

## SOME NEW AMERICAN SARCOPHAGIDAE (Diptera)

By H. Rodney Dodge

DEPARTMENT OF ENTOMOLOGY, WASHINGTON STATE UNIVERSITY

**Abstract:** New North and South American Sarcophagidae described are: *Aulacophyto chilena*, Chile; *Azuayia* (new genus) *tripartita*, Ecuador; *Boettcheria melanderi*, Washington; *B. pugetensis*, Washington; *Metoposarcophaga sperryorum*, California; *Pessoamyia macropoda*, Brazil; *Sarcophaga lilliputiana*, Wyoming; *S. schrameli*, Mexico; *Sarcodexia sissyra*, California; and *Udamopyga palomarana*, California.

The following species are described at this time so that their types can be returned to museums of origin.

**Aulacophyto chilena** Dodge, new species      Fig. 1D.

*Aulacophyto* species Dodge, 1966: 675, fig. 1A & B.

Length 7.5-11.75 mm. A Sarcophaginae with arista micropubescent, cheek golden, distinguished from the type-species, *Aulacophyto auromaculata* Townsend by the brown, not black, epaulet.

♂. Front 0.25 of head width; frontal vitta grayish velvety, sides parallel; frontal row of about 12 pairs, divergent in last 2 pairs; ocellar triangle extending 0.4 to lunule from vertex; ocellar bristle well developed; outer vertical bristle not differentiated; parafrontofacials yellow and silver intermixed, with scattered setules, slightly larger and in a double row below; antenna black, segment 3 1.8× segment 2; arista long, micropubescent, the first 2 segments as long as their diameter; vibrissae well above epistoma, which protrudes; vibrissal span 1.5× width of parafacial; cheek intensely golden, 0.25 of head height; antennal axis 0.8 and vibrissal axis 0.75 of head height; cheek with some yellow hairs before metacephalon; posterior orbits and occiput gray, 3-4 rows of black postocular hairs; palpi long, moderately clavate, blackish.

Thorax trivittate, yellow and gray pollinose, the yellow predominant. Chaetotaxy: acrostichals 0:0; dorsocentrals 2:3; intraalars 1:1; supraalars 1:3; humerals 2; notopleurals 2; scutellum 2 marginal, no apical, 1 weak preapical; propleuron bare, prosternum setulose; metasternum setulose; sternopleurals 2; hypopleurals 9; infrasquamals few. Wing subhyaline, with yellow-brown veins; vein 3 with about 5 setules on node; vein 4 bent in a right angle; costal spine nil, costal sections 20/33/20/43/16/4; basicosta yellow; epaulet yellow; squamae yellowish white. Legs black, strongly gray pollinose, mid femur with 2 A, 2 AV and 4-6 long, strong PV bristles, comb absent; hind femur with 7 AD, 2 A and 5 AV bristles; hind tibia villose; hind trochanter with short, stubby bristles as in *Boettcheria*.

Abdomen black, with gray (dorsal) and yellow (lateral) pollen in a weak tessellated pattern; 3rd tergum without median marginal bristle; sterna 1-4 of nearly equal width,

