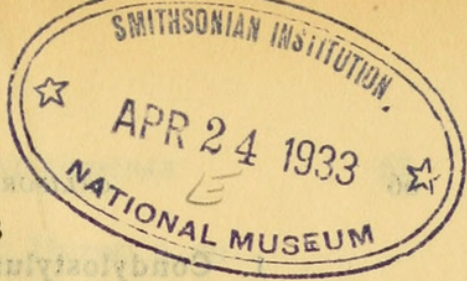


2C 25



PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XXI, No. 7, pp. 65-74, plate 4

APRIL 17, 1933

THE TEMPLETON CROCKER EXPEDITION OF THE
CALIFORNIA ACADEMY OF SCIENCES, 1932

No. 7

DOLICHOPODIDAE AND PHORIDAE

BY

MILLARD C. VAN DUZEE

Buffalo, New York

Fifteen specimens of Dolichopods and two Phorids were sent me for determination. One *Chrysosoma* was taken on the western coast of Mexico on the return trip. This is the first species of this tropical genus to be described from Central or South America. One species of *Condyllostylus* and three species of *Chrysotus* are here described as new, all from the Galapagos Islands. The two Phoridæ represent two new forms of the rather small genus *Dohrniphora* and are described below.

This is a very interesting little collection, being a part of the collection of insects made on the Crocker Expedition by Mr. Maurice Willows, Jr., Private Secretary to Mr. Crocker, who had been placed in charge of collecting insects. I was much pleased to have the opportunity of studying these specimens.

April 17, 1933

1. *Condylostylus dentaticauda* Van Duzee, n. sp.

Male: Length 5 mm. Face wide, shining green, lower part with white pollen, longer than wide, rounded below; front shining green with long, delicate, white hairs at vertex and along the orbits; palpi and proboscis black, the former with pale hairs and black bristles; antennæ (Fig. 1) black, third joint small, a little conical, longest bristle on second joint nearly twice as long as antenna, arista slender, bare, black; beard white, not long or very abundant.

Thorax and abdomen dark green with blue reflections; abdomen with rather wide, black incisures, last segment violet above, hind margin of segments with short bristles, venter with long, black, bristle-like hairs; dorsum of thorax with four pairs of long acrostichal bristles and four pairs of dorsocentrals; scutellum with two pairs of large marginal bristles and a few small white hairs on the disk; hypopygium (Fig. 2) black, moderately large, rather slender, with quite short, slightly curved, black claspers that have a tooth-like corner on inner angle of tip and another near the middle of the inner edge.

All coxæ and femora black; front coxæ with white hair on anterior surface and small black bristles at tip; femora with long white hair below; front and middle tibiæ and fore basitarsi dark yellow; fore tarsi black from extreme tip of first joint; hind tibiæ and tarsi wholly black; front tibiæ with long, delicate, yellow hairs below; hind tibiæ with long bristly hairs on both upper and lower edges of posterior surface; hind tarsi with long black hair, all joints of nearly equal width, except last joint, which is a little narrower; length of front tibiæ as 82, posterior as 165, joints of front tarsi as 65-22-13-7-7; of posterior as 88-23-19-11-9. Calypters, their cilia and the halteres black.

Wings grayish with a slight brownish tinge in front of third vein to costa and from a little beyond tip of first vein to tip of second vein; first vein reaching nearly to the middle of the wing; costa with very short, recumbent hairs; second vein straight; third vein bent a little backwards towards tip; last section of fourth vein with its fork at nearly right angles, upper bend broadly rounded, beyond this bend running nearly straight to wing margin, fourth vein from cross-vein to fork as 35, from fork to wing margin as 26, but the vein ends slightly beyond the fork, being represented by a slight fold in the wing membrane; cross-vein a little sinuous, somewhat oblique, its length as 35; last section of fifth vein as 26, nearly reaching the wing margin.

