

LUTZOMYIA CIRRITA N. SP. FROM COLOMBIA
WITH A NEW SYNONYM IN THE GENUS
(DIPTERA: PSYCHODIDAE: PHLEBOTOMINAE)¹

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ABSTRACT

The male and female of *Lutzomyia cirrita* n. sp. are described and illustrated from specimens collected in Antioquia Dep., Colombia. It was usually taken in human biting collections and is related to *L. peruensis* (Shann.). *L. montoyai* (Sherlock) is a junior synonym of *L. osornoi* (Rist. and Van Ty) another Colombian sand fly closely related to *L. cirrita* (NEW SYNONYMY).

During examination of Phlebotomine sand flies from the Rio Anori Valley, Antioquia Dep., Colombia, we found an undescribed, rather uncommon species related to *L. peruensis* (Shann.). *L. cirrita* n. sp. is described here to make the name available for a forthcoming paper dealing with population dynamics of sand flies in the Rio Anori area.

A new synonym is also recorded of *L. osornoi* (Rist. and Van Ty); a species closely related to *L. cirrita* which also occurs in Colombia.

Lutzomyia cirrita Young & Porter, NEW SPECIES
(Fig. 1-11)

Male: A fairly large sand fly, mostly dusky with a well infuscated head and mesonotum. Cibarium unarmed, without a chitinous arch, pigment patch as in female, rather slender. Pharynx (about 0.22 mm long) with posterior transverse ridges, without teeth. Eyes large, separated at narrowest point by distance equal to about 5 facets. Length of antenna 3, 0.41-0.45 mm, slightly over 1.2x length of 4+5; paired ascoids as shown, on all flagellar segments except last. Proboscis length 0.30 mm. Palp formula 1-4-2-3-5, length of segments as follows (n=2): 1(0.05mm), 2(0.12-0.13 mm), 3(0.20-0.21 mm), 4(0.10 mm), 5(0.23-0.24 mm); Newstead's scales (about 20) scattered over distal two-thirds of palp 3. With 11-15 upper and 3 lower episternal setae. Wing broad, 2.8 mm long, 0.90 mm wide; length of vein sections as follows (slide 240): *alpha* (0.74 mm), *beta* (0.25 mm), *delta* (0.28 mm). Length of femora, tibiae, and basitarsi of slide 240 as follows (in mm): foreleg, 1.10, 1.56, 1.07; midleg, 0.98, 1.82, 1.17; hind leg, 1.12, 2.18, 1.37. Genital filaments long, thin, each about 5X length of pump, with simple tips. Style bearing 5 strong spines, the

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basal 2 paired and more slender, isolated spine at 0.76 of segment and with 2 terminal spines; subterminal seta absent. Inner aspect of coxite with 28-35 long setae as shown. Aedeagus (about 0.15 mm long) slender with an acute tip. Paramere simple, its tip not quite reaching end of unmodified lateral lobe. Cercus as shown.

