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Insecutor Inscitiae Menstruus

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SOME NEOTROPICAL SYRPHIDÆ

(Diptera)

By FREDERICK KNAB

Quichuana, new genus.

In the majority of characters and in appearance agreeing with *Elophilus*; differs in the hairy eyes, narrower front, and the more prominent antennæ with elongate third joint.

Wings with the marginal cell open, anterior cross-vein beyond middle of discal cell, third vein with a deep loop into first posterior cell. Antennæ prominently inserted, third joint elongate, flattened, parallel-sided, at least twice as long as broad, rounded at apex; arista bare, inserted close to base. Abdomen depressed, broad throughout. Hind femora much thickened, without distinct tooth; hind tibiæ arcuate.

Approaches nearest to *Myiathropa* Rondani (type *Musca florea* Linne), but differs from it in the elongate third antennal joint, the incrassate femora and strongly arcuate tibiæ of the hind legs. Only females are before me and in these the frons agrees in shape with *Myiathropa*. If my suspicions that *Mallota championi* Williston (Biol. Centr. Amer., Dipt., vol. 3, p. 69, 1902) belongs here are correct, the male has the eyes contiguous as in *Myiathropa*. Although the present genus seems rather weakly defined I have preferred creating it, rather than assign the insects in question to a genus with which some of the characters conflict and thereby add to the already existing confusion.

Type: *Quichuana sylvicola*, new species.

Quichuana sylvicola, new species.

Female: Antennæ inserted above middle of head, their insertion well produced. Frons narrow at vertex, not exceeding the width of ocellar

callus, widening to below insertion of antennæ, the face beyond that point nearly parallel-sided; face shallowly depressed below base of antennæ, the lower two-thirds somewhat swollen and with a moderate median callosity that does not extend to the somewhat produced oral margin. Frons and face black; frons with hair surrounding ocellar callus black, below this with golden yellow pubescence, densest along orbits; face with scattered yellowish white hairs and with dirty whitish pruinosity, the median callosity and an area to each side of it shining black. Antennæ piceous, geniculate, the first and second joints short, the third elongate, broad, flattened, about twice as long as broad, rounded at apex; arista naked, pale ferruginous. Eyes with distinct whitish pubescence.

Thorax dull black with traces of paler pruinosity medianly in front and at anterior angles; a tuft of ferruginous hairs before insertion of wings. Scutellum black. Pleuræ black with groups of pale yellowish hairs.

Abdomen depressed, tapered posteriorly, dull black above, the second segment clothed with rather long and dense yellowish pubescence; third segment with long rather sparse yellow pubescence at sides anteriorly; fourth and fifth segments with yellowish pubescence along anterior margins.

Femora and tibiæ shining blackish, the knee-joints ferruginous, the pubescence pale. Femora much thickened, but without distinct tooth; tibiæ arcuate and somewhat compressed on the distal half. Tarsi ferruginous, somewhat darkened distally.

Wings infuscated, darkest along costa and along a fold in the submarginal cell; a fuscous spot at the upper end of the anterior crossvein. Squamæ broadly margined with black, the fringe ferruginous. Halteres pale with ferruginous knobs.

Length: Body about 9 mm., wing 9 mm.

Chanchamayo, Peru (collection Rosenberg); one female.

Type: Cat. No. 15503, U. S. Nat. Mus.

Quichuana picadoi, new species.

Female: Very similar to *Quichuana sylvicola*; wing venation, general coloration, shape of frons and antennæ as in that species. The face more prominent and less excavated below antennæ; pubescence of frons and face, with exception of black hairs on ocellar callosity, entirely pale. Mesonotum and scutellum with dirty yellowish white pubescence. Pubescence of abdomen arranged as in the preceding species, but much more abundant and entirely dirty yellowish white. Femora black; tibiæ dull

ferruginous, marked with black near the apex; tarsi basally ferruginous, the second joint partly and all of the last three black; hind tibiae less flattened and more abruptly bent than in *Q. sylvicola*. Wings hyaline, a trace of infuscation apically in the costal region, along the submarginal cell and at upper end of anterior crossvein.

Length: Body about 8 mm., wing 7.5 mm.

Costa Rica, bred from epiphytic bromeliads (C. Picado); one female.

Type: Cat. No. 15504, U. S. Nat. Mus.

Three localities are given in the memorandum of Mr. Picado accompanying the single specimen. These are: Orosi, 1,100 meters (November to January); Cartago (September); Estrella (September).