Holotype, male, (C. A. S., Ent., No. 3691) taken by Willows, June 4, 1932, on James Island, Galapagos Islands.

This would run to *erectus* Becker in Abbe O. Parent's table of species of the American *Condylostylus* (Annales de la Société Scientifique de Bruxelles, tome xlix, p. 7, couplet 26) and is also near *aduncus* Van Duzee, from these it may be separated by the following addition of O. Parent's table:

- | | |
|--|-------------------------------|
| 26. Hypopygial lamellæ yellow (Mexico)..... | <i>purpureus</i> Aldrich |
| — Hypopygial lamellæ (or claspers) black..... | 27 |
| 27. Hypopygium small, halteres yellow, (Paraguay)..... | <i>erectus</i> Becker |
| — Hypopygium large, halteres black..... | 28 |
| 28. Claspers long, curved; first joint of front tarsi of nearly equal length with the remaining four joints taken together, (Guatemala)..... | <i>aduncus</i> Van Duzee |
| — Claspers short, a little curved, with a sharp tooth on inner side near the middle and one at inner apical corner; first joint of front tarsi nearly one and one-half times as long as the remaining four joints taken together, (Galapagos Islands)..... | <i>dentaticauda</i> Van Duzee |

2. *Chrysosoma latiapicatum* Van Duzee, n. sp.

Male: Length 4.5 mm. Face wide, green, portion below the suture mostly blue, scarcely as long as wide, rounded below, covered with yellowish white tomentum (or coarse scales of pollen); front green, blue in the middle, orbits with a row of long white hairs; ocellar tubercle projecting; antennæ (Fig. 3) black; second joint with longest bristle one and a half times as long as antenna, third joint conical, as long as wide, arista nearly as long as the abdomen, bare, black, very slender with the apex distinctly widened, curved, snow-white with a black spine-like tip; palpi and proboscis black; former with white hairs and black bristles, the black orbital cilia reaching nearly to lower margin of eyes; beard long and abundant, white with many black bristles above.

Thorax and abdomen green with blue reflections, last abdominal segment blue; five pair of acrostichal bristles, last pair very long and slender; four pair of dorso-centrals; scutellum with one pair of large bristles and two pairs of long but slender hairs on the margin; bristles on hind margin of the abdominal segments very long and slender; hypopygium (Fig. 4) black with yellow appendages and two very long, more or less sinuous bristles composed of a number of hairs and projecting from the hypopygial appendages.

All coxæ and trochanters black; femora blue-black with long white hair below; all tibiæ and front and middle tarsi yellow, hind tarsi wholly black; front and middle tibiæ with three very long, slender bristles on posterior surface that are longer than the first joint of front tarsi; hind tibiæ ciliated with a row of stiff, black hairs on lower posterior edge that are longer than the diameter of tibia, and one bristle above at basal fourth as large as the hairs below; front tarsi (Fig. 5) with a row of long slender bristles of increasing length on first joint, last two hairs very long; second joint with a long bristle at tip; last four joints with a row of long hairs above, last joint flattened and widened, seen from the side it is arched so as to be concave below; middle tarsi with a row of long hairs below, fourth joint slightly widened, black with a thorn formed of long hairs at tip, fifth joint with dense, snow-white hairs on one side; fore coxæ with long white hair on anterior surface and black bristles; length of front tibiæ as 85, middle 116 and posterior as 160; joints of front tarsi as 90-31-30-20-7; of middle as 119-35-26-12-8; and of posterior as 54-48-22-13-7. Calypters and their cilia black; stem of halteres black, knobs pale yellow.

Wings grayish hyaline; costa with short recumbent hairs; first vein reaching nearly to the middle of the wing; second vein nearly straight; third vein bent back a little towards tip; fourth vein from cross-vein to fork as 35; from fork to wing margin as 17, fork forming less than a right angle with basal part of fourth vein, upper bend a little rounded, then running straight to wing margin.

