Eciton, as is sometimes the case.

Telenomus texanus is most closely related to *T. geometræ* and *T. noctuæ*, from either of which it is easily distinguished by the form of the head, antennæ, and marginal vein.

10. **Phænopria acutiventris** sp. nov.

Female. Length 1 mm. Black, shining, impunctured. Antennæ rufo-piceous, the three-jointed club piceous; scape slender, arcuate; pedicel stout, oval, equal in length to first joint of club. First joint of flagellum one and one-half times as long as the second, which is moniliform, third and following joints increasing in size, moniliform except the last, which is oval and as long as the two preceding taken together. Posterior margin of head and anterior margin of collar white pubescent. Mesonotum considerably narrowed in front, convex. Scutellum flat at base and strongly convex on

the disk, without any pits or grooves. Wings hyaline, reaching considerably beyond the tip of abdomen, strongly fringed. Metathorax pubescent, dark rufous. Petiole and all the coxæ and trochanters saturate yellow, the former white pubescent. Femora and tibiæ strongly clavate, the swollen part piceous, becoming concolorous with the coxæ at the bases; tarsi slender, fuscous, darker at the tips. Abdomen highly polished, as long as head and thorax together, and conically pointed at the tip. Second segment reaching to a little beyond the middle of abdomen; third and fourth segments very short; fifth long and pointed, beset with a few stout white hairs.

Described from a female specimen collected in a nest of *Eciton cœcum* Latr., near Austin, Texas, during March, 1901.

I have placed this species in the genus Phænopria because of the form of the scutellum, although it resembles species of the genus Tropidopria in the form of the abdomen.

PHORIDÆ.

Acontistoptera gen. nov.

Head very broad, more than one and one-half times as wide as thorax at widest portion, widest at the front angles; half as long as wide; seen from above regularly arcuate in front, concave behind; front angles sharp, hind ones broadly rounded. Epistoma projecting slightly and visible from above as a narrow band extending between the antennæ. Eyes smaller than in Ecitomyia, oval, their longest axis equal to diameter of large antennal joint. Upper surface of head with a pair of small median macrochætæ, eight marginal ones on lateral and posterior edges, one over each eye, a bunch at front angles, and a regular series of closely placed ones along the front between the antennæ. Antennæ of the usual form, with an apical arista. Palpi projecting, of the usual form. Head seen from the side higher than long; front long, but slightly descending, rather acutely prolonged over the deep antennal cavity. Mentum very large, bristly along the front margin, and bearing several discal macrochætæ. Eyes very small, contiguous with front margin of the head below the middle of the antennal cavity; ommatidia hemispherical, few in number. Sides of head with a few macrochætæ below and behind the eye and a series of marginal ones from front edge to middle of lower margin.

Thorax small; when seen from above, much narrower than the head and greatly narrowed behind, the sides slightly sinuate; about one and one-third times as long as the head. The pleuræ partially visible from above, owing to the narrowness of the dorsum. Dorsum with a pair of very long, stout macrochætæ at the anterior angles and a shorter pair directly posterior to these. A pair of anterior, closely approximated, small discal macrochætæ;

two median larger and less approximate ones; and a pair of subapical ones. Scutellum very small, with a pair of dorsal macrochætæ. Thorax, seen from the side, but little larger than the head, strongly elevated in front; coxæ of the usual form. Legs rather slender, especially the tarsi. Spurs of four front tibiæ well developed. Wings about as long as the width of the thorax, arcuate, of nearly equal width and obtuse at tip, with a few short marginal bristles on its basal external margin. At about the middle these suddenly enlarge to form enormous macrochætæ, which continue to enlarge until at the tip they are more than twice as long as the wing and exceedingly stout. There are about ten of these large macrochætæ, which are all strongly, thickly, and almost scaly pubescent. Abdomen shaped as in Commoptera, without any indications of segments or sclerites, except the one probably corresponding to the fourth dorsal plate of Ecitomyia, which is small, with two macrochætæ, and has a chitinous ring extending from its posterior edge, which no doubt serves in connection with a gland like that of Ecitomyia. Abdomen everywhere sparsely and regularly finely bristly.

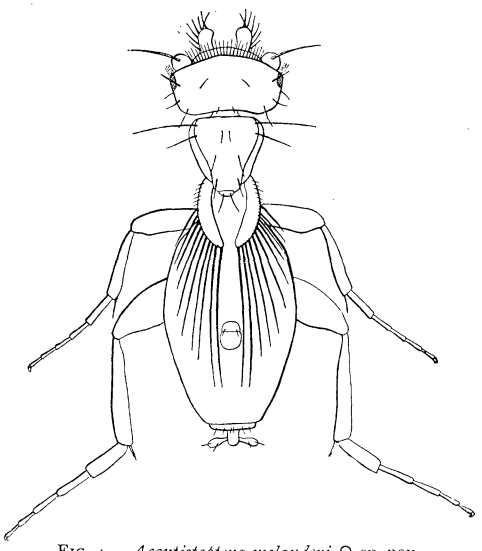

FIG. 4.—*Acontistoptera melanderi* ♀ sp. nov.

