

SCIENTIFIC RESULTS OF THE KATMAI EXPEDITIONS OF THE
NATIONAL GEOGRAPHIC SOCIETY.

**XII. DESCRIPTIONS OF DIPTERA OF THE FAMILIES
ANTHOMYIDAE AND SCATOPHAGIDAE.**

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In presenting the descriptions of species of the genus *Hylemyia* I have added a key for their separation and include all of the species of the genus represented in the collections made by Professor Jas. S. Hine. Some of the species are recorded from this continent for the first time but there is no doubt as to their occurrence here as in most cases the specimens have been compared with European examples. Owing to the very great similarity of the species comprising the group I have figured the hypopygia of most of them in order that there may be no doubt as to the identity of the species in my hands and recorded here. It is not at all impossible that some of the species listed as new may be forms previously known from Europe though unrecognized by me.

SUBFAMILY PHAONIINÆ.

***Phaonia albocalyptrata* sp. n.**

Male. Black, slightly shining, head, thorax, abdomen and legs with rather dense bluish gray pruinescence; orbits and cheeks with the pruinescence slightly silvery. Thorax with four black vittæ. Abdomen with a narrow black dorsocentral vitta. Legs entirely black. Wings clear, veins fuscous. Calyptræ and their fringes white. Knobs of halteres fuscous.

Eyes with moderately dense hairs; frons at narrowest part over three times as wide as distance across posterior ocelli; orbits with bristles on their entire length, each orbit one-fourth as wide as interfrontalia; arista almost bare; third antennal segment about 1.75 as long as second; parafacial as wide as third antennal segment, not narrowed below; cheek nearly twice as high as widest part of parafacial, with a series of setulæ above the marginal bristles. Two or three pairs of very weak acrostichals among the fine hairs proximad of the suture; prealar bristle a little over half as long as the bristle behind it; postsutural dorsocentrals 4; hypopleura bare; sternopleurals 1:2. Abdomen

narrowly ovate; basal sternite with some hairs; fifth sternite with a broad, shallow rounded posterior excision; hypopygium small. Fore tibia without long ventral hairs, median bristle, or apical posterior bristle; fore tarsus slender, longer than tibia; mid femur with rather long hairs on basal half of ventral and posteroventral surfaces, but without bristles; mid tibia with one posterior bristle; hind femur with fine bristles and long hairs on anteroventral surface, the posteroventral and ventral surfaces with long hairs on basal half; hind tibia with three or four anteroventral, and two anterodorsal bristles, the calcar short, about one-fifth of the tibial length from apex. Costal thorn short; outer cross-vein curved; last section of fourth vein about 1.75 as long as preceding section.

Length, 6 mm.

Type and two male paratypes, Savonoski, Naknek Lake, Alaska, July, 1919.

***Phaonia citreibasis* sp. n.**

Male and Female. Glossy black; orbits and cheeks whitish pruinose; thorax with gray pruinescence, distinctly but not conspicuously vittate; abdomen in male with a poorly defined dorsocentral vitta, in female entirely glossy black. Legs black. Wings clear, conspicuously orange colored at bases, the cross-veins narrowly infuscated. Calyptæ and halteres orange yellow.

Male. Eyes with very sparse short hairs; frons about as wide as distance across posterior ocelli; interfrontalia not obliterated; orbits setulose almost to anterior ocellus; parafacial as wide as third antennal segment, but little narrowed below; cheek nearly twice as high as widest part of parafacial, with a series of lower marginal bristles and some setulae above them; arista pubescent; third antennal segment over twice as long as second. Presutural acrostichals distinct, usually two weak pairs with many interspersed hairs; prealar bristle nearly as long as the bristle behind it; post-sutural dorsocentrals 4; hypopleura bare; sternopleurals 1:2 or 1:3. Abdomen elongate oval; basal sternite bare; dorsum with long bristles, especially apically; hypopygium small; fifth sternite with a broad basally truncate excision. Fore tibia without a median bristle, the ventral hairs distinct, but not long; fore tarsus slender, much longer than tibia; mid-femur with setulose hairs ventrally, those on basal half of posteroventral surface longer and stronger than the others; mid tibia without anterodorsal bristles, and with two to four posterior bristles; hind femur with a series of bristles on anteroventral surface and long hairs on posteroventral; hind tibia with two to four anteroventral, and two anterodorsal bristles, the calcar long, posterior surface with a few short hairs. Costal thorn short.

Female. Similar to male in thoracic chaetotaxy. The frons is one-third of the head width, the orbits narrow, each with 2+4 bristles and some weak setulae. Legs without the long hairs present in male.

Length, 8 mm.

Type, allotype, and two paratypes, Savonoski, Naknek Lake, Alaska, July, 1919.

***Mydaea hirtiventris* sp. n.**

Male. Black, shining, with bluish gray pruinescence on thorax and abdomen. Antennae and palpi black. Thorax with four black vittae. Abdomen unmarked. Legs black, hind tibiae brownish. Wings clear, bases yellow. Calyptrae and halteres yellow.

Eyes separated by a little more than width across posterior ocelli; orbits setulose to anterior ocellus; interfrontalia distinct on its entire length; eyes nearly bare; parafacial as wide as third antennal segment, not narrowed below; cheek nearly twice as high as width of parafacial; arista with its longest hairs a little longer than its basal width; third antennal segment over twice as long as second. Prealar a little over one-third as long as the bristle behind it; sternopleurals 1 : 2. Basal sternite with numerous hairs. Fore tibia with the posteroventral hairs longer than usual; mid femur with strong bristles to beyond middle of posteroventral surface; mid tibia with two or three posterior bristles; hind femur with rather short, closely placed bristles on entire length of anteroventral surface, and some weaker bristles on basal half of posteroventral; hind tibia with two or three anteroventral and anterodorsal bristles, the setulae on apical half of anterior surface stronger than usual.

Length, 7 mm.

Type, Katmai, Alaska, 1917. One male.

***Hebecnema pallipes* sp. n.**

Male. Shining black, head with brownish pruinescence, thorax with faint grayish pruinescence, which is only visible when the surface is viewed from an angle of 45 degrees, abdomen densely brownish pruinescent, with a slight coppery tint, and without any markings. Legs yellowish testaceous, coxae and tarsi fuscous. Wings slightly smoky. Calyptrae and halteres yellow.

Eyes bare, separated by not more than the width of anterior ocellus, the facets on upper surface much enlarged; parafacial linear; cheek a little higher than width of third antennal segment; longest hairs on arista about as long as width of third antennal segment. Chaetotaxy of thorax as in *umbratica* Fallen. Fifth sternite with a very deep, U-shaped posterior excision, the lateral extensions bare apically. Fore tibia without median or apical posterior bristles; mid femur with several bristles on basal half of posteroventral surface; mid tibia with two posterior bristles; hind femur with four or five bristles on apical half of anteroventral bristles. Outer cross-vein straight; inner cross-vein before apex of first vein; last section of fourth vein about 1.75 as long as preceding section.