Holotype, male, (C. A. S., Ent., No. 3692) taken by Willows July 21, 1932, at Puerto Vallarta, Jalisco, Mexico.

This is the only species of *Chrysosoma* known from South or Central America. In 1932 I described a species from Illinois as *Chrysosoma plumosa*, but Abbe O. Parent wrote me he thought it should go in the genus *Sciapus*. However, I scarcely see how *plumosa* could be placed in *Sciapus* as the arista is apical, not at all subapical or dorsal.

If we retain *plumosa* Van Duzee in *Chrysosoma* it would be the only species in the genus known from America before this new species was found by Mr. Willows.

3. *Chrysotus brevicornis* Van Duzee, n. sp.

Male: Length 1.8 mm. Eyes broadly touching in the middle of the face; face and front dark blue, dulled with brownish-gray pollen; palpi small, black; proboscis black; antennæ (Fig. 7) short, first joint yellow, second yellow at base, third black, very small, arista subapical; lower orbital cilia pale, with some black bristles below the head.

Dorsum of thorax, scutellum and abdomen dark blue, front of thorax more green; pleuræ black; dorsum of thorax with coarse brown pollen, the few acrostichal bristles placed in two rows; (I see but four pairs of dorsocentral bristles); abdomen a little depressed, its hairs mostly black; hypopygium black, small, with small yellow appendages, inner pair somewhat clavate with a small, curved, blackish spine at one apical corner, outer lamellæ pale yellow.

Front coxæ wholly yellow with long, bristle-like, yellow hairs; middle and hind coxæ black; femora, tibiæ and all basitarsi pale yellow, all tarsi black from tip of first joint; hairs on tarsi partly white, especially on apical part, and quite long; anterior femora (Fig. 8) with a row of about seventeen black bristles of about equal length, on lower posterior edge, their tibiæ with a row of rather long yellow hairs on lower anterior edge, the basitarsi with a row of black hairs or spines below that are nearly as long as diameter of joint; last joint of fore tarsi a little widened; middle femora with a few long yellow hairs below, their tibiæ with one long bristle at basal fourth of lower anterior surface; hind femora with three black bristles below near tip, otherwise bare below; hind tibiæ on upper surface with pair of bristles near basal fourth and two single bristles on middle third, also a row of long, stiff, black hairs on lower posterior surface; length of front tibiæ as 35, of middle ones 40 and of posterior pair 54; fore tarsi three-fourths as long as their tibia, middle and hind tarsi four-fifths as long as tibia; joints of front tarsi as 19-9-7-5-5; of middle as 22-10-7-6-6; of posterior pair 15-13-8-6-6. Calypters and halteres pale yellow, cilia of former black.

Wings grayish hyaline; third and fourth veins straight and parallel, fourth ending in apex of wing; last section of fifth vein slightly arched, its length as 30, cross-vein as 10; anal angle of wing prominent.

Holotype, male, (C. A. S., Ent., No. 3693) taken by Willows, June 7, 1923, at Indefatigable Island, Galapagos Islands.

4. *Chrysotus brevispina* Van Duzee, n. sp.

Male: Length 1.5 mm. Eyes contiguous on the face, leaving a very small, white pollinose triangle below, and a larger dark blue triangle above; palpi whitish yellow with whitish hairs; proboscis black; front dark blue, not much shining; antennæ (Fig. 9) with first joint yellow, second and third black, third a little yellow at base, arista subapical; lateral and inferior orbital cilia white.

Dorsum of thorax and the scutellum dark blue, former with brown pollen, latter shining; five pairs of acrostichal bristles in two rows and five pairs of dorsocentrals; scutellum with one pair of stout but rather short bristles. Abdomen green with most of its hair rather long and yellow, but with quite a number of black hairs; abdomen depressed; hypopygium mostly concealed, its outer lamellæ small black, a little yellowish at tip.

