

## OCCASIONAL PAPERS OF THE MUSEUM OF

## ZOOLOGY

## UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

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*DOLICHOPUS CORREUS*, NEW SPECIES, AND NOTES ON  
OTHER DOLICHOPODIDAE (DIPTERA, BRACHYCERA)

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AMONG species of *Dolichopus* collected in 1956 on Grosse Ile, Michigan, were two forms which differ from each other in small but constant ways. Further investigation in 1957 showed that one of these is *Dolichopus scapularis* Loew, the other is a new species sibling to *scapularis*. The new species is here described and notes are presented on *scapularis* and other species of *Dolichopus*; this part of the present paper constitutes the fifth of my "Notes on the Genus *Dolichopus*."<sup>1</sup> *Hercostomus violaceus* (Van Duzee) is also discussed.

*Dolichopus correus*, new species

HOLOTYPE.—Male, Grosse Ile, Wayne County, Michigan, August 11, 1957 (George Steyskal); allotype, a female with the same data; both in UMMZ collection.

MALE.—Very similar to *Dolichopus scapularis*, differing as follows. Hind femora with a single straight row of 9–13 pale setae, each of these setae (except one or two at ends of series) of same length as greatest diameter of femur (Fig. 3); fore tarsi with distal two segments shorter and proximal three segments longer than in *scapularis* (lengths of tarsal segments of holotype, from basitarsus distad, in millimeters: 1.04, 0.68, 0.45, 0.22, 0.18); third segment of antennae (Fig. 2) more acutely pointed than in *scapularis*; scutellum yellow only on flat lower surface, rim wholly metallic green; fore coxae usually with at least two rows of small black hairs mesally, the other hairs pale yellowish; hypopygium (Fig. 1) with apical emarginations somewhat deeper, ventral flanges narrower and turned more mesad, and preapical pale seta

<sup>1</sup> Part 1, Bull. Brooklyn Ent. Soc., 33:193–194 (1938); Part 2, *Ibid.*, 37: 62–67 (1942); Part 3, *Ibid.*, 42: 34–38 (1947); Part 4, Canad. Ent., 88: 139–140 (1956).

situated farther proximad than in *scapularis*; cerci with lower margin semicircularly curved and bearing longer hairs than in *scapularis*.

FEMALE.—Coloration of humeri, scutellum and hairs of fore coxae as in male, and apparently constituting the only differences from *Dolichopus scapularis*.

MATERIAL.—In addition to the holotype and allotype, specimens designated as paratypes from the following localities: *Michigan*: Grosse Ile, Wayne Co., 17 males, 20 females, taken Aug. 11, 1957, with the holotype and allotype, other specimens taken on the dates shown in Table I; E. S. George Reserve, Livingston Co., July 24, 1943 (Geo. Steyskal); East Lansing, [Ingham Co.], July 22, 1947, and July 19, 1954 (R. L. Fischer). *Minnesota*: Olmstead County (C. H. Ainslee). *Indiana*: Lafayette, [Tippecanoe Co.], July 6, 1915 (J. M. Aldrich); Lawrence, [Marion Co.], June 27, 1943 (F. C. Harmston). *Tennessee*: Knox County, June 25, 1957 (H. Robinson). *New York*: N[orth] Evans, [Erie Co.], Sept. 9, 1917 (M. C. Van Duzee); N[orth] Fairhaven, [Cayuga Co.], Aug. 20–30, 1918; Beaver Creek, McLean, [Tompkins Co.], Aug. 26, 1925; Mud Creek, Tompkins Co., June 17–20, 1904; Buttermilk [Falls], Ithaca, [Tompkins Co.], July 18, 1920; Renwick, Ithaca, [Tompkins Co.], July 26, 1914, and July 12, 1920. *New Jersey*: Iona, [Gloucester Co.], Sept. 12, 1909. *North Carolina*: Penland, Mitchell Co., elev. 3000 ft., June 18, 1957 (Geo. C. Steyskal).

Paratypes are in the collections of the University of Michigan Museum of Zoology, Michigan State University, Cornell University, North Carolina Department of Agriculture, United States National Museum, Canadian National Collection, Fred C. Harmston, Harold Robinson, and Geo. C. Steyskal. The paratype from Iona, New Jersey, was recorded by Smith (1910, Ann. Rept. New Jersey State Mus. for 1909: 756) as *Dolichopus scapularis*.

