

January to 8 February 1962; 4 (2 bats), Cerro Hoya (Los Santos), 24 and 26 February 1962; 1, Isla Bastimentos (Bocas del Toro), 3 February 1963. 2 (2 bats), Río Tuira, 25 February 1958, P. Galindo [GML]; 1, Cerro Tacarcuna (Darién), 3 March 1964, C. O. Handley, Jr.; 3 (3 bats), Tacarcuna (Darién), 2000 feet elevation, 20 June and 7 July 1963, GML; 1, Armila (San Blas), 27 March 1963, C. O. Handley, Jr. and F. M. Greenwell; 12 (4 bats), Río Mandinga (San Blas), 26 to 30 May 1957, P. Galindo [GML].

REMARKS: This species appears to be restricted to *Sturnira lilium*, at least in Panama. We have seen a few specimens from this host, from Paraguay and Venezuela, which appear to be this species. *M. proxima* occurred on approximately 86% of the *Sturnira l. parvidens* that were parasitized by Streblidae (nearly 100%), and averaged two specimens per bat.

Megistopoda theodori Wenzel, new species. Figure 100B.

With the characters of *M. proxima* (Séguy), and apparently differing from that species only in its somewhat larger size and in the structure of the male gonapophyses (fig. 100B), which are very distinctive. In *M. proxima* (fig. 100C) both gonapophyses are very similar except that the paired ventral setae are inserted further basally on the right than on the left; the ventral margin of the gonapophyses appear nearly straight in lateral view; the paired ventral setae are inserted further posteriorly; and a row of distinct thorn-like setae (coarser than in *theodori*) is present along ventral margin. In *theodori*, the right gonapophysis is not sinuate along dorsal margin and thus appears heavier; the ventral margins are distinctly curved in lateral view, the paired ventral setae are inserted at middle or beyond; and the fine thorn-like setae are finer, fewer in number, and most are inserted on the lateral face rather than the ventral margin. *M. theodori* also differs in host and altitudinal distribution. *M. theodori* was taken on *Sturnira ludovici* together with *Trichobius brennani*, at elevations of from 4800–5600 feet, while *M. proxima* occurred on *Sturnira lilium parvidens*, together with *Aspidoptera delatorrei* n.sp., at elevations ranging from sea level to 2000 feet.

DESCRIPTION: *Head*.—Occipital lobes with eight to nine setae of varying lengths, two of them conspicuously long macrosetae. Laterovertrices with about six setae. Eyes with ± 7 facets. Prescutum on each side with two spiracular bristles and 15–23 others including about four strong setae along margin of longitudinal membranous cleft and posteriorly a patch of from five to seven shorter bristles along median suture. Scutum with 13–14 bristles, the anteromedian ones usually noticeably shorter than the others. Mesepimeron with 13–17 bristles in two irregular rows, the marginal ones mostly longer and coarser. *Wings*.—Broader than in *aranea*, and with venation as in *proxima* (fig. 101E). *Legs*.—As in *proxima*.

Abdomen.—Lateral lobes of tergum I+II with from 13–20 bristles, the three or four along inner dorsal margin fine, the posterior ones long and coarse, shorter ventrally. Connexivum covered with relatively short, moderately heavy bristles, these much shorter along sides, a little longer apically. Sternum I with two or three spines on each side. Sternum II subquadrate, typically with 9–14 discal setae and on posterior margin five to eight spiniform setae on each side, separated by two pairs of finer setae, the outer pair long. *Female*: Tergum VII and supra-anal plate united at middle for part of their width; VII transverse, with a conspicuous macrosetae at each side and one or two shorter ones between them; supra-anal plate with four apical macrosetae and on each side a pair of fine short setae. Connexivum with a long subapical latero-ventral macroseta. Seventh

