

ASILIDÆ, NEW AND OTHERWISE, FROM THE SOUTH-WEST, WITH A KEY TO THE GENUS STICTOPOGON

BY J. WILCOX

(Continued from Vol. XII, p. 212)

BLEPHAREPIUM SECABILIS (Walker)

This genus has not been reported from the United States previously. A key to the species is given by Bromley⁷. Specimens are at hand from the following localities.

⁷ Ann. Ent. Soc. Am. 22: 279, 1929.

Ariz.; Mesa, VII-23-1928 (E. P. Van Duzee); Phoenix, August (D. K. Duncan); Pima County, VII-22-1927 (R. H. Beamer). N. Mex.: Luna County, VII-14-1934 (R. T. Kellogg).

Blepharepium is most closely related to *Diogmites* and is distinguished from it usually by the following characters (quoted from Bromley⁷); "posterior pulvilli much shorter than the elongate claws; scutellum without bristles". The claws and pulvilli of *secabilis* measure as follows: hind claw 35, pulvilli 15; middle claw 30, pulvilli 15; and fore claw 30, pulvilli 24; both claws and pulvilli were measured from base of pulvilli.

LESTOMYIA Williston

It is rather difficult to classify the species of this genus, but the one described below should be readily recognized. Five species in the genus have been described. Four from California and one from Wyoming, but the genus occurs all over the western part of North America. Several other new species are at hand, but they will not be described until larger and more representative series have been seen. The length of the pulvilli is believed to be of specific importance. Where measurements of the claws and pulvilli are given, those of the hind legs are used, and both the claws and pulvilli are measured from the apex of the fifth tarsal joint.

Lestomyia atripes Wilcox, new species

Male: Length 10 mm. Head black; cheeks, palpi, and proboscis shining; remainder densely pruinose with a slight tinge of yellow on the front. Hairs and bristles white except two of the eight bristles on ocellar tubercle, the hairs on second palpal joint and two or three bristles on underside of second antennal joint, which are black. Antennæ black; apex of second joint and base

of third slightly reddish; first two joints subequal in length; third as long as first two together, narrow on basal third, broadest at apical two-thirds, from which it narrows to apex; style truncate, about one-fifth as long as third joint, cylindrical, longer than broad and with a minute spine at apex.

Thorax black, largely covered with gray pollen; laterally, dorso-central stripes and a pair of broad central stripes separated by a gray stripe of equal width, golden. Hairs white; bristles black except three humeral and one posthumeral which are yellowish; four presutural, two supra-alar, two post-alar and seven anterior and three posterior dorsocentral bristles. Scutellum covered with yellowish gray pollen, with eight marginal bristles, four blackish and four whitish. Pleuræ and coxæ covered with gray pollen; hairs and bristles white.

Abdomen black, largely covered with gray pollen; second to fifth segments with large lateral triangular black spots, widest basally and not reaching lateral or posterior margins; all segments with a central anterior smaller oval black spot; hairs and bristles white; four lateral bristles on first segment. Venter covered with gray pollen and white-pilose. Hypopygium reddish brown, as broad as long, white-pilose.

Legs dull black, except apical one-fifth of femora and about basal one-fourth of tibiæ, which are reddish; hairs white; femoral bristles and about one-half of the tibial white; most of tarsal bristles black. Claws black, very narrowly reddish at base; pulvilli whitish; empodium brown; pulvilli three-fourths as long as claws (15:20).

Alulæ pale yellowish with white fringe. Base of halteres brown, stem and knob pale yellow. Wings clear hyaline; veins, except at the base, brown; anterior cross-vein at four-seventh the distance from base of discal cell; fourth posterior cell slightly narrowed.

Female: Length 11 mm. Similar to male. Head slightly yellowish; apical three-fourths of ocellar bristles black. Thoracic and mesonotal bristles black except those on the humeri. Median and lateral black spots on the abdomen confluent basally; sixth and following segments shining black; eight brown spines at apex. Wings slightly brownish in area around discal cross-vein.

Holotype: Male, Grant County, N. Mex., III-31-1933 (R. T. Kellogg). Allotype: Female, same data. Paratypes: About 100 specimens, both sexes, same data as types, and IV-7-1933; Santa Rita Mts., Ariz., IV-8-1932 (D. K. Duncan); Superior, Ariz., April (D. K. Duncan), base of Pinal Mts., Ariz., March (D. K. Duncan); 30 of those from Arizona in D. K. Duncan's collection.

