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NEW STRATIOMYIDAE AND TETANOCERIDAE
(DIPTERA) FROM NORTH AMERICA

BY GEORGE C. STEYSKAL

STRATIOMYIDAE

Labostigmia novella, n. sp.

FEMALE.—Length, 11 mm. Antennae with joints one and two brownish yellow, black pubescent; joint three black; joint one nearly twice the length of joint two. Head shining, pile sparse and short, white. Head yellow with black markings as follows: a spot in middle of sides of mouth tapering to a point in the lateral ends of facial depression, which is occupied by a spot extending narrowly on its lower wall and broadly on its upper wall and running across the front oral margin; a spot about the base of the antennae curving downward on each side halfway to lateral end of the depressions, connected below with a spot in the middle of the face and above with a sprawling M-shaped mark which touches the eyes and is broadly connected at its two upper points with a wide band extending across the vertex and surrounding the ocelli. Occiput black, narrowly invaded by the yellow of the broad posterior orbits except narrowly below, and connected with the band of the vertex broadly behind the ocelli and in a faint line obliquely from each end of the band of the vertex. Proboscis pale at base, labella black,

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about 2.5 times as long as wide. Palpi yellow, with white hairs. Eyes bare.

Thorax black, with short, close-lying, white pubescence giving a lightly dusted appearance, and with the following yellow marks: a very small spot on the humeri; a triangular spot at the lateral ends of the transverse suture; a spot covering the posterior calli and extending into a point forward; two wedge-shaped marks on the disk pointing a little more than halfway to the suture, and two roundish spots on the suture. Scutellum yellow, black beneath, with two small spines separated by a little more than their length. A broad yellow band on pleura below notopleural suture, broadest in front where it connects with yellow above front coxae. A yellow spot at upper edge of sternopleura and a line in front of, and a spot above, the posterior thoracic spiracle.

Legs wholly brownish yellow, darkened on the last two tarsal joints.

Abdomen black with the following yellow dorsal markings: a pair of transverse bands from posterior corners of segments two and three, one-third as long as width of abdomen and about one-half as wide as length of segment, the pair on segment two widest at lateral margin and tapering inward, that on segment three widest at about three-fifths its length from margin, where it is less than one-fourth the length of segment; posterior margin of segment four, narrowed at each end and in the middle; broad posterior margin and narrow lateral margins of segment five. Venter banded, the posterior half of the segments yellow, as is the narrow anterior part of segment two, broader in the middle.

Wings hyaline, infuscated with brownish along the heavier veins. Crossvein *r-m* very short to absent.

MALE.—Length, 10.5 to 12 mm. Similar to female, except as follows. Antennae wholly black. Head yellow; black on facial depression and upwards, the bottom of the depression, the front oral margin, and the suture above the sides of the mouth, except a paler spot in its middle. Occiput and vertex black. A very narrow yellow line along the lower posterior orbits.

Palpi pale at tip. Proboscis fully three times as long as wide. Upper ommatidia extending slightly on occiput. Thorax lacking the discal markings before the transverse suture, the spots on the suture much smaller (the discal ones lacking in paratype). The humeri wholly yellow with a small yellow spot behind them. Scutellum with a narrow black basal line. Yellow band below notopleural suture extending downward before the wing base.

Legs wholly very dark brown, the basitarsi paler.

Abdomen with the yellow bands on third dorsal segment only as wide as one-third the length of segment and of more or less equal width throughout. Yellow margin of fourth dorsal segment narrow, widely interrupted in the middle, more so than on segments two and three.

TYPES.—Holotype, female, Austin, Texas, May 19, 1921 (R. H. Painter), U.M.M.Z.¹ Allotype, male, Baboquivari Mountains, Arizona (F. H. Snow), University of Kansas. Paratype, male, same data, collection of Dr. Maurice T. James.

This species falls in Enderlein's recently described genus *Labostigmina*. No closely related species are known either to me or to Dr. James (*in litt.*).

Odontomyia profuscata, n. sp.

FEMALE.—Length, 8 mm. Close to *O. nigerrima* Loew, differing chiefly in the abdominal pattern and the wholly pale legs.