The specimen is in poor condition, having been preserved in spirits, and, since being mounted, attacked by Dermestidæ. The specimen is much more pubescent than the species just described from Peru, but this latter specimen is obviously somewhat worn.

It is possible that the *Mallota championi* of Williston, already mentioned in the generic discussion, is the male of the species here described, but this can not be decided without study of the type, as even the generic position cannot be satisfactorily determined from the description.

This is an appropriate occasion to record the occurrence of syrphid larvæ, of the *Eristalis* or "rat-tailed" type, in epiphytic Bromeliaceæ. They were found by the writer at Córdoba, Mexico, in March, 1908. These larvæ were creamy white with an extremely long and slender respiratory filament. They occurred abundantly in the water held by the leaf-bases of bromeliads growing high up on the branches of a large mango tree. Unfortunately circumstances prevented my rearing these larvæ. Whether these larvæ belong to the genus here described or to the genus *Eristalis* itself, future investigation must decide.

NAMES AND SYNONYMY IN ANOPHELES

(Diptera, Culicidæ)

By FREDERICK KNAB

In 1908 (Proc. U. S. Nat. Mus., vol. 35, p. 53) Dr. Dyar and the writer proposed the name *Anopheles cruzii* for the species described by Theobald as *Anopheles lutzii* in 1901 (Mon. Culic., vol. 1, p. 177), that name having been already applied to a different species by Cruz earlier in the same year (Brazil Medico, vol. 15, p. 423). Recently,

in referring to the fourth volume of Theobald's Monograph, I was struck by the familiar appearance of the figure of the wing of *Kerteszia boliviensis* (p. 119), an *Anopheles* we had not previously associated with any species known to us. Reference to a proof-plate of the forthcoming Carnegie monograph on mosquitoes showed that the wing-pattern of *Anopheles boliviensis* is identical with that of Theobald's *Anopheles lutzii*. Further comparison of a specimen of *A. lutzii* collected by Dr. A. Lutz in São Paulo, Brazil, the type locality, showed that the only discrepancies were such as were plainly due to inaccuracies in the description. All doubts as to the identity of the two forms are dispelled by a series of ten *Anopheles* from the same general region as *A. boliviensis*, sent to the Bureau of Entomology by Prof. C. H. T. Townsend, Entomologist for the Peruvian Government. These specimens are from the forests of the eastern slopes of the Peruvian Andes, the so-called Montaña, and were taken on the Rio Charape, September 13, 1911, and at Huascaray, September 22, 1911. Comparison of these specimens with the description of *A. boliviensis* and with the specimen of *A. lutzii* from Dr. Lutz puts the synonymy beyond question. The only observable difference between the Brazilian specimen and those from Peru is that on the hind tarsi the black line along the dorsal surface of the first segment is somewhat heavier in the latter; but there is only one Brazilian specimen for comparison and the difference is not one of significance. *Kerteszia boliviensis* was first described in 1905 (Ann. Mus. Nat. Hung., vol. 3, p. 66) and the specific name therefore takes precedence over *A. cruzii*, proposed by Dyar and Knab in 1908.

Theobald's description of *Kerteszia boliviensis* is rather misleading. He omits to mention the white rings on the palpi and one does not get the impression of the preponderance of white on all the hind tarsal joints which is so characteristic of the species. The statement that the species is a remarkably large one is surely attributable to an error, for the species is of rather small stature. Furthermore, his figure of the thoracic ornamentation is inaccurate; the two outer stripes are broader and straighter, and continue to the posterior margin of the mesonotum. Nevertheless this figure more nearly resembles *A. lutzii* than does the one originally given for that species.

The habits of *A. boliviensis* were first made known by Dr. A. Lutz. The larvæ occur exclusively in the water held by the leaves of epiphytic Bromeliaciæ and the insect is consequently strictly a forest species. The

habits and supposed disease-relation have been set forth in a most interesting article by Lutz, "Waldmosquitos und Waldmalaria" (Centralbl. f. Bakt., etc., Abt. 1, vol. 33, pp. 282-292, 1903; Abstract in Journ. Trop. Med., vol. 6, pp. 111-113) and recently have been discussed by the writer (Journ. Econ. Ent., vol. 5, p. 199, 1912; Proc. Ent. Soc. Wash., vol. 14, p. 81, 1912).