The largely black legs will distinguish this species from previously described forms.

Cophura sculleni Wilcox, new species

Male: Length 7 mm. Head black, densely pruinose, except cheeks narrowly, the palpi and the proboscis, which are black. Hairs and bristles white; mystax bristle-like, confined to oral margin; hairs of face fine and short. Face slightly diverging below; front nearly parallel-sided; face at antennæ about two-thirds width of one eye. First antennal joint one and one-half times length of second and narrower, both bearing white hairs, two of these bristle-like below on second joint; third joint one and one-half times the length of first two joints together, about as broad as second joint and narrowed on apical one-third; style short, slender, with a minute seta at apex, about one-sixth the length of third joint.

Mesonotum densely covered with pollen; humeri and anterior part gray, the remainder yellowish; hairs rather long, white; bristles yellowish, two presutural and the following fine ones hardly distinguishable from the hairs; two supra-alar, two post-alar, and four dorsocentral bristles mostly posterior. Scutellum densely pollinose, broad posterior margin shining black; two pairs of very fine yellowish bristle-like hairs on posterior margin. Pleuræ and coxæ densely pollinose, propleura and coxæ grayish; hairs and bristle-like hairs of hypopleura yellowish white.

Abdomen shining, narrow sides and venter covered with gray pollen; first segment and anterior one-fifth and sides of second black; remaining segments yellowish red; hairs yellowish white, rather long on the sides. Hypopygium shining black, concealed beneath sixth and seventh segments, not visible from above.

Trochanters black; femora except for a very small black spot at tip and tibiæ except apex (about apical one-fourth of hind tibiæ) shining yellowish red; tip of tibiæ and tarsi, except basal half of metatarsi which are reddish, brownish black; claws black, reddish basally; pulvilli light brown; hairs and bristles yellowish white.

Halteres yellow; stem at base brown. Alulæ brown, with a broad yellowish margin and fringe. Basal two-thirds of wings brown, the brown extending from apex of auxiliary vein obliquely across wing, filling out discal and fourth posterior cells; apex of wings hyaline; veins brown. Anal cell narrowly open; fourth posterior cell somewhat narrowed; anterior cross-vein at seven-tenths distance from base of discal cell; third vein branched beyond discal cross-vein.

Female: Length 7 mm. Very similar. Five erect bristle-like hairs on posterior margin of scutellum. Segments 6-8 of abdomen entirely shining reddish; apical spines brown.

Holotype: Male, Holbrook, Ariz., elevation 5,400 feet, VI-25-1931 (H. A. Scullen). Allotype: Female, Estancia, N. Mex., VII-9-1929; in Dr. S. W. Bromley's collection.

In Curran's key⁸ this species would run to couplet 3, where

⁸ Am. Mus. Novitates, No. 487, p. 5, 1931.
it differs from *bella* and *sodalis* by the color of the thorax and the markings of the wings.

Atomosiella Wilcox, new genus

Small species resembling *Atomosia*, differing by having only four posterior cells and lacking scutellar bristles. Head nearly twice as broad as high; face about three-fifths the width of one eye; sides nearly parallel, narrowly carinate along eye margin, slightly concave at middle; oral margin and base of antennæ slightly elevated. Front deeply excavated, about one-third wider than face (in *Atomosia*, front coarctate, never wider at vertex than at antennæ); ocellar tubercle narrow, bearing a pair of divaricate bristles. First antennal joint twice length of second, third twice length of first two together and having a minute spine on upper side at apical three-fifths. Proboscis short, cylindrical, truncate at apex; palpi very slender and about as long as proboscis. Mesonotum about as broad as long; short, sparsely pilose, sparsely punctate, bearing a strong supra-alar and a postalar bristle. Scutellum sparsely punctate and with fine, short, sparse hairs. Metanotum with a few short hairs and bristles. Pleuræ somewhat bulging and in large part pruinose, sparsely pilose except hypopleura which bears a dense clump of bristle-like hairs. Abdomen short, broad, very densely punctate; hairs numerous but short, fine, and inconspicuous; four lateral stout, short bristles on first segment, two on second, and one each on third to sixth; seventh and the hypopygium and ovipositor more or less concealed by the sixth segment. Legs rather short and stout but not conspicuously thickened on any part. Petiole of marginal cell slightly longer than anterior cross-vein; branches of third vein broadly divaricate, anterior branch reaching wing margin well in front of apex and posterior one well beyond apex; first posterior cell open or closed at wing margin; third posterior cell (fourth in most genera) closed and petiolate, petiole about equal in length to anterior cross-vein; anal cell closed before wing margin; anterior cross-vein beyond middle of discal cell.