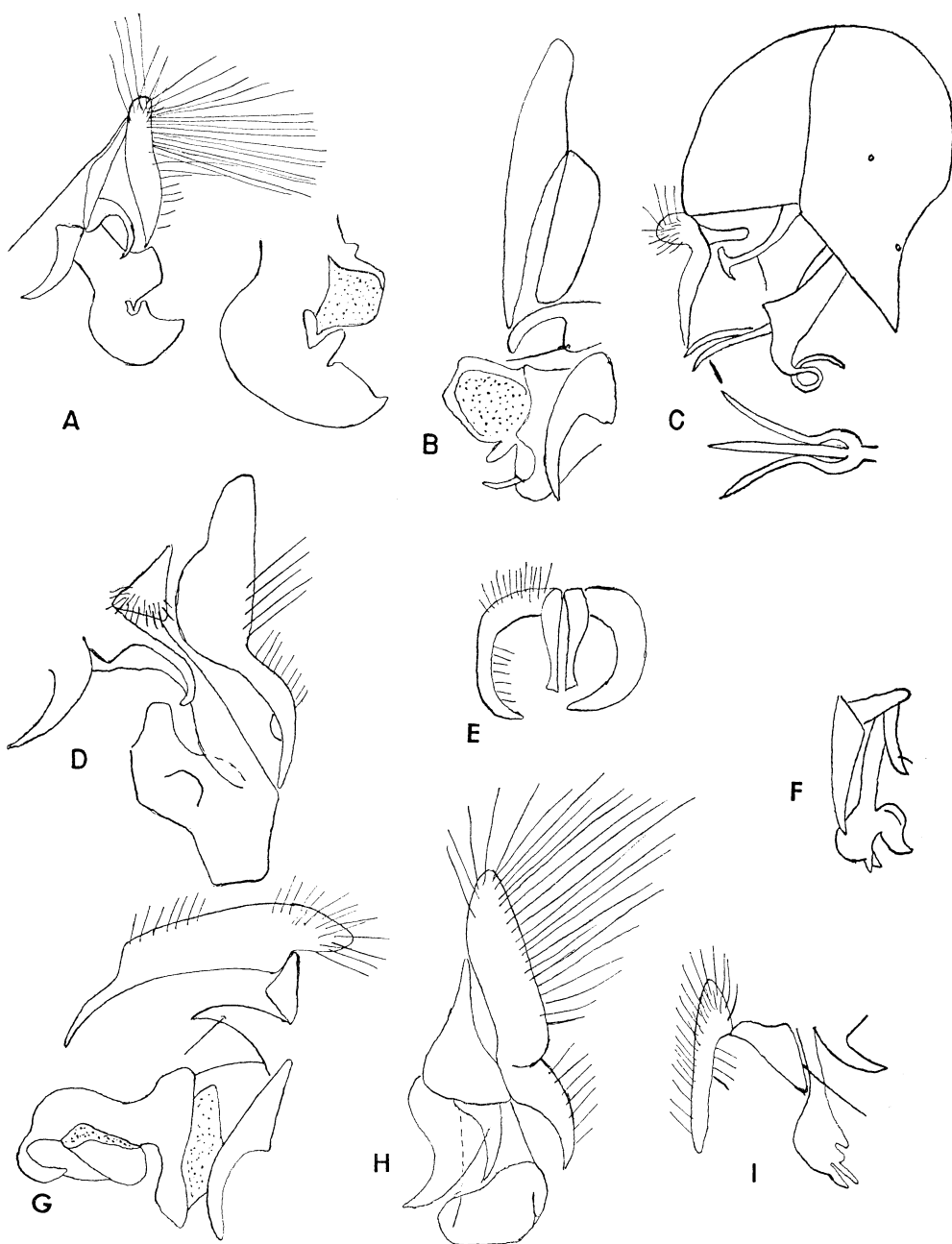


Fig. 1. A, *Boettcheria melanderi*, lateral view of genitalia with enlarged view of penis; B, *B. pugetensis*, lateral view of genitalia; C, *Azuayia tripartita*, lateral view of genitalia and apex of penis in posterior view. D-I, Lateral view of genitalia: D, *Aulacophyto chilena*; E, *Metoposarcophaga sperryorum*; F, *Sarcophaga lilliputiana*; G, *S. schrameli*; H, *Udamopyga paolmarana*; I, *Sarcodexia sissyra*.

with abundant black hairs; sternum 5 deeply cleft, with a pair of thumbs at mid length on sides; genital segments rather large, the 1st black with gray pollen and a marginal row of 7 strong bristles; segment 2 red, shining, with bristly hairs. Forceps bent backward at mid length; accessory plate triangular, ordinary; posterior clasper enlarged at base, hooked at tip, without bristle; penis apparently 2-segmented, with large, excavated ventralia merging with a flange on each side distally. Penis in anterior view with a huge, shallow concavity.

♀. Similar to ♂ with usual sexual differences; front 0.37 of head width at vertex, thence widening; abdomen from above rounded, with red genital tergum showing as a 5th segment, the 4th rather concave on hind margin. Mid femur with 2 A, 1 AV and 1 PV bristle; hind femur with 5 AD, 0-1 A, 2 AV and 1-2 PV bristles.