Length, 5 mm.

Type, Katmai, Alaska, 1917. One male.

***Limnophora tendipes* sp. n.**

Male. Black, opaque, densely gray pruinose, with a bluish or greenish tinge on pleura and sides of abdomen. Back of head concolorous with thorax, the other parts densely silvery pruinose. Thorax indistinctly vittate, two narrow submedian vittæ distinct anteriorly. Abdomen with most of first tergite, two large subtriangular spots on second and other two on third tergite, and a central one on fourth blackish. Legs colored as body. Wings clear, darker at bases. Calyptræ white. Halteres fuscous.

Width of narrowest part of frons over twice as great as distance across posterior ocelli; interfrontalia much wider than orbits, the latter with long setulose hairs on entire length; parafacial twice as wide as third antennal segment, and equal to height of cheek, the vibrissal angle produced much beyond base of antenna, in line with outer side of apex of third antennal segment, lower half of cheek hairy except anteriorly; arista swollen on basal fourth, almost bare; vibrissal angle with numerous setulose hairs, the vibrissæ not differentiated, situated much above lower margin of cheek; eyes with sparse fine hairs. Thorax with 4 series of fine presutural acrostichal hairs; postsutural dorsocentrals 4; sternopleurals 2; prosternum bare. Legs long and slender; fore tibia with one or two posterior median bristles, and a long apical posterior bristle; mid femur with a series of posteroventral bristles which become much shorter apically; mid tibia with one or two anterodorsal, two posterodorsal, two posterior and one or two posteroventral bristles; hind femur with long setulose hairs on basal half of posterior surface, and four or five bristles on apical third of anteroventral; hind tibia with three or four fine bristles on each of the following surfaces; anteroventral, anterodorsal, and posterodorsal; hind tarsus with a bristle near the base on ventral surface; apical tarsal segment on all legs broad. First posterior cell much widened at apex.

Length, 9 mm.

Type, Cordova, Alaska. One male.

SUBFAMILY ANTHOMYIINÆ.***Hydrophoria galeata* sp. n.**

Male. Black, slightly shining, thorax and abdomen with dense lead gray pruinoscence. Head with dense pale gray shining tomentum on orbits, parafacials and cheeks; antennæ and palpi black. Thorax when viewed from behind indistinctly vittate. Abdomen when viewed from behind with an almost linear black dorsocentral vitta; hypopygium gray pruinose, forceps glossy black. Legs black. Wings clear. Calyptræ white. Halteres yellow.

Narrowest part of frons not wider than distance between posterior ocelli; orbital hairs extending a little more than midway to anterior ocellus; interfrontalia obliterated at middle; parafacial at base of antenna wider than third antennal segment, but little narrowed below;

longest hairs on arista about equal in length to width of third antennal segment; cheek about equal in height to widest part of parafacial. Two or three pairs of strong acrostichals and many interspersed hairs in front of suture; prealar very short; hypopleura bare. Abdomen narrow, subcylindrical, tapered apically; no ventral tufts present; hypopygium small, the inferior forceps very long, slightly sinuous, thickened on apical half; fifth sternite with processes elongate, subcylindrical, their inner margins with a few fine hairs, their outer margins with a number of long bristles. Fore tibia with a median posterior bristle, the apical posterior bristle long; mid femur with some long bristles on basal half of posteroventral surface; mid tibia with an anterodorsal, and two posterodorsal and posterior bristles; hind femur with a series of anteroventral bristles and three or four bristles on middle of posteroventral surface; hind tibia with three or four posterodorsal, about eight anterodorsal and two or three anteroventral bristles, and two or three posterior setulae. Costal thorn very short; outer cross-vein curved, very oblique.

Length, 7.5 mm.

Type, Katmai, Alaska, July, 1917. One male.

***Hydrophoria congrua* sp. n.**

Male. Black, shining, with bluish gray pruinescence, most distinct on abdomen. Orbits and cheeks silvery when viewed from the side above. Thorax rather indistinctly quadrivittate. Abdomen with a black dorsocentral vitta, which tapers slightly posteriorly. Legs black. Wings slightly grayish. Calyptrae white. Halteres dull yellow.

Narrowest part of frons about as wide as distance across posterior ocelli; orbits haired to above middle; interfrontalia with a pair of fine bristly hairs above middle; parafacial a little wider than third antennal segment, hardly narrowed below; cheek as high as widest part of parafacial; arista with very short pubescence; third antennal segment not much longer than second. Thorax without distinct presutural acrostichals; prealar about half as long as the bristle behind it; hypopleura bare. Fifth tergite shining, pruinose, with a few fine hairs; basal hypopygial segment with some long bristly hairs which are curved upward; fourth tergite not conspicuously bristly on sides; fourth sternite without conspicuous bristles; fifth sternite with rather short processes which are fringed with fine hairs on apical half of inner margins and have a dense fringe of longer setulose hairs at bases. Fore tibia with an anterodorsal and posterior bristle near middle; mid femur with long bristles on posteroventral surface; mid tibia with one anteroventral, one posterodorsal, three posterior and one posteroventral bristles; hind femur with long bristles on anteroventral and posteroventral surfaces, those on the last surface interrupted beyond middle; hind tibia with three anteroventral, seven or eight alternately long and short anterodorsal, and three long and one or two short posterodorsal bristles, posterior surface bare. Costal thorn short.

Length, 6.5 mm.

Type and paratype, Anchorage, Alaska, June 6, 1917.

***Pegomyia lativittata* sp. n.**

Male. Black, slightly shining, densely gray pruinose. Orbits and cheeks with silvery pruinoscence; antennæ, arista, and palpi black. Thorax similar to that of *lysinoe* Walker, with a very broad black vitta behind suture on each side of dorsum and two linear submedian vittæ anteriorly. Abdomen with a uniform broad black dorsocentral vitta, and the posterior margin of each tergite black; hypopygium shining black, very slightly pruinose. Legs reddish testaceous, coxæ, fore legs and all tarsi black, fore femora slightly paler than tibiae, mid and hind tibiae slightly darker than their femora. Wings slightly brownish, yellow at bases. Calyptræ and halteres yellow.

Narrowest part of frons barely wider than anterior ocellus; interfrontalia obliterated above middle; bristles confined to anterior half of orbits; antennæ elongate, third segment about twice as long as second; arista almost bare; parafacial at base of antenna as wide as third antennal segment; cheek a little higher than widest part of parafacial, with a series of bristles on lower margin. Three pairs of pre-sutural acrostichals, between which there are four or more series of weak hairs; prealar nearly as long as the bristle behind it; sternopleurals 1:2. Abdomen slightly depressed, the bristles on apices of tergites long; hypopygium small; fifth sternite almost bare on inner margins of processes and without strong bristles. Fore tibia with one anterodorsal and two posteroventral bristles, the apical posterior bristle strong; fore tarsus much longer than tibia; mid femur with one bristle beyond middle and three on basal half of anterior surface, one beyond middle of anteroventral and a series of about eight on posteroventral surface; mid tibia with one anterodorsal, one posterodorsal, and two or three posterior bristles; hind femur with a series of bristles on anteroventral and four or five on middle half of posteroventral surface; hind tibia with one anteroventral, two anterodorsal, and two posterodorsal bristles. Lower calyptra not protruded.

