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## NEW NORTH AND SOUTH AMERICAN DOLICHOPIDÆ, WITH NOTES ON PREVIOUSLY DESCRIBED SPECIES

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In working over undetermined dolichopids which had accumulated in the American Museum I found the apparently new species described here. Some of them are very unusual, especially *Sympycnus (Calyxochætus) insolitus*, new species, which is not typical of the subgenus.

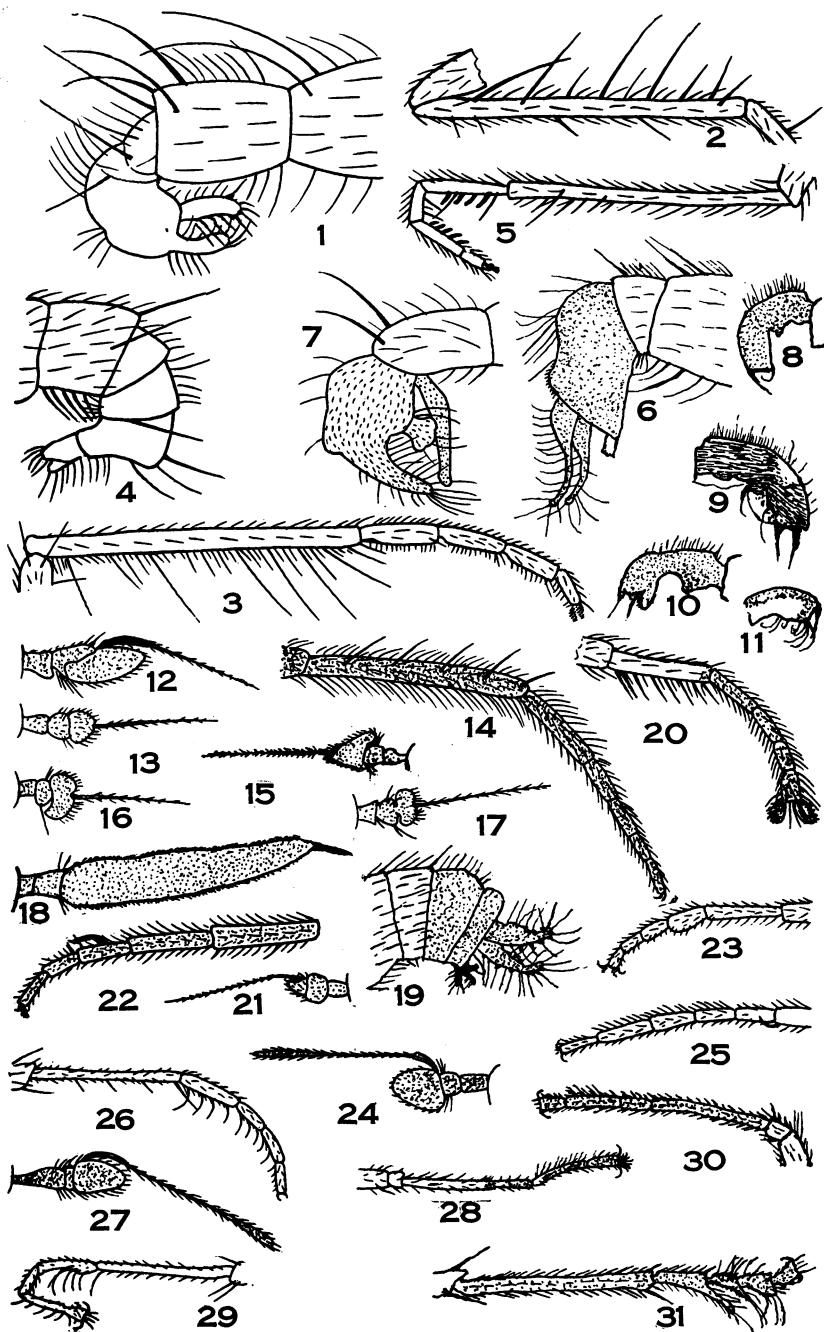
Among the interesting species determined that previously had been described, five are mentioned in this paper, the male of one being described for the first time.

Two mistakes appear in the names of *Chrysotus*, American Museum Novitates Number 483, published August 7, 1931. On page 16 in the table of species, couplets 2 and 4, "*Chrysotus caudatus*, new species," which is preoccupied, should read "*Chrysotus caudatulus*, new species." On page 16 in the explanation of figures, figure 21, "*Chrysotus caudatus*, new species," should read "*Chrysotus caudatulus*, new species," and figures 22, 23, and 24, "*Chrysotus tumidus*, new species," should read "*Chrysotus tuberculatus*, new species." On page 20, for "*Chrysotus caudatus*, new species," read "*Chrysotus caudatulus*, new species."

Unless otherwise stated the types of the new species are deposited in The American Museum of Natural History.

### **Condylostylus melampus Loew**

There are before me five males and four females that I have determined as *melampus*. Three of the males and the four females were taken at Glenwood Springs and Ripley, Colorado, the other two males at Highrolls, New Mexico. The only point not mentioned by Dr. Loew is the row of very small, more or less clavate hairs on the upper surface of the middle tibiæ. The males would run to *C. barbatulus* Becker, in M. l'Abbé O. Parent's key to the North and South American species of *Condylostylus* (Ann. Soc. Scient. Bruxelles, XLIX, p. 83, couplet 25). *C. melampus* differs from *C. barbatulus* in having the hypopygium (Fig. 1) moderately large, in my opinion, and the lamellæ are not at all triangular. Dr. Becker says "hypopygium small"; "outer lamellæ triangular at tip." The fore tibiæ in *barbatulus* have "three or four bristles



- Fig. 1. *Condyllostylus melampus* Loew. Hypopygium of male.  
 " 2. " *melampus* Loew. Anterior tibia of male.  
 " 3. " *melampus* Loew. Anterior tarsus of male.  
 " 4. " *coloradensis*, new species. Hypopygium of male.  
 " 5. " *tarsatus*, new species. Anterior tarsi of male.  
 " 6. " *varitibia*, new species. Hypopygium of male.  
 " 7. *Sciapus dubiosus*, new species. Hypopygium of male.  
 " 8. *Mesorhaga flavipes*, new species. Hypopygial lamellæ.  
 " 9. " *varipes* Van Duzee. Hypopygial lamellæ of male.  
 " 10. " *cærulea* Van Duzee. Hypopygial lamella of male.  
 " 11. " *caudata* Van Duzee. Hypopygial lamella of male.  
 " 12. *Asyndetus flavipalpus*, new species. Antenna of male.  
 " 13. *Chrysotus longihirtus*, new species. Antenna of male.  
 " 14. " *longihirtus*, new species. Posterior tarsus of male.  
 " 15. " *barbipes*, new species. Antenna of male.  
 " 16. " *bellulus*, new species. Antenna of male.  
 " 17. " *badius*, new species. Antenna of male.  
 " 18. *Raphium lugubre* Loew. Antenna of male.  
 " 19. " *lugubre* Loew. Hypopygium of male.  
 " 20. *Sympycnus spinitarsus*, new species. Anterior tarsus of male.  
 " 21. " *minuticornis*, new species. Antenna of male.  
 " 22. " *minuticornis*, new species. Hind tarsus of male.  
 " 23. " *brevicauda*, new species. Anterior tarsus of male.  
 " 24. " *insolitus*, new species. Antenna of male.  
 " 25. " *insolitus*, new species. Anterior tarsus of male.  
 " 26. " *insolitus*, new species. Middle tarsus of male.  
 " 27. " *monticola*, new species. Antenna of male.  
 " 28. " *monticola*, new species. Anterior tarsus of male.  
 " 29. " *monticola*, new species. Middle tarsus of male.  
 " 30. " *furcatus* Van Duzee. Anterior tarsus of male.  
 " 31. " *furcatus* Van Duzee. Middle tarsus of male.