sternites with 11–15 setae, several of them macrosetae, one conspicuously longer than the others. *Male*: Hypopygium with two or three dorso-lateral macrosetae basally (on VII+VIII), about eight apical macrosetae and four or five latero-ventral setae on tergum IX. Sternum V with discal setae of about the same size as those of connexivum; apical margin with six to eight macrosetae, alternating with one or two shorter but strong setae, two to four shorter strong setae at middle. Gonapophyses distinctly curved in lateral view (ventral margin nearly straight in *proxima*), dorsal margin of the left gonapophysis sinuate near apex; paired ventral setae of left gonapophysis inserted distal to middle, those of right gonapophysis slightly posterior to them; right gonapophysis slightly heavier than left, without dorsal sinuation; each gonapophysis, anterior to paired ventral setae, with several extremely fine translucent, thorn-like setae along lateral face and ventral margins (one also seems to be present on dorsal margin above paired setae, though only the theca is visible in specimens examined).

<i>Measurements</i> :	BL	TL	FL
Male	1.98–2.16	0.49–0.52	1.13–1.43
Female	2.17–2.47	0.55	1.18–1.35

TYPE MATERIAL: Holotype male and allotype female from *Sturnira ludovici* (host no. 10469), Casa Tilley, Cerro Punta (Chiriquí), elevation 5300 feet, 14 March 1962, C. M. Keenan and V. J. Tipton. In the collection of Chicago Natural History Museum.

Paratypes.—37, same data as the holotype; 7 (29 bats), same locality but 6 to 11 March 1962; 79 (26 bats), same locality, 23 April to 4 May 1960; 5 (2 bats), Lava Flow, El Hato (Chiriquí), 5 May 1960; 9 (5 bats), Casa Lewis, Cerro Punta (Chiriquí), 5600 feet elevation, 3 and 4 May 1960; 15, same locality, 1 and 2 February 1960; 9 (6 bats), Rancho Mojica (Bocas del Toro), elevation over 4800 feet, 8 and 9 September 1961; 2 (2 bats), Rancho Caballero (Bocas del Toro), elevation 6000 feet, 11 September 1961; 1, Cerro Malí (Darién), 9 February 1964, C. O. Handley, Jr.; 3 (2 bats), same locality, 4800 feet elevation, 31 May and 3 June 1963, GML; 19 (4 bats), Cerro Tacarcuna (Darién), 29 February to 7 March 1964, C. O. Handley, Jr. Paratypes to be deposited in the collections listed on p. 410.

REMARKS: We have studied *M. theodori* n. sp. and *M. proxima* (Séguy) in considerable detail, without finding any external characters that could be used for routine identification. In *theodori*, the number of mesonotal setae (excluding the spiraculars) was distinctly higher in the females (median 44) than in the males (median 38); in *proxima*, the number was only slightly higher in the females (median 33) than in the males (32). In *theodori*, the number of setae on the lateral lobes of tergum I+II ranges from 13–17 (median 14.5) in the females and 15–20 (median 16.5) in the males; in *proxima* it is nearly identical (14–19, median 17) in the two sexes. The number of setae on each of the female seventh sternites ranges from 11–16 (median 13.5) in *theodori* and from 8–17 (median 12) in *proxima*. The sample measured included about thirty of each species. There is such a broad overlap in the above ranges that, while bimodality is evident, the setal counts cannot be used for identification of individual specimens, nor for small series.

This species is named for Prof. Oskar Theodor, of the Hadassah Medical School, Hebrew University, Jerusalem, Israel, in recognition of his outstanding contributions, especially to our knowledge of the pupiparous flies and of the Phlebotominae (Psychodidae).