Length, 8 mm.

Type, Savonoski, Naknek Lake, Alaska, July, 1919. One male.

***Pegomyia jacobi* sp. n.**

Male. Black, slightly shining, densely gray pruinose. Head black, the orbits and cheeks with silvery pruinoscence. Thorax with the sides of dorsum more conspicuously pruinose than disc; two linear vittæ apparent on anterior margin. Abdomen with a rather broad subinterrupted inconspicuous black dorsocentral vitta, the bases of the bristles set in black dots, fifth sternite with the processes glossy black. Legs reddish testaceous, coxæ, femora except their apices, and the tarsi black. Wings clear, yellow at bases. Calyptræ and halteres yellow.

Narrowest part of frons as wide as distance across posterior ocelli; interfrontalia not obliterated; orbits bristled on entire length; parafacial at base of antenna as wide as third antennal segment, narrowed below;

cheek as high as widest part of parafacial, with a series of bristles on lower margin; third antennal segment 1.5 as long as second; arista almost bare. Two or three pairs of closely placed acrostichals and some interspersed hairs in front of suture; prealar half as long as the bristle behind it; sternopleurals 2 : 2, the lower anterior one weak. Abdomen subcylindrical, the tergites with strong apical bristles; hypopygium of moderate size; fifth sternite with the processes chitinated, rounded at apices, bare on apical half internally and with some fine hairs basally on inner margins. Fore tibia with one anterodorsal and one posterior bristle, apical posterior bristle long; fore tarsus a little longer than tibia; mid femur without strong bristles on anteroventral surface, the posteroventral with a complete series; mid tibia with an anterodorsal bristle and adjacent to it on the anterior surface a weak setula, one posterodorsal and three posterior bristles; hind femur with a series of long, irregular anteroventral bristles and a similar posteroventral series which is interrupted before apex; hind tibia with two anteroventral, three anterodorsal, and two posterodorsal bristles. Costal thorn small; outer cross-vein slightly curved. Lower calyptra slightly protruded.

Length, 6 mm.

Type, Katmai, Alaska, July, 1917. One male.

Hylemyia Robineau Desvoidy.

I have not used the subgeneric names given to segregates of this genus by recent European authors. Included in the genus as recognized in this paper there are species which would fall into the restricted subgenera *Hylemyia* and *Phorbia*.

The following species are included in the key and recorded for the first time for this continent: *uniseriata* Stein, *fusciceps* Zetterstedt, and *sepia* Zetterstedt. Only in the case of the last named have I any doubt as to the identification. The species which has previously been identified by authors, including myself, as *fusciceps* Zetterstedt is *cilicrura* Zetterstedt according to Stein who has re-examined the types of the species.

The key here presented is not designed for the identification of all American species of the group as there are many more species which are not included and are closely related to those in the key.

Some of the hypopygial drawings are not mentioned in the text and reference must be made to the explanation of plates for names.

KEY TO MALES.

1. Third abdominal sternite of male deeply, roundly excavated in middle posteriorly, produced caudally on each side in the form of two long narrow processes which are armed with very long bristles that extend to or beyond apex of abdomen, the tips of the bristles forming fine hairs; legs of female entirely or almost entirely yellowish, the apical abdominal segment furnished with some stout curved spines.
 - Third abdominal tergite transverse at apex, not produced at each side caudally, in male; legs of female entirely or almost entirely black. 2
2. Fifth abdominal sternite with some very stout sharp spines on at least a part of the inner margin of each process. 3
 - Fifth abdominal sternite with at most some setulae on part of the inner margin of each process. 4
3. Spines on fifth sternite extending the entire length of the inner margins of the processes, longest at middle. *spiniventris* Coquillett
 - Spines on fifth sternite confined to basal half of each process, longest at base. *marginata* Stein
4. Hind tibia with a close series of short, erect setulose hairs on one or other of the ventral surfaces; inferior forceps of hypopygium very long and slender. 5
 - Hind tibia with at most a partial series of short setulae on the posterior or posteroventral surface or on both (cf. *nidicola*). 8
5. Fore tibia with a very weak setula at apex on posterior surface; hind femur with long fine bristles on entire length of posteroventral surface; hind tibia with anteroventral and posteroventral setulae. 6
 - Fore tibia with a strong, slightly curved bristle at apex on posterior side, the apex of which is usually blunt; only the posteroventral surface of hind tibia with erect setulose hairs. 7
6. Parafacials much wider at base of antennae than third antennal segment, and about one-third the width of eye; acrostichals very closely placed.
 - Parafacials about as wide as third antennal segment, and about one sixth the width of eye; acrostichals widely separated. *fusciceps* Zetterstedt
7. Hind femur with a few bristles at extreme apex of posteroventral surface which are directed apicad; mid metatarsus without long setulose hairs on dorsal surface. *cilicrura* Zetterstedt
 - Hind femur with a series of closely placed fine bristles on more than apical half, which are directed basad; mid metatarsus with some long setulose hairs on dorsal surface. *trichodactyla* Zetterstedt
8. Mid tibia with one or more anteroventral bristles on apical half. 9
 - Mid tibia without any anteroventral bristles. 10
9. Fore tibia with a long blunt-tipped strong bristle at apex on posterior side; acrostichals in a single series, which is sometimes rather irregular.
 - Fore tibia with a short weak sharp setula at apex on posterior side. *uniseriata* Stein
10. Fore tibia with a long strong, curved blunt-tipped bristle at apex on posterior side. 11
 - Fore tibia with a short sharp pointed setula at apex on posterior side. 12
11. Mid metatarsus with very long bristles on dorsal surface; processes of fifth sternite each with two or three short blunt setulae at apex on inner side (Fig. 3); arista pubescent. *fabricii* Holmgren
 - Mid metatarsus with normal hairing; processes of fifth sternite without short, blunt setulae at apex on inner side. *angustilarsis* sp. n.
12. Processes of fifth abdominal sternite very long, much curved, slightly widened at apices, their tips chitinated, glossy, almost bare outwardly, furnished with short pile-like hairs inwardly; eyes separated by about twice the width across posterior ocelli; hind tibia with two antero-dorsal bristles. *constrictor* sp. n.
 - Processes of fifth abdominal sternite not as above, much shorter, and usually straight, their tips not glossy. 12a