There are two other closely related species, which, like *A. boliviensis*, breed exclusively in water-bearing bromeliads. One of these (*A. bellator* D. & K.) occurs on the island of Trinidad, and probably also on the adjoining mainland; the other ranges from Panama northward to the moist forest regions of southern Mexico.

The numerous "genera" of anophelines, which have been in great part responsible for the confusion and synonymy created, have been repeatedly discussed by Dr. Dyar and the writer. Recently opinions similar to our own have been expressed by Alcock ("Remarks on the classification of the Culicidæ, with particular reference to the constitution of the genus *Anopheles*," Ann. Mag. Nat. Hist., ser. 8, vol. 8, 1911, pp. 240-250) and Edwards ("Some new West African species of *Anopheles* (sensu lato), with notes on nomenclature," Bull. Ent. Research, vol. 2, 1911, pp. 141-143; "A key for determining the African species of *Anopheles* (sensu lato)," Bull. Ent. Research, vol. 3, 1912, pp. 241-250). The synonymy of *Anopheles lutzii* of Theobald now stands as follows:

***Anopheles boliviensis* (Theobald).**

Anopheles lutzii Theobald (not Cruz), Mon. Culic., vol. 1, p. 177, 1901.

*Anopheles lutzii*¹ Theobald (not Cruz), Mon. Culic., vol. 3, p. 51, 1903.

Anopheles lutzii Lutz (not Cruz), Centralbl. Bakt., etc., Abt. 1, vol. 33, p. 283, 1903.

Anopheles lutzii Lutz (not Cruz), Journ. Trop. Med., vol. 6, p. 112, 1903.

Myzomyia lutzii Theobald, Gen. Ins., Dipt., Fasc. 26, p. 8, 1905.

Kerteszia boliviensis Theobald, Ann. Mus. Nat. Hung., vol. 3, p. 66, 1905.

Myzomyia lutzii Theobald, Mon. Culic., vol. 4, pp. 41, 42, 1907.

Kerteszia boliviensis Theobald, Mon. Culic., vol. 4, p. 118, 1907.

Anopheles cruzii Dyar & Knab, Proc. U. S. Nat. Mus., vol. 35, p. 53, 1908.

Myzomyia lutzii Peryassú, Culic. do Brazil, p. 78, 1908.

Myzomyia lutzii Theobald, Mon. Culic., vol. 5, pp. 16, 18, 1910.

Kerteszia boliviensis Theobald, Mon. Culic., vol. 5, p. 74, 1910.

Anopheles cruzi Knab, Journ. Econ. Ent., vol. 5, p. 199, 1912.

Anopheles cruzii Knab, Proc. Ent. Soc. Wash., vol. 14, p. 81, 1912.

¹ There is some doubt that the observations there recorded really apply to this species.

THE SPECIES OF SPHIDA GROTE

(Lepidoptera, Noctuidæ)

By HARRISON G. DYAR

The genus *Sphida* is recognized for a single North American species, *obliqua* Walker. I find that there are several forms referable to *Sphida* which have been confused. Apparently all the species live as borers in *Typha* in the larval state, which has helped to the confusion of the species, it apparently having been assumed that but one species would inhabit a single food plant. The following table has been constructed to separate the forms before me. All have a tubercle on the front of the head, though its size and development varies greatly, even in the same species.

TABLE OF SPECIES OF SPHIDA

Reniform mark of fore wing narrow, oblique; base of wing whitish at costa.	<i>obliqua</i> Walker
Reniform mark widely elliptical, not strongly oblique.	
Base of fore wing whitish on costa; anal tuft of female not white.	
Frontal tubercle small; anal tuft of female black	<i>gargantua</i> Dyar
Frontal tubercle large; anal tuft of female concolorous with abdomen.	<i>pleostigma</i> Dyar
Base of costa of fore wing not whitish, concolorous or pinkish; anal tuft of female white.	
Smaller; markings distinct, orbicular and reniform light reddish.	<i>æcogenes</i> Dyar
Larger; markings indistinct, orbicular and reniform dark rusty red.	<i>anoa</i> Dyar

Sphida obliqua* Walker.Edema obliqua* Walker, Cat. Brit. Mus., xxxii, 428, 1865.*Arzama obliquata* Grote & Robinson, Trans. Am. Ent. Soc., i, 339, 1868.*Sphida obliqua* Hampson, Cat. Lep. Phal. Brit. Mus., ix, 259, 1910.

