

## Descriptions of three new species of the Dipterous genus *Sciapus* with a key to the North American species.

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In working out the following table of species, I have used Prof. J. M. Aldrich's key, published September, 1904, in the Transactions of the American Entomological Society, as a basis, but uniting under *Sciapus* the genera *Psilopdinus* and *Agonosoma* there used, as is done by most of the European authors now. This key places eighteen species not contained in that of Prof. Aldrich. Four of these were described by Mr. Coquillett, five by Mr. Bigot and nine by myself. Of these last, three are described in this paper, as follows: *noveboracensis*, *banksii*, and *bradleyi*; three in the Canadian Entomologist, *chalybeus*, *digitatus*, and *nigrimanus*; and three, *furcatus*, *leonardi*, and *pollinosus*, will be more fully described in my report of the Dolichopodidae of Okefenoke Swamp, Georgia.

Five species in this key described by Mr. Bigot seem to be recognizable; at least they seem to be distinct from all other known species from North America, but his *carolinensis* and *pallescens* I could not do anything with. Mr. Bigot does not mention any hairs on the face of his *occidentalis*, *pampoecilus* and *hirtulus*, so I take it that they have the face bare, as no doubt they have; he also states that *occidentalis* has the arista long, so I place it in the section where the arista is at least two-thirds as long as the body; the long bristles of the thorax and abdomen would indicate that it belonged there. He states that the femora of *hirtulus* are reddish with violet reflections; therefore, I take it that his specimen was somewhat immature and the femora should be blackish with violet or green reflections, as this is sometimes the case with immature specimens with dark femora. For the same reason I have placed his *occidentalis* in the group with blackish femora; he describes them as reddish brown.

### *Key to the North American Species of Sciapus.*

- |   |    |
|---|----|
| 1 Cilia of the tegulæ black or dark brown ..... | 2  |
| Cilia of the tegulæ pale .....                  | 67 |

- 2 Femora black, the tips may be yellow .....3  
 Femora yellow or mostly yellow .....54
- 3 Wings with dark markings .....4  
 Wings without dark markings .....35
- 4 Dark markings on the wings consist of two cross-bands connected  
 along the costa, in some immature specimens reduced to an in-  
 fuscation of the veins .....9  
 Dark markings otherwise .....5
- 5 Wings black except beyond the forking of the fourth vein and  
 the hind margin. (Ariz., Mex., W. I., S. Am.)...*dimidiatus* Loew  
 Wings mostly hyaline .....6
- 6 Wings with an ill-defined brownish band extending from the costa  
 to the posterior end of the cross-vein. (Mex.)...*infumatus* Ald.  
 Wings with a cloud along the anterior portion .....7
- 7 Middle tibiae with rather large bristles on the front surface .....8  
 Middle tibiae destitute of bristles. (Mex.) .....*ciliipennis* Ald.
- 8 Middle tibiae with three long, slender bristles, hind tibiae without  
 bristles. (Pa.) .....*chalybeus* V. D.  
 Middle tibiae with a row of about fourteen bristles, hind tibiae  
 with a similar row. (Mex., Cent. Am.) .....*cilipes* Ald.
- 9 Fore tarsi with dense black fringe on the sides of the fourth and  
 fifth joints, middle tarsi with the second and third joints less  
 broadly fringed. (Mex.) .....*bifimbriatus* Ald.  
 Fore tarsi of different structure .....10
- 10 Fore tibiae black .....11  
 Fore tibiae pale, at utmost brownish .....14
- 11 Second antennal joint with many and long bristles .....12  
 Second antennal joint with few and short bristles. (Mex.)  
*praestans* Ald.
- 12 Last four joints of fore tarsi subequal .....13  
 These joints of gradually decreasing length. (West U. S., Mex.)  
*melampus* Loew
- 13 Face with numerous delicate, pale hairs. (U. S.)...*patibulatus* Say  
 Face bare. (West U. S.) .....*pilicornis* Ald.
- 14 Fore tarsi yellow, not or but little infuscated towards the tips..15  
 Fore tarsi infuscated, part of the first joint may be yellow .....17
- 15 Abdomen with two long, wavy, hair-like bristles on the sides at  
 tip. (Mex., Guatemala.) .....*forcipatus* Ald.  
 Abdomen without such bristles .....16
- 16 Middle tarsi black, fourth and fifth joints with narrow silvery  
 fringe above. (Mex., Brazil.) .....*diffusus* Wied.  
 Middle tarsi but little infuscated and with the fourth joint pure  
 white. (W. I., Mex., Brazil.) .....*bellulus* Ald.