Genotype: *Atomosia antennata* Banks



Figure 2. Wing of *Atomosiella*, new genus (X-10)

ATOMOSIELLA ANTENNATA (Banks)

Atomosia antennata Banks, Can. Ent. 52: 66, 1920.

This species was described from two male specimens collected at Douglas, Ariz., August (L. H. Snow) and now on deposit in the Museum of Comparative Zoology. Marston Bates has kindly compared specimens with the types and has verified the generic status of the species. As there are some differences in the specimens and as the female has not been described, the following description is given:

Male: Length 5 mm. Head black, proboscis shining; face, front and occiput covered with yellowish white pollen (the face a sparse row of longer hairs on oral margin and more numerous shorter hairs, a pair of stouter long hairs a little above oral margin and shorter sparse hairs extending to antennæ; ocellar bristles black; occipital bristles yellowish white; beard and hairs of proboscis white. Antennæ black; first joint clothed with short yellowish hairs and one longer hair on anterior side; second joint with short black hair.

Mesonotum and scutellum rather bright metallic blue; hairs golden; bristles yellowish white. Pleuræ dark purple where bare of pollen; pleuræ and coxæ pruinose except greater part of mesopleuræ, metasternum, and pteropleura; hypopleural hairs yellowish white; hairs of coxæ whitish.

Abdomen, except first segment which is of same color as mesonotum, dark bluish green; hairs golden; bristles yellowish white.

Basal half of fore femora brown, apical half yellow; middle femora yellowish except a small brown spot above at base; hind femora entirely yellow. Tibiæ, except about basal one-third which is yellowish, and tarsi brown. Claws black, yellowish at base; pulvilli light brown; empodium brownish. Hairs yellowish, short, appressed, except a rather dense erect fringe on venter of hind tibiæ; bristles yellowish, except a long one on anterior side at apex of basal and second segments of fore tarsi; very short bristles on outer joints of fore tarsi, short bristles on outer three joints of middle tarsi, a longer bristle on next to basal segment on anterior side of middle tarsi, and bristles on last three joints of hind tarsi, black.

Base of halteres dull brown; upper stem and knob milky white. Alulæ yellowish with a yellowish-white fringe. Wings uniformly grayish hyaline; veins brown; anterior cross-vein at two-thirds distance from base of discal cell.

Female: Length 6 mm. Similar to male, abdomen broader. Femora entirely yellowish. Longer bristles on basal two joints of tarsi yellowish white, except anterior ones on fore tarsi.

Described from specimens collected at Phoenix, Ariz., August (D. K. Duncan).

Additional specimens of both sexes from the above locality and from Superior, Ariz., August (D. K. Duncan), in the writer's and D. K. Duncan's collections, and the following specimens in the University of Kansas collection: Belen, N. Mex., VIII-19-1927 (R. H. Beamer and P. A. Readio); Socorro County, N. Mex., VIII-18-1927 (P. A. Readio); Taos, Taos County, N. Mex., VIII-20-1927 (R. H. Beamer); and Lemon Cove, Calif., VII-26-1929 (R. H. Beamer).

There is considerable variation in the coloration of the specimens, the thorax varying from bright blue and purple to black and the abdomen in some specimens being nearly black; the color of the second antennal joint varies from dull yellow to nearly black; and in most specimens the femora are entirely yellowish, varying to reddish brown. The first posterior cell varies from being closed and very slightly petiolate to being open as wide as the length of the anterior cross-vein.