on outer side of basal half," while in *melampus* the fore tibiae (Fig. 2) have four long bristles and three a little shorter on the posterior surface, the last of the longer bristles at apical third, the last of the shorter ones at apical sixth, and also a pair near the tip. Dr. Becker describes his species as having distinct, rather pretty, fine cilia on outer edge of upper surface of middle tibiae, while *melampus* has an indistinct row of slightly clavate hairs on upper edge of posterior surface; but they could scarcely be called cilia and surely not "fine cilia," and might easily be overlooked. The middle tarsi in *melampus* are one and one-half times as long as their tibia and one and one-fourth times in Becker's species. The fore tarsi in *melampus* (Fig. 3) have, on the first segment, three long bristles on apical third, and four a little shorter on apical two-thirds, also from nine to eleven smaller bristles of unequal length placed among the long ones and extending the whole length of the segment. Becker states that the first joint of *barbatulus* has "six or seven long bristles."

It is possible that *barbatulus* Becker will prove to be the same as *melampus* Loew. Both were described from Mexico and Parent reports *barbatulus* from Peru.

#### **Condylostylus coloradensis, new species**

Length, 4 mm.

MALE.—Face and front shining green with blue reflections; face with a little white pollen, especially around the edges, wide above, narrower below, its suture at the middle; palpi black with long white hair and black bristles; antennae wholly black, second segment with the longest bristle below and one and one-third times as long as the antenna; orbital cilia and beard white, moderately long and abundant.

Thorax and abdomen shining green with blue reflections, abdominal sutures rather narrowly black; venter with moderately long white hair; scutellum with two pairs of marginal bristles of nearly equal length; hypopygium (Fig. 4) black, rather small, with short black lamellae.

Coxae, tibiae, and tarsi wholly black, the femora shining green with rather long white hair below; front tibiae without bristles, except two or three below, which are about as long as the diameter of the tibia; middle femora with two slender bristles near tip on lower posterior surface, their tibiae on basal half with three small bristles above and two below, longest bristle above near middle and twice as long as diameter of tibia; posterior tibiae with three small bristles on upper anterior surface of basal half; front tarsi plain, one and one-fourth times as long as tibia, first segment about one-sixth shorter than the tibia; middle tarsi one and one-third times as long as tibia, first segment with six or seven minute spines below, which are a little shorter than diameter of joint; posterior tarsi just equal to their tibia in length and becoming a little more slender toward the tip; segments of front tarsi as 57-13-10-10-7; of middle pair as 79-20-19-11-8; and of posterior ones as 61-24-16-11-8. Calypters and their cilia black; knobs of halteres yellow, petiole dark brown.

Wings grayish with the usual two cross-bands united along the costa back to third vein; the brown on the costa begins just beyond the tip of first vein, extending to tip of third vein, but leaving a narrow gray space along the costa from tip of second vein to tip of third; third vein considerably bent backward at tip; first cross-band of moderate width, extending over the cross-vein to just beyond fifth vein; second cross-band extending over the fork of fourth vein to just back of fourth vein, which ends abruptly a little beyond its fork, from cross-vein to fork as 43, from fork to wing-margin as 22; last section of fifth vein as 17, cross-vein as 28; fork of fourth vein at nearly a right angle to fourth, its upper bend rather broadly rounded; hairs on the costa rather long from the middle of first vein to tip of second, but nearly recumbent, the costa could scarcely be called ciliated.

TYPE.—Described from one male, taken at Wray, Colorado, between August 17-19, 1919, by F. E. Lutz, at an elevation of about 3700 feet.

This specimen seems to come nearest to *C. perspicuus* Becker, but *perspicuus* has three bristles on posterior surface of front tibiæ, and this specimen has none; *perspicuus* was described from Brazil and has the apical half of front tibiæ reddish brown, their front tarsi only a little longer than the tibia, middle tarsi one and one-half times as long as tibiæ, and hind tarsi longer than their tibia. *C. coloradensis* is also something like *C. præstans* Aldrich, from Mexico, but that species has short bristles on second antennal segment; first segment of front tarsi as long as their tibia, last joint a little widened and silvery on one side; its length is 6 mm.

#### **Condyllostylus tarsatus, new species**

Length, 4 mm.

Male.—Face bare, wide, narrowed a little below, blue-green or blue, rounded below, its suture a little below the middle, when seen from above it is wholly silvery-white pollinose; front shining steel-blue; palpi black, proboscis yellowish; antennæ black, third segment small, rounded, arista dorsal, about as long as width of head; longest bristles on second segment twice as long as the antenna; lower orbital cilia and beard white, rather long.

Thorax bright shining green, front and posterior part and the scutellum usually bright steel-blue, the latter with two pairs of bristles. Abdomen green with blue or coppery reflections; basal half or more of all segments opaque black; venter with rather long white hair; hypopygium black, rather small, with small black lamellæ bearing stiff black hairs on apical part.

Front coxæ and all femora shining green, middle and hind coxæ black; front coxæ with white hair; all femora with long white hair below, which is longest near base; front tibiæ pale yellow, above with two rows of bristles of moderate length on basal two-thirds, and two small bristles below at first and second thirds, apical third without bristles, except the small spurs at tip; middle tibiæ yellow, sometimes with apical half brown, below with one small bristle at middle and a large one at second third, on upper anterior surface with a large bristle at first and second thirds and several bristle-like hairs on basal third; posterior tibiæ and all tarsi wholly black, the posterior tibiæ with one small bristle before basal third on upper anterior edge;

anterior tarsi (Fig. 5) almost twice as long as their tibia, first segment not quite one and one-third times as long as the remaining four taken together, second and fourth segments each with four blunt spines below, the second and third each with two bristles; the apical third of first joint with several long bristles; middle and hind tarsi plain; middle tarsi fully one and one-half times as long as their tibia; segments of anterior tarsi as 67-20-9-12-6; of middle pair as 74-21-15-7-5; of posterior pair as 55-22-14-8-6. Calypters and their cilia black; knobs of halteres pale yellow.

Wings nearly hyaline with a brown cloud extending from tip of first vein to tip of second vein and from costa to third vein; costa not ciliated; fork of fourth vein broadly rounded, the fourth ending abruptly a little beyond the fork; last section of fourth vein from cross-vein to fork as 41, from fork to end of fourth as 7, from fork to wing margin as 25; cross-vein as 35, last section of fifth as 20; wing of about equal width.

**FEMALE.**—Like the male in color and wing characters, except that all femora are yellow. Anterior tarsi plain, but the first joint has a few bristles below, which are about as long as diameter of segment; segments of anterior tarsi as 58-19-10-7-7; hind tibiae are wholly black as in the male; longest bristle on second antennal segment about as long as the antenna.

**TYPES.**—Described from six males and four females, taken by E. L. Bell, between March 10 to 23, 1931, at Claremont, Jamaica: holotype, male, March 10; allotype, female, March 15.