Holotype ♂ (U. S. Nat. Mus.), Santiago, Chile, A. Faz, 1923. Allotype ♀, same data as holotype.

Paratypes: 1♂, Loma, E. S. Andes, 13.VII.1928, Shannon & Shannon; 2♂♂, Los Andes, Chile, XII.1926, Shannon & Shannon; 2♀♀, Antofagasta, Chile, 22.X.1929, A. Pirion; 1♀, Antofagasta, 11.IV.1931, D. S. Bulloch; 1♂, Puno, Peru, 12.XI.1952, F. Blancas; 1♂, "VII" (no other label); 1♂, Longuén, Chile, 10.XII.1941.

#### Genus *Azuayia* Dodge, new genus

The characters of this genus reside primarily in the male genitalia, otherwise it is not unlike *Boettcheria* in many details of external morphology. Arista short, plumose on basal 1/2; posterior dorsocentrals 3; acrostichals none. Penis tripartite on most of its length, the branches slender, strongly divergent in apical 1/2. Posterior clasper slender, hammer-shaped, with a strong bristle on anterior margin; anterior clasper with massive base, concealing most of penis, apically it is extended in a twisted slender process.

Genotype: *Azuayia tripartita*, new species.

***Azuayia tripartita* Dodge, new species**      Fig. 1C.

Length 12 mm. Body dark, with bright gray pollinose markings; arista short-plumose; vibrissal axis nearly as long as antennal axis; squama white, with an intense brown cloud; genital segments large, shining, the 2nd red; forceps rather small, approximated.

♂. Front 0.20 of head width; frontal rows of about 12 pairs of bristles, strongly divergent in lower 3 pair; ocellar bristle evidently not differentiated; antenna black, the 3rd segment fully 3× antenna 2; arista elongate, short plumose on basal 1/2; vibrissae near oral margin, facial ridge setuled 0.67 to lunule; epistoma produced, vibrissal axis nearly equal to antennal axis; cheek 0.18 of head height; metacephalon and occiput black haired; palpi broken off; extended proboscis equal to head height.

Thorax black with bright gray pollen, trivittate. Chaetotaxy: acrostichals 0:0; dorso-centrals 2:3; intraalars 2:3; supraalars 1:4; humerals 3; notopleurals 4; postalar declivity setuled, scutellars 2 marginal, 1 apical, 1 discal; propleuron bare; sternopleurals 3, in line; metasternum setuled; hypopleurals 8; beret setuled; infrascumals present. Legs black, hind tibia villous; mid femur without comb; mid tibia with 2 AD, no AV; hind tibia with 6 AD, 2 PD bristles. Wing subhyaline, veins dark brown, vein 3 setuled 0.33 to cross vein; vein 1 bare; costal spine absent; costal sections 20/30/17/47/17/6; squama

white, lower lobe with a deep, abrupt brown cloud; fringe hairs black at fold.

Abdomen black with bright gray checkered pollinose pattern; median marginal bristles of tergum 3 present but prostrate; sterna 1-4 progressively narrowed, moderately haired; sternum 5 cleft to base, apices of arms produced into inwardly pointed processes; genital segments large, shining, the 1st black with a row of hair-like bristles, the 2nd red. Forceps small, slender, approximate, in profile bent sharply at basal 0.25, the free portion nearly straight; accessory plate triangular and appressed; posterior clasper long, straight and slender to hammer-shaped apex, claw of "hammer" directed forward; clasper with a bristle pointed forward at apical 1/3. Anterior clasper large, triangular, terminating in a slender, strongly twisted apical process. Penis slender, its base concealed by anterior clasper, apically it terminates in 3 slender, divergent processes.

*Holotype* ♂ (Amer. Mus. Nat. Hist.), Sayausi, Azuay, Ecuador, IX.1947, coll. Z. Muller.

**Boettcheria melanderi** Dodge, new species      Fig. 1A.

Length 13-14 mm. A species resembling *cimbicis* but differing in reduction of ventralia and by the lack of pads on the 5th sternum.