The species most similar to *Dolichopus correus* and *D. scapularis* is probably *Dolichopus domesticus* Van Duzee. It differs from them in having the humeri and scutellum wholly metallic green and the setae of the hind femora 1.5 times as long as the femoral diameter. Examination of the type of *domesticus* shows that the hypopygium of this species is very much like that of *correus*. It should be pointed out, incidentally, that *Dolichopus variabilis* Loew differs from *D. domesticus* in little more than the color of the cilia of the halteres.

The Grosse Ile specimens of *Dolichopus correus* were collected on vegetation along Frenchman's Creek and in adjacent woods. The "creek" and a few pools lie in the southern part of the island in a longitudinal trough that connects with Lake Erie. The amount of

water in the "creek" and pools varies with the lake level; in the spring the water is high and inundates the woods, while in the fall the pools may be disconnected and the woods dry. During the *Dolichopus* collecting season the woods are normally dry. Table I lists the eleven

TABLE I  
NUMBER OF MALES OF SPECIES OF *Dolichopus* COLLECTED IN THE VICINITY OF  
FRENCHMAN'S CREEK, GROSSE ILE, MICHIGAN, ARRANGED BY MONTH AND DAY.<sup>2</sup>

|                                  | June 29, 1957 | July 4, 1956 | July 4, 1957 | July 8, 1956 | July 21, 1957 | Aug. 11, 1957 | Aug. 25, 1957 | Sept. 3, 1957 | Sept. 22, 1957 | Sept. 29, 1957 |
|----------------------------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|----------------|----------------|
| <i>Dolichopus correus</i> n. sp. | ...           | 5            | 6            | 10           | 2             | 18            | 8             | 9             | 10             | 5              |
| <i>D. scapularis</i> Loew        | 1             | 1            | 7            | 4            | ...           | 13            | 10            | 9             | 17             | 4              |
| <i>D. absonus</i> Van Duzee      | 5             | 1            | 7            | 3            | 6             | 2             | 8             | 4             | 2              | ...            |
| <i>D. pulchrimanus</i> Bigot     | 4             | 10+          | 2            | 10+          | 6             | 2             | 1             | ...           | ...            | ...            |
| <i>D. longipennis</i> Loew       | 1             | ...          | 1            | ...          | 5             | 2             | 2             | ...           | ...            | ...            |
| <i>D. reflectus</i> Aldrich      | 1             | 1            | ...          | ...          | ...           | ...           | 1             | ...           | 1              | ...            |
| <i>D. vittatus</i> Loew          | 1             | ...          | 1            | ...          | ...           | 1             | 1             | ...           | ...            | ...            |
| <i>D. variabilis</i> Loew        | ...           | ...          | ...          | ...          | ...           | 2             | ...           | ...           | ...            | ...            |
| <i>D. bifractus</i> Loew         | 1             | ...          | ...          | ...          | ...           | ...           | ...           | ...           | ...            | ...            |
| <i>D. sexarticulatus</i> Loew    | ...           | ...          | 1            | ...          | ...           | ...           | ...           | ...           | ...            | ...            |
| <i>D. cuprinus</i> Wiedemann     | ...           | ...          | ...          | ...          | 1             | ...           | ...           | ...           | ...            | ...            |

<sup>2</sup> On each day the collecting was done from 9:30 to 11:00 A.M. Although all the species were taken at the same place, and all those in each column during the same one and one-half-hour period and sometimes from the same few leaves of nettle, it cannot be strictly said that they occupy the same ecological niche, since little is known about their prey and even less about their larval habits.