11. **Acontistoptera melanderi** sp. nov.

Length 1 mm.; of longest wing bristle, .4 mm. Light yellow, head darker, fuscous in places, the occiput irregularly lighter, a small yellow circular spot at the base of all the macrochætæ. Antennæ and palpi and lower part of the head yellowish white. Thorax above but little lighter than head. Wings almost white, their bristles black and very conspicuous. Abdomen, underside of thorax, and legs pale yellow. Legs finely black hairy and more deeply colored distally.

Described from a single female specimen[1] collected in a nest of *Eciton opacithorax* Em., March 24, 1901, at Austin, Texas.

[1] After this article had gone to press we were so fortunate as to find ten more female specimens in another nest of the same ant on December 6 and 7, 1901. They differ in no respect from the example figured, except that the abdomen is in

On overturning a large stone, beneath which a small colony of the ants had formed their nest, the fly in question was seen darting about upon the surface of the ground in the exceedingly nervous manner which characterizes the movement of Ecitomyia. It appeared much larger than any specimens of Ecitomyia, but, unfortunately, in capturing it the abdomen collapsed so that it has been impossible to determine whether the large size was due simply to a swollen condition of the abdomen or to something attached to it (possibly one of the very large eggs or a larva).

This form is at once recognized by the marginal row of enormous macrochætæ on the wings, which are also broader than those of Ecitomyia. The head is exceedingly large and wide in comparison with the extremely narrow thorax, which is quite different from that of any described phorid, in that the dorsum is so narrow that it allows the pleuræ to be visible from above along their entire length. The head is very much flattened and is remarkable for the row of closely placed macrochætæ along the anterior edge of the front. The eyes are about the size of those of Ecitomyia and have the same degenerate external structure. The mentum is large and more closely continuous with the sides of the head than is usually the case. The abdomen is wholly membranous, with the exception of a single segment (the fourth ?), which lies directly anterior to the abdominal gland instead of behind it as in Ecitomyia; a rather remarkable difference were it not known that in

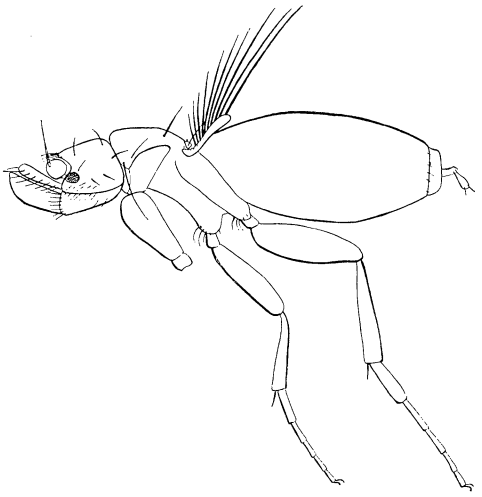

FIG. 5.—*Acontistoptera melanderi* ♀ sp. nov.

some cases nearly twice as large, swollen out and filled with a liquid in which can be seen large developing eggs, some of which have the blastoderm completely formed.

another Texan genus, Commoptera, the gland is situated in the middle of the segment and could thus give rise independently to the condition of Ecitomyia or to that of Acontistoptera. The legs of this form are long and quite slender, the front ones are unfortunately broken off at the base of the femur in the only specimen I possess.

Xanionotum gen. nov.

Head broad, one and one-half times as wide as the dorsum of the thorax near the posterior angles; rounded triangular in shape, the anterior angles not at all evident, posterior ones rounded; twice as wide as long antero-posteriorly, when seen from above. Eyes barely visible from above at the extreme posterior angles of the head. Four marginal macrochætæ on middle of front, one on each side halfway toward the eye, another just in front of eye, one at posterior angle, and a pair of median posterior marginal ones and two widely separated discal ones. Antennæ rather large, of the usual form with apica arista, attached at the lower part of their unusually shallow cavities. Palpi visible from above for a distance equal to diameter of second antennal joint, rather slender, and with the usual bristles. Epistoma not visible from above. Ocelli absent. Eyes very small, situated slightly below and in front of the center of the sides of the head. Cheeks bristly, bearing a marginal row and an exceptionally strong macrochæta at the lower posterior angle. Proboscis nearly as long as height of head, acuminate, slightly geniculate at base. Thorax rounded, rather suddenly narrowed behind, much narrower than the head and a little longer; slightly wider than long. It is very broadly rounded on the sides and at the anterior angles, and not at all sinuate on the sides. Dorsum so wide as to almost entirely conceal the pleuræ. Scutellum very small, without macrochætæ. Metathorax visible behind it as a sclerite, which is but little larger than the scutellum. Dorsum with a pair of strong macrochætæ on the anterior angles, which are as long as the greatest width of the thorax; also a pair of strong postmedian