Head wholly black, with sparse, erect, whitish hairs and sparse, whitish yellow, short tomentum. Scutellum with a narrow, pale, apical margin and two short pale spines separated by approximately their length. Legs wholly yellowish, the last joint of the posterior tarsi darkened. Wings hyaline, heavily infuscated with dark brown along the borders of, and inside, the area limited by the hind border of cells first M, second M,

¹ U.M.M.Z. indicates the collections of the University of Michigan Museum of Zoology; A.M.N.H., those of the American Museum of Natural History; U.S.N.M., those of the United States National Museum; and T.A.E.S., those of the Texas Agricultural Experiment Station.

first M_2 , and the vein R_{2+3} . Vein R_4 not separated. Vein M_2 entirely obliterated. Cross vein $r-m$ short but distinct.

Abdomen black on dorsum, with a small orange yellow spot at posterior corners of first segment and a similarly colored band around the remainder of the abdomen. The band is about as wide as one-half the length of the third segment, narrow at tip of fifth segment, and almost divided at the anterior margin of the segments, giving it a crenulated appearance. The venter is wholly pale.

TYPES.—Holotype, female, Point Pelee, Ontario, Canada, June 8, 1918 (F. M. Gaige). Paratype, female, Buckeye Lake, Ohio, May 30, 1912; both in U.M.M.Z.

TETANOCERIDAE

Genus *Tetanocera* Dumeril

I am indebted to J. R. Malloch for pointing out that the species identified and figured as *Tetanocera vicina* Macquart by A. L. Melander² is a species which consistently lacks stumps of veins, or spur veins, on vein M_{1+2} of the wing, whereas Macquart's figure of *T. vicina* shows such stumps. Melander's species was subsequently described as *T. vicina* Macquart, subspecies *nanciae* Brimley.³ Plate I, Figure 1, of the present paper represents a lateral view of the male hypopygium, extended, of *T. nanciae* Brimley; Plate I, Figure 3, represents the left parameron of the male of *T. vicina* Macquart in the view of greatest expanse.

I also wish to express my gratitude to Mr. Malloch for pointing out a number of characters used in the following descriptions and for many other favors.

Tetanocera iowensis, n. sp.

MALE.—Head very much as in *T. nanciae* Brimley. Orbito-antennal spot dark brown. Occipital spot dark brown, sur-

² "Review of the Nearctic Tetanoceridae," *Ann. Ent. Soc. Amer.*, 13 (1920): 327, Pl. XXX.

³ "New Species of Diptera from North Carolina," *Ent. News*, 36 (1925): 75.

rounded on sides and bottom by a broad silvery band. Base of anterior frontal bristles infuscated, as is the one behind it to a much lesser degree. Anterior half of the edge of the midfrontal stripe and bases of some of the microchaetae at anterior part of front also infuscated. Midfrontal stripe not reaching anterior margin of front, concave and shining, widest before middle, where it is one-fourth of the total width of front. Posterior frontal bristle directly laterad of anterior ocellus. Anterior frontal bristle midway between anterior ocellus and anterior margin of front. Antennae as in *T. nanciae* Brimley, the third joint strongly tapering and a little concave on the upper side. Aristal hairs black, long, moderately dense.

A strong subapical posterodorsal bristle on middle femur. Prosternum bare.

Wings with a stump of a vein almost as long as cross vein *r-m* present on vein M_{1+2} about halfway between the cross veins and extending into cell first M_2 . Cross vein *im* strongly sinuate, with a short stump (absent in paratype) toward its posterior end extending into cell first M_2 . Costal infuscation extending posteriorly to middle of cell R_3 . Fuscous stripe in middle of cell R_5 . Cross veins *r-m*, *im*, and stumps surrounded by fuscous.

Hypopygium as in Plate I, Figures 2 and 7, the tips of the paramera strongly curved toward each other, leaving a roughly circular foramen. The membranous lobe on inner side of the paramera broadest toward the base.

Length, 8.5 mm.

TYPE.—Holotype, male, Jackson County, Iowa, June 15, 1934 (H. C. Knutson), Iowa Wesleyan College. Paratype, male, Ozark Mountains, Van Buren, Missouri, June 11, 1930 (E. A. Pence), U.M.M.Z.

Tetanocera annae, n. sp.

MALE.—No infuscation on head, except a slight darkening of the anterior margin of the front. Midfrontal stripe not reaching anterior margin of front, concave and shining, slightly wider at middle, where it is a little over one-fifth of the total

width of the front. Posterior frontal bristle directly laterad of anterior ocellus. Anterior frontal bristle behind middle of distance from anterior ocellus to anterior margin of front. Antennae with third joint gently tapering, upper edge practically straight. Arisal hairs fuscous, long, sparse, especially toward tip of arista.