- 17 Knob of the halteres infuscated .....18  
 Knob of the halteres yellow .....23
- 18 Middle and hind tibiæ entirely black .....19  
 At least the middle tibiæ largely yellow .....20
- 19 Middle metatarsi ciliated above. (Cuba.) .....*pilosus* Loew  
 Middle metatarsi not ciliated. (Mex.) .....*inornatus* Ald.
- 20 Last four joints of hind tarsi regularly decreasing in length.  
 (W. I., Brazil.) .....*jucundus* Loew  
 These joints not regularly decreasing, the last two or three being  
 subequal .....21
- 21 Last two joints of hind tarsi subequal and a little swollen. (Mex.)  
*atricauda* Ald.  
 Last three joints subequal and a little flattened .....22
- 22 Last three joints of hind tarsi glabrous, middle metatarsi as long  
 as their tibiæ. (Mex., Brazil.) .....*triseriatus* Ald.  
 Last three joints of hind tarsi hairy, middle metatarsi longer than  
 their tibiæ. (Ga.) .....*leonardi* V. D.
- 23 Apical third of fore coxæ with trochanters and base of femora  
 yellow. (Mex.) .....*coxalis* Ald.  
 Not more than the extreme apex of fore coxæ yellow .....24
- 24 Third antennal joint large.....25  
 Third antennal joint small or of moderate size.....26
- 25 Second antennal joint with long bristles. (Mex.).....*astequinus* Bigot  
 Second antennal joint with short bristles. (Mex.).....*purpuratus* Ald.
- 26 Second antennal joint with short bristles.....27  
 Second antennal joint with long bristles .....30
- 27 Middle tibiæ with a row of bristles on the lower front surface ex-  
 tending the whole length .....28  
 Middle tibiæ with not over four bristles at most in the same longi-  
 tudinal line .....29
- 28 Fore metatarsi with a row of erect bristles below, second joint  
 without bristles. (Guatemala.) .....*nigrimanus* V. D.  
 Fore metatarsi with a few bristles near tip, second joint with a  
 row of small bristles below. (Mex.) .....*genualis* Ald.
- 29 Bristles on the second joint of the antennæ shorter than the diame-  
 ter of that segment. (Mex.) .....*breviseta* Coq.  
 Bristles on second joint about as long as the antennæ. (Cuba.)  
*digitatus* V. D.
- 30 Middle tibiæ with a row of stout bristles on the outer side, middle  
 metatarsi ciliated. (Mex., Brazil.) .....*triseriatus* Ald.  
 Middle tibiæ with not over four bristles in a row, middle meta-  
 tarsi not ciliated .....31
- 31 Last two joints of hind tarsi flattened .....32  
 Last joints of hind tarsi not flattened .....33