♂. Front 0.17 of head width; frontal vitta widened to lunule, frontal rows of 12-13 pairs, widely divergent in the last 3 pairs; parafrontofacials yellowish gray pollinose with scattered hairs above and a row of 5-6 weak bristles below; antennae black, segment 3 is 1.8× segment 2; arista short plumose on basal 1/2; vibrissae nearly at oral margin, span 2× parafacial; cheek 0.27 of head height; cheek and occiput black-haired; palpi black.

Thorax gray pollinose, trivittate. Chaetotaxy: acrostichals 4 weak: O; dorsocentrals 2: 3; intraalars 1: 2; supraalars 2: 3; humerals 3; notopleurals 4; postalar declivity bare; scutellars 3-4 marginal, of which 2 are strong, 1 apical, 1 discal; propleuron bare; prosternum setuled; sternopleurals 3, nearly in line; hypopleurals 9, infrasquamals present.

Abdomen black with gray tessellated pattern; median marginals on 3rd tergum; genital segments red, the 1st pollinose and with a weak row of 8 bristles; sterna 1-4 uniformly broad, sternum 4 nearly bare; 5th sternum without scale-shaped pads of *cimbicis* but with an internal process on side of each arm, thumb-shaped and minutely haired. Forceps in posterior view parallel and slightly separated on apical 0.25, with a brush of strong villous hairs from their base; accessory plate straight and finely haired; posterior clasper more strongly hooked than anterior; penis with a large ventralia curving over its apex.

*Holotype* ♂ (U.S. Nat. Mus.), Quilcene, Washington, 11.VIII.1921, A. L. Melander. *Paratypes*: ♂, same data as holotype (Dodge coll.); 2♂♂, Montesano, Wash., 23.VII.1931, R. H. Beamer (U.S. Nat. Mus., Univ. Kansas).

**Boettcheria pugetensis** Dodge, new species      Fig. 1B.

Length 14.4 mm. Differs from all congeners by greatly reduced ventralia of penis.

♂. Front 0.17 of head width; frontal vitta widening to lunule; frontal rows 13-14, widely divergent in lower 4 pair; outer vertical bristle not differentiated; ocellars fine; parafrontofacial silvery gray pollinose with scattered black setules above and a row of 6-7 hairs below; antennae black, segment 3, 2× segment 2; arista short plumose on basal 1/2; vibrissae nearly at oral margin, span 2× parafacial; cheek 0.27 of head height; cheek and

occiput black haired. Palpi black, subclavate.

Thorax black, gray pollinose, trivittate. Chaetotaxy as in *melanderi*.

Abdomen gray pollinose with checkered pattern; prostrate median marginal bristles on tergum 3; tergum 4 black; sterna 1-4 broad, moderately haired; sternum 5 cleft, without pads; genital segments red, segment 1 with weak marginal row of bristles, pollinose; segment 2 shining; forceps in posterior view parallel, moderately separated on apical 1/2; forceps with dense, crowded fan of villous hairs arising at its base, the hairs exceeding length of forceps; accessory plate moderately long, straight, with recurved hairs; claspers unequal, posterior deeply excised and with a moderate bristle at base of excision; penis as figured, short, with ventralia greatly reduced and bearing a pair of spines.

Holotype ♂ (U. S. Nat. Mus.), Bellingham, Wash., 10. VIII. 1924, J. F. Clarke, (A. L. Melander coll. at USNM).

**Metoposarcophaga sperryorum** Dodge, new species      Fig. 1E.

Length 7-7.5 mm. A small species, related to *M. aldrichi* (Parker), but lobes of 5th sternum much smaller, not protuberant.

♂. Front 0.22 of head width; frontal vitta parallel-sided; frontal rows 7-8, moderately divergent in lower 2-3 pairs; ocellar equal to a frontal bristle, outer vertical differentiated, 0.6 as long as inner; antennae black, arista black, medium plumose on basal 0.6; antennal segment 3, 1.8× segment 2; parafrontofacial leaden gray, with a single row of setules becoming hair-like below; cheek black-haired, 0.22 of head height; occiput black-haired, palpi black, moderately clubbed and curved.