The form of the anterior tarsi in this species is something like that of the group which includes *C. clavipes* Aldrich, *C. pedestris* Becker, *C. barbitarsis* Parent, *C. rex* Parent, *C. camptopus* Parent, *C. coxalis* Aldrich, *C. brevimanus* Enderlein, and *C. nigrimanus* Van Duzee. It differs from all of these in having the second segment of the anterior tarsi longer than the fourth, and the wings clear, except the small cloud along the costa from the tip of the first vein to the tip of the second.

#### ***Condyllostylus varitibia*, new species**

Length about 6 mm.

**MALE.**—Face and front shining blue-green; face with the suture near the middle; palpi and proboscis black. Antennae black; longest bristle on second segment only a little longer than diameter of the segment; third segment about as long as wide; arista subapical, as long as height of head; beard whitish, not very long or abundant.

Thorax shining metallic green; scutellum with two pairs of long bristles; abdomen largely dull black, most of first segment, lateral corners of second, apical third of second, and wide posterior margins of third and fourth segments bright metallic green; sides at base of abdomen with abundant white hair; venter and sides of apical segment with a few pale hairs; hypopygium (Fig. 6) and its outer lamellae black, the latter rather long and narrow.

All coxae, femora, and the hind tibiae black; front tibiae yellow, the middle pair blackish on lower and posterior surfaces, yellowish in front and above, but infuscated at the base; anterior coxae with moderately long but not abundant white hair, and two black bristles at tip; all femora with white hair below, which is about as long as width of femora; all tarsi black; anterior tibiae with three bristles below; middle

tibiæ with a row of about 65 clavate hairs above, which begin near basal fourth and reach the tip, one moderately small bristle above, near basal eighth, the clavate hairs continued on the first two tarsal segments, the first bearing about 52 and the second ten, those on the second segment are but little enlarged at tip; anterior tarsi plain; hind tarsi with last four segments a very little widened; anterior tibiæ as 105, middle as 158; segments of anterior tarsi as 97-30-20-13-7; of middle pair as 137-33-25-13-6; of hind tarsi as 97-24-20-18-11. Calypters, their cilia and the halteres yellow.

Wings tinged with brownish gray and with the usual two cross-bands rather dark and united along the costa as far back as third vein, and also along fourth vein, the first band reaching hind margin of wing at tip of fifth vein; the second band fills out the tip of the wing to the tip of the fork of fourth vein and reaches beyond base of fork of fourth vein and back of the vein beyond the fork; on the costa the brown begins just before the tip of first vein; fork of fourth vein makes about a 45° angle with basal part of fourth vein; fourth vein from fork to cross-vein as 74, from fork to wing margin as 22; last section of fifth vein nearly straight and reaching the wing margin, its length as 23, cross-vein as 43.

FEMALE.—Wing-bands about as in the male, but the rest of the wing is not tinged with brown; venation the same; arista distinctly dorsal; anterior coxæ and all femora and tibiæ yellow; posterior knees and upper edge of hind femora at tip, for nearly one-fourth their length, are black; all tarsi black; halteres yellow.

TYPES.—Holotype, male, and allotype, female, taken in the Panama Canal Zone, the allotype at Barro Colorado Island, in November, 1930, by F. H. Schwartz.

In M. l'Abbé O. Parent's table of species of the genus *Condyllostylus* (Ann. Soc. Scient. Bruxelles, XLIX) this would run to group IV, couplet 25, on page 10, where it would form a third paragraph, reading "Tibiæ 1 wholly, and tibiæ 2 on anterior surface, yellow." The other species running to couplet 25 are *C. barbatulus* Becker, with the legs wholly black, and *C. triseriatus* Aldrich and *C. leonardi* Van Duzee, both of which have the front and middle tibiæ wholly yellow.

### *Condyllostylus clunalis* Coquillett

*Sciapus clunalis* COQUILLETT, 1902, Journ. N. Y. Ent. Soc., X, p. 141.

*Psilopus nitidicauda* VAN DUZEE, 1929, Proc. U. S. Nat. Mus., LXXIV, Art. 10, p. 12, Pl. I, figs. 21, 22, and 29.

An examination of a paratype of *C. nitidicauda* in my collection shows the inner pair of lamellæ present. The outer pair of lamellæ are nearly glabrous, the inner ones fringed with hair on the edge. In figure 21, in the Proceedings U. S. Nat. Mus., the inner lamellæ are hidden by the outer pair which are a little the larger. In the female the longest bristle on second antennal segment is scarcely as long as the antenna, in the male it is one and one-third times as long as the antenna.

**Condylostylus clavatus** Van Duzee

*Psilopus clavatus* VAN DUZEE, 1929, Proc. U. S. Nat. Mus., LXXIV, Art. 10, p. 15, Pl. I, figs. 24, 25 and 26.

One male and three females that seem to be this species were taken by F. H. Schwartz, in the Panama Canal Zone, during November, 1930: one pair at Corozal and two females on Barro Colorado Island.

The male agrees with the description, except that the lengths of the tarsal segments seem to differ somewhat, the third segment of hind tarsi being distinctly longer than the fourth; the hind femora in this specimen is conspicuously black on upper surface at tip; the wing venation seems to be about the same, having the upper bend of the fork of fourth vein nearly a sharp right angle with a short stump-vein at the bend; the venation of the females is also about the same. In the male the wing cross-bands are faint as in the type, but in the females the bands are very dark brown; the tips of the hind femora are not darkened, or scarcely darkened, in any of the three females.

Possibly these may be a distinct form from *clavatus*, but I do not think so; only a comparison with the type could determine this, and the type is in the Museum of Comparative Zoölogy at Cambridge.

**Sciapus dubiosus**, new species

Length, 4.5-5 mm.

**MALE.**—Face bare, green, wide above, quite narrow below, suture a little below the middle, wholly opaque with silvery-white pollen when seen from above; front shining blue-green; palpi black with black bristles; proboscis yellow; antennæ wholly black, bristles on second segment no longer, or but little longer, than width of segment; third segment small, about as long as wide, somewhat conical in outline, arista inserted at middle of upper edge, about as long as the eye-height; lateral orbital cilia and the abundant beard white.

Thorax and abdomen green, posterior part of thorax and the scutellum more blue, scutellum with one pair of bristles; abdominal incisures scarcely at all blackened; venter yellowish brown with a few delicate, rather long, white hairs; hypopygium (Fig. 7) black, of moderate size, its lamellæ long and slender, black, fringed on one side with long hairs.

Anterior coxæ wholly yellow, with many rather long, yellow hairs; middle and hind coxæ black with yellow tips; all femora, tibiæ, and basitarsi pale yellow, extreme tips of the basitarsi sharply black, remaining segments of tarsi more or less blackened; all femora with a few quite short, yellow hairs below; middle femora with many bristle-like hairs below on apical third; all tibiæ without noticeable bristles; middle tibiæ and basitarsi with rows of nearly erect hairs, those on the tibiæ not as long, or scarcely as long, as the thickness of the tibia, those on basitarsi fully as long as diameter of segment, these are continued on the following segments, but are not conspicuous; length of anterior tibiæ as 78, of middle pair as 110, and of posterior as



144; segments of front tarsi as 83-27-21-13-8; of middle pair as 97-43-33-20-10; of posterior pair as 85-35-23-14-8. Calypters with white cilia; halteres yellow.

Wings nearly hyaline; costa with long, curved, stout cilia extending from base of wing to beyond tip of second vein; third vein considerably bent backward from before the tip of second vein; fork of fourth vein at nearly a right angle to fourth, its upper bend rounded but quite sharp, beyond this bend the fork is nearly straight, fourth vein beyond the fork rather slender, but nearly reaching the wing margin; last section of fourth vein from the cross-vein to the fork as 40, from fork to wing margin as 23; last section of fifth vein as 15, cross-vein as 43; wing very slightly flattened at tip.