I have specimens of this species from Buffalo and Rochester, N. Y., and Washington, D. C. (Department of Agriculture, No. 2367).¹ The species is no doubt more widely spread. Hampson gives also Canada, Massachusetts, New Jersey, Ohio, Florida, and Colorado, which may be provisionally accepted, although it is possible that some of the following species may have been confused. The larvæ live in cat-tails (*Typha*)

¹ The notes under 2367 are in an unsatisfactory state, as no record was made of the specimens bred in 1882, nor is the food plant mentioned at all. Both *obliqua* and *æcogenes* were bred at different times, but no distinction was noted between them and the records are hopelessly confused.

and are curious in being black, with the last pair of spiracles directed posteriorly like a dipterous larva. They come to land to pupate. I once found one crawling in a dusty road in New Hampshire at some distance from a swamp.

Sphida oecogenes, new species.

Of a reddish brown, without whitish shade at base of costa, though that area is lighter than the rest of the wing, especially in males, and somewhat pinkish; no blackish shade beyond through the middle of the wing, the shade being brown and not contrasted; reniform wide, elliptical, light red with brighter center, oblique, but not strongly so; median shade line fairly distinct; outer line crenulate; termen dark grayish filled. Anal tuft of female white. Expanse, 30-35 mm.

Cotypes, two males, four females, No. 15447, U. S. Nat. Mus.; Washington, D. C., July 6, 1883; July 16, 1884 (Dept. Agr., Bur. Ent., No. 2367). No collector's label is attached, but apparently all were bred by Mr. A. Koebele.

Sphida anoa, new species.

Dark reddish brown, the markings of fore wing obscured, essentially as in *oecogenes*. Basal space a little lighter, followed by a red shade; reniform elliptical, oblique, filled with dark red. Hind wing brown, the cell pinkish, with a dusky discal mark. Expanse, 50 mm.

Type, female, No. 15448, U. S. Nat. Mus.; Miami, Florida, 1901 (R. H. Hegen and H. C. Henricksen).

Sphida gargantua, new species.

Body parts gray; center of thorax dark brown; abdominal tuft of female black. Fore wing with basal space violaceous gray, not white, yet contrasted, followed by a dark brown shade; reniform elliptical, oblique, reddish filled; orbicular a dot or absent; outer line crenulate, broken, faint; terminal space dark violaceous, contrasting, edged within by a darker irregular line. Expanse, 45-55 mm.

Cotypes, three females, No. 15449, U. S. Nat. Mus.; Los Angeles, California, May; larva in *Typha latifolia* (D. W. Coquillett).

Sphida pleostigma Dyar.

This will be described in my forthcoming fourth Mexican paper to be published in the Proceedings of the United States National Museum. It is nearly allied to *gargantua* but apparently distinct.

THE LARVÆ OF XANTHOPASTIS TIMAIS CRAMER

(Lepidoptera, Noctuidæ)

By HARRISON G. DYAR

This widely spread and very constant species (as adult) has a number of different larvæ. So different are they that after describing one from Florida (Journ. N. Y. Ent. Soc., x, 125, 1902), I received others from Cuba, I could not believe they belonged to the same species, and published a correction (Journ. N. Y. Ent. Soc., xi, 104, 1903), repudiating the first identification. However, the larvæ were bred, and there is now no doubt of their identity. There was none then, either, in fact, but I could not believe it. How many forms this larva has I have no idea. Guenée's figure (colored),¹ from a drawing by Abbot, is utterly unlike any of the forms known to me. It has a black head, body whitish, with three straight black bands on each segment. If this was taken from the form occurring in Georgia, and that is like the Florida one, as it certainly ought to be, then the figure is a gross misrepresentation. Yet there are certain facts about this drawing that forbid us to discard it at once. Possibly the original figure by Abbot was uncolored, and Guenée's artist, in preparing the colored plate, failed to add the orange head and tail. The absence of the conspicuous tubercles in the drawing agrees with the Florida form. Curiously enough, the pattern of markings represents a sort of synthetic type. The Florida form has a dorsal and subventral spot on the anterior end of each segment, a band on posterior border; the Cuban form has four rows of spots, the posterior row of larger spots. Combining there we get, synthetically, a row of bands, much as in Guenée's figure. Admitting the possibility that such a larva may exist, I am rather inclined to the opinion that the artist has overdone the drawing in the matter of bands.