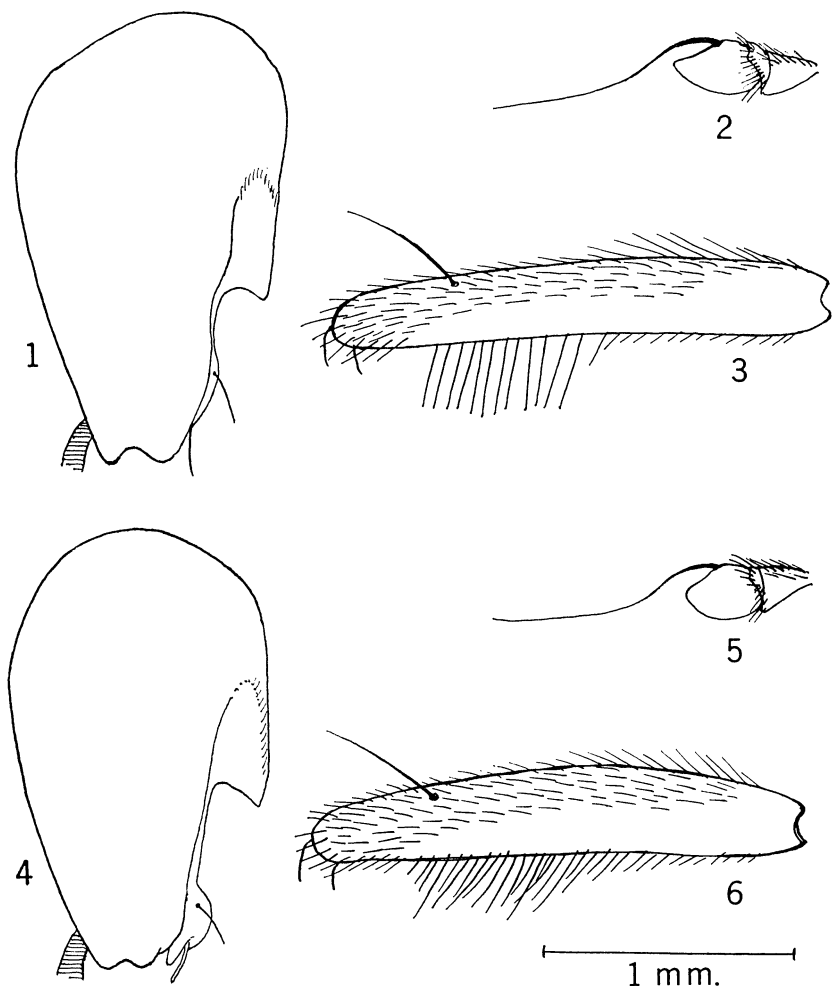
species of *Dolichopus* that have been found in this situation. Among the more abundant of these only *D. pulchrimanus* seems to prefer the immediate vicinity of water; the others seem to be equally numerous on the floor of the woods and along the "creek."

Specimens of *Dolichopus scapularis*, *D. absonus*, *D. gratus*, *D. terminalis*, and *D. setifer* were taken on the E. S. George Reserve on the same day (July 24, 1943) that paratypes of *D. correus* were collected there, but in what numbers and whether in the same environment as the latter cannot now be stated.

*Dolichopus scapularis* Loew  
(Figs. 4-6)

*Dolichopus scapularis* Loew, 1861, Neue Beitr. z. Kennt. d. Dipt., 8:22; 1864, Smithsonian Misc. Coll., 171 (Monogr. Dipt. N. Amer., 3):64. Aldrich, 1893, Kansas Univ.

Quart., 2:20. Melander and Brues, 1900, Biol. Bull., Woods Hole, 1:148. Aldrich, 1905, Smithsonian Misc. Coll., 46 (Cat. N. Amer. Dipt.): 304. Van Duzee, Cole and Aldrich, 1921, Bull. U.S. Natl. Mus., 161:244. Johnson, 1925, Occ. Pap. Boston Soc. Nat. Hist., 7:133. Leonard, 1926, Mem. Cornell Univ. Agric. Exp. Sta., 101 (List Ins. New York):780. Brimley, 1938, Ins. N. Carolina: 347.



FIGS. 1-6. Details of males of *Dolichopus*. *D. correus* Steyskal, new species; Fig. 1, right profile of hypopygium; Fig. 2, antenna; Fig. 3, right hind femur. *D. scapularis* Loew; Fig. 4, right profile of hypopygium; Fig. 5, antenna; Fig. 6, right hind femur.

MALE.—Hind femora with 18–24 pale setae, arranged in at least two irregular rows and of rather unequal lengths (Fig. 6); fore tarsi with segments of the following lengths, from basitarsus distad, in milli-

meters: 0.94, 0.60, 0.42, 0.30, 0.20; third segment of antennae (Fig. 5) obtusely pointed; scutellum yellowish on rim below bristles and sometimes laterally on dorsum; fore coxae with nearly all hairs yellowish, at most with one irregular row of black hairs mesally; hypopygium (Fig. 4) with shallow apical emarginations, ventral flanges produced before apex as a pair of lobes, preapical pale seta on lobate portion set well distad; cerci with only short hairs on the somewhat angulate lower margin.

FEMALE.—Scutellum colored as in male; humeri usually almost wholly yellowish; fore coxae with at most a single row of black hairs mesally. The yellow color of the humeri and scutellum is more evident in dry than in fresh specimens.

*Hercostomus violaceus* (Van Duzee)

(Figs. 7-9)

*Proarchus violaceus* Van Duzee, 1921, Psyche, 28:123.

*Hercostomus (Proarchus) violaceus*, Van Duzee in Leonard, 1928, Mem. Cornell Univ.