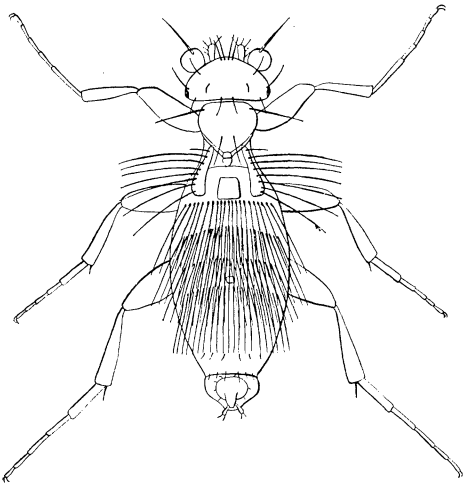

FIG. 6.—*Xanionotum hystrix* ♀ sp. nov.

discal ones. Thorax seen from the side considerably larger than the head, the dorsum regularly arcuate. Coxæ as usual, the anterior ones rather short; legs slender, the tarsi long, spurs of four posterior tibiæ well developed. Wings nearly as long as width of thorax, clavate, about two-thirds as wide at base as at apex, where they are rounded truncate. Wings very strongly bristly, the macrochætæ longer than the wing, the longest being one and one-half times as long, much more slender than those on the wings of Acontistoptera. All the bristles are on the distal three-fourths of the outer margin, about seven on the upper edge and three or four below. Abdomen of the usual shape with the dorsal plate of only the fourth segment visible; it is quadrate, somewhat narrowed in front and about as wide as diameter of second antennal joint. The gland opening on the fourth segment small and with the margin hardly at all thickened. The posterior margin of the four anterior abdominal segments marked off by wide rows of enormous macrochætæ which extend more than halfway across the abdomen. Each row contains about twenty bristles, those in the anterior rows being somewhat the longest and nearly equaling the wing bristles in length and thickness. Each bristle is not simple but composed of two distinct pieces, a short, stout basal piece, apparently contiguous with the abdominal cuticle and hollowed out into a spoon-shaped dorsal cavity at the apex into which the bristle is articulated. Fifth, sixth, and seventh segments faintly indicated by marginal bristles and by constrictions. Abdomen everywhere sparsely short hairy. Sexual organs smaller than usual.

12. **Xanionotum hystrix** sp. nov.

Length 1.25 mm. Light yellow, almost white, the head much darker above, except an irregular yellowish spot on the vertex; all the large macrochætæ fuscous. Thorax tinged, darker above, especially in front. Legs concolorous with the body, tarsi darker yellow, legs finely black hairy.

Described from a single female specimen[1] collected at Austin, Texas, March 24, 1901, in the same nest of *Eciton opacithorax* in which the specimen of *Acontistoptera melanderi* was discovered. Although the nest was carefully sifted it revealed no other specimens of either form.

This form is undoubtedly the most remarkable phorid which we have collected here, and although it was so closely associated with the other new genus here described, there seems to be no possibility of considering them as dimorphic forms of a single species, as almost every part of the body is quite different in

[1] We have since found another exactly similar specimen with the same ant, December 6, 1901.

structure. It has been placed in a different genus on account of the different shape and chætotaxy of the head, its shorter thorax with broader dorsum, abdomen with first dorsal plate present and fourth wanting, and with the four rows of large spines. We must of course expect to find a greater disparity between these greatly degenerate forms than among more specialized Diptera, but to include two such dissimilar species in the same genus is hardly consistent with the importance usually laid upon structural characters.

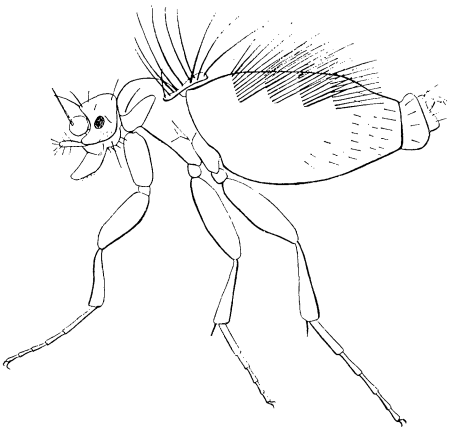

FIG. 7.— *Xanionotum hystrix* ♀ sp. nov.

The head is very strongly arcuate in front and the lower margin is not visible from above. The antennæ are larger than in the other genus, and the eyes slightly smaller. The thorax is not so unusual in shape, although the pleuræ are slightly visible from above on the posterior part. The thorax in both genera is, however, a closer approach to the typical dipteron thorax than that of Ecitomyia. The rows of closely placed abdominal spines are an unusual development, which give the abdomen a most peculiar appearance. In this form the opening of the abdominal gland is near the middle of the fourth segment.

13. **Ecitomyia wheeleri** Brues.[1]

This form is an habitual nest mate in most of the *Eciton cæcum* nests which we have seen in this region, although the imagines become rare and perhaps disappear entirely upon the approach of the summer heat and drought.

The two specimens from a nest of *Eciton schmitti* Em. may possibly have represented another closely allied species, but were unfortunately sectioned before it was recognized that numerous species of myrmecophilous Phoridæ occur in this region.

[1] *American Naturalist*, May, 1901.