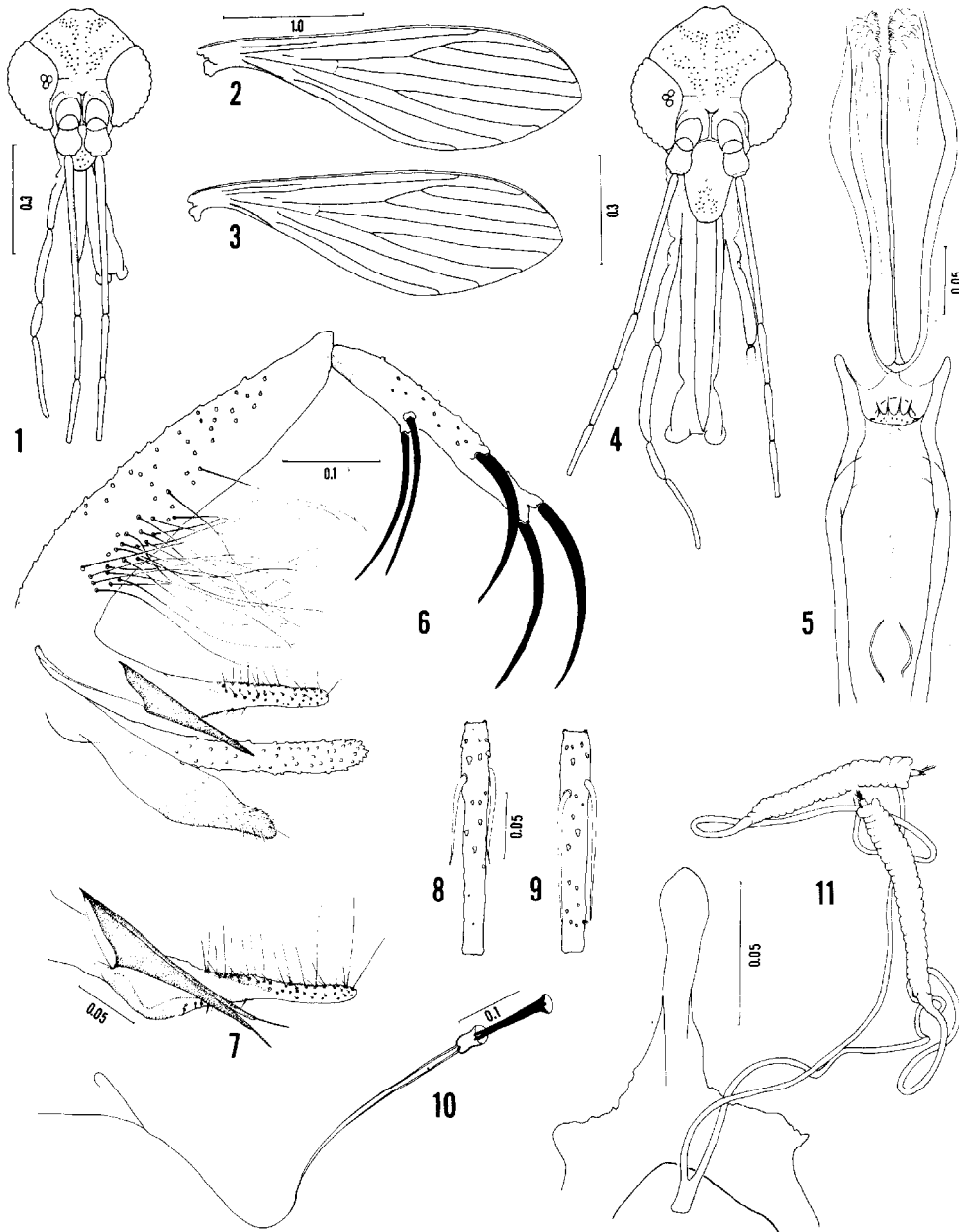


Fig. 1-11. *Lutzomyia cirrita* n. sp. 1) male head; 2) female wing; 3) male wing; 4) female head; 5) female cibarium and pharynx; 6) male genitalia, lateral view; 7) paramere and aedeagus; 8) male antennal segment 4; 9) female antennal segment 4 (same scale as Fig. 8); 10) genital pump and filaments; 11) spermathecae, drawn in phenol. All male figures from slide 240; female from slide 242. Scale in mm.

Female: Size and color as in male. Cibarium with 4 sharp horizontal teeth, an irregular row of 7-10 subequal vertical teeth, a seemingly complete chitinous arch but very faint, nearly invisible in middle, pigment patch as figured. Pharynx (about 0.29 mm long) well sclerotized with numerous posterior ridges. Eyes separated by about 6 facets. Length of antenna 3, 0.40-0.46 mm, over 1.2X length of 4 + 5, ascoids longer than in male but not reaching ends of their respective segments, on all flagellar segments except last. Proboscis length 0.51-0.60, only slightly shorter than head height from tip of clypeus to vertex. Palp formula 1-4-2-5-3, length of segments as follows (n=9): 1(0.07-0.09 mm), 2(0.22-0.24 mm), 3(0.28-0.32 mm), 4(0.11-0.13 mm), 5(0.23-0.28 mm); Newstead's scales as in male. With 12-24 upper and 2-5 lower episternal setae. Wing length 2.8-3.0 mm, width about 1.0 mm; length of vein sections as follows (n=7): *alpha* (0.76-0.86 mm), *beta* (0.25-0.27 mm), *delta* (0.25-0.31 mm). Length of femora, tibiae and basitarsi of slide 251 as follows (in mm): foreleg, 1.23, 1.47, 1.02; midleg, 1.05, 1.71, 1.15; hind leg, 1.30, 2.15, 1.39. Spermathecae annulated, elongate as shown, individual ducts thin, each over 3.5X length of spermatheca; common duct very short, as figured. Anterior end of genital fork stem enlarged, broad (especially lateral aspect). Cercus subtriangular, unremarkable.

