NEW AND UNRECORDED AMERICAN SPECIES OF
THE FAMILY PHORIDÆ (DIPTERA)¹

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The present short paper includes descriptions of three new species of Phoridae of the genera *Hypocera* and *Aphiochæta* and records of the occurrence in North America of two European species, *Gymnophora quartomollis* Schmitz and *Aphiochæta giraudii*. I am greatly indebted to Dr. C. F. Adams by whom two of the new species were collected, and who has graciously allowed the types to remain in the writer's collection.

Hypocera Lioy.

In this genus there is a group characterized by having the vertex semicircularly elevated and sharp above. The first species of this type to be described was *H. coronata* Becker from Europe, but several others have since been added. In the present collection made by Dr. Adams is another species from the United States. It may be distinguished from the other members of this group as follows:

1. Ocelli forming a distinct triangle, the lateral ones as far from the eye-margin as from the anterior ocellus, antennæ and palpi black.....(Europe) *coronata* Becker.
Ocelli forming a curved line, the lateral ones separated from the eye by only about their own diameter.....2
2. Third vein bare, except for a few bristly hairs near base; wings hyaline.....3
Third vein hairy for its entire length; wings tinged with brown.....(Europe) *ocellata* Schmitz.
3. Bristles near base of middle tibiæ opposite one another; forming a pair at the basal third; median bristles of lower frontal row nearer to one another than to the lateral bristle; tip of first vein midway between tip of costa and humeral cross-vein.....4

¹Contribution from the Entomological Laboratory of the Bussey Institution Harvard University, No. 238.

- One of the bristles much nearer to the base of the tibia 5
4. Antennæ and palpi orange-yellow; third joint of male antenna fully as long as the width of the front; front tarsus of male greatly dilated, the second and third joints as broad as long. (North America) *johnsoni* Brues.
 Antennæ black, palpi yellow; third antennal joint of male considerably shorter than the width of the front; front tarsi of male less broadly dilated, the second and third joints decidedly longer than broad. (North America).
adamsi sp. nov.
5. Front wider than high; bristles of middle tibia at basal third and basal fourth respectively; the middle row of frontal bristles curved upwards medially. (South America) *insperata* Brues.
 Front higher than wide; bristles of middle tibia at basal third and before middle respectively; middle row of frontal bristles straight. (Formosa) *suspecta* Brues.

Hypocera adamsi sp. nov.

♂. Length 2.7 mm. Very robust; black, with only the palpi, front legs beyond the middle of the femora, and four posterior knees brownish yellow. Wings hyaline, venation dark brown. Front with a transverse carina below the median ocellus; above this highly polished and concave; ocellar bristles equidistant, the median pair larger and set midway between the ocellar carina and the upper margin of vertex; front below the carina shining, covered with sparse setigerous punctures; lateral bristles of lower row close to the eye, well above the median pair and farther from the median ones than the latter are from one another; upper row straight, its four bristles equidistant, the lateral one close to the eye; cheeks each with one long bristle. Antenna pyriform, the axis curved so that the top is slightly concave in profile; densely brown pilose; arista one-third longer than the third joint. Eyes not distinctly pilose; postocellar cilia strong, slightly longer above. Palpi small, compressed; with strong bristles, the apical one as long as the