Front coxæ wholly pale yellow with long yellow hair; middle and hind coxæ black; femora and tibiæ pale yellow, tarsi yellow, shading into brown or black towards tip, hind tarsi brown nearly to base of second joint; front femora (Fig. 10) with a row of moderately long spines or little bristles, on lower anterior edge, that end in three longer bristles near tip, while some at base are very short; tibiæ with a row of bristle-like, erect, yellow hairs on lower surface, these appear black in certain lights, their basitarsi with a row of white hairs below that are nearly as long

as the diameter of the joint; middle tibiae with one large bristle below at basal third, (I cannot see any bristles above); hind tibiae with one rather small bristle at basal third of upper posterior edge and two near the middle above, and there seems to be one or two at tip, no bristles below but with a row of stout hairs on lower posterior edge that are not very long; middle femora with a row of bristle-like hairs on lower posterior edge; hind femora with three bristles on lower anterior edge near tip; length of front tibiae as 31, middle as 35 and posterior as 40; joints of front tarsi as 16-7-5-4-4; of middle as 18-8-7-4-4; posterior pair as 15-11-8-5-6. Calypters and halteres pale yellow, cilia of former black. Wings grayish (crumpled in type).

Female: Colored as in the male; face quite wide with a little white pollen; palpi as in the male; front femora and tibiae without long hair or bristles. All females taken at Iguana Cove, Albemarle Island, Galapagos Islands, by Willows.

Holotype, male, (C. A. S., Ent., No. 3694) taken by Willows, May 7, 1932, on Indefatigable Island; one male paratype, taken June 17, 1932, at the same place; allotype, female, two male and two female paratypes taken May 21, 1932, on Albemarle Island.

5. *Chrysotus latifacies* Van Duzee, n. sp.

Face moderately wide, its sides nearly parallel but a little wider above, with a suture at the middle; face and palpi black with coarse white pollen, that nearly conceals the ground-color; proboscis black; front dark blue; antennae (Fig. 11) with first joint reddish brown, second and third black, third nearly straight below, a little oblique above, arista subapical; lateral and inferior orbital cilia white.

Dorsum of thorax blue with green and violet reflections and brown pollen; acrostichals in two rows; five pair of dorsocentrals. Abdomen green with bronze reflections, its hair largely black, but the hair on first and apical segments yellow; hypopygium mostly concealed, with a small black protuberance at lower posterior edge.

Fore coxae wholly yellow with long yellow hair; middle and hind coxae black, posterior pair with a large erect bristle on outer surface; femora and tibiae wholly yellow; tarsi yellow, more or less blackened toward their tips; all femora with small preapical bristles; fore tibiae above with a small bristle at basal fourth and one near tip; middle tibiae with three or four bristles above, the largest one near basal fourth and next at middle, none below; tip with three bristles; hind tibiae with four bristles above, the last one at tip, also two on anterior surface, one at basal fourth and the other beyond the middle; length of front tibiae as 32, middle as 34 and posterior pair as 50; joints of fore tarsi as 15-6-6-4-4; of middle pair as 22-5-4-5-4; posterior pair as 15-12-7-5-5. Calypters yellow with black cilia; halteres black.

Wings grayish; third and fourth veins parallel, fourth ending in apex of wing; last section of fifth vein as 33, cross-vein as 7; anal angle of wing prominent.

Holotype, male, (C. A. S., Ent., No. 3695) taken by Willows, May 7, 1932, on Indefatigable Island.

TABLE OF THE SPECIES OF CHRYSOTUS FROM THE GALAPAGOS ISLANDS

1. Face rather wide, its sides nearly parallel, but slightly wider above... *latifacies*
- Face narrow, eyes almost touching in the middle of the face..... 2
2. Hypopygial lamellæ yellow; palpi blackish; bristles on lower surface of front femora of nearly equal length throughout..... *brevicornis*
- Hypopygial lamellæ black; palpi whitish yellow; row of spines on lower surface of front femora rather short at base, longer at tip..... *brevispina*

6. *Dohrniphora willowsi* Van Duzee, n. sp.