- 12a. Fifth abdominal sternite with a pair of contiguous downwardly projecting processes in center of the excavation, the apical lateral extensions of the sternite dilated apically (Fig. 5); pale gray species, the thorax with three pale brown vittae; anterodorsal surface of hind tibia with ten to twelve setulae from base to apex; halteres yellow. . . *hinei* sp. n.
Fifth abdominal sternite not as above; the species much darker than above and, otherwise, not as stated. 13
13. Halteres brown or fuscous; very small species, not over three millimeters in length; fifth sternite somewhat similar to that of *hinei* (Fig. 5); hind tibia with very slender bristles; abdomen with very broad uniform black dorsocentral vitta which covers about one-fourth of the dorsum; acrostichals sparse, in two series. *fuscogasterata* sp. n.
Halteres yellowish or whitish. 14
14. Arista with the longest hairs at least as long as width of third antennal segment; hypopygium as in Figure 21. *varata* Fallen
Arista with very short hairs or almost bare. 15
15. Abdomen short and broad, rather thick, glossy and without distinct markings; hypopygium very large. *sepia* Zetterstedt
Abdomen not as above, always distinctly pruinose and more or less distinctly marked. 16
16. Fifth abdominal sternite with dense short bristly hairs, one group which is downwardly directed at base of inner margin of each process, and another on apical half of each (Fig. 7); thorax very distinctly vittate; parafacials at least as broad at base of antennae as third antennal segment; hind tibia with three or four anterodorsal bristles; acrostichals in two series. *atrovittata* sp. n.
Fifth abdominal sternite not bristled as above; species differing in other respects. 17
17. Hind tibia with two series of short setulae on basal two-thirds, one on the posterior and the other on the posteroventral surface; small species, three or four millimeters in length; thorax distinctly vittate. *nidicola* Aldrich
Hind tibia with at most a few setulae on posterior surface on basal half. 18
18. Third and fourth abdominal sternites, each with some very long bristles along lateral margins; dorsal abdominal vitta broad. *planipalpis* Stein
Third and fourth abdominal sternites not as above. 19
19. Mid tibia with one or more anteroventral bristles on apical half. 20
Mid tibia without anteroventral bristles. 21
20. Prealar bristle not over one-third as long as the bristle behind it; acrostichals in four series, two of the hairs usually much longer than the others; hypopygium with a short process on disc, near base, on each side (Fig. 23). *sericea* sp. n.
Prealar over half as long as the bristle behind it; acrostichals in two rather irregular series, setulose, two of them very much longer and stronger than the others; hypopygium without processes on disc (Fig. 17). *appendiculata* sp. n.
21. Eyes separated by distinctly more than width across posterior ocelli; orbits very narrow above; interfrontalia with two pairs of fine setulae above middle; prealar half as long as the bristle behind it; hind tibia slightly reddish; veins three and four divergent at apices. *aliata* sp. n.
Eyes separated by less than width across posterior ocelli; hind tibia black. 22
22. Thorax without any strong bristle-like presutural acrostichals, the hairs fine, in four series, one pair stronger than the others; hypopygium as in Figure 24. *incurva* sp. n.
Thorax with at least one pair of bristle-like presutural acrostichals, the hairs all more or less setulose. 23
23. Mid femur with some long anteroventral bristles. 24
Mid femur without any long anteroventral bristles. 25

24. Large species, 6 mm. in length; fifth abdominal sternite glossy along inner margins of the processes; inferior hypopygial forceps short and stout, curved, and with a tooth at middle on inner side. . . . *denticauda* sp. n.
 Smaller species, 4 mm. in length; fifth abdominal sternite and hypopygium not as above. . . . 24a
- 24a. Hind femur with a few long fine bristles on basal half of posteroventral surface; fifth abdominal sternite with very short fine hairs along inner margins of processes, but not fringed. . . . *subnitida* sp. n.
 Hind femur with short fine bristles on entire length of posteroventral surface; fifth abdominal sternite as in Figure 11, the inner margin of each process densely setulose at middle. . . . *parvicornis* sp. n.
25. Prealar bristle over half as long as the bristle behind it; hypopygium as Figures 28 and 44. . . . *iridens* sp. n.
 Prealar bristle much less than half as long as the bristle behind it; hypopygium as in Figures 29 and 41. . . . *substriata* Stein

Hylemyia triseriata sp. n.

Male. Black, faintly shining, densely pale gray pruinulent. Anterior margin of interfrontalia and lower part of parafacials slightly rufous brown. Thorax with three narrow dorsal brown vittæ. Abdomen with a black dorsocentral vitta which is slightly dilated at anterior margin of each tergite. Legs black. Wings slightly grayish, veins brown, paler basally. Calyptræ white. Halteres yellow.

Narrowest part of frons as wide as distance between posterior ocelli; interfrontalia distinct on its entire length, with a pair of fine bristles above middle; parafacial at base of antenna about 1.5 as wide as third antennal segment, very little narrowed below; cheek a little higher than widest part of parafacial, with numerous bristles along and slightly above lower margin, one strong one directed downward at middle and several weaker upwardly directed shorter bristles between it and anterior angle; arista pubescent, much swollen at base; third antennal segment about 1.5 as long as second. Presutural acrostichals very close together, two strong and two or three weak pairs; prealar about one-third as long as the bristle behind it. Abdomen moderately depressed, parallel-sided; fifth sternite with moderately stout processes, which are bare along their inner margins except at apex, where there are about four short, blunt setulæ, the outer half with numerous long bristles. Legs as in *fusciceps* Zetterstedt, the mid tibia with a strong anterodorsal median bristle, and the hind tibia with an anteroventral series of rather strong setulose hairs and the posterior and posteroventral surfaces each with a series of longer weaker setulose hairs. Costal thorn of moderate length.

Length, 6 mm.

Type, Katmai, Alaska, June, 1917. One male.

This species must be very closely related to *Hylemyia* (*Phorbia*) *biciliata* Coquillett, but the distinct markings on thorax and abdomen and different structure of the head appear to warrant its separation therefrom.

Hylemyia angustitarsis sp. n.

Male. Black, shining. Thorax indistinctly vittate. Abdomen with a black dorsocentral vitta which is broadened at anterior margin of each tergite, where it merges with the fuscous anterior marginal fascia; hypopygium glossy black, with slight grayish pruinescence. Legs black. Wings very slightly brownish. Calyptræ and halteres whitish yellow.

Head rather small; narrowest part of frons not much wider than anterior ocellus; parafacial at base of antenna not as wide as third antennal segment, much narrowed below; cheek as high as width of third antennal segment, with a series of long fine bristles on lower margin, some of which, anteriorly, are upwardly curved; proboscis normal; longest hairs on arista a little longer than its basal diameter; third antennal segment narrow, about 1.5 as long as second. Dorsum of thorax sparsely haired; presutural acrostichals of moderate, unequal lengths, irregularly 2-rowed; prealar less than half as long as the bristle behind it; sternopleurals 1 : 2; one or two bristly hairs adjacent to stigmal bristle. Abdomen narrow, depressed; hypopygium of moderate size; fifth sternite with a few short, fine hairs along inner margins and on inner half of each process and some long bristles on outer half. Legs more slender than usual; fore tibia with a median posterior bristle, the apical posterior one long, curved, blunt at apex; mid femur with some long bristles on basal half of posteroventral surface; mid tibia with usually one posterodorsal and one posteroventral bristle basad of middle; hind femur with a series of rather widely spaced bristles on anteroventral surface and two bristles at apex on posteroventral; hind tibia with one or two weak bristles on both antero- and posteroventral surfaces, four or five short anterodorsal and three posterodorsal bristles. Costal thorn of moderate length; veins three and four very slightly convergent apically; outer cross-vein straight.