Thorax gray pollinose, trivittate. Chaetotaxy: acrostichals 2 : 1; dorsocentrals 2 : 4; intraalars 1 : 2; supraalars 2 : 3; humerals 3; notopleurals 4; scutellars 2 marginal, no apical, 1 discal; propleuron bare; sternopleurals 3 in a row; hypopleurals 6-7. Legs black, mid and hind tibiae villous. Wing subhyaline, vein 3 setuled 0.33 to cross vein; costal spine vestigial; costal segments 20/34/20/44/18/4; basicosta pale, epaulet black.

♀. Similar to ♂, with usual sexual differences. Front 0.33 of head width.

Holotype ♂ (Melander coll. at USNM), Upper Santa Anna River, San Bernardino Co., California, 12.VI.1948, Grace H. & John L. Sperry.

Allotype ♀ (U.S. Nat. Mus.) Fallsvale, Calif., 10.VI.1947 A. L. Melander.

**Pessoamyia macropoda** Dodge, new species

Length 10.3 mm. Head and sides of thorax golden yellow, rest of body gray; abdomen without bristles; genital tergum continuous with tergum 4, like a 5th tergum. Distinguished by its huge tarsal claws.

♀. Front 0.31 of head width at vertex, thence gradually widening; frontal vitta parallel-sided; frontal rows of 9-11 bristles, not divergent at lunule; parafrontals 2 pair; ocellar bristle moderately developed; outer vertical about 1/2 as long as inner; parafrontofacial golden yellow, with a row of minute black setules; antennae black, rather small, segment 3, 1.8× segment 2; arista plumose on basal 0.67, upper rays in a single row; vibrissae moderately above oral margin, span 1.5× width of parafacial; facial ridge setuled less than 1/2 way to lunule; face moderately receding; antennal axis 0.7 and vibrissal axis 0.62 of

head height; cheek 0.28 of head height, golden yellow, black-haired; metacephalon yellow-haired with a few black hairs anteriorly; occiput yellow pollinose, becoming gray at foramen; 3 rows of black postoculars; palpi clavate, black.

Thorax gray pollinose, trivittate, with sides yellow pollinose. Chaetotaxy: acrostichals 0 : 2; dorsocentrals 2 : 4; intraalars 1 : 3; supraalars 1 : 3; humerals 3, notopleurals 4, the 1st very weak; postalar declivity setuled; scutellar 3-4 marginal, middle 1-2 weak, no apical, 1 discal; propleuron and prosternum bare; sternopleurals 2; infrascumals present. Prosternum transverse on anterior margin. Wing subhyaline, veins brown; vein 1 bare; vein 3 setuled only on basal node; vein 4 bent at an acute angle; costal spine absent; costal sections 20/32/20/42/15/4; basicosta white; epaulet black; squama white, lower lobe with a median brown cloud. Legs shining, black, with scant pollen, leg bristles greatly reduced in size. The most remarkable feature is the huge tarsal claws—thickened throughout, bent at nearly a right angle and blunt tipped. Pulvilli large, black.

Abdomen black with gray tessellated pattern, unusually slender for a ♀ and with all bristles reduced to fine hairs. Genital tergum red and shining, continuous with tergum 4 as a 5th tergum. Sterna 1-4 equally broad, sternum 5 likewise and red; sternum 6, 0.6 as long as 5, sternum 7 smaller, abruptly turned up as in *Emblemasoma*, forming a valve to close off the genital aperture.

♂. Unknown.

Holotype ♀ (U.S. Nat. Mus.), Brazil, Rio de Janeiro, Mangaritiba, VIII.1938-II.1939, R. C. Shannon.

The huge tarsal claws immediately separate this species from the genotype, *Pessoamyia prosternalis* Lopes and from *P. emblemasoma* Dodge; they are unique in my experience for sarcophagids of either sex.

***Sarcophaga lilliputiana* Dodge, new species**      Fig. 1F.

Length 4.7-5.5 mm. A species which, like *vancouverensis*, resembles a miniature *occidentalis* with but 3 posterior dorsocentral bristles. It is smaller than *vancouverensis*, however, with the apical processes of the penis shorter, the forceps less strongly curved apically and the notopleurals only 2.