Atonia duncani Wilcox, new species

Male. Length 5 mm. Head black, densely pruinose, with a tinge of yellow on the face; mystax white, composed of six long bristles on oral margin and a number of short hairs; at about one-fourth distance from oral margin to antennæ is a pair of long black bristles, and on each side of face a vertical row of shorter white hairs reaching from oral margin nearly to antennæ. Front with a single black bristle on each side near eyes and just behind antennæ, and several short white hairs on sides of ocellar tubercle; ocellar tubercle with a pair of short black bristles; occipital bristles black, four short ones on each side; beard sparse, short and white. Antennæ black, thinly pollinose; first and second joints each with two short, black bristles below, subequal in length and about twice as long as broad; third joint bare, one and one-half times length of first two together, gradually widening apically, about one-fourth as wide as long at widest point; style about one-half width of third joint, somewhat conical, one-fifth length of third joint, with a short, stout bristle arising from upper side near base.

Mesonotum and scutellum shining black, rather densely covered with short, recumbent yellow hairs; bristles black, one pre-sutural, one supra-alar, and one postalar; very narrowly pruinose on sides above wing base and posteriorly before scutellum. Scutellum without bristles. Mesonotum densely pruinose; on each side with a clump of about six short, stout, black bristles. Pleuræ densely pruinose, except neck, mesopleuræ, sternopleuræ, and ptero-

pleuræ, which are largely shining black; hairs short, white, hypopleural hairs long, about 10 on each side.

Abdomen black, shining, finely punctate; hairs white, longer posteriorly and on sides of segments; about four whitish lateral bristles on first segment.

Coxæ pruinose; fore pair black, middle and hind pairs more or less yellowish. Legs shining black, except the narrow base and apex of femora, about basal one-fourth of tibiæ, and the tarsal joints (becoming darker apically) which are dull yellow. Hairs and bristles white except bristles on outer tarsal joints which are black; a definite fringe of rather dense hairs ventrally on hind tibiæ and metatarsi; claws and empodium black; pulvilli yellowish.

Halteres yellow, base and lower stem brown. Wings hyaline, veins brown; anterior cross-vein before middle of discal cell.

Female: Length 5.5 mm. Similar to male. Oral bristles largely black; face and front with a more evident tinge of yellow; anterior cross-vein at middle of discal cell.

Holotype: Male, Globe, Ariz., July (D. K. Duncan). Allotype: Female, same data. Paratypes: 22 specimens, both sexes, with same data as type (July and August), and Superior, Ariz., August (D. K. Duncan), partly in D. K. Duncan's collection.

This is apparently the first record of this genus from the United States; Curran⁹ figures the head and wing venation.

⁹ North American Diptera, p. 168, fig. 42; p. 178, fig. 110, 1934.

This species apparently differs from *A. mikii* Williston by the shorter antennal style (*mikii*, one-third length of third joint) and by the color of the hairs on the mesonotum, and from *A. brevistylata* Williston, by the color of the legs and of the mystax and hairs on the mesonotum.

Promachina pilosa Wilcox, new species

Male: Length 14 mm. Head shining black, thinly covered with golden brown pollen; mystax and hairs of palpi yellowish white, becoming white on upper face; sparse erect hairs on front mixed black and white; hairs on ocellar tubercle largely black; beard and hairs on upper occiput and proboscis white; occipital bristles black, about eight on each side. Antennæ black; first joint white-haired and twice length of second; second with mixed short black and white hairs; third one and one-third times length of first two joints together, equal in width at base to width of second, tapering apically; style three-fourths the length of third joint.

Thorax and coxæ black, covered with golden brown pollen, subshining; mesonotum with a broad median, narrowly bisected, black stripe; recumbent hairs white, numerous interspersed black hairs erect; bristles black, two presutural, one supra-alar, and

three post-alar. Scutellum black, thinly covered with golden brown pollen with numerous long white hairs arranged in a clump on each side. Hypopleural hairs long, yellowish; a thinner clump of long black hairs on metasternum, and a few similar hairs above on hind coxæ.

Abdomen black, broadly brownish on sides, becoming still broader apically; hairs long, yellowish white, more numerous on the sides, black on dorsum of first segment. Genitalia black, about equal in length to fourth and fifth segments together, hairs yellowish white. Venter uniformly covered with brownish pollen, with short recumbent white hairs and on segments I-V with longer, sparse, erect black hairs.