Female: Length 1.2 mm. Head, dorsum of thorax and abdomen black; pleuræ, legs, feet, base of sixth abdominal segment, palpi, halteres and ovipositor yellow; antennæ, first abdominal segment and an elongated, narrow spot on each side at base of second abdominal segment reddish brown; front (Fig. 12) with a little gray pollen and three straight rows of four bristles and a pair of anterior frontal bristles about half as large, above and close to the antennæ, these last a little reclinate; palpi large, thick, somewhat cylindrical with four or five stout black spines at tip; third antennal joint large, rounded, arista black with white hair, longer than the front; pleuræ with one very small hair above middle coxæ. Abdomen (Fig. 13) with second, third, fourth and fifth segments very narrowly white on hind margin; sixth segment broadly yellow at base, but considerably blackened in the middle as far as the base, leaving two large yellow spots. Ovipositor slender, of one segment (visible) and with long hairs; below sixth segment there is about the same large brown sack-like portion as in *crockeri* (Fig. 20).

Coxæ, femora, tibiæ and tarsi yellow; middle tibiæ (Fig. 15) with a pair of large bristles near base and a very long spur at tip below, their basitarsi with a small spine near base below; fore tibiæ (Fig. 14) without bristles; hind tibiæ (Fig. 16) somewhat fusiform, with a slender bristle near base above, a very small one near tip above, a very small spur at tip below, and before this spur a larger curved rather short spine; length of front and middle tibiæ as 25, of posterior tibiæ 30; joints of front tarsi as 7-6-6-5-6; of middle tarsi 12-6-5-4-4; of posterior basitarsi as 10.

Wings (Fig. 17) grayish hyaline; costa reaching middle of wing, with short fringe of bristles, its sections as 25-6-3.

Holotype, female, (C. A. S., Ent., No. 3696) taken by Willows, July 11, 1932, on South Seymour Island, Galapagos Islands.

7. *Dohrniphora crockeri* Van Duzee, n. sp.

Female: Length 1.5 mm. Head, dorsum of thorax and abdomen black, pleuræ legs, feet, palpi, base of sixth abdominal segment, halteres and ovipositor yellow; antennæ and first abdominal segment reddish brown; front (Fig. 18) with three rows of four bristles each in straight lines and one pair of anterior frontal bristles placed close together, above and between the reclinate antennæ; antennæ reddish yellow with a blackish tip, slightly pear-shaped, arista apical, black with white hair and longer than the front; palpi yellow, large, somewhat cylindrical with stout black spines at tip; each cheek with two large spines.

Dorsum of thorax black, a little grayish pollinose, covered with dense, black minute hairs, one pair of dorsocentrals near the scutellum, which is a little reddish and has one pair of rather large marginal bristles and one pair of minute hairs. Abdomen (Fig. 19) colored and formed almost like that of *willowsi* new species, but second segment more wholly black and hind margins of all segments straight; ovipositor seen from above (Fig. 19) quite thick and showing two segments, viewed from the side (Fig. 20) still thicker and with a large sack-like portion on ventral side of sixth segment.

Coxæ, femora and tibiæ yellow, tarsi yellow but appearing darker because of the very black hairs on them; femora with fine hairs below; front tibiæ (Fig. 21) with four rather small bristles above, the last one at tip; their tarsi with a small spine at base below; middle tibiæ (Fig. 22) with two large bristles near base above, two hair-like ones below near tip and a very long spur at tip below; hind tibiæ (Fig. 23) long and curved, concave below, a little flattened and widened towards tip, without bristles, except the three large spurs at tip, their basitarsi long and thick, with two small slender bristles below near base; length of front tibiæ as 25,

middle as 31, and posterior as 43; joints of front tarsi as 13-5-5-4-6; of middle pair 18-9-9-7-6; and of posterior pair as 23-13-13-9-9. Halteres yellow.