TYPE.—Described from one male, taken by C. H. Curran, July 11, 1931, at Cold Spring Harbor, Long Island, New York.

The male described above resembles *S. cilicostatus* Van Duzee, from Jamaica, but *dubiosus* has the hind basitarsi pale yellow, with only the extreme tip black; third segment of front tarsi not at all enlarged, fifth not widened, or scarcely widened; middle tibiae and basitarsi with erect hairs, and cilia of costa a little curved for their whole length and beginning at base of wing, not at the middle of first vein, as in *S. cilicostatus*, which also has these cilia suddenly bent close to their tips, and also has the hind basitarsi almost wholly black, the tip of the third segment of front tarsi enlarged and fifth segment widened.

#### **Mesorhaga flavipes, new species**

Length, 2.2 mm.

MALE.—Face wide above, about half as wide at oral margin, green, but wholly opaque with white pollen which is tinged with yellow when seen from above; front shining green, blue in the middle, with long yellow hairs on the sides near the vertex, the pollen of the face extending a little above the antennæ; all bristles of the head yellow, but the ocellar bristles appear blackish in certain lights; palpi yellow, nearly round, with white hair on upper surface and a bristle at tip; proboscis yellow; lateral and inferior orbital cilia white, not very long, even below; occiput green with a little white pollen.

Thorax and abdomen shining green with blue or bronze reflections; bristles of thorax and scutellum yellow, but sometimes appearing a little blackish in certain lights; hairs of abdomen decidedly yellow, but when seen from above those on the dorsum appear mostly black, those on the first segment and on lower edge of sides long and white or very pale yellow; hypopygium black, large, extending somewhat under the abdomen, the outer lamellæ (Fig. 8) black with a whitish spine at outer apical corner and a delicate, whitish, curved hair at inner apical corner.

Anterior coxæ green with rather narrow yellow tips, anterior surface with white pollen and long white hair, the hairs at tip more bristle-like; middle and hind coxæ black with white hair and bristles; all femora yellow, but middle ones with a small blackish streak below at base; posterior pair blackish below and on lower part of sides at base, sometimes almost to their middle; all femora with long white hairs below, those on posterior pair shortest and farther apart, those on middle pair long-

est, some being twice as long as width of femora; they begin near basal fourth and reach to apical third, the basal fourth and apical third having only a few short hairs below; the hairs on lower surface of front tibiae are about half as long as those on middle ones; all tibiae and basitarsi yellow, extreme tips of basitarsi and the remaining segments brown; hair on all tibiae mostly yellowish white; tibiae without bristles and tarsi plain, except that the fifth joints are a very little widened, and first segment of the front tarsi has a row of very fine, delicate, curved hairs on lower posterior surface, which are twice as long as diameter of the segment and are also continued on the front tibiae but are very easily overlooked; the last four segments of the anterior tarsi have very fine, dense, erect pile on lower surface; front and middle tarsi one and a fourth, hind tarsi one and a fifth times as long as their tibia; segments of anterior tarsi as 45-14-16-6-6; middle pair as 60-19-14-7-5; and posterior pair as 39-33-18-11-7. Calypters yellowish white with long yellow cilia; knobs of halteres pale yellow, the petiole brown.

Wings nearly hyaline; veins black to brown; venation about as usual in the genus; last section of fourth vein from cross-vein to bend as 25, cross-vein as 23 and last section of fifth vein as 30.

FEMALE.—Two females taken with the males have the anterior coxae wholly yellow, and all femora and tibiae yellow, tarsi mostly yellow; anterior tibiae and basitarsi without the long delicate hairs found on the male.

TYPES.—Described from three males and two females, all taken by C. H. Curran, at Cold Spring Harbor, Long Island, N. Y.: holotype, male, and allotype, female, and two paratypes on July 1, 1931, and one paratype June 25, 1931.

*M. flavipes* is like *M. varipes* Van Duzee (Ent. News, XXVIII, p. 123, 1917, from Massachusetts) in appearance, color of face, antennae, hair, bristles and front and middle femora, tibiae and tarsi; both have the same row of delicate hairs on the front tibia and basitarsi, the form of the hypopygium is somewhat similar in both, but the lamellae of *varipes* (Fig. 9) are larger, more yellow and have several bristle-like hairs that are not found on *flavipes*; in *varipes* the bend in last section of fourth vein is nearly a right angle and the hind femora are wholly black, except the narrow yellow tip; *M. caerulea* Van Duzee has the lamellae (Fig. 10) even more like this, but has all femora black except base and tips; *M. caudata* Van Duzee also has all femora black, and the genital lamellae (Fig. 11) are smaller and mostly yellow, with a cluster of curved hairs at inner apical corner and a few small curved hairs on inner surface.

#### ***Asyndetus flavipalpus*, new species**

Length, 2.3 mm.

MALE.—Face green, nearly as wide as the front, slightly longer than wide, a little dulled with white pollen when viewed from in front; palpi rather large, pale yellow, with many yellow hairs; front shining green; proboscis black; antennae (Fig. 12) black, third segment nearly straight above, evenly rounded below, obtusely pointed at tip; lower orbital cilia long and white.

Thorax and abdomen shining green with blue reflections, last two abdominal segments with bronze reflections; hypopygium concealed; tip of abdomen with four strong bristles.

Anterior coxæ and all femora shining blue-green, the middle and hind coxæ black; front coxæ with black hair and bristles; all femora with about ten black, bristly hairs below; anterior tibiæ yellow, with a row of about ten quite strong bristles on upper posterior edge and a row of ten short bristles or bristly hairs on posterior surface, three or four small bristles on lower posterior edge and long stout hair on lower anterior surface; middle tibiæ yellowish brown, more black at base, with one long bristle above just before basal third, and three or four other small bristles above, also a very small bristle below; hind tibiæ black with small bristles above; anterior tarsi yellow, the apical segments a little blackish, middle tarsi brown, hind tarsi black, conspicuously hairy; anterior tarsi with eight stout hairs above, which are as long as the diameter of segments; anterior and middle tarsi just equal to their tibia in length, hind tarsi a little shorter than their tibia; joints of front tarsi as 19-6-5-5-5; of middle ones as 24-11-8-6-6; of posterior pair as 19-17-12-8-8. Calypters and halteres yellowish white, cilia of former white.

Wings grayish; third vein a very little bent backward at tip; last section of fourth vein thin, bent, not broken; apex of wing about twice as far from tip of third vein as from fourth vein.

FEMALE.—Palpi black; third antennal segment about as long as wide, nearly square, with the corners rounded; front tibiæ with a few small bristles above; no large bristles at tip of abdomen.

TYPES.—Holotype, male, allotype, female, paratypes, two males, taken by E. L. Bell, June 14, 1930, at Fallon, Nevada, at an elevation of 4000 feet.

This is very much like *A. syntormoides* Wheeler, the general color, proportional lengths of the tibiæ and the tarsal segments and bristles of anterior and posterior legs and feet about the same as in the male of *syntormoides*. The male differs in having the palpi yellow with many bright yellow hairs, and the third antennal segment is evenly rounded below; the female differs in having the third antennal segment nearly square, while in Wheeler's species it is nearly conical in outline; there is also a large bristle near the base of middle tibia of *flavipalpus* that is not found in *syntormoides*.