The Cuban form was described by Gundlach (Ent. Cubana, i, 304, 1886) and by me (Journ. N. Y. Ent. Soc., xi, 104, 1903). The same form occurs in Jamaica and was briefly noted by Mrs. Swainson (Journ. N. Y. Ent. Soc., ix, 81, 1901). I have a fine blown larva from Kingston from the Schaus collection. A condensed description of the Antillean larva is given by Hampson (Cat. Lep. Phal. Brit. Mus., v, 460, 1905). It differs conspicuously by the large black tubercles and the numerous small yellow spots, no bands. The differences are what are usually called

¹ Copied without color by Chenu, Encycl. d'Hist. Nat., ii, 111, 1857.

structural, and would be thought to clearly indicate another species, if not another genus.

I have lately had the opportunity to observe the Mexican form in larvæ from Misantla, State of Vera Cruz, bred by Mr. W. Cugelmann. They resemble the Florida form quite closely, being rather more generalized. They are smooth, without prominent tubercles, head, cervical shield and anal segment as in the Florida form, but the segments with a row of spots on anterior border, the lower two spots on each side partly joined, but not joined subventrally to the broad band on posterior border. At the extremities the bands are broken into spots, on joints 2 to 5 and 11 to 13. This is only slightly indicated in the Florida form, where the anterior bands show an irregular outline. The difference is, then, an advance in the Florida form over the Mexican one in the loss of the subdorsal spot out of the anterior row and in the strengthening of the posterior band, widened and straightened and fused subventrally with the lower spot of the anterior row of the following segment. Thus the Mexican form agrees essentially with the Florida one, differing in characters which may, somewhat violently perhaps, be considered varietal and not specific. What becomes of the pattern in the rest of the vast range of the species cannot be conjectured. There is no local variation indicated in the material before me. The four Florida larvæ are alike, as are the two Mexican ones. The species ranges from Maine to Argentina, and if the larvæ have changed as much from Mexico to Florida as the specimens show, it is probable that other changes occur in the much greater distance covered by the range to the end of the continent of South America. However, I think that we are entitled to assume that there is not a radical difference, because the territory is continuous.

To return to the Antillean form, the conditions are different. It is to be supposed that the large tubercles are a primitive character. The spots were probably formed by the breaking up of longitudinal lines, which later form the transverse bands by lateral fusion. The Antillean larva, then, is in a generalized condition in both respects. It still has the large tubercles; its longitudinal lines are well broken into spots, which have become rounded, while the first step in forming the posterior band has been taken in the enlargement of those spots. But it has gone no farther, and there is a vast interval between it and the continental larva.

The conclusion seems irresistible that there are two species represented. I have examined series of adults carefully, but can see no difference in

markings. The male genitalia offer nothing tangible, being of a simple type, not strongly chitinized or differentiated. Nevertheless, on larval characters at least, the Antillean form should have a separate name. Of the names proposed, *timais* Cramer was described from the "côte du Coromandel;" *amaryllidis* Sepp, from Dutch Guiana, and *regnatrix* Grote from Pennsylvania. As there is thus no name for the Antillean form I propose **antillium**, n. sp.

This is a case of unusual distribution. Very many of the species found in southern Florida are of Antillean origin, but in this case it is clear that our *timais* is a continental species.

A NOTE ON THE MACROTHERCINÆ

(Lepidoptera, Pyralidæ)

By HARRISON G. DYAR

Doctors Barnes and McDunnough have recently (Cont. Nat. Hist. Lep. N. A., No. 5, p. 37, 1912) given an admirable treatment of the small group of genera allied to *Amestria* Ragonot. They show that *Amestria* falls before *Alpheias* Ragonot and my *Cacotherapia* before *Macrotheca* Ragonot. They add two new genera to the group. They give the following table to separate the genera, which I reproduce with the nomenclature of the veins changed.

Fore wing with 12 veins.

Fore wing with vein 10 arising beyond 7 *Alpheias* Ragonot

Fore wing with vein 10 arising before 7 *Macrotheca* Ragonot

Fore wing with 11 veins (8 and 9 coincident).

Fore wing with vein 10 stalked *Alphetoides* B. & McD.

Fore wing with vein 10 from the cell *Decaturia* B. & McD.

I had been aware for some time that my genus *Cacotherapia* belonged with *Amestria*, but had not worked out the matter as fully as has been done now. Unfortunately, the authors have quite misidentified my species *ponda*. It is a rather large, brownish moth with black irrorations and not the little gray and white one that they have figured. The true *ponda* falls in *Macrotheca* and not in *Alpheias*. The species which they misidentified as *ponda* may be characterized as

Alpheias vicarilis, new species.