Wings grayish hyaline, costa reaching the middle of the wing, fringed with short bristles, its sections as 35-6-3; fork of third vein slightly more divergent than in *willowsi* (Fig. 17) sixth vein scarcely reaching wing margin, being very thin towards tip. The wing is very much as figured for *willowsi* but is a little longer and of the same width, therefore appearing narrower.

Holotype, female, (C. A. S., Ent., No. 3697) taken by Willows, July 11, 1932, on South Seymour Island.

The two species of Phoridae described here are very much alike in general appearance, but have many structural characters to separate them. They both belong to the genus *Dohrniphora* Dahl. In Mr. Malloch's table of species, in the United States National Museum Proceedings, Vol. 43, number 1938, page 430, *crockeri* would run to *abbreviata* von Rosser, an European species found in North America, but differing from the character given in the table by having fourth, fifth and sixth veins reaching the wing margin; it also differs in many other points; *willowsi* would run to couplet 3, but has the dorsum of the thorax and most of the upper surface of the abdomen black.

These species differ from each other as follows: In *willowsi* the anterior frontal bristles are widely separated and placed above slight emarginations in the antennae and close to the antenna; the fore tibiae are without bristles; and the hind tibiae are slightly fusiform with a small bristle near base and a smaller one above close to tip; below with a very small spur at tip and a little before this a small curved bristle, their basitarsi slender, short, with one very small spine near base below. *Crockeri* has the pair of anterior frontal bristles placed close together, above and between the antennae; hind tibia without spines or bristles, except the three large spurs at tip, and are long, arched, widened, especially towards tip; their basitarsi thick, long and with two little bristles below on basal half. The ovipositor also shows two segments when viewed from above and is quite thick, while in *willowsi* the ovipositor is slender and the visible part has only one segment.

Both of these species have a large chitinized sack or capsule on the ventral side of sixth segment, a little like that figured by Dr. Lundbeck in *Diptera Danica*, part vi, page 99, for the female of *Chaetoneurophora thoracica* Meigen but in this case it does not show when the abdomen is viewed from above.

EXPLANATION OF FIGURES

1, *Condyllostylus dentaticauda*, antenna of male; 2, *same*, hypopygium of male; 3, *Chrysosoma latipicatum*, antennæ of male; 4, *same*, hypopygium of male; 5, *same*, front tibia and tarsi of male; 6, *same*, last four joints of hind tarsi of male; 7, *Chrysotus brevicornis*, antenna of male; 8, *same*, front leg of male; 9, *Chrysotus brevispina*, antenna of male; 10, *same*, front leg of male; 11, *Chrysotus latifacies*, antenna of male; 12, *Dohrniphora willowsi*, frons of female; 13, *same*, abdomen of female; 14, *same*, front leg of female; 15, *same*, middle leg of female; 16, *same*, hind femora and tibia of female; 17, *same*, wing of female; 18, *Dohrniphora crockeri*, frons of female; 19, *same*, tip of abdomen of female, dorsal view; 20, *same*, apical part of abdomen of female, side view; 21, *same*, front tibia and tarsi of female; 22, *same*, middle tibia and tarsi of female; 23, *same*, posterior tibia and tarsi of female.