#### ***Asyndetus parvicornis*, new species**

Length, 2.5 mm.

MALE.—Face and front of equal width, their sides straight and parallel, both covered with white pollen; palpi small, black, with black hairs; antennæ black, third segment about as long as wide, somewhat triangular, obtusely pointed at tip; lower orbital cilia and the beard white.

Thorax and abdomen green, dulled with white pollen and with slight bronze reflections, which form indistinct lines on anterior part of thorax; hairs of abdomen black, short; hypopygium concealed, bristles at tip small.

Coxæ and femora green, the hairs yellow; front and middle tibiæ pale yellow; hind tibiæ thickened, blue, a little yellowish above on basal part, with a row of five bristles on upper anterior edge, also a row of erect hairs on upper surface, which are shorter than the bristles; segments of anterior tarsi as 18-8-6-5-6; middle pair as 22-14-12-8-5; posterior pair as 15-13-8-5-7; pulvilli a little enlarged. Calypters and halteres pale yellow, cilia of former white.

Wings nearly hyaline; fourth vein not broken, but apical part very thin, so the connection at the bend can scarcely be traced.

TYPE.—Described from one male, taken June 29, 1920, at Rock Springs, Wyoming, at an elevation of about 6250 feet.

This is nearer *A. currani* Van Duzee, from Panama, than any other North American species. From *currani* it is separated by its very small third antennal segment.

#### *Diaphorus nigripennis*, new species

Length, 1.8 mm.

MALE.—Face opaque black, twice as long as wide; eyes contiguous, almost obliterating the front, leaving only a very small, dull black triangle below and above; palpi, proboscis, and antennæ black, the antennæ very small, third segment about as long as wide, somewhat conical with tip flattened, arista almost apical, with long pubescence; orbital cilia wholly black.

Thorax and abdomen dull black, almost velvety, with black hair and bristles; acrostical bristles in an irregular row, small; abdomen with four moderately large bristles at tip; hypopygium mostly concealed, black, the outer lamellæ small, black, with pale hair on the edge; central organ short, slender, pale yellow. Calypters, their cilia, and the halteres, wholly black.

Coxæ black, with black hairs and bristles, tips of anterior pair and their trochanters yellowish; all femora black, anterior pair with a row of black, bristle-like hairs on lower posterior edge, which are not quite as long as width of femora; anterior tibiæ and tarsi yellow, the tarsi scarcely darker at tip; front tibiæ wholly without bristles, but with two rows of hairs below, which are more erect and longer than the others on the tibiæ; front pulvilli large and white, middle pulvilli rather small, white; middle and hind tibiæ and tarsi brownish yellow; middle trochanters with two large bristles, middle tibiæ with one small, slender bristle above at base and two very slender, short ones below, also two larger ones at tip; hind tibiæ with three slender bristles on upper anterior edge and one at tip; length of anterior tibiæ as 39, of middle ones as 45; segments of front tarsi as 20-14-8-5-5; of middle pair as 25-14-19-6-5; both anterior and middle tarsi one and one-third times as long as their tibia.

Wings strongly and uniformly tinged with blackish, only slightly paler black back of fifth vein to the cross-vein and from there back of fourth vein, a little wider near the anal angle; third and fourth veins nearly straight and parallel beyond the cross-vein, the fourth ending in the apex of the wing; first vein reaching four-ninths of the distance to tip of second vein; sections of fifth vein as 35-23, cross-vein as 10.

TYPE.—Described from one male, taken at Puerto Bermudez, Rio Pichis, Peru, July 12-19, 1920.

The form described above is something like *D. opacus* Loew and *D. nigricans* Meigen in color of all parts and in the venation of the wings, except that the wings are darker and more blackish, not brownish; it differs in having the first segment of the front tarsi one-third shorter than the three following segments taken together, and in its very small size; in *nigricans* and *opacus* the first segment of the front tarsi is equal, or very nearly so, to the three following segments taken together. All the specimens that I have determined as *opacus* from western New York and southern Ontario have the wings wholly grayish, not tinged with brown, differing in this point from Loew's description of that species.

### ***Chrysotus longihirtus*, new species**

Length, 2 mm.

MALE.—Eyes contiguous, nearly obliterating the face; palpi thickly covered with white pollen, so as to appear whitish; front shining green; antennæ (Fig. 13) black, third segment small, somewhat rounded at tip with a small notch for the insertion of the arista; lower orbital cilia white.

Thorax shining green with bright bronze reflections; abdomen shining green with black hair; hypopygium and its appendages small, black.

Coxæ, trochanters and hind tibiæ black; femora green; anterior and middle tibiæ yellow; front coxæ with rather long black hair; hind femora with a few long, black, bristly hairs below and four bristles on anterior surface near tip; anterior tibiæ with two bristles on basal half; hind tibiæ and tarsi (Fig. 14) wholly black and rather thick, the tibiæ with four bristles above and a row of long, close-set hairs below; hind basitarsi with long, stiff hairs above, those below a little shorter, remainder of tarsi also very hairy; first segment of front and middle tarsi largely yellow or yellowish brown, last four joints black; length of anterior tibiæ as 34, of hind tibiæ as 55; segments of front tarsi as 16-15-7-5-6; of middle pair as 22-12-9-6-6; of posterior pair as 20-13-9-7-8. Calypters, their cilia and the halteres yellow.

Wings a little grayish; third and fourth veins nearly straight and parallel, fourth vein ending just before the apex of the wing; last section of fifth vein as 34, cross-vein as 8.

FEMALE.—Seven females taken at the same place and at about the same time as the males have the venation the same, the last section of fifth vein being about three times as long as the cross-vein and fourth vein ending slightly before the apex of the wing; color of body and legs the same as in male and third antennal segment nearly the same; the face is wide and silvery white.

TYPES.—Described from two males and seven females, taken by W. J. Brown, at Natashquan, Quebec, in August, 1929: holotype, male, and the male paratype on the seventh, and the allotype, female, and all female paratypes on the eighth. The holotype and allotype are in the Canadian National Collection, paratypes in The American Museum of Natural History.

This species comes near *C. canadensis* Van Duzee, but differs in having long hair on the posterior legs and feet and the third antennal

segment small. In *canadensis* the third antennal segment is large and the hair on the posterior tibiae short.

***Chrysotus barbipes*, new species**

Length, 1.7 mm.

MALE.—Eyes contiguous below, leaving a slender green triangle on upper third, which is covered with white pollen when viewed from the proper angle; palpi small, black; front shining green; antennae (Fig. 15) black, third segment formed about as in *C. obliquus* Loew, except that the upper basal angle extends over the second segment almost to its base; lower orbital cilia white.

Thorax and abdomen shining green, the latter with black hair, except some pale hair on the sides near the base; hypopygium small, mostly concealed.

Coxae and femora green; anterior coxae with short pale hairs and black bristles; hind femora with black, bristly hair on posterior surface, which is as long as width of femora; anterior and middle tibiae and most of their tarsi yellow; hind tibiae and tarsi wholly black; middle and hind tibiae and hind basitarsi with long black hair on lower surface; bristles of middle tibiae strong; segments of front tarsi as 20-10-7-4-4; of posterior pair as 14-12-8-5-4. Calypters yellow with white cilia; knobs of halteres yellow, the petiole brown.

Wings nearly hyaline, veins black; third and fourth veins parallel and straight beyond the cross-vein, fourth ending in front of the apex of the wing; last section of fifth vein slightly arched, its length as 31, cross-vein as 6.