Middle femur with subapical posterodorsal bristle.

Prosternum bare.

Wings with cross vein *im* simply arcuate outwardly. No stumps of veins present. Wings yellowish, deeper in color anteriorly, cross veins *r-m* and *im* surrounded by fuscous.

Hypopygium as in Plate I, Figures 4, 5, and 9, the paramera with a thin, transparent, circular lobe at tip. Tip of terminal abdominal segment with a deep sinus before the attachment of the paramera (Pl. I, Fig. 5).

Length, 8.5 to 9 mm.

TYPES.—Holotype, male, Ann Arbor, Washtenaw County, Michigan, July 14, 1927 (N. K. Bigelow). Paratypes, males, Port Austin, Huron County, Michigan, August 2, 1927 (F. M. Gaike); Beaver Island, Charlevoix County, Michigan, July 15, 1924 (S. Moore); all in U.M.M.Z.; Hamburg, Livingston County, Michigan, September 6, 1930 (G. Steyskal), in my collection.

Tetanocera huronensis, n. sp.

MALE.—Head with no infuscation, except a slight darkening of the anterior margin of the front. Midfrontal stripe nearly reaching anterior margin of the front, gently concave and shining, widest at middle, where it is less than one-fifth of the total width of the front. Posterior frontal bristle laterad of a point in center of interocellar region, anterior frontal bristle as far before anterior ocellus as posterior bristle is behind it. Antennae with third joint strongly tapering, upper edge straight to gently concave. Arisal hairs fuscous, long, sparse throughout.

Subapical posterodorsal bristle lacking on middle femur. Prosternum bare. Scutellum convex.

Wings light yellowish, slightly deeper in color toward costa. A little infuscation surrounding the cross veins *r-m* and *im*. Cross vein *im* arcuate outwardly or slightly sinuate posteriorly. No stumps of veins present.

Hypopygium as in Plate I, Figure 6, a characteristic semi-circular thin transparent lobe toward the base of each parameron.

FEMALE.—Similar to male. A faint brown orbitoantennal spot present, and anterior half of midfrontal stripe lightly infuscated.

Length, male and female, 7 to 8 mm.

TYPES.—Holotype, male, Sand Point, Huron County, Michigan, September 8, 1927 (F. M. Gaige), U.M.M.Z. Allotype, female, Boulder, Colorado, May 24, 1934 (A. L. Hays), in collection of Dr. Maurice T. James. Paratypes, males, one specimen with same data as allotype, in collection of Dr. James; one specimen with same data as holotype; one specimen, Devil's Lake, North Dakota, July 28, 1920 (T. H. Hubbell), U.M.M.Z.; male and female, Manitou Beach, New York, June 14, 1905 (J. L. Zabriskie), A.M.N.H.

Genus *Dictya* Meigen

Dr. C. H. Curran⁴ has shown that a number of species of *Dictya* occur in North America which are separable on little more than genitalic characters. An examination of a considerable amount of material, mostly from the Middle West, has revealed the four new species described below.

A specimen in the American Museum of Natural History, labeled "Osten Sacken Collection," has been examined through the courtesy of C. H. Curran. The author concurs with Curran in identifying this specimen as *Dictya pictipes* Loew. Figures 8 and 9, Plate II, represent the outer forceps and anterior clasper of this species.

The species described below all agree in having a bare prosternum, two spots in the apical portion of cell Sc of the wing, and a row of short stout bristles on the distal half of the

⁴ *Amer. Mus. Novitates*, No. 517 (1932).

posteroventral surface of the middle femora of the males. The posterior claspers of all the species are similar to those of *D. pictipes* Loew, as are the outer forceps also, with the exception of *D. expansa* n. sp., which has the terminal lobe broader.

Dictya sabroskyi, n. sp.

MALE.—Anterior claspers (Pl. II, Fig. 1) lying parallel to each other, their apical portion thin, truncate at the tip and with a sharp hook directed antero-basad.

FEMALE.—Eighth sternite (Pl. II, Fig. 2) more deeply emarginate than in any other known species, the lobes long and curved inward.