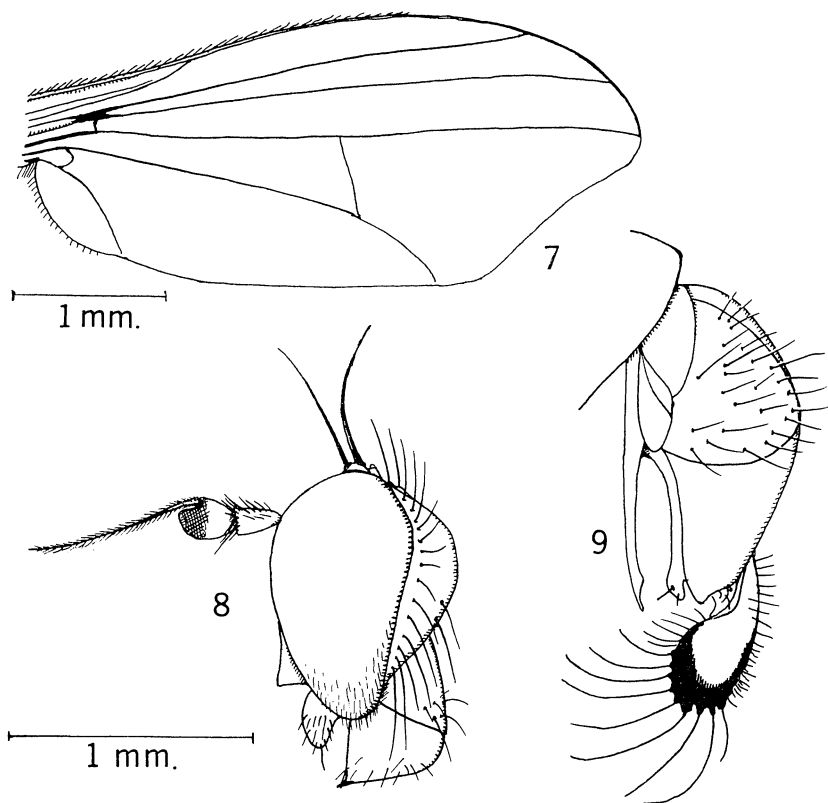
Agric. Exp. Sta., 101 (List Ins. New York):782.

A few specimens of this rare species have been found in Michigan, two pairs in a woods near Vineyard Lake, Jackson County, on July 5, 1953, and one male in Deerfield Township, Lapeer County, on July 10, 1954 (Geo. C. Steyskal). Figures 7-9 were drawn from the Vineyard Lake specimens. The holotype is from Dayton, Erie County, New York; Van Duzee also reported specimens from McLean, Tompkins County, New York; Bridgewater, Plymouth County, Massachusetts; Falls Church, Fairfax County, Virginia; and Kent, Portage County, Ohio.

Although the pubescence of the antennae of Michigan specimens (Fig. 8) is not nearly as long as in Van Duzee's figure, his subsequent transferal of *violaceus* to *Hercostomus*, and the otherwise complete agreement of my material with his description and figures, leaves little doubt of the correctness of its identification. Curran (1933, Amer. Mus. Novitates, 682:1-11) did not include *Hercostomus violaceus* in his key to the species of *Gymnopternus*, which he distinguished by the presence on the hypopleura above the hind coxae of short, fine hairs which were said to be absent in *Hercostomus*. In his manual (1934, Families and Genera of N. Amer. Diptera, N.Y.: 219), Curran did not use that character to separate the males, but an additional character, the presence in *Gymnopternus* of "a small tuft of very fine short hairs in front of the posterior spiracle" on the pteropleura, was used to separate the females. Both sexes of my material have hairs in both mentioned places, thus locating them in *Gymnopternus* as recognized by Curran. However, I would concur with the more usual recent treatment and con-

sider the two genera synonymous, with *Hercostomus* taking precedence on page priority.

The males from Michigan run in the keys of Becker (1921, Abhandl. Zool.-bot. Ges. Wien, 13: 34) and Curran (1933, *op. cit.*: 2) to *Gymnopternus laevigatus* Loew. In the description of that species, however, the cerci are stated to be "light yellowish, with a scarcely perceptible blackish border and crescent shaped," and no mention is made of dark spots on the middle and hind tibiae, such as are present in *Hercostomus violaceus*. The Michigan females run to *Gymnopternus albiceps* Loew, described from the female only; from that species, *H. violaceus* differs in not having the front "covered with a snow-white dust."



FIGS. 7-9. Details of male of *Hercostomus violaceus* (Van Duzee). Fig. 7, wing; Fig. 8, head; Fig. 9, left profile of hypopygium.