TYPES.—Described from three males, taken by F. E. Lutz, the last of June, 1919, at Electric Lake, Colorado, at an elevation of about 8400 feet.

This species comes near *C. currani* and *C. coloradensis*, all three having the legs colored about the same and the cilia of the calypters whitish; it differs from *coloradensis* in having the third antennal segment larger and the tibiae and tarsi with much longer hair; from *currani* it differs in having the third antennal segment much larger, that species having the third segment very small; it differs from both in having the upper basal angle of the third antennal segment extending back over the second about to the tip of the first segment.

***Chrysotus bellulus*, new species**

Length, 2 mm.

MALE.—Face very narrow below, the eyes almost touching on lower half, grayish white pollinose; front shining blue-green; palpi small, black, covered with white pollen; antennae (Fig. 16) black, somewhat kidney-shaped; lower orbital cilia whitish.

Dorsum of thorax, scutellum, and abdomen blue-green, shining; hairs on dorsum of abdomen black, on sides rusty yellow; hypopygium small, black, its appendages very small.

Coxae, femora, tibiae, and tarsi black, femora with blue-green reflections; anterior coxae with black hair and bristles; anterior femora with a row of slender black hairs on lower posterior surface, the last two of these hairs bristle-like; hind femora with a row of about five rather large bristles on lower anterior surface; bristles of middle and

hind tibiæ strong; hind tibiæ with quite dense black hair on anterior surface, which is longer than thickness of tibia, and extends on to the anterior surface of their basitarsi, the whole hind tarsi being very hairy; length of front tibiæ as 32, segments of front tarsi as 16-8-6-4-5; of middle pair as 15-11-7-4-4; of posterior pair as 15-11-7-4-4. Calypters dark yellow with yellowish cilia; knobs of halteres pale yellow, their petiole brownish.

Wings nearly hyaline, veins brown, costa blackish; third and fourth veins straight and parallel beyond the cross-vein, the fourth ending in front of the apex of the wing; fifth vein only a little arched, its last section as 34, cross-vein as 8.

FEMALE.—Third antennal segment not notched at tip; face rather narrow for a female, gray pollinose; front and middle tibiæ brown to yellowish brown; hind tibiæ and tarsi less hairy; general color more bronze-green; knobs of halteres yellow to yellowish brown; fourth vein ending almost in the apex of the wing.

TYPES.—Described from one male and six females, all taken by W. J. Brown, in August, 1929, at Natashquan, Quebec: holotype male, on the first of August, all females on the eighth. Types in Canadian National Collection, paratypes in American Museum of Natural History.

In the key to species in Bulletin Buffalo Society of Natural Sciences, XIII, 1924, p. 9, this species would run to *C. excisus* Aldrich, but it probably comes nearer to *C. idahoensis* Van Duzee, differing from that species in having a notch at tip of third antennal segment and the knobs of the halteres yellow.

### ***Chrysotus badius*, new species**

Length, 1.5 mm.

MALE.—Face very narrow, eyes nearly touching on lower part, silvery white; palpi moderately large, black with pale hairs and one or two black hairs, which are larger and more bristle-like; antennæ (Fig. 17) black, third segment rounded, with the arista inserted in a slight apical notch; upper third of the orbital cilia black, lower ones white.

Dorsum of thorax shining green, with coppery and bronze reflections; abdomen green, with bronze reflections and black hair, venter black; hypopygium blackish, small, with small lamellæ, which are mostly concealed and are fringed with rather long pale hairs; central organ thick and quite long.

Coxæ black, anterior pair with narrow yellow tips and a few black hairs; femora and front and middle tibiæ yellow, upper edge of anterior and middle femora narrowly brown or blackish on upper edge, especially toward tip; hind femora with apical third black; hind tibiæ yellowish brown with apical half black, the upper part of basal half more yellow; first segment of front and middle tarsi yellow, the remaining segments brownish black; hind tarsi wholly black; hind tibiæ with long black hair on lower posterior surface; first segment of hind tarsi with rather long, dense hair on upper surface and also below; segments of anterior tarsi as 21-10-10-7-5; of posterior pair as 19-14-9-6-6. Calypters yellow with a few small black hairs and a row of very small pale ones back of the black ones (these hairs can scarcely be called cilia, perhaps the longer cilia are broken off); halteres yellow.

Wings grayish hyaline; third and fourth veins nearly straight and parallel beyond the cross-vein; last section of fifth vein as 31, cross-vein as 9.

TYPE.—Described from one male, taken by W. J. Brown, August 7, 1929, at Natashquan, Quebec. Type in Canadian National Collection.

This species is so much like *C. wisconsinensis* Wheeler that I separated it with some doubt, but as it was considerably smaller, the anterior coxæ almost wholly black, the front and middle femora dark above, the hind tibiæ brownish on basal half and the hind tarsi wholly deep black, I thought best to describe it as new. All the specimens of *wisconsinensis* I have seen, over thirty of which I took one day at Lancaster, N. Y., have the front coxæ yellow on the apical third to two-thirds, the hind tibiæ are pale yellow with more or less black at tip, and the hind tarsi have more or less yellow at base; the antennæ are formed about the same in both forms.

#### ***Raphium lugubre* Loew**

*Raphium lugubre* LOEW, 1861, 'Neue Beitr.,' VIII, p. 49; 1864, 'Mon. N. Amer. Diptera,' part 2, p. 141.

This species was described from a female, and since the male has never been described, so far as I know, I am giving a short description of the male here.

MALE.—In both male and female in the specimens before me, the front is very dark, shining blue, almost black; face very narrow, linear, silvery white; palpi smaller than in the female, black, with a little gray pollen; antennæ (Fig. 18) formed as in the female, but a little longer, being as long as the first two segments of hind tarsi taken together, and six times as long as wide; beard white, long and abundant.

Thorax and abdomen very dark blue-green, shining, sides of abdomen near base with considerable white hair; hypopygium and its appendages (Fig. 19) very small, black.

Anterior legs and tarsi about as in the female; middle femora, tibiæ and basitarsi pale yellow, as in the female; hind legs and tarsi wholly black; middle and hind tibiæ each with a few short bristles; middle tibiæ about as 63, segments of middle tarsi as 34-15-7-6-8; of posterior pair as 32-27-18-11-9. Calypters brownish yellow with white cilia; halteres sordid yellow.

Wings tinged with brown in front, dark gray back of third vein; last section of fourth vein slightly bent near its middle; last section of fifth vein as 42, cross-vein as 18.

The male from which this description is made and one female were taken by E. T. Cresson, Jr., May 2, 1907, at Swarthmore, Pa., and are in the American Museum, New York. I have another female taken May 3, 1910, at Great Piece Meadows, New Jersey. The species was described from Carolina. Dr. Aldrich reports it from Delaware Co., Pa., and Mr. Curran reports two females from the same place.



**Sympycnus spinitarsus**, new species

Length 4.2 mm.

MALE.—Eyes almost touching in the middle of the face, leaving a very small triangle below and a larger one above; lower triangle white pollinose, upper triangle and the front black; palpi small, yellow; proboscis dark brown; antennæ wholly black; third segment about as long as wide, rounded at tip; arista dorsal, black, nearly bare; lower orbital cilia white with black hairs below the neck; occiput black.

Dorsum of thorax and the scutellum dark green; no acrostical bristles visible; pleura black; scutellum with one pair of large marginal bristles and a pair of hairs outside of these bristles. Abdomen blackish with purple reflections, its hairs black; bristles on sides of first segment black; venter with long yellowish hairs; hypopygium mostly concealed, its lamellæ small, triangular, black.