♂. Front 0.17 of head width; frontal vitta moderately widening to lunule, velvety black; frontal rows of 7 pairs, divergent in lower pair; ocellar weak, outer vertical not differentiated; antennae black, segment 3, 1.3× segment 2; arista short plumose on basal 0.5; parafacofacial leaden gray, with a row of setules below, the lowest 3-4 hair-like; metacephalon with few white hairs, otherwise the cheeks and occiput are black-haired. Palpi slender, black, faintly clubbed.

Thorax black, weakly gray pollinose, trivittate. Chaetotaxy: acrostichals none; dorsocentrals 2 : 3; intraalars 1 : 1; supraalars 1 : 2; humerals 2; notopleurals 2; postalar declivity bare; scutellars 2 strong marginal, no apical, no discal; propleuron bare; sternopleurals 2, hypopleurals 5; infrascumals apparently absent. Wings infuscated, squamae white; mid and hind tibiae villous.

Abdomen black, thinly gray pollinose on basal 1/2 of each segment; tergum 3 with median marginals; genital segments red, non pollinose, shining, as illustrated, not in a good position to illustrate.

♀. Like ♂ with usual sexual differences; front 0.33 of head width; abdominal variegated pollinose bands on basal 1/3 of each segment.

Holotype ♂ (U. S. Nat. Mus.), NW entrance, Yellowstone Park, 27.VII.1923, Melander. Allotype ♀ same data as holotype.

**Sarcophaga schrameli** Dodge, new species      Fig. 1G.

Length 8.5–9.5 mm. A species close to *S. sigilla* Reinhard but differing in details of the penis and non-villous mid tibia.

♂. Front 0.28 of head width; frontal rows 7–9 pairs, widely divergent in anterior 2 pair; ocellar bristle equal to a frontal; outer vertical not differentiated; parafrontofacial yellowish gray pollinose, a double row of black setules above lunule, a row of hairs below. Antennae black, segment 3, 2× segment 2; arista long plumose on basal 0.67; vibrissae at oral margin, span 1.6× width of parafacial; facial ridge setuled 0.33 to lunule; cheek 0.23 of head height, black haired, metacephalon white haired; 3 rows black postoculars; palpi black, ordinary. Extended proboscis is 0.80 of head height.

Thorax black with gray pollen, trivittate. Chaetotaxy: acrostichals 0 : 1 weak; dorso-centrals 2 : 4; intraalars 1 : 2; supraalars 2 : 3; humerals 3, notopleurals 4; postalar declivity evidently bare; scutellars 2 marginal, 1 apical, 1 discal; propleuron bare; prosternum evidently bare; sternopleurals 3, nearly in line; metasternum setuled; infrasquamals few or none. Legs black, hind tibia villous, mid femur without comb; mid tibia with 2 AD, 1 AV, 3 PD; hind tibia with 2 AD, 1 AV, 2 PD bristles. Wing hyaline, the veins yellowish to brown, vein 3 setuled 0.5 to cross vein, vein 1 bare; costal spine well developed; costal sections 20/30/18/38/15/4; basicosta white; epaulet black; squama white, the fringe hairs brownish at fold.

Holotype ♂ (Amer. Mus. Nat. Hist.), Matachic, Chihuahua, Mexico, 7.VII.1947, D. Rockefeller Expedition, Schramel. Paratypes: 3♂♂, same data as type; identically labeled; 1♂, San Jose Babicora, Chi., Mexico, 7700 ft. (2310 m), 4.VII.1947, D. Rockefeller Expedition, Michener (AMNH, Dodge coll., USNM).

**Sarcodexia sissyra** Dodge, new species      Fig. 1I.

Length 8.6–11 mm. A species resembling *Sarcodexia* (*Rafaelia*) *rufiventris* Townsend but having only the 4th abdominal segment red.

♂. Front 0.26–0.27 of head width; frontal rows 7–8 coarse bristles, the rows not diverging; parafrontofacial silvery gray with a row of fine black setules, the lowest 2–3 are coarse bristles. Outer vertical 0.67 of inner; ocellars well developed; antennae black, segment 2 tinged with red; segment 3, 1.5× segment 2; arista plumose on basal 0.6, upper row of rays double on 1/2 its length; cheek 0.25 of head height, black bristled, some very coarse; metacephalon white haired; 2 rows black postoculars; palpi thin, black.