palpus. Thorax above and upper part of mesopleura very shining, clothed with fine recumbent bristly hairs which extend down on to the top of the pleura; sides of prothorax also hairy, with two bristles above the coxa and two very large ones below the spiracle. One pair of dorsocentral bristles; two scutellar bristles, the lateral ones reduced to hairs; posterior edge of mesonotum with six small bristles as long as the width of the scutellum. Abdomen above shining, faintly shagreened; sides sparsely clothed with recumbent hairs; second segment almost as long as the four following; sixth as long as the two preceding, clothed with sparse hairs. Legs very stout, the hind femora barely three times as long as wide; front tibia with a long bristle at the basal third, followed by a line of about eight small ones extending to the tip which bears two short spurs; middle tibia with a pair of large bristles at the basal third and two apical spurs, the longer one nearly half the length of the tibia; hind tibia with a single bristle externally just before the middle and with a pair externally at the tip in addition to the two subequal internally placed apical spurs; apex of tibia inwardly with four transverse combs of short bristles. Pleuræ shining, very finely shagreened. Costa extending barely beyond the middle of the wing; its cilia dense, but short, about twice as long as the thickness of the rather slender costal vein; humeral cross-vein distinct, but pale colored; mediastinal absent; first vein ending midway between the cross vein and tip of costa; third vein with several minute bristles at the base, but with no distinct hairs beyond (there are traces of a few minute hairs to be seen with the highest power of the binocular, but none like those seen in the species with this vein hairy); not widened apically; fourth vein originating well below the third, curved at base, straight beyond, ending at the wing tip; fifth and sixth complete, nearly straight; seventh obsolete.

♀. Length 3-3.2 mm. Essentially similar, except for the normal ovate antennæ, with the usual arista and slightly less elevated frontal margin.

Male type and four females paratypes collected by Dr. C. F. Adams at Atherton, Mo., October 4.

Gymnophora Macquart.

Quite recently Schmitz has distinguished four species of this genus from Europe (Jaarb. Naturhist. Genootsch. Limburg, for 1919, p. 132. 1920). All of these have heretofore gone under the name of *Gymnophora arcuata* Meigen, as have also the North American members of the genus. On examining my collection in the light of Schmitz's paper, it is evident that the true *arcuata* does not occur in eastern North America, although I have a single male from Tacoma, Washington (A. L. Melander) which seems to be indistinguishable from a European specimen which according to Schmitz's description and figure is *arcuata*. Like many palæartic forms, it is probable that this one extends into the United States only along the Pacific Coast.

All other specimens, ranging from Kansas to Wisconsin and eastward are apparently *Gymnophora quartomollis* Schmitz (t. c., p. 133).

Aphiochaeta velutinipes sp. nov.

♀. Length 1.7 mm. Piceous, the abdomen above and the front almost black; humeri brown; the pleuræ becoming much lighter below till they are pale brown next to the coxæ, antennæ fuscous; palpi brownish yellow; legs pale brownish yellow on the coxæ but darker beyond, especially the four posterior pairs; wings hyaline, venation fuscous; halteres light brown. Front quadrate, with distinct ocellar tubercle and median frontal groove. Two pairs of proclinate bristles, the lower pair smaller and only two-thirds as far apart as the upper ones; lowest row of reclinate bristles forming a pair at each side of the front with the lateral bristle close to the eye and far above the inner one which is on a line with the lower post-antennal one, and half-way between it and the eye-margin; middle frontal row curved downwards medially, its median bristles farther from one another than from the lateral bristle which is very close to the eye; ocellar row of four. Antennæ small; arista conspicuously pubescent, one-third longer than the width of the front. Palpi of

moderate size, with rather weak bristles. Mesonotum shining, with minute bristly hairs, longer behind and arranged in rather distinct longitudinal rows; one pair of dorsocentral bristles, scutellum broader than long, with four equally strong bristles. Propleura with a vertical band of bristly hairs below the spiracle, a long bristle above it and several bristles near the base of the coxa. Mesopleura bare. Second abdominal segment only one-third longer than the third, not bristly at the sides; fifth segment elongated. Fore tarsi not distinctly thickened, although not quite so slender as usual. Tibiæ finely hairy, but without trace of a dorsal seam or setulæ. Hind tibia with the dorsal surface somewhat expanded and flattened at the tip where it bears several transverse rows of minute comb-like setæ; hind metatarsus strongly spinose below. Costa long, extending distinctly beyond the middle of the wing, its cilia extremely minute and closely placed; first section almost as long as the second and third together; third two-fifths the length of the second; fourth vein strongly bent at the base, straight beyond; fifth with a sharp bend at the middle so that it runs parallel to the fourth; sixth straight; seventh curved, well removed from the margin. The light veins are all unusually thin and delicate.

Type from Atherton, Missouri, U. S. A., collected by Dr. C. F. Adams.