- 32 Hind tibiæ bearing a single bristle. (Mex.) .....*longiseta* Coq.  
 Hind tibiæ with scattered bristles. (Mex.) .....*depressus* Ald.
- 33 Hypopygium and its appendages very small, the latter finger-like.  
 (Mex.) .....*similis* Ald.  
 Hypopygium and its appendages large .....34
- 34 Hypopygial lamellæ large, flat, with an excavation at tip and short,  
 curling, dark hair on the inner surfaces. (Mex.)  
*atrolamellatus* Ald.  
 Lamellæ broad, nude, each composed of two flattened plates, the  
 outer attached to the inner near the base. (Mex.) ..*clunalis* Coq.
- 35 Face with abundant slender hairs .....36  
 Face bare .....41
- 36 Face with dark hairs. (Mex.) .....*barbatus* Ald.  
 Face with pale hairs .....37
- 37 Middle metatarsi with a row of crooked bristles below .....38  
 Middle metatarsi normal .....39
- 38 Tip of abdomen with a tuft of long hairs, the longest being nearly  
 as long as the last four segments of the abdomen. (U. S., W. I.,  
 Mex., S. Am.) .....*caudatus* Wied.  
 Longest hairs at the tip of the abdomen not much longer than the  
 last segment. (U. S.) .....*scobinator* Loew
- 39 Middle tibiæ with a strikingly long apical spur. (U. S.)  
*calcaratus* Loew  
 Spur of middle tibiæ rather short .....40
- 40 Last four joints of fore tarsi of regularly decreasing length.  
 (U. S.) .....*inermis* Loew  
 Last four joints of fore tarsi short, second and third subequal,  
 fourth as long as the two preceding. (U. S.) ..*patibulatus* Say
- 41 Arista at least two-thirds as long as the entire body .....42  
 Arista much shorter .....45
- 42 Fore metatarsi with long cilia above .....44  
 Fore metatarsi without long cilia .....43
- 43 Arista ending in a small disk. (Mex.) .....*nobilissimus* Ald.  
 Arista plain. (Calif.) .....*occidentalis* Bigot
- 44 Hypopygial appendages pale, middle metatarsi ciliated. (U. S.)  
*comatus* Loew  
 Hypopygial appendages blackish, middle metatarsi plain. (U. S.)  
*crinitus* Ald.
- 45 Thoracic dorsum covered with thin white pollen, front densely  
 silvery pollinose .....46  
 Thorax and front mostly shining .....47
- 46 Legs wholly black, fore tibiæ with three or four bristles in a row.  
 (Mex.) .....*argentatus* Ald.  
 Fore and middle femora and base of fore tarsi yellow, fore and  
 middle tibiæ each with two long bristles. (Fla.) ..*pruinusosus* Coq.

- 47 Costa with erect cilia .....48  
 Costa without erect cilia .....49
- 48 Second joint of fore tarsi shorter than any of the following joints.  
 (U. S.) .....*mundus* Wied.  
 Second joint longer than any following. (Mex.) .....*hirtipes* Ald.
- 49 Middle metatarsi with erect cilia above. (Mex.) .....*ciliipes* Ald.  
 Middle metatarsi not so ciliated .....50
- 50 Middle tibiæ black .....51  
 Middle tibiæ yellow .....52
- 51 All tibiæ black, fore tarsi with second and third joints subequal,  
 fourth and fifth longer but also subequal. (Western States.)  
*pilicornis* Ald.  
 Fore tibiæ yellow, last four joints of fore tarsi regularly decreasing  
 in length. (U. S., W. I.) .....*chrysoprasius* Walk.
- 52 Hypopygium large, its appendages large, curved, forceps-like;  
 abdomen with two long wavy bristles at tip. (Mex.)  
*forcipatus* Ald.  
 Hypopygium small or only moderately large, abdomen without  
 long bristles at tip .....53
- 53 Hind tibiæ and halteres yellow. (Hayti.) .....*hirtulus* Bigot  
 Hind tibiæ and halteres infuscated. (Mex.) .....*purpureus* Ald.
- 54 Wings with dark markings .....55  
 Wings wholly hyaline .....63
- 55 Antennæ yellow. (Mex., Brazil.) .....*basilaris* Wied.  
 Antennæ black .....56
- 56 Hyaline space between the cross-bands reaching forward to the  
 second vein .....57  
 Hyaline space not reaching beyond the third vein .....59
- 57 First joint of the fore tarsi white at tip, the following joints black,  
 fourth fringed with black hair above. (Mex.) ..*interceptus* Ald.  
 Fore tarsi plain, gradually infuscated .....58
- 58 Fore coxæ black. (Mex.) .....*pennifer* Ald.  
 Fore coxæ yellow. (Mex.) .....*flavicoxa* Ald.
- 59 Second and third joints of fore tarsi stout, swollen, bristly. (Mex.)  
*clavipes* Ald.  
 Fore tarsi plain or only bristly .....60
- 60 Fore coxæ green. (La.) .....*viridicoxa* Ald.  
 Fore coxæ pale .....61
- 61 Middle metatarsi with a row of erect cilia on the front surface.  
 (U. S.) .....*scaber* Loew  
 Middle metatarsi plain .....62
- 62 Middle tibiæ with a row of bristles on the front surface. (U. S.)  
*sipho* Say  
 Middle tibiæ with only scattered bristles. (Ga., Fla.) ..*furcatus* V. D.