Coxæ black, anterior pair with yellow tips, with rather long white hair and long, pale yellow bristly hairs at tip; front trochanters yellow; all femora and hind tibiæ and tarsi black; narrow tips of anterior and middle femora, front and middle tibiæ and front basitarsi yellow, extreme tips of middle tibiæ brown, knees of hind legs slightly yellow; front tarsi (Fig. 20) black from the tip of first segment, which bears eight long bristles below, the following segment with long hair, fifth a little widened and with large pulvilli; middle tarsi plain, except that the last segment is slightly widened; middle tibiæ with three bristles on anterior surface of basal third, which are about as long as third segment of middle tarsi; front tibiæ without bristles; hind tibiæ with several strong bristles above and two or three small ones on anterior surface of apical third; length of front tibiæ as 52, middle pair as 78, and hind pair as 97; segments of anterior tarsi as 24-12-10-7-8; of middle pair as 38-18-13-6-7; first two segments of hind tarsi as 30-23. Calypters and halteres yellow, former with pale yellowish cilia.

Wings dark grayish, tinged with brown in front; third vein bent backward at tip; last section of fourth vein less bent than third, therefore approaching third a very little at tip, ending just in front of apex of wing; wings rather abruptly narrowed at base; last section of fifth vein as 24, cross-vein as 18.

Described from one male taken at Matucana, Peru, May 27, 1930.

Among South American species *S. spinitarsus* comes nearest *S. difficilis* Van Duzee, described from Argentina and southern Chile, but that species has all tibiæ black, orbital cilia wholly black, and is smaller, being 2.5 to 3 mm. long.

**Sympycnus minuticornis**, new species

Length 2.5 mm.

MALE.—Face in type with a large, white pollinose triangle above, on lower half the eyes touch, probably because the head is shrunken; front greenish with thin white pollen; antennæ (Fig. 21) wholly black, third joint smaller than second; lateral and inferior orbital cilia white.

Dorsum of thorax and abdomen green, dulled with white pollen; dorsum of thorax without vittæ; hairs on the dorsum of the abdomen yellowish, on the sides partly black; venter blackish with yellow hair; hypopygium conspicuous, greenish

black, its outer lamellæ black, triangular, fringed with long pale hairs, about one-third as long as height of hypopygium; inner appendages triangular, smooth, about as large as the lamellæ.

All coxæ, femora, and tibiæ yellow; anterior coxæ with white hair and with outer surface blackened; hind femora with long yellow hairs below; anterior tibiæ with two rows of yellow hairs below, which are as long as diameter of tibia, also a row of little black hairs above, of which four near the tip are bristle-like; front tarsi black from tip of first joint, which has a bristle below before its middle; middle tarsi plain, yellow with last segment and tips of the others brown; hind tarsi (Fig. 22) brown, yellow at base, third segment with a long curved spine above near the middle, which is two thirds as long as the segment; fourth segment with a small, erect bristle on the side; front pulvilli a little enlarged; length of anterior tibiæ as 45, segments of anterior tarsi as 14-6-6-4-6, their pulvilli as 4; segments of middle tarsi as 35-15-11-7-7; of posterior pair as 25-20-13-10-7, spine on third segment as 8. Calypters and halteres yellow, cilia of the former white.

Wings grayish; last section of fourth vein a little bent just before its middle; beyond the bend it is nearly parallel with third vein, which is nearly straight; tip of fourth vein in front of apex of wing; last section of fifth vein not quite three times, as long as cross-vein; wings narrowed at base.

Described from one male, taken at Aspen, Colorado, between July 24 and 27, 1919, by F. E. Lutz.

This species is closely related to *S. calcaratus* Van Duzee, but *calcaratus* has long yellow hypopygial lamellæ, while in *minuticornis* the lamellæ are small and black.

### ***Sympycnus longinervis*, new species**

Length 1.8 mm.

MALE.—Face very narrow, linear, white pollinose; front dull greenish; palpi black; first two antennal segments yellow, the third brown, longer than wide, rounded at tip; orbital cilia white.

Dorsum of thorax dark reddish brown, without pollinose lines, quite shining; lower part of pleura somewhat yellow, the posterior edge yellow; abdomen black above, venter and sides of first to fourth segments yellow; its hairs largely black, but appearing yellow in certain lights; hypopygium black with rather long black lamellæ, which are of nearly equal width, pointed at tip and fringed with a few moderately long hairs, the lamellæ are nearly as long as the height of the hypopygium; penis and its sheath pale yellow, about as long as the lamellæ.

Coxæ, femora and tibiæ pale yellow; anterior coxæ with white hair; middle and hind femora each with a rather long preapical bristle; tarsi mostly brown, plain, except that the anterior tarsi have three or four little bristles below at base and second to fourth segments are a little thick; length of anterior tibiæ as 30, middle ones as 42; segments of anterior tarsi about as 17-7-6-6-5, anterior tarsi one and one-third times as long as their tibia; of middle pair as 21-11-8-6-5, of posterior pair as 13-17-10-8-7. Calypters and halteres pale yellow, the former with a small black spot at tip, their cilia black, but with white hairs among them.

Wings narrowed at base, nearly hyaline; third and fourth veins nearly straight and parallel, fourth ending in apex of wing; cross-vein considerably before the middle of the wing; last section of fifth vein as 27, cross-vein as 8.

Described from one male, taken by C. H. Curran, July 1, 1930, at Cold Spring Harbor, Long Island, N. Y.

This species looks very much like *S. lineatus* Loew and *S. inæqualis* Van Duzee, all three forms being of nearly the same size and color, and having the hypopygial lamellæ of nearly the same form and length; *lineatus* has very distinct pollinose lines on the dorsum of the thorax, the other two have no trace of such lines, the dorsum of the thorax being shining reddish brown in both. This species differs from *inæqualis* in having the cross-vein farther from the wing margin, measured on fifth vein; it also differs from both the other two species in having the hairs on the hypopygial lamellæ only about half as long.

***Sympycnus brevicauda*, new species**

Length 2 mm.

MALE.—Face very narrow, linear, white pollinose; front brown pollinose, dull; antennæ black, small, third segment triangular, but little longer than second, arista plain, rather short with short pubescence; orbital cilia white.

Dorsum of thorax and scutellum brownish and covered with brown pollen, without distinct lines; posterior edge of pleura largely yellow. Abdomen black with venter and lower part of sides of basal half yellow; hypopygium small, black, with small, triangular, blackish lamellæ.

All coxæ yellow with yellow hair on anterior pair; all femora and anterior and middle tibiæ yellow, apical third and hind femora, most of their tibiæ and whole of their tarsi black or brown; anterior tibiæ with one bristle above near basal third and a row of about twelve bristly hairs on lower anterior edge, which are scarcely as long as diameter of tibia; anterior tarsi (Fig. 23) with the last four segments black; middle tarsi almost wholly pale yellow; second segment of anterior tarsi widened below; first segment of middle tarsi with several minute spines below; length of anterior tibiæ as 38, segments of anterior tarsi as 19-8-7-6-5; of middle pair as 36-14-11-8-7; of hind pair as 13-23-12-9-8; middle and hind tarsi plain. Calypters yellow with a black tip and cilia; halteres pale yellow.

Wings grayish, narrowed at base; third and fourth veins parallel beyond the cross-vein, only slightly arched, the fourth ending in the apex of the wing; last section of fifth vein as 30, cross-vein as 11.