This species is extremely similar to *A. magnipalpis* Aldrich from the Lesser Antilles, and were it not for the peculiar chætotaxy of the front, I should be inclined to consider the two identical, especially as the fifth wing vein has the peculiar bend characteristic of *magnipalpis*. In the West Indian species the frontal bristles show the ordinary disposition, and the inner of the lowest reclinate row is not dropped below the post-antennals.

An examination of my series of *A. magnipalpis* has disclosed another species of this group, also with enlarged palpi in the male, but with normal wing venation. This is described below.

***Aphiochaeta opaciventris* sp. nov.**

♂. Length 1.6 mm. Black, the mesonotum more or less piceous; pro- and mesopleuræ dark brown; front legs dilute piceous, other legs blackish brown. Wings hyaline, venation

very dark; halteres black. Front distinctly broader than long; ocellar tubercle conspicuous; median groove poorly defined; four proclinate post-antennal bristles of nearly equal size; lower ones half as far apart as the upper which occupy one-fourth of the width of the front; inner bristle of lowest reclinate row on a level with the upper post-antennal and midway between it and the eye, lateral one considerably higher and close to the eye; upper row of four bristles strongly bowed downwards medially, the inner bristles separated by one-half the width of the front; ocellar row of four large bristles. Antennæ of moderate size, with the arista densely pubescent and one-half longer than the width of the front. Palpi greatly enlarged, as long as the height of the head and furnished below with very minute scattered bristles; in lateral view they are curved upwards and narrowed apically, less than one-sixth as thick as long; seen from below they curve outward anteriorly and are one-fourth as broad near the base as long. Mesonotum quite shining, sparsely hairy, the hairs more or less bristly behind; with one pair of dorsocentral bristles and several long bristles along the lateral margin. Scutellum slightly wider than long, its hind margin strongly arcuate and bearing four long, equal bristles, forming a pair near each lateral angle. Abdomen opaque, velvety black, the segments all of about equal length and without noticeable bristles along the sides. Hypopygium more or less globose, strongly asymmetrical; nearly bare above, but conspicuously clothed with rather dense bristles below, on the left side and at apex; apical lamella small and with very inconspicuous bristly hairs. Propleura with a dense brush of bristles above, a close-set row along the posterior margin and several longer ones below near the base of the coxa. Mesopleura subshining, without bristles above. Legs quite slender, clothed with fine bristly hairs, but without cilia or setulæ on any of the tibiæ; hind tibiæ each with a single slender apical spur; inwardly near the tip with several very oblique rows of fine comb-like bristles; metatarsus below with five or six similar, nearly transverse rows. Anterior tarsi long and very slender. Costa slightly but distinctly more than half the wing-length, with short dense cilia;

first section barely longer than the other two together; third fully one third as long as the second and as long as the second vein; fourth vein feebly curved on basal half, straight beyond; fifth weakly sinuous on basal half, straight beyond, without a sharp bend before the middle, sixth and seventh nearly straight, the latter faint.

Type from Grenada, B. W. I. (Brues), 1910.

This species is at once distinguished from *A. magnipalpis* Aldrich from the same island, by the much more slender legs, opaque velvety black abdomen, normally curved fifth vein and by the complete absence of any cilia on the middle tibiae. The palpi although similarly enlarged in the male, are more slender than in *magnipalpis*.

A. opaciventris does not closely resemble any European or North American species. Any of these which might be otherwise confused with it have the fore tarsi enlarged.

***Aphiochaeta giraudii* Egger.**

This European species has already been reported from North America by Mrs. Slosson on the basis of specimens determined by Coquillett. It appears that this identification was incorrect, however, and Malloch removed the species from the North American list in 1912.¹

I have a male, however, collected by Mr. C. W. Johnson at Fort Kent, Maine which is undoubtedly this species. The only difference that I can detect is the shorter basal section of the costa which equals but is no longer than the second and third together. The specimen is rather large and has the second row of setulae on the hind tibia well developed.

¹Proc. U. S. Nat. Mus., vol. 43, p. 451.