- 63 Face with numerous pale hairs .....64  
 Face bare .....65
- 64 Fifth joint of all the tarsi black, fifth joint of hind tarsi cylindrical. (U. S.) .....*flavipes* Ald.  
 Fifth joint of fore and middle tarsi whitish, last joint of hind tarsi a little flattened and orbicular in outline. (N. Y., Va.)  
*banksii* Ald.
- 65 Middle metatarsi greatly elongated, ciliated. (W. I.)  
*insularis* Ald.  
 Middle metatarsi plain .....66
- 66 Face and front green, antennæ black, fore femora entirely yellow. (Mex.) .....*tonsus* Ald.  
 Face and front violet, antennæ reddish brown, arista long, fore femora blackened at base. (Hayti.) .....*pampoecilus* Bigot
- 67 Antennæ entirely black .....68  
 Antennæ yellow, at least at base .....71
- 68 Coxæ and base of femora black. (Hayti.) .....*polycroma* Bigot  
 Femora and fore coxæ wholly yellow .....69
- 69 Coxæ yellow, middle pair blackened at base, costa with a notch before the tip of the second vein. (Ga., Fla.) .....*costalis* Ald.  
 Fore coxæ yellow, middle and hind coxæ black, costa without a notch .....70
- 70 Very bright and shining, hypopygium large with black appendages. (U. S.) .....*scintillans* Loew  
 Dulled with grayish pollen, hypopygium small with the appendages partly yellow. (Ga.) .....*pollinosus* V. D.
- 71 Dorsum of the thorax yellow with a green or blue stripe .....72  
 Dorsum wholly metallic .....73
- 72 Pleuræ yellow, middle tibiæ and metatarsi with erect cilia. (W. I.)  
*flavidus* Ald.  
 Pleuræ with an indistinct dark spot, tarsi plain. (W. I.)  
*dorsalis* Loew
- 73 Thoracic dorsum opaque, pollinose. (East U. S.)...*pallens* Loew  
 Thoracic dorsum shining .....74
- 74 Middle coxæ infuscated on the outer side for at least half their length .....75  
 Middle coxæ wholly or almost wholly yellow .....80
- 75 Costa of the male with erect cilia .....76  
 Costa of the male without such cilia .....77
- 76 Costa with an angular projection near the tip. (Southern States.)  
*psittacinus* Loew  
 Wing of the male flattened in outline at apex but the front corner rounded. (Ga.) .....*bradleyi* n. sp.

- 77 Middle femora of male shortened, dark at base, their tibiae and tarsi very much elongated .....78  
 Middle femora normal .....79
- 78 Middle tarsi with the last three joints much flattened. (N. Y.)  
*noveboracensis* n. sp.  
 Middle tarsi plain. (Eastern States.) .....*filipes* Loew
- 79 Abdomen yellow at base above, thorax coppery or golden on the sides of the dorsum. (East U. S., W. I.) .....*variegatus* Loew  
 Abdomen not pale at base, thorax green, more bluish-green along the front. (Cuba).....*castus* Loew
- 80 Fore femora with slender erect bristles below. (U. S.)  
*tener* Loew  
 Fore femora without such bristles .....81
- 81 Hind margin of the pleuræ yellow .....82  
 Hind margin of the pleuræ green. (Mex.) .....*mexicanus* Ald.
- 82 Abdomen with basal yellow band, remainder green. (U. S.)  
*unifasciatus* Say  
 Abdomen with the greater part of the first four segments yellow. (U. S.) .....*rotundiceps* Ald.

**Sciapus dimidiatus** Loew.

I have seen seven males of this species from Arizona. The tibiae were more brown than yellow, especially the hind ones; the hyaline tip to the wing is not over one-third the length of the wing, reaching just to the forking of the fourth vein (Fig. 1); the tegulae are entirely black, instead of being bordered with black, as

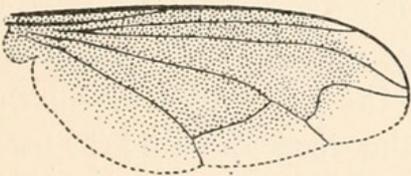


Fig. 1.—Wing of *Sciapus dimidiatus* Loew.