Length, 4.5-5 mm.

Type, Katmai, Alaska, July, 1917. Paratypes, Katmai, four specimens, August, 1917; Savonoski, Naknek Lake, Alaska, seven specimens, July, 1919, one specimen, August 1, 1919.

Hylemyia constrictor sp. n.

Male. Black, subopaque, densely pale gray pruinescent. Orbits, parafacials, face and cheeks with shining whitish pruinescence; antennæ and palpi black. Thorax indistinctly vittate. Abdomen with a poorly defined broad fuscous dorsocentral vitta which is laterally dilated at anterior and posterior margins of each tergite; apices of fifth sternite glossy black; hypopygium gray pruinescent. Legs black. Wings clear, veins black, whitish at bases. Calyptræ and halteres whitish.

Narrowest part of frons about twice as wide as width across posterior ocelli; interfrontalia distinct on its entire length, with a pair of bristles

in front of anterior ocellus; orbits with fine bristles to above middle; parafacial at base of antenna distinctly wider than third antennal segment and as wide as height of cheek, not narrowed below; cheek with a few long fine bristles along lower margin; arista nearly bare, much swollen at base; third antennal segment narrow, not much longer than second. Presutural acrostichals very fine and short, two-rowed; prealar about half as long as the bristle behind it; sternopleurals 1:2. Abdomen subcylindrical; hypopygium of moderate size; processes of fifth sternite very large, curved inward, their tips slightly broadened, glossy, and almost bare. Fore tibia with a bristle at middle on posterior side, apical posterior bristle weak; mid femur with sparse bristles to beyond middle on posteroventral surface; mid tibia with one anterodorsal and one posterodorsal bristle, and an anterior and two posterior setulae; hind femur with a series of sparse anteroventral bristles; hind tibia with two anteroventral, two anterodorsal, and three posterodorsal bristles, and one or two posterior setulae. Costal thorn very small; veins 3 and 4 slightly divergent at apices; outer cross-vein nearly straight.

Length, 5 mm.

Type, Valdez, Alaska, June 4, 1919. One male.

Hylemyia hinei sp. n.

Male. Black, subopaque, densely pale gray pruinose. Thorax with a pale brown dorsocentral vitta which extends proximad of suture, and a broader, less distinct vitta on each side of it which does not extend proximad of suture. Abdomen with a moderately broad black dorsocentral vitta which is slightly interrupted at posterior margin of each tergite and connected with a narrow black fascia at anterior margin of each; hypopygium gray pruinose. Legs black, gray pruinose. Wings clear. Calyptrae white. Halteres yellow.

Head larger than usual, almost hemispherical; eyes separated by about width of anterior ocellus; orbits setulose to middle; parafacial narrower than third antennal segment, narrowed below; cheek nearly three times as high as widest part of parafacial, with long bristly hairs on lower margin anteriorly and above margin posteriorly; arista bare, swollen on basal fourth. Prealar not over half as long as the bristle behind it; presutural acrostichals rather widely separated, one or two pairs strong, a number of hairs between the strong pairs. Abdomen depressed, short and broad, slightly narrowed apically; fifth sternite with a pair of shining setulose processes at apex in center which project downward; hypopygium as in Fig. 26. Fore tarsus compressed, longer than tibia, the latter with one or two posterior bristles; mid tibia with two posterodorsal and two posterior bristles; hind femur with a series of anteroventral bristles, and a series of weaker posteroventral bristles which is more or less distinctly interrupted before apex; hind tibia with three posterodorsal, four to seven anterodorsal, and two or three anteroventral bristles, and some setulae on middle of posterior surface. First posterior cell narrowed at apex.

Female. Similar in color to the male, the abdomen less distinctly marked. Interfrontalia velvety black. Wings yellowish at bases.

Interfrontal cruciate bristles present; each orbit about one-third as wide as interfrontalia, with three supraorbitals, the lower one directed outward, and three or four infraorbitals. Fore tibia with an additional anterodorsal bristle.

Length, 3.5–4.5 mm.

Type, allotype, and 15 paratypes, Savonoski, Naknek Lake, Alaska, July, 1919. Named for Jas. S. Hine.

***Hylemyia fuscohalterata* sp. n.**

Male. Black, subopaque, densely gray pruinose. Orbits and cheeks slightly silvery pruinose. Thorax when seen from behind with five black vittæ. Abdomen with a broad black dorsocentral vitta which connects with a narrow black fascia on anterior margin of each tergite; hypopygium shining, gray pruinose. Legs black. Wings slightly brownish, noticeably so basally. Calyptræ white. Halteres brownish, the knobs infuscated.

Narrowest part of frons about as wide as anterior ocellus; orbits haired to middle; parafacial nearly as wide at base of antenna as third antennal segment and as wide there as height of cheek, the latter with a series of fine bristles on lower margin; third antennal segment but little longer than second; arista nearly bare, swollen on basal third. Thorax with two or three pairs of fine presutural acrostichals and no interspersed hairs; prealar less than half as long as the bristle behind it; sternopleurals 1:2. Abdomen depressed at base, sides parallel; hypopygium of moderate size, Figure 22; fifth sternite somewhat similar to that of *hinei*. Fore tibia without bristles at middle and apex on posterior side; mid femur with long fine bristles on posteroventral surface; mid tibia with one or two small posterodorsal bristles; hind femur with long bristles on anteroventral and short setulose hairs on posteroventral surface; hind tibia with very fine bristles which are rather variable in number but average four on posterodorsal, two long and three short on anterodorsal, and two on anteroventral surface, the median part of posterior surface with some fine setulæ; tarsi subequal in length to tibiæ. Costal thorn minute; outer crossvein straight.

Female. Interfrontalia velvety black. Thorax not distinctly vittate. Knobs of halteres obscurely yellow.

Interfrontalia with a pair of cruciate bristles; lower supraorbital directed forward. Mid tibia with one anterodorsal, one posterior and two posterodorsal bristles. Tarsi shorter than tibiæ.

Length, 2.5 mm.

Type, allotype, and two paratypes, Katmai, Alaska, June, 1917.

Hylemyia atrovittata sp. n.