Legs shining black; fore and middle tibiæ reddish brown on posterior side, hind femora reddish brown dorsally, hind tibiæ this color on about basal one-fourth. Hairs yellowish white, more or less recumbent, with some black hairs on dorsum of fore and middle femora, and dorsally and posteriorly on hind femora; bristles black; claws black; pulvilli brown; empodium yellowish.

Alulæ brown, margin yellowish, with numerous white marginal hairs. Knob of halteres brownish black; base and stem yellowish brown. Wings light brownish, more intense anteriorly; veins brown; first posterior cell open; fourth posterior cell closed and petiolate, also petiolate at base, these petioles about equal in length to anterior cross-vein; anal cell closed and petiolate, the petiole about one-half the length of anterior cross-vein; anterior cross-vein at five-ninths distance from base of discal cell.

Female: Length 14 mm. Similar to male. Hairs on sides of abdominal segments I-V white, yellowish dorsally except on I, where they are black; VI and VII and ovipositor entirely white-haired except tip of ovipositor, which is short yellow-haired; ovipositor black, about equal in length to fourth and fifth segments together. Wings nearly hyaline, yellowish anteriorly; petiole of anal cell about equal in length to anterior cross-vein; anterior cross-vein at middle of discal cell.

Holotype: Male, lower Sabino Canyon, Santa Catalina Mts., Ariz., elevation 3,200 feet, IV-6-1934 (D. K. Duncan). Allotype: Female, same data. Paratypes: Five females with same data as type; one female, Florence Junction, Ariz., elevation 2,200 feet, IV-7-1934 (D. K. Duncan); one male Sabino Canyon, Santa Catalina Mts., Ariz., August (D. K. Duncan), the latter male and two females in D. K. Duncan's collection; one female, Tucson, Ariz., IV-2-1934 (Bryant, 440), and two females, Ajo Mts., Ariz., IV-2-1934 (Owen Bryant), in Owen Bryant's collection. The specimens range in length from 12 to 14 mm.

Differs from *trapezoidalis* (Bellardi) by its smaller size,

partly reddish-brown femora, white hairs on scutellum, and absence of black bristles on scutellum. For key to species see Bromley¹⁰.

There seems little doubt that this is the proper genus for this species. Because of the obtuse claws and general piloseness, it is more closely related to *Mallophorina* Curran; the longer genitalia and ovipositor (similar to those of *Promachus*), the more slender hind tibiæ, and the narrow second to fourth joints of the hind tarsi (in *Mallophorina* these joints are about twice as broad as long, while in this species they are about as broad as long) apparently exclude it from *Mallophorina*.

ECCRITOSIA ZAMON (Townsend)

This is apparently the Mexican species reported from Arizona by Schaeffer¹¹, and more recently from Texas by Bromley¹² as *E. amphinome* Walker. Curran¹³ has recently shown differences between these two species and gives a key to the species.

The genus is closely related to *Proctacanthus* but differs in having the wings longer than the abdomen, the thorax more robust, the spines at the tip of the ovipositor extending over the entire dorsum of the apex of the eighth tergite, and the hairs on the sides of the first three abdominal segments longer and denser than in *Proctacanthus*. The third vein branches before the discal cross-vein, which separates it from most of the species of *Proctacanthus* found in the United States.

This species should be recognized by the following brief description:

Length 30 mm. Dark brown except hind tibiæ and tarsi, which are yellowish, and third and following abdominal segments, which are yellowish red. Hairs black except mystax and hairs on hind tibiæ and third and following abdominal segments, which are yellowish; hairs on sides of first four abdominal segments long and dense, mostly black on first two segments, strongly contrasting with yellowish hairs on apical part of second, and on third and fourth segments.

Described from specimens collected in the following localities: Roosevelt Lake, September (D. K. Duncan); Gila Valley, Graham County, August (D. K. Duncan); and San Carlos Lake, July (D. K. Duncan); all in Arizona.

¹⁰ Bull. Am. Mus. Nat. Hist., 66: 352, 1934.

¹¹ Jl. N. Y. Ent. Soc., 24: 66, 1916.

¹² Ann. Ent. Soc. Am. 27: 106, 1934.

¹³ Am. Mus. Novitates, No. 752, pp. 13-15, 1934.



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