FEMALE.—Like the male, except that the face is wider and brown pollinose; anterior tarsi plain with several small bristles below, and the wings not narrowed at base, the anal angle being prominent.

TYPES.—Described from one male and three females, all taken by W. J. Brown, August 7, 1929, at Natashquan, Quebec. Types in Canadian National Collection; paratype in American Museum of Natural History.

This species would run to *caudatus* Van Duzee in the key to the species of *Sympycnus* in the Pan-Pacific Entomologist, VII, p. 38,

couplet 15. It differs from that species by having the hypopygial appendages short and black and the second segment of the anterior tarsi is also widened below, especially on the apical part.

***Sympycnus (Calyxochæstus) insolitus*, new species**

Length 3 mm.

MALE.—Face white pollinose, very narrow, linear; front dark blue, almost black; antennæ (Fig. 24) black, first segment shorter than third, third broadly rounded, arista enlarged on apical third, with very short pubescence; lower orbital cilia white.

Thorax metallic brown, a little dulled with brown pollen; posterior margin of pleura yellow to yellowish brown. Abdomen black with very slight green reflections, most of the sides of second segment and part of the sides of third yellow; hairs of abdomen yellowish, bristles near hind margin of segments black; hypopygium reddish, its lamellæ small, yellow.

All coxæ yellow with yellow hair; femora, tibiæ and tarsi yellow; anterior tibiæ with one small bristle above, middle and hind tibiæ each with several bristles above; anterior tarsi (Fig. 25) rather thick, especially the third and fourth segments, its segments of nearly equal length, except fourth, which is considerably longer than third; middle tarsi (Fig. 26) slender, first segment with a large bristle at tip and three others about as long as diameter of the segment placed near basal fourth, middle and apical fourth, second segment with four long, slender, curved hairs below, third segment with three, the fourth with two such hairs, fifth segment with several rather long, slender, curved hairs, which are less conspicuous than those on the other segments; hind tarsi plain. Length of anterior tibiæ as 38, of middle tibiæ as 58; segments of anterior tarsi as 10-9-9-13-9; of middle pair as 35-14-8-8-8; of hind pair as 22-25-15-10-8. Calypters and halteres yellow, cilia of former white.

Wings grayish, of nearly equal width to near the base; third and fourth veins nearly parallel beyond the cross-vein, a little bent backward toward tip, fourth ending in apex of wing; last section of fifth vein as 48, cross-vein as 9.

TYPE.—Described from one male, Aspen, Colorado, July 27-29, 1919 (F. E. Lutz), at an elevation of about 8000 feet.

I have placed this species in the subgenus *Calyxochæstus* although the first and second segments of the anterior tarsi are of nearly equal length, because the arista is enlarged at the tip. This is the only species of *Sympycnus* from North America which has the arista of the male enlarged at tip and also has the first segment of the anterior tarsi long. The only other species with these same characters is *Sympycnus grandicornis* Van Duzee, described from southern Chile, which has the antennæ wholly yellow and the arista with three enlargements, the last at its tip.

***Sympycnus (Calyxochæstus) monticola*, new species**

Length 3 mm.

MALE.—Face narrow, white pollinose; front dark green, rather dull; antennæ (Fig. 27) black, first segment longer than third, somewhat clavate, with a few hairs

at tip above and below, third segment rounded at tip, about one and one-half times as long as wide, arista with long pubescence, about one-fifth shorter than the anterior tarsi; lower orbital cilia white.

Dorsum of thorax shining blackish brown, sometimes with green reflections, a little dulled with gray pollen, which is more brown on posterior surface; scutellum bluish. Abdomen black or greenish black with yellow hairs and black bristles above on hind margins of the segments; sides of second segment yellowish; hypopygium reddish brown, sometimes almost black, its lamellæ small, triangular, black or dark yellowish brown.

Anterior coxæ and their hairs yellow; middle and hind coxæ more or less brown or black, broadly yellow at tip; femora and tibiæ yellow, tips of hind femora above and apical third to half of hind tibiæ blackish; hind tarsi wholly black; middle tarsi brown toward the tip; anterior tarsi with extreme tip of first and whole of the following segments, except the base blackish; femora with yellow hairs below, which are moderately long and bristle-like on posterior pair toward the tip; middle femora with two black bristles near the tip, their tibiæ with one large bristle on upper anterior surface near basal fifth; anterior and middle tarsi slender; fourth segment of anterior tarsi longer than third, a little arched (Fig. 28) with the hair above longer than the diameter of the segment; first segment about as long as wide; first segment of middle tarsi (Fig. 29) without bristles or spines, but with one long hair at tip below, the second segment enlarged at base below and with a few long, slender, curved hairs, third with minute spines below, fourth with about five slender, curved hairs above and longer than third, fifth segment short and slightly widened; length of anterior tibiæ as 36; segments of anterior tarsi as 4-20-10-13-7; of middle pair as 32-13-8-10-4; of posterior pair as 22-25-14-13-9. Calypters, their cilia and the halteres yellow.

Wings grayish; last section of fourth vein a little bent not far from the cross-vein, its tip just before the apex of the wing; third vein bent backward more than the fourth so as to approach the fourth a little at the tip; last section of fifth vein as 38, cross-vein as 9; wings narrowed towards the base.

FEMALE.—Face wider than in the male; antennæ with the first segment short, third segment about as long as wide, arista plain; legs and feet mostly yellow; segments of anterior tarsi as 19-9-7-5-4; wings wider at base; fourth vein ending in the apex of the wing; abdomen almost wholly blackish or brown.

TYPES.—Described from four males and four females, taken at Electric Lake, Colorado, the last of June, 1919, by F. E. Lutz, at an elevation of about 8400 feet. Holotype, male, allotype, female.

This form would run to *S. distortus* Van Duzee in the key in Pan-Pacific Entomologist, VII, p. 53, couplet 4, and is very much like that species, differing in the first antennal segment having hairs at tip, which is also longer than in that species, the third segment also longer; arista one-fifth shorter than the anterior tarsi in *distortus*, as long as the anterior tarsi in *monticola*; fourth segment of middle tarsi distinctly longer than third in *monticola* and considerably shorter in *distortus* and with moderately long, slender, curved hairs above in *monticola*.

**Sympycnus (Calyzochætus) furcatus** Van Duzee

*Nothosympycnus furcatus* VAN DUZEE, 1929. Proc. U. S. Nat., Mus., LXXIV, Art. 10, p. 29.

Another male has been sent to me by the American Museum and, as the antennæ were broken off in the type, it will be well to redescribe the head here. Face narrow, yellowish brown on upper part, gray pollinose below; palpi and proboscis black; front dark, but bright steel blue; antennæ black, third segment large, nearly twice as long as wide, rounded at tip, arista plain, but slightly blunt with a short bristle-like tip; lateral and inferior orbital cilia white.

Posterior edge of pleura yellowish; hypopygium with blackish, very small appendages and small yellowish lamellæ; length of anterior tibiæ as 35; anterior tarsi (Fig. 30) with the segments as 3-28-9-14-6; of middle pair, measuring over the projections, about as 46-19-8-7-7, (see Fig. 31); of posterior pair as 20-25-15-10-7. Last section of fifth vein only slightly arched.

The type specimen was taken at El Salto, Antigua, Guatemala; this specimen is from San Jose, Costa Rica, taken in March, 1915.

The antennæ and arista are formed almost as in *S. frontalis* Loew.