TYPES.—Holotype, male, Manhattan, Kansas, May 24, 1932; and allotype, female, same locality, May 14, 1932 (C. W. Sabrosky), in collection of Mr. Sabrosky. Paratypes, males, Ottawa County, Kansas, June 24, 1934 (C. W. Sabrosky), in my collection; Stafford County, Kansas, June 30, 1934 (C. W. Sabrosky), in U.M.M.Z.; Brownsville, Texas, July 20, 1933 (R. Nabours, C. Sabrosky), in collection of Mr. Sabrosky; College Station, Texas, April 16, 1917 (H. J. Reinhard), T.A.E.S.; Henry County, Iowa, October 18, 1935, in Iowa Wesleyan College; females, Manhattan, Kansas, June 20, 1934 (C. W. Sabrosky), in my collection; same locality, June 24, 1933 (C. W. Sabrosky), in U.M.M.Z.; same locality, March 27, 1932 (C. W. Sabrosky) and April 16, 1933 (R. H. Painter); Saline County, Kansas, April 30, 1934 (C. W. Sabrosky); McAllen, Texas, July 21, 1933, San Benito, Texas, July 18, 1933, 6 miles north of Brownsville, Texas, July 18, 1933, and 10 miles north of the same locality, July 20, 1933 (R. Nabours and C. Sabrosky), all in collection of Mr. Sabrosky; Burleson County, Texas, March 18, 1931 (R. K. Fletcher), Hidalgo County, Texas, March 8, 1934, College Station, Texas, April 17, 1931 (H. J. Reinhard), and Panipa, Texas, October 30, 1930 (S. E. Jones), T.A.E.S.; Dallas County, Texas, July, 1931 (J. K. G. Silvey), U.M.M.Z.; male, Victoria, Texas, May 13, 1913 (Mitchell and Coad), U.S.N.M.

Dictya gaigei, n. sp.

MALE.—Anterior claspers (Pl. II, Fig. 3) inclined toward each other, straight, more or less terete, in direct laterad view curving forward to a blunt point, in view of greatest expanse (antero-lateral) almost parallel sided, with a minute point at tip anteriorly.

FEMALE.—Eighth sternite (Pl. II, Fig. 4) similar to *D. umbroides* Curran, the lobes short, the median space devoid of setulae.

TYPES.—Holotype, male, Sand Point, Huron County, Michigan, September 8, 1927 (F. M. Gaige), and allotype, female, same data; U.M.M.Z. Paratypes, eight males and two females, same data as types, six males and one female, U.M.M.Z.; one pair in collection of the author; three males, Saint Ignace, Mackinac County, Michigan, May 30, 1921, male, Saint Helena Island, Mackinac County, Michigan, May 26, 1922, and male, Hog Island, Charlevoix County, Michigan (S. Moore), U.M.M.Z.

Dictya expansa, n. sp.

MALE.—Anterior claspers (Pl. II, Fig. 5) in lateral view similar to *D. pictipes* Loew, but shorter, the apex curved slightly forward, the anterior membranous appendage reaching the tip of the anterior process. The tip of the clasper from a downward view appears flat, laterally subreniformly expanded, about one and one-half to two times as long as wide. The outer forceps (Pl. II, Fig. 6) with the terminal lobe broader than in *D. pictipes* Loew or other species herein described.

TYPES.—Holotype, male, Detroit, Michigan, June 2, 1930 (G. Steyskal), U.M.M.Z. Paratypes, males, Huron County, Michigan (Mich. Biol. Surv.), U.M.M.Z.; Manhattan, Kansas, April 8, 1934, Medora, Kansas, April 17, 1932, and Stafford County, Kansas, April 29, 1934 (C. W. Sabrosky), in collection of Mr. Sabrosky; Plainview, Texas, November 9, 1930 (S. E. Jones), T.A.E.S.; Dickinson County, Iowa, August 20, 1935 (W. R. Bradley, M. J. Wittich), and Henry County, Iowa, May 17, 1935 (Roth), in Iowa Wesleyan College; Salt

Meadows, New Jersey, June (A. J. Weidt); Flatbush, Long Island, New York, October 28, 1892 (J. L. Zabriskie), both in A.M.N.H.

Dictya stricta, n. sp.

MALE.—Anterior claspers (Pl. II, Fig. 7) similar to *D. pictipes* Loew in lateral view, but shorter and broader. The tip of the clasper from a top view is very narrow and parallel sided, and the stem of the clasper is also thinner than in *D. pictipes*.