Fore wing with the ground color nearly white, blotched with yellow-brown shades; basal space filled with brownish and dusted with black;

inner line angularly waved, black, slender, in a white space; median space with central brownish area, black dusting on costa and an upright black discal mark; outer line parallel to the outer margin, irregular, edged by whitish ground color; a blackish shade following, but not quite reaching margin; a terminal row of fused dots. Hind wing with very light fuscous shading. Expanse, 12-14 mm.

Cotypes, 6 specimens, No. 15521, U. S. Nat. Mus.; La Puerta Valley, California, July, 1911 (Wright & Field).

One of the cotypes is in the collection of Mr. G. H. Field and one in that of Mr. W. S. Wright.

Two other unnamed species of this group are before me.

Alpheias querula, new species.

Brownish straw-color; fore wing with the lines black, slender, distinct, scarcely any black powdering on the wings; a line along costa; inner line a dark dash on costa and inner margin, preceded by a group of black scales and closely followed by the inner discal dot; outer discal dot similar; a few scattered irrorations; outer line oblique, nearly straight, preceded by irrorations toward costa; a broken row of terminal dots. Hind wing straw color. Expanse, 10-11 mm.

Cotypes, 3 specimens, No. 15522, U. S. Nat. Mus.; Brownsville, Texas, May and June, 1904 (H. S. Barber).

Macrotheca unipuncta, new species.

Gray, finely powdered with darker; outer discal mark a large round black spot; inner obsolete; lines slender, black, but not so dark as the discal dot, wavy and converging somewhat toward inner margin; a terminal line of dark scales. Hind wing pale fuscous. Expanse, 13-15 mm.

Cotypes, 4 specimens, No. 15523, U. S. Nat. Mus.; Tryon, North Carolina, May and August, 1904 (W. F. Fiske); New Brighton, Pennsylvania, July 25, 1905 (H. D. Merrick).

Of the two new genera described by Doctors Barnes and McDunnough, *Alpheoides parvulalis* B. & McD. is before me in specimens recently received through the kindness of Mr. W. S. Wright. *Decaturia pectinalis* B. & McD. is, however, not in the National Museum, the authors having so far failed to avail themselves of their opportunities to benefit future students by depositing types in the National collection, although they described from a large number of specimens.

SOME EARLIER OBSERVATIONS ON THE HABITS
OF *APHIOCHAETA JULI* (BRUES).

(Diptera, Phoridae)

By FREDERICK KNAB

In his recently published revision of the North American Phoridae Mr. J. R. Malloch has put on record observations on *Aphiochaeta juli*,¹ made by Mr. H. S. Barber, which establish beyond a doubt the parasitic habit of this species, suggested by the observations of Dr. S. Graenicher² and Mr. Nathan Banks.³ During the past summer Dr. J. A. Nelson, independently of Mr. Barber and without knowledge of his observations, also witnessed the oviposition of this species in a myriapod and succeeded in rearing specimens of the fly from the host. It is to be hoped that both of these gentlemen will publish their observations in detail. Dr. George Dimmock has recently informed me that at least two observations similar to those of Graenicher and Banks have been recorded and I point them out herewith so that they may be properly placed.

The first record is by J. A. Lintner, who had the observation from a friend.⁴ Not even the order to which the insects attacking the myriapod belonged is indicated, but from what Messrs. Banks, Barber and Nelson have told me of the behavior of *Aphiochaeta juli*, it seems reasonably certain that the "swarm of minute gnats making an lulus unhappy" were that species; at least we must so consider them until other species of Phoridae with identical habits are turned up. The note of Lintner called forth another from Dimmock, who also had observed minute Diptera swarming about a myriapod some years earlier.⁵ Not having the specimens available, he likened them to Drosophilidae, which corresponds very well for size, and general appearance to the unaided eye, to *Aphiochaeta*. While the account is not so vivid, having been written some years after the observation was made, it seems referable here. The suggestion that the flies were attracted to the secretion of the myriapod was, of course, purely hypothetical.

¹Proc. U. S. Nat. Mus., vol. 43, p. 459 (1912).

²Brues, C. T., Journ. N. Y. Ent. Soc., vol. 16, p. 201 (1908).

³Proc. Ent. Soc. Wash., vol. 13, p. 212 (1911).

⁴Canad. Ent., vol. 16, p. 80 (1884).

⁵Canad. Ent., vol. 16, p. 100 (1884).

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