Male. Black, slightly shining, with grayish pruinescence. Head black, orbits, face, parafacials and cheeks with white pruinescence; interfrontalia anteriorly and upper anterior part of parafacials sometimes brownish red. Thoracic dorsum with five very conspicuous black vittæ, the interspaces drab gray pruinescent. Abdomen with a very broad black dorsocentral vitta which is slightly interrupted at posterior margin and connected with a narrow black fascia at anterior margin of each tergite; hypopygium glossy black, slightly gray pruinescent. Legs black. Wings slightly grayish. Calyptre white. Halteres yellow.

Narrowest part of frons as wide as distance between posterior ocelli; interfrontalia not obliterated, with a pair of bristles above middle; orbits with long fine bristles to middle; parafacial at base of antenna a little wider than third antennal segment, not narrowed below; cheek higher than width of parafacial, with long fine bristles on lower margin, some of which, anteriorly, are upwardly curved; arista pubescent, much swollen on basal fifth; third antennal segment nearly twice as long as second. Presutural acrostichals long, two-rowed; many long hairs laterad of posthumeral; prealar not one-third as long as the bristle behind it; sternopleurals 1:2 or 1:3. Abdomen narrow, depressed; hypopygium of moderate size; fifth sternite with processes broad, furnished at base of each with a fringe of downwardly directed setulose hairs and on apical half with many similar hairs. Fore tibia with a median posterior bristle; mid femur with a series of bristles on posteroventral surface, their length decreasing to apex; mid tibia with two posterodorsal, and two or three posterior bristles; hind femur with a series of bristles on entire length of anteroventral surface and another on posteroventral, the latter almost ceasing before apex; hind tibia with two or three anteroventral, four or five anterodorsal and three or four posterodorsal bristles, and four or five posterior setulæ. Costal thorn very small.

Length, 4 mm.

Type, and 12 paratypes, Katmai, Alaska, June and July, 1917.

Hylemyia sericea sp. n.

Male. Black, slightly shining, densely brownish gray pruinescent. Head black, sometimes with the anterior part of interfrontalia and parafacials reddish; orbits, face and cheeks with yellowish pruinescence; antennæ and palpi black. Thorax indistinctly vittate. Abdomen with a slight silky luster, the black dorsocentral vitta linear. Legs black. Wings slightly brownish, veins dark brown, yellow at bases. Calyptre and halteres yellow.

Narrowest part of frons as wide as anterior ocellus; orbits setulose to middle, and with a pair of very small hairs near anterior ocellus; interfrontalia almost obliterated above, with a pair of fine bristles at

middle; parafacial not as wide as third antennal segment, narrowed below; arista with microscopic pubescence; third antennal segment nearly twice as long as second. Presutural acrostichals very fine, in four series, usually one pair longer than the others; prealar about one-third as long as the bristle behind it. Abdomen depressed, sides subparallel; hypopygium normal in size, the superior forceps with a small process on each side of disc near base (Fig. 23); fifth sternite not abnormal (Fig. 12). Fore tibia usually with one anterodorsal and one posterior bristle; mid tibia with one or two anteroventral, one anterodorsal, two posterodorsal, and two posterior bristles; hind tibia with a series of long widely spaced anteroventral bristles which are at least as long at base as at apex; hind tibia with two to four anteroventral, about eight anterodorsal and four or five posterodorsal bristles, the bristles of the last two surfaces unequal in lengths, the posterior surface with a few setulae near base. Costal thorn short and stout.

Length, 6 mm.

Type, Katmai, Alaska, July, 1917. Paratypes, one male, Katmai, June, 1917; Savonoski, Naknek Lake, five males, June, 1919, four males, July, 1919; one male, July 31, 1919.

***Hylemyia appendiculata* sp. n.**

Male. Similar in color and markings to *substriata* Stein, and *sericea*. Differs from *substriata* in having the prealar over half as long as the bristle behind it, the bristles on basal half of posteroventral surface of hind femur much longer and stronger, and the inferior forceps of the hypopygium much longer and with a small tooth or projection on inner side near apex, when seen from above (Figs. 17 and 34).

Length, 6 mm.

Type, Savonoski, Naknek Lake, Alaska, July, 1919. Paratype, Bozeman, Mont., June 23, 1916.

This species is very closely allied to *anthracina* Malloch, differing in having the presutural acrostichals more widely separated, the dorsocentral black abdominal vitta linear and not dilated on anterior and posterior margins of each tergite, the posteroventral bristles on hind femur much longer and sparser, and the mid tibia with an anteroventral bristle.

***Hylemyia denticauda* sp. n.**

Male. Similar to *substriata* in color and habitus. Differs from that species in having two to three pairs of strong presutural acrostichals, the prealar nearly half as long as the bristle behind it, the fifth sternite glossy along inner margins of the processes and with fewer and shorter hairs, the mid femur with some strong bristles on basal half of anteroventral surface, and the hypopygium as in Figures 27 and 40.

Length, 6 mm.

Type and two paratypes, Seattle, Wash., May 25, 1919.

This species was taken by Professor Hine when on his way to Alaska and is appropriately included in this paper.

Hylemyia aliena sp. n.

Male. Black, slightly shining, densely gray pruinose. Head black, orbits, face and cheeks whitish pruinose; arista brown; palpi brownish yellow; proboscis glossy black. Thorax indistinctly vittate. Abdomen with a moderately broad dorsocentral black vitta which is slightly dilated at anterior margin of each tergite; hypopygium glossy black, with slight gray pruinescence. Legs black, hind tibiae more or less noticeably reddish. Wings faintly brownish, veins dark brown and conspicuous. Calyptræ and halteres yellowish.

Narrowest part of frons distinctly wider than distance across posterior ocelli; orbits linear above, with bristly hairs to middle; interfrontalia with two pairs of fine bristles above middle, the upper pair small; parafacial at base of antenna as wide as third antennal segment and about three-fourths as wide as height of cheek, but little narrowed below; cheek with a series of setulose hairs on lower margin, vibrissal angle slightly produced; arista nearly bare, swollen on basal fourth, second segment as long as thick; proboscis rather slender. Presutural acrostichals short, two-rowed; prealar over half as long as the bristle behind it. Abdomen depressed, sides subparallel; hypopygium of moderate size (Fig. 25); fifth sternite without remarkable hairing (Fig. 8). Fore tibia usually with one anterodorsal and two posterior bristles; mid tibia with one anterodorsal, one posterodorsal and two posterior bristles; hind femur with a rather irregular series of bristles on anteroventral surface, and a posteroventral series of weaker bristles which does not extend to apex; hind tibia with two anteroventral, four or five anterodorsal, and three or four posterodorsal bristles, and two or three setulae near middle of posterior surface. Costal thorn minute; penultimate section of fourth vein over two-thirds as long as ultimate; apical sections of third and fourth veins subparallel.

Length, 6 mm.

Type and one paratype, Savonoski, Naknek Lake, Alaska, June, 1919; two paratypes, same locality, July, 1919.

Hylemyia incursa sp. n.