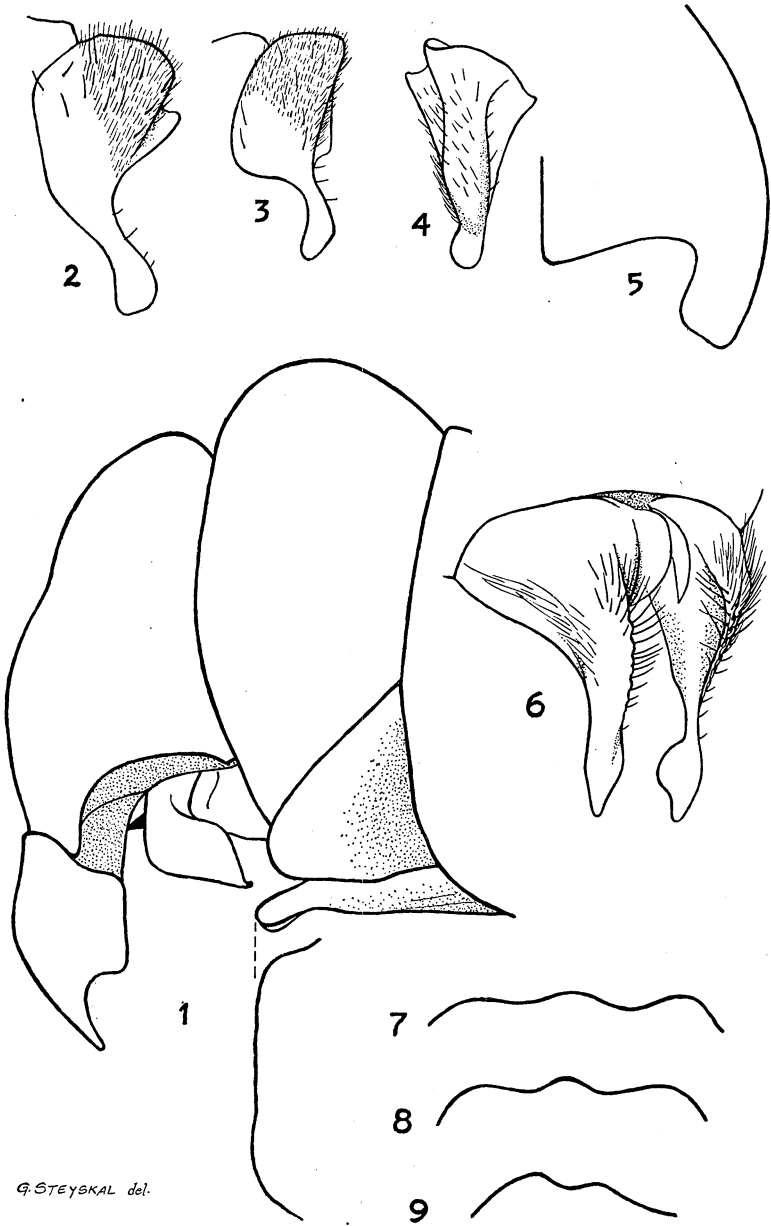
TYPES.—Holotype, male, Winnfield, Winn County, Louisiana, June 27, 1918 (G. R. Pilate), U.M.M.Z. Paratypes, males, Winnfield, Louisiana, July 14, 1918 (G. R. Pilate), U.M.M.Z.; Lawrence, Kansas (J. M. Aldrich), U.S.N.M.

I wish to thank the many who have been of such generous assistance, and I feel honored to dedicate *Dictya gaigei* to Frederick M. Gaige and *Dictya sabroskyi* to Curtis W. Sabrosky.

PLATE I

Male genitalia of *Tetanocera* species

- FIG. 1. *Tetanocera nanciae* Brimley, right hand lateral view of extended genitalia, with ventral view of subgenital plate (bristling omitted).
 FIG. 2. *Tetanocera iowensis*, n. sp., left parameron.
 FIG. 3. *Tetanocera vicina* Macquart, left parameron.
 FIG. 4. *Tetanocera annae*, n. sp., left parameron.
 FIG. 5. *Tetanocera annae*, n. sp., lateral outline of tip of terminal abdominal segment.
 FIG. 6. *Tetanocera huronensis*, n. sp., posterolateral view of paramera.
 FIG. 7. *Tetanocera iowensis*, n. sp., tip of subgenital plate.
 FIG. 8. *Tetanocera vicina* Macquart, tip of subgenital plate.
 FIG. 9. *Tetanocera annae*, n. sp., tip of subgenital plate.