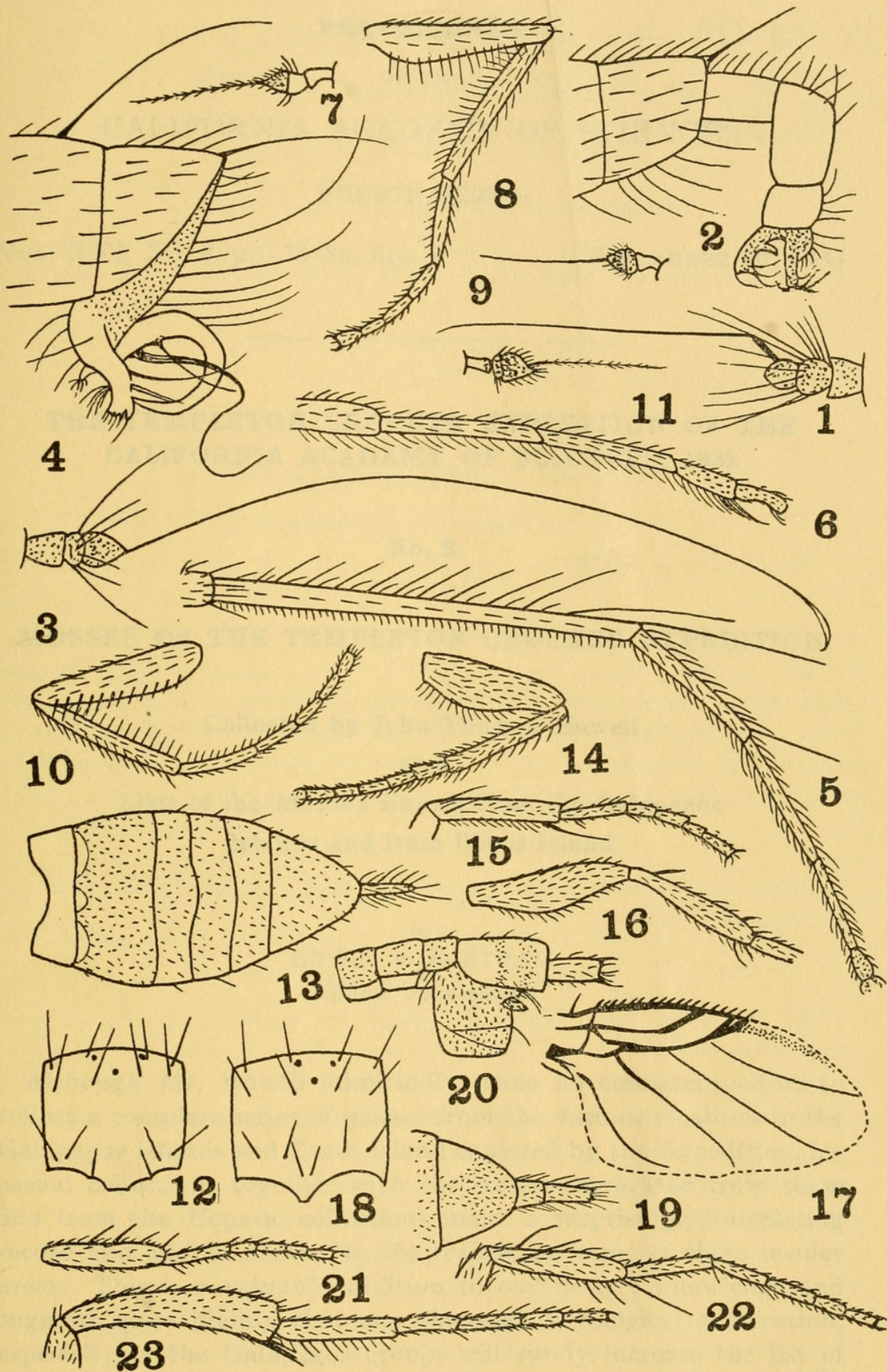


PLATE 4



Van Duzee, M. C. 1933. "The Templeton Crocker Expedition of the California Academy of Sciences, 1932. No.7. Dolichopodidae and Phoridae." *Proceedings of the California Academy of Sciences, 4th series* 21, 65–74.

View This Item Online: <https://www.biodiversitylibrary.org/item/54208>

Permalink: <https://www.biodiversitylibrary.org/partpdf/53412>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Smithsonian

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: California Academy of Sciences

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.