Male. Similar to *sericea* in color, the interfrontalia and parafacial usually reddish anteriorly, and the abdomen with brownish pruinescence and a broad, poorly defined dorsocentral black vitta which is dilated at anterior margin of each tergite.

Arista distinctly pubescent. Presutural acrostichals fine and long, one pair longer than the others, but not bristle-like; prealar over half as long as the bristle behind it; posthumeral bristle not duplicated. Fifth sternite as in Figure 9; hypopygium as in Figures 24 and 43. Fore tibia with an anterodorsal and a posterior bristle; mid femur with

some long bristles on basal half of anteroventral surface; mid tibia with an anterodorsal, two posterodorsal, and two posterior bristles, and sometimes an anterior setula; hind femur with long bristles on anteroventral surface, and one or two on basal half of posteroventral; hind tibia with two or three anteroventral, five or six anterodorsal, and three or four posterodorsal bristles, and some setulae on posterior surface near middle.

Length, 5.5 mm.

Type and three paratypes, Katmai, Alaska, June 10, 1919.

***Hylemyia parvicornis* sp. n.**

Male. Similar in color to *substriata*. The anterior part of interfrontalia and part of parafacial reddish. Thorax rather indistinctly vittate. Abdominal dorsocentral vitta slightly dilated at anterior margin of each tergite.

Narrowest part of frons about as wide as anterior ocellus; interfrontalia distinct throughout, with a pair of long fine bristles above middle; orbits with setulose hairs to near middle; parafacial at base of antenna about as wide as third antennal segment, narrowed below; third antennal segment not twice as long as wide; arista pubescent, swollen at base. Three or four pairs of moderately strong presutural acrostichals present, one pair much longer than the others; prealar one-third as long as the bristle behind it. Fifth sternite as in Figure 11; hypopygium as in Figures 20 and 43. Fore tibia with a median posterior bristle; mid femur with some long bristle on basal half of anteroventral surface; mid tibia with one or two posterodorsal and posterior bristles; hind femur with the anteroventral bristles much longer on the apical than on the basal half, the posteroventral surface with short fine bristles on entire length; hind tibia with two or three anteroventral, four anterodorsal, and three posterodorsal bristles, the posterior surface with some setulae at middle. Last section of fourth vein less than twice as long as preceding section.

Length, 4 mm.

Type, Kodiak, Alaska, June, 1917. Paratypes, four males, same locality, June, 1917.

***Hylemyia subnitida* sp. n.**

Male. Differs from *parvicornis* in having the thorax less distinctly vittate, the abdomen with the dorsocentral vitta distinctly interrupted at apex of each tergite, and the parafacials black.

Parafacial narrower than in *parvicornis*, and the cheeks not so high, fifth sternite with very fine hairs along the inner margin of each process, though not fringed, mid tibia with a strong anterodorsal bristle, anteroventral bristles on hind femur longer and sparser, and those on posteroventral surface longer and not forming a complete series.

Length, 4 mm.

Type, Kodiak, Alaska, July, 1917. One male.

Hylemyia tridens sp. n.

Male. Similar in color and general habitus to *sericea*. Differs from *sericea* in structure of hypopygium (Figs. 44 and 28). The prealar is as in *appendiculata*.

Length, 6 mm.

Type and one paratype, Savonoski, Naknek Lake, July and August, 1919.

FAMILY SCATOPHAGIDÆ.

Amaurosoma Becker.

I included this genus in my key to the genera of Scatophagidæ in a paper on the Diptera collected by the Canadian Arctic Expedition, but up to the present no species of this genus has been recorded from America. In the present paper I describe three species as new.

The adults are predaceous, feeding on small Diptera and other small insects; the immature stages are unknown.

Amaurosoma katmaiensis sp. n.

Female. Black. Head with whitish pruinescence; thorax opaque, gray pruinose; abdomen shining, with very slight pruinescence. Head black; interfrontalia whitish yellow, face and cheeks concolorous; antennæ black, second joint inconspicuously yellow at apex; arista black; proboscis black; palpi yellow. Thorax not vittate. Legs black, tibiæ and tarsi flavous, the tarsi of mid and hind legs slightly darker. Wings clear, veins black. Calyptra white. Halteres yellow.

Frons fully half the width of head; orbits narrow anteriorly, becoming wider to anterior ocellus, the bristles rather weak; face slightly receding below; antennæ stout, nearly as long as face, third joint with sharp upper apical angle, rounded below; arista almost bare, much swollen on basal third; vibrissa strong, a strong bristle below it. Thorax with the presutural acrostichals weak, two-rowed. All abdominal segments with widely spaced bristles on posterior margins. Legs normal; fore femur with about nine long forwardly directed bristles in two to three irregular series on middle of antero-ventral surface; mid femur with six or more widely spaced bristles in similar situation; antero-ventral surface of hind femur with three or four widely spaced bristles; fore tibia with three bristles, one anterodorsal, one posterodorsal and one posterior; mid tibia with one bristle on each of the following surfaces—anteroventral, anterodorsal, posterodorsal and posterior; hind tibia with two or three anterodorsal and two or three posterodorsal bristles. Last section of fourth vein two or three times as long as preceding section; outer cross-vein at or more than its own length from apex to fifth vein.

Length, 4.5–6 mm.

Type locality, Katmai, Alaska, June, 1917 (J. S. Hine).

Type in collection of the Ohio State University; paratype in collection of the Illinois State Natural History Survey.

Amaurosoma unispinosa sp. n.

Female. Similar in color of head, thorax and abdomen to last species, except that the black on orbits does not extend so far forward. Legs and fore coxæ entirely flavous.

Cephalic characters, thoracic and abdominal chaetotaxy as in the preceding species. Legs stout, fore femora stouter than mid and hind pairs, armed with one bristle near base on anteroventral surface; mid femur with one or two anteroventral bristles at middle, and five or six along anterior surface; fore and mid tibiae as in preceding species; hind tibia in type with two anterodorsal and two posterodorsal bristles.

Length, 4.5 mm.

Type locality, Katmai, Alaska, July, 1917 (J. S. Hine).

Type and paratype placed as in preceding species.

Amaurosoma bispinosa sp. n.

Female. Shining black, with distinct but not very dense gray pruinescence, which is very faint on abdomen. Antennæ black; frons on anterior half golden yellow; palpi pale yellowish testaceous; proboscis glossy black. Thorax glossy at bases of bristles. Legs yellowish testaceous, femora browned apically, tarsi infuscated. Calyptræ and halteres yellowish. Wings clear.

Third antennal segment about twice as long as second, not acute at apex above; arista tapered, microscopically pubescent. Presutural acrostichals sparse, two-rowed; intra-alars very weak; prealar moderately long; anterior sternopleural absent in type. Fore femur with two strong bristles at middle on anteroventral surface; mid femur with four or five bristles on anterior and anteroventral surfaces; hind femur with two weak anteroventral bristles at middle; hind tibia with two anterodorsal and two posterodorsal bristles. Last section of fourth vein about three times as long as preceding section.