Thorax gray pollinose, trivittate. Chaetotaxy: acrostichals 3 weak: 1; dorsocentrals 3: 3; intraalars 1: 2; supraalars 1: 3; humerals 3; notopleurals 4; postalar declivity bare; scutellars 3 marginal, the mid pair weaker, no apical; 1 strong preapical; propleuron bare (2 setules in one specimen); prosternum setuled; sternopleurals 3 in a triangle; hypopleurals 7; beret hairs absent. Wing hyaline, veins light brown, vein 3 setuled 0.8 to cross vein; costal sections 20/36/13/48/17/3; costal spine decumbent; epaulet black; basicosta white;

squama white, the fringe white.

Abdomen black, segment 4 mostly red. Abdomen gray pollinose in a weakly checkered pattern; segment 3 with strong median marginal bristles; sterna 1-4 progressively narrower; sternum 5 reddish, cleft to base, arms simple and with minute pubescence and setules. Genital segment 1 short; segments 1 and 2 red, with bristly hairs above and apparently non pollinose; forceps straight, slender, contiguous their whole length; accessory plate large, triangular, margined with stubby spines apically; posterior clasper with strong bristle; anterior clasper with a tooth externally, visible in ventral view. Penis small, rather simple, reddish, with 2 pairs of processes apically.

Holotype ♂ (U.S. Nat. Mus.), Palm Canyon, Borego, California, 2.V.1945, A. L. Melander. Two paratypes, same data as type (Dodge coll., USNM).

**Udamopyga palomarana** Dodge, new species      Fig. 1H.

*Udamopyga palomarana* and *U. cabensis* (Aldrich) (new combination) differ from all other members of the genus by the setuled vein 1. Their relationship is close but *palomarana* differs in several details of the genitalia. Length 12 mm.

♂. Front 0.28 of head width; frontal rows of 6-7 bristles, widely divergent in lower 2 or 3; frontal vitta 0.3 of front at narrowest, slightly diverging to lunule; parafrontofacial leaden gray, with scattered black setules; antenna black, segment 3, 3× segment 2; arista rather short, long plumose on basal 0.8 (practically all its length), the upper rays in a double row; facial ridge bristled half way to lunule; vibrissae near oral margin; cheeks gray, black haired; metacephalon with black hairs below, white hairs behind; occiput with 3-4 rows of black hairs; palpi black, slender, curved upward at tips.

Thorax black with gray pollen, trivittate. Chaetotaxy: acrostichals 4:1 weak; dorso-centrals 3:4; intraalars 2:2; supraalars 4:3; humerals 4; notopleurals 4; scutellars 3 marginal, 1 apical, 1 discal; propleuron bare; prosternum and metasternum setuled; sternopleurals 3, in line; hypopleurals 8, beret setuled; infrascumals present. Wing subhyaline, veins brown, veins 1 and 3 setuled; costal spine nil; costal sections 20/38/25/52/17/4; basicosta white; epaulet black; squama white. Legs black, mid femur with 3 A, 5 AV and 5 PV bristles, no comb; hind femur with 8 AD, 8 A and 6 AV bristles; middle and hind tibia villous; mid tibia with AV bristle.

Abdomen black with gray pollen in the usual checkered pattern; median marginals on tergum 3; sterna 1-4 with ordinary hairs; sternum 5 deeply and broadly cleft. Genital segments red, shining, the first without a marginal row. Forceps contiguous almost to tips, thickly clad with long hairs on basal 1/2, the apical 0.4 slightly bent backwards; claspers subequal, the posterior with a long bristle, the anterior articulated at base; penis simple, terminating in 2 well separated pads.

Holotype ♂ (U.S. Nat. Mus.), Palomar Mt., California, 14.VI.1948, A. L. Melander.

#### REFERENCE

- Dodge, H. R. 1966. Some new or little-known Neotropical Sarcophagidae (Diptera) with a review of *Oxysarcodexia*. *Ann. Ent. Soc. Amer.* **59**: 674-701.