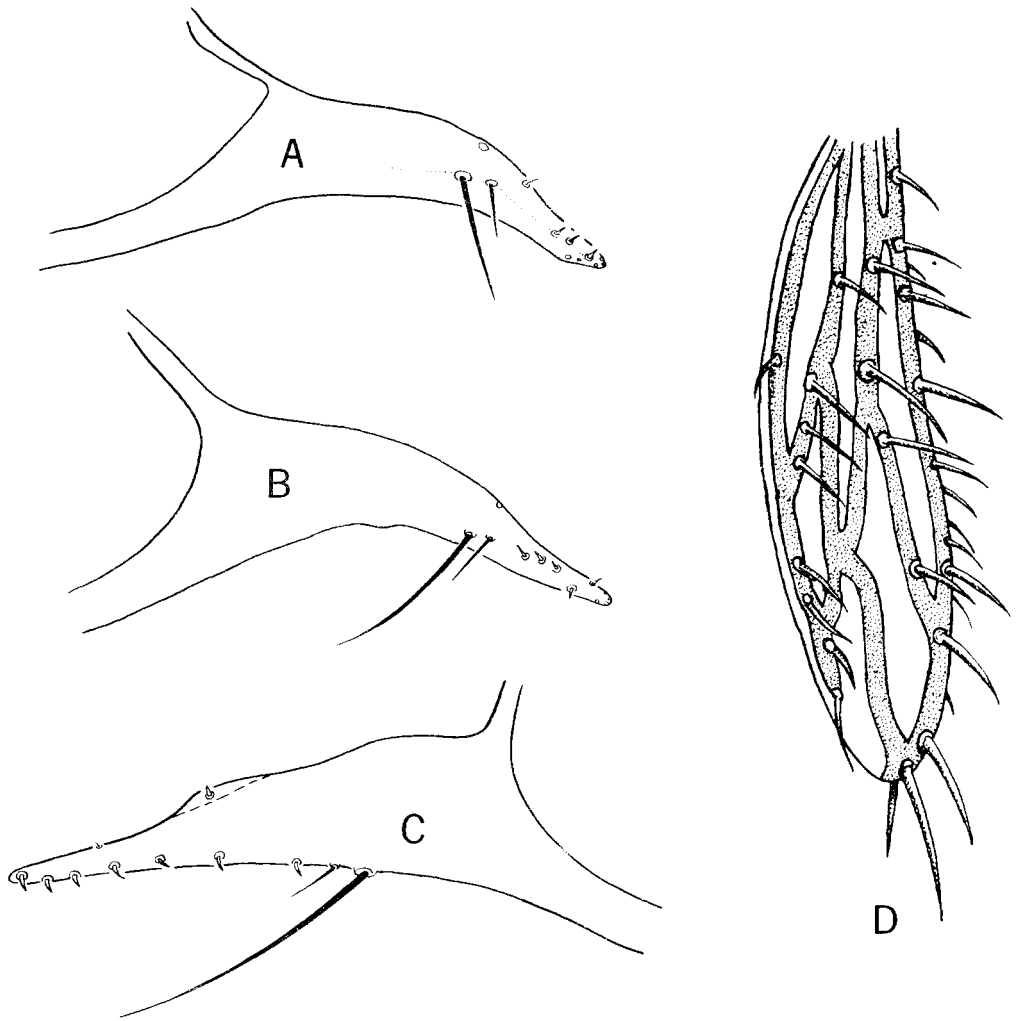


Fig. 100. A-C, left male gonapophysis of species of *Megistopoda*. A, *M. aranea* (Coquillet), from *Artibeus j. jamaicensis* (no. 6110), Piña Point (Darién). B, *M. theodori*, new species, paratype from *Sturnira ludovici* (no. 6181), Casa Tilley (Chiriquí). C, *M. proxima* (Séguy), from *Sturnira lilium* (no. 6351), Río Mandinga (San Blas). D, wing, *M. aranea* (= *desiderata* Speiser), after Speiser (1900).

made from quite a different view than ours (fig. 101C), it shows the macroseta of the right gonapophysis inserted far posteriorly, as in our specimens, and also the characteristic row of short thorn-like setae along the ventral margin. Therefore, we assign our specimens to *M. proxima*.

Measurements:	BL	TL	FL
Male	1.84-1.98	0.44-0.49	1.07-1.18
Female	1.76-2.09		0.99-1.21

PANAMANIAN MATERIAL EXAMINED: 34 species in 18 lots from (18) *Sturnira lilium parvidens* as follows: 10 (5 bats), Guánico (Los Santos), 21