Length, 5 mm.

Type, Saldovia, Alaska, June 5, 1919. One female.

Microprosopa Becker.

There are three species of this genus in the collection all of them apparently undescribed.

Microprosopa arctica sp. n.

Male and Female. Very closely resembling *dissimilis* in color, the female differing only in having the anterior half of frons whitish testaceous, the fore coxæ almost entirely yellow, and the fine hairs on thorax and abdomen pale. The male differs from that sex of several

other species in having the hypopygium dark, with paler color only on sides of venter.

Orbit with five bristles; third antennal joint rounded at apex above, cheek over one-fourth as high as eye, with one strong bristle and some weak marginal hairs in addition to the vibrissa, the bristles pale; palpi shorter and comparatively broader than in *dissimilis*. Presutural acrostichals two-rowed, but with some weak, pale hairs between the rows; disc of scutellum with very weak pale hairs. Fore femora swollen, with a few weak, black, bristly hairs on apical half of anterodorsal surface, and long soft hairs on posteroventral; fore tibia with one anterodorsal bristle; mid and hind femora without ventral bristles, the former with a few on apical half of anterodorsal surface, the hind pair with an almost complete series on same surface; mid tibia with one antero- and one posterodorsal bristle, the latter almost on the dorsal surface. Third and fourth veins subparallel or slightly convergent apically; sixth vein weak on apical half. Hypopygium of male very large; fifth sternite with the apices of the lateral processes glossy, rounded, their inner margins on basal half armed with very short, dense, erect hairs.

Length, 5-5.5 mm.

Type locality, Katmai, Alaska, July, 1917 (J. S. Hine). Six specimens.

***Microprosopa triseta* sp. n.**

Female. Similar in color to *arctica*.

The head is slightly smaller than in *arctica*, the vibrissa and the bristle below it are black, the palpi are slightly more elongate, with the apices rather pointed. The presutural acrostichals are two-rowed, without any pale hairs between. The mid tibia in type has only one bristle on the anterodorsal surface, the hind tibia has in addition to the bristles present in *arctica* one on the anterodorsal surface near base. The venation is the same as in *arctica*, but the wing is more pointed, so that the apex of third vein is very decidedly beyond apex of fourth, while in *arctica* it is nearly in vertical line with it.

Length, 4.5 mm.

Type locality, Katmai, Alaska, July, 1917 (J. S. Hine).

***Microprosopa dissimilis* sp. n.**

Female. Black; thorax densely yellowish gray pruinose, almost opaque; abdomen slightly pruinose, shining. Head black, anterior third of frons, the face and cheeks yellowish testaceous; antennæ and arista black, apex of second joint of former slightly pale; proboscis glossy black; palpi whitish testaceous, faintly infuscated at apices. Thoracic dorsum with two poorly defined narrow vittae anteriorly. Legs yellowish testaceous; all coxæ fuscous. Short hairs on thorax and abdomen black.

Each orbit with six bristles, the anterior three hair-like; arista bare, about one-third longer than antennæ, third joint of the latter slightly

angulate at apex on upper side; face slightly concave in profile; cheek about one-fifth as high as eye, with three strong and several weak bristles in addition to the vibrissa; palpi long, somewhat paddle-shaped. Pre-sutural acrostichals two-rowed; disc of scutellum with setulose hairs. Fore femora stout, furnished with very short, dense, erect hairs on ventral surfaces, and on posteroventral surface with rather irregular long bristly hairs; fore tibia with three bristles, one anterodorsal, one posterodorsal and one posterior, the ventral setulæ dense and short; mid femora with numerous irregularly arranged weak black bristles on antero-dorsal surface, and a few widely placed bristles on antero- and postero-ventral surfaces; mid tibia with one antero- and one posterodorsal bristles; hind femur with armature similar to mid pair, except that the anteroventral bristles are stronger, more numerous and more closely placed; hind tibia with one anterodorsal and two posterodorsal bristles. Wing-veins thick; inner cross-vein just beyond apex of first vein and middle of discal cell; third and fourth veins very distinctly divergent at apices.

Length, 6 mm.

Type locality, Katmai, Alaska, July, 1917 (J. S. Hine).

EXPLANATION OF PLATES.

PLATE II.

Fifth abdominal sternites of males of *Hylemyia*.

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| Fig. 1, <i>fusciceps</i> , one side. | Fig. 9, <i>incursa</i> , one side. |
| Fig. 2, <i>cilicrura</i> , one side. | Fig. 10, <i>denticauda</i> , one side. |
| Fig. 3, <i>fabricii</i> , one side. | Fig. 11, <i>parvicornis</i> , one side. |
| Fig. 4, <i>angustitarsis</i> , one side. | Fig. 12, <i>sericea</i> , one side. |
| Fig. 5, <i>hinei</i> . | Fig. 13, <i>appendiculata</i> , one side. |
| Fig. 6, <i>fuscogalterata</i> . | Fig. 14, <i>tridens</i> , one side. |
| Fig. 7, <i>atrovittata</i> , one side. | Fig. 15, <i>substriata</i> , one side. |
| Fig. 8, <i>aliena</i> , one side. | |

PLATE III.

Hypopygia of males of *Hylemyia*, caudal view.

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| Fig. 16, <i>fabricii</i> . | Fig. 24, <i>incursa</i> , one superior forceps removed. |
| Fig. 17, <i>appendiculata</i> . | Fig. 25, <i>aliena</i> . |
| Fig. 18, <i>angustitarsis</i> , one superior forceps removed. | Fig. 26, <i>hinei</i> , one superior forceps removed. |
| Fig. 19, <i>atrovittata</i> , one side. | Fig. 27, <i>denticauda</i> . |
| Fig. 20, <i>parvicornis</i> , one side. | Fig. 28, <i>tridens</i> , one superior forceps removed. |
| Fig. 21, <i>variata</i> . | Fig. 29, <i>substriata</i> , one superior forceps removed. |
| Fig. 22, <i>fuscogalterata</i> , one side. | |
| Fig. 23, <i>sericea</i> , one side. | |

PLATE IV.

Hypopygia of males of *Hylemyia*, lateral view.

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| Fig. 30, <i>fabricii</i> . | Fig. 38, <i>sericea</i> , ventral processes. |
| Fig. 31, <i>cilicrura</i> . | Fig. 39, <i>atrovittata</i> . |
| Fig. 32, <i>angustitarsis</i> . | Fig. 40, <i>denticauda</i> . |
| Fig. 33, <i>hinei</i> . | Fig. 41, <i>substriata</i> . |
| Fig. 34, <i>appendiculata</i> . | Fig. 42, <i>parvicornis</i> . |
| Fig. 35, <i>fuscogalterata</i> . | Fig. 43, <i>incursa</i> . |
| Fig. 36, <i>variata</i> . | Fig. 44, <i>tridens</i> . |
| Fig. 37, <i>sericea</i> , forceps only. | |