Loew states; the outer appendages of the hypopygium are pointed lamellae, and are of a blackish color with rather long hairs on the inner edges. These differences are probably only individual.

**Sciapus banksii** n. sp.

Face with white hairs; antennæ, cilia of the tegulæ and middle and hind coxæ black; fore coxæ and all the legs yellow; fifth joint of fore and middle tarsi white; wings hyaline. Length 4 mm.

♂. Face and front metallic green with yellowish brown pollen which does not conceal the ground color; face with slender white hairs; antennæ black; arista about two-thirds as long as the width of the head.

Thorax and abdomen metallic green, in some individuals more blue green, except the posterior half of the abdomen, which is golden green;

hypopygium very small with concealed appendages; incisures of the abdomen narrowly black; bristles of the thorax of moderate length, those of the abdomen short; pleuræ greenish black.

Fore coxæ yellow; middle and hind coxæ black; trochanters, femora, tibiæ and tarsi yellow; fore and middle tarsi a little darker towards the tips and with the fifth joints white; hind tarsi blackened from the tip of the first joint, about three-fourths as long as their tibiæ, first joint nearly as long as the remaining four joints together, fourth shorter than the fifth, about as broad as long, fifth a little flattened, nearly orbicular in outline, deep black; middle and hind tibiæ with a small bristle on the basal third; hind tibiæ and tarsi with rather long hairs.

Halteres yellow; tegulæ brown with black cilia.

Wings hyaline, only slightly tinged with gray; venation as in *S. flavipes* Ald.

♀. Two females taken with the males described above have the face more blackish; fifth joint of fore and middle tarsi are not white; hind tarsi normal; the abdomen more golden green than in the male.

Described from three males and two females taken by Mr. Nathan Banks, at Falls Church, Virginia, July 4th and 6th. He took one male at Sea Cliff, Long Island, New York. Type in the collection of Mr. Nathan Banks.

This interesting little species, which I dedicate to its captor, could easily be mistaken for *S. flavipes* Ald. which it resembles in size and color, but in that species the fifth joint of all the tarsi is black, while in this species the fore and middle tarsi have the fifth joint white, contrasting with the darker joints which precede them; the hind tarsi do not have the fifth joint flattened as in this species. I think it would be difficult to separate the females of the two species.

#### ***Sciapus bradleii* n. sp.**

First two joints of the antennæ yellow; abdomen with yellow at base; wings with the apex flattened in outline and with the front apical corner rounded; costa with erect cilia. Length 4.5 mm.

♂. Face and front metallic green, the former thickly covered with white pollen; palpi, proboscis and two basal joints of the antennæ yellow, the third joint of the antennæ small, rounded, brown; arista about as long as the width of the head.

Thorax dark metallic green, with grayish pollen; pleuræ more blackish green with white pollen; scutellum blue green with two strong bristles inserted widely apart.

Abdomen paler green and dull with pollen, the venter and some of the incisures yellow, first segment largely yellow, last three segments with coppery reflections; hypopygium small, mostly concealed, with the rather long outer appendages yellow.

Legs and coxæ pale yellow; middle coxæ blackish on the outer surface for half their length; middle femora with one slender black bristle near the tip on the hind edge, and a few black hairs on the upper hind edge towards the tip; middle femora, tibiæ and metatarsi of about equal length; middle tibiæ with a slender bristle close to the tip, this bristle fully twice as long as the diameter of the tibiæ; middle tibiæ and metatarsi with long hair; hind tarsi as long as their tibiæ and black from the extreme tip of the first joint.

Cilia of the tegulæ white.

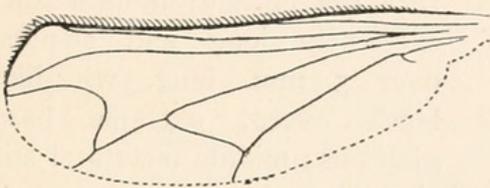


Fig. 2.—Wing of *Sciapus bradleyi* n. sp.