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PLATE II

Genitalia of *Dictya* species

FIG. 1. *Dictya sabroskyi*, n. sp., lateral view of anterior claspers, phallus, and associated structures of male.

FIG. 2. *Dictya sabroskyi*, n. sp., ventral view of eighth abdominal sternite of female.

FIG. 3. *Dictya gaigei*, n. sp., (a) anterior clasper of male from view of greatest expanse; (b) same from lateral view; (c) anterior claspers, phallus, and associated structures of male from ventral view; (d) outer forceps of male.

FIG. 4. *Dictya gaigei*, n. sp., ventral view of eighth abdominal sternite of female.

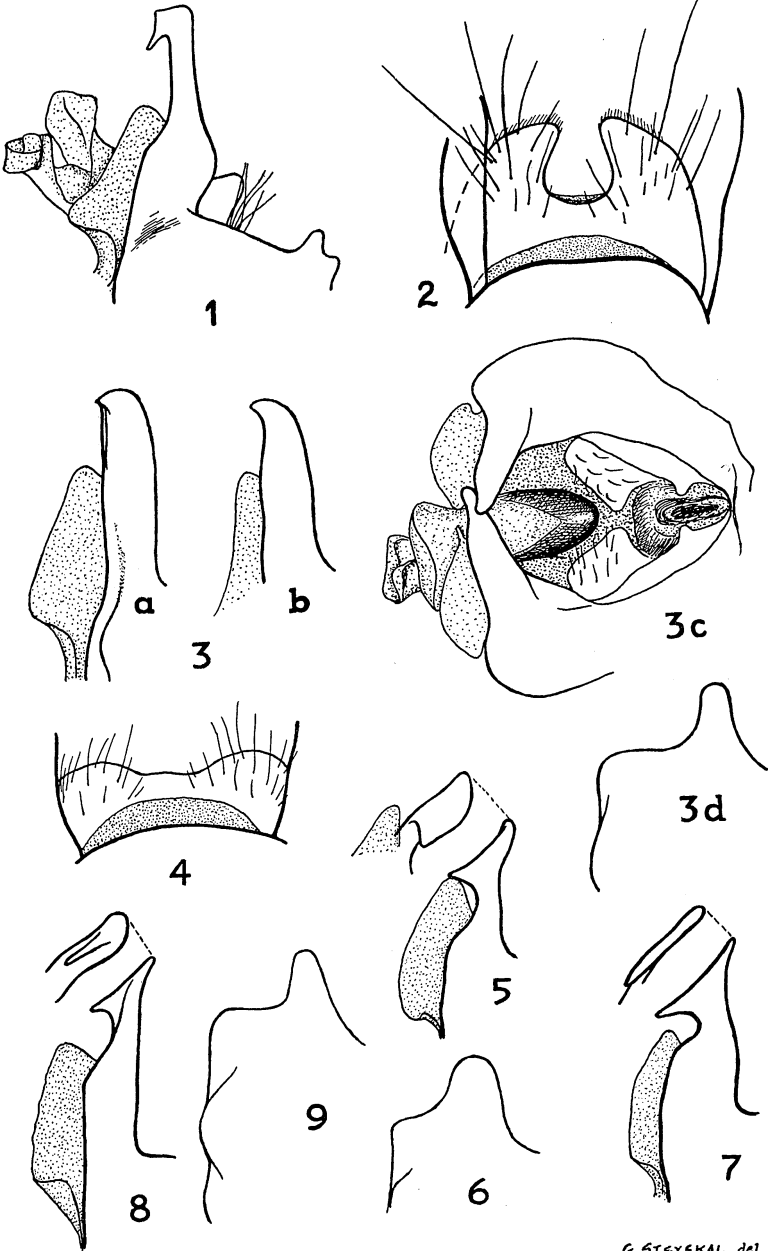
FIG. 5. *Dictya expansa*, n. sp., lateral view of anterior clasper of male.

FIG. 6. *Dictya expansa*, n. sp., outer forceps of male.

FIG. 7. *Dictya stricta*, n. sp., anterior clasper of male.

FIG. 8. *Dictya pictipes* Loew, anterior clasper of male.

FIG. 9. *Dictya pictipes* Loew, outer forceps of male.



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