Wings with the front apical corner rounded, the second vein entering the costa before this rounding begins, second vein running close to the costa and parallel with it for some distance before entering it; costa with erect cilia which are longest at the tip of the second vein, rapidly decreasing in length beyond this point. (Fig. 2.)

Described from one male from St. Simon Island, Georgia, taken about the first of May, by Dr. J. C. Bradley. Type in the Cornell University collection.

#### ***Sciapus noveboracensis* n. sp.**

Two basal joints of the antennæ yellow; hypopygium large with long appendages; femora mostly yellow; middle tibiæ extraordinarily long and slender; middle tarsi flattened and contorted; cilia of the tegulæ white. Length 6 mm.

♂. Face and front metallic green with yellow pollen, the pollen more whitish on the lower part of the face; antennæ short, the two basal joints yellow, third joint black; arista black, inserted near the base of the third joint, hardly as long as the width of the head.

Dorsum of the thorax dark metallic greenish blue with thin yellowish pollen; pleuræ green with white pollen; bristles of the thorax rather long.

Abdomen metallic green, thinly covered with yellowish pollen, and with black incisures, with a few long yellow hairs at base above, and with about six black bristles near the hind margin of the segments; hairs on the venter rather long and white; hypopygium large, black, with long appendages which are yellow towards their tips.

Middle and hind coxæ black. Fore coxæ yellow with long white

hairs on the front surface; fore femora short, pale yellow, with a few long pale bristles below near the base; fore tibiæ yellow, longer than their femora, short-haired; fore tarsi long and slender, blackened almost from the base, the metatarsi one and one-fourth times as long as their tibiæ, remaining joints taken together only about one-third

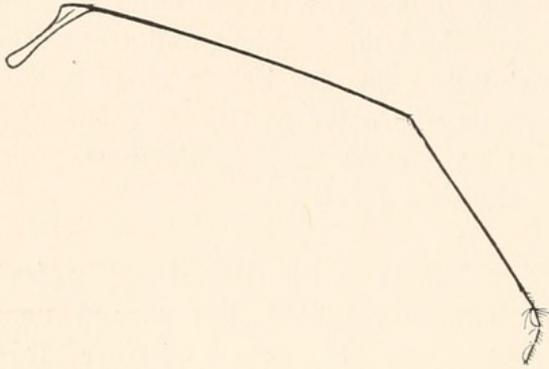


Fig. 3.—Middle leg of *Sciapus noveboracensis* n. sp.

as long as the first. Middle legs extremely slender (fig. 3), femora rather short, of normal size at base but tapering rapidly so as to be very slender in the middle, the knee large and contorted; middle femora black at base, pale yellow from before the middle; middle tibiæ extremely long and slender, over 5 mm. long, wire-like, black except extreme base, glabrous; middle metatarsi still more slender, two-thirds as long as their tibiæ with a row of short spines below towards the tip, black; second joint black, slender but short, with long hairs above; third joint short, flattened, widened at tip, fringed with long hairs on one edge; fourth joint short, flattened, wider than the third, bent or twisted, with only a few short hairs; fifth joint short, yellow at base and black at tip, bent, not so greatly flattened as the two preceding joints; third and fourth joints yellow. Hind femora yellow, long and slender with a few long yellow hairs above at base; hind tibiæ a little longer than their femora; hind tarsi shorter than the hind femora, black from before the middle of the first joint, first joint longer than the remaining four together, somewhat thickened in the middle.

Halteres yellowish; tegulæ pale yellow with a narrow black tip and with long white cilia.

Wings grayish hyaline, long and rather narrow.

♀. Length 4 mm. Differs from the male in having the pollen of the face silvery white; thorax and abdomen covered with an equally thick coat of coarse yellowish pollen; all legs normal; all tarsi blackened from the base of the second joint.

Described from one male and one female, taken at Gowanda, New York, June 8th. Type in the author's collection.

This belongs to the same group of species as *S. tener* and *filipes* of Loew, the middle legs of which are slender; the hypopygium is formed about alike in all three species and the wings are also very much alike.



Van Duzee, M. C. 1915. "Descriptions of three new species of the dipterous genus *Sciapus* with a key to the North American species." *Entomological news, and proceedings of the Entomological Section of the Academy of Natural Sciences of Philadelphia* 26, 17–26.

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