Type Data: *Holotype* male (No. 240), about 24 km SW of Zaragoza, Rio Anori Valley (7° 19' N; 75° 04' W), Antioquia Dep., Colombia, 690m above sea level, in human biting collection, 25-VI-1970, C. H. Porter. *Allotype* female (No. 241), same data except collected at 620m on 27-V-1971. *Paratypes* (Nos. 242-251), all from type locality: 1 female in light trap, 23-IX-1971, D. G. Young. 1 female biting man, 25-III-1971, C. H. Porter. 1 male, 1 female in human biting collection, 5-III-1971, C. H. Porter. 1 female biting man, 27-V-1971, C. H. Porter. 1 female biting man, 7-VII-1971, C. H. Porter. 4 females biting man, 12-VII-1971, C. H. Porter. *Holotype* and *allotype* to be deposited in U. S. National Museum (Natural History). *Paratypes* in the authors' collections, the Florida State Collection of Arthropods, and in the collection of INDERENA (Natural Resources Development Institute, Bogotá). The specific name is Latin, referring to the long genital filaments of the male.

Discussion: *L. cirrita* clearly belongs in the *vexator* group, series *peruensis*, as defined by Fairchild and Hertig (1957) and Theodor (1965). These species include: *L. hartmanni* (Fchld. and Hertig), *L. imperatrix* (Alex.), *L. osornoi* (Rist. and Van Ty), *L. peruensis* (Shann.), *L. pescei* (Hertig), *L. quinquefer* (Dyar), *L. sanguinaria* (Fchld. and Hertig), *L. scorzai* (Ortiz), *L. stewarti* (Mang. and Galindo) and *L. vargasi* (Fchld. and Hertig). *L. ceferinoi* (Ortiz and Alvarez) probably belongs in this series as well.

From these species, the male of *L. cirrita* differs in having 21-30 setae, somewhat loosely arranged on the basal-median aspect of the coxite. The other males have a compact, often fan-like, coxite tuft or have fewer (5 or less) setae on the coxite.

The female of *L. cirrita* has very elongate spermathecae quite unlike those of *L. noguchii*, *L. peruensis*, *L. pescei*, *L. sanguinaria* or *L. stewarti*. It is similar to *L. hartmanni* in that palp 5 is shorter than palp 3 but differs in having longer spermathecal ducts, in being generally larger with a narrower head, and in having a longer proboscis (0.50-0.60 mm as opposed to 0.35-0.42 mm). *L. cirrita* differs mainly from the females of *L. imperatrix*, *L. osornoi* and *L. scorzai* in having a palp formula of 1-4-2-5-3, not 1-4-2-3-5 or 1-4-3-2-5. Also the proboscis length of *L. cirrita* is over 1.2X the length of antenna 3 whereas in *L. osornoi* it is shorter than this segment. In *L. imperatrix* and *L.*

scorzai the proboscis length is equal to or only slightly greater than antenna 3. The females of *L. ceferinoi*, *L. quinquefer* and *L. vargasi* have not been described.

Human biting collections, routinely made over a 14 month period in different habitats in the Rio Anori Valley, yielded 32 specimens of *L. cirrita*. All but 3 were collected in a semi-disturbed forest almost surrounded by large clearings above the village of Providencia. One male was captured in nearby undisturbed forest while a male and female were taken in a previously cleared area. The vertical distribution of *L. cirrita*, based on biting collections in the semi-disturbed forest, is as follows: ground level (7 specimens), 6.5m above ground (6 specimens) and 18.7m in canopy (16 specimens).

Through the kindness of Dr. Alan Stone, we were able to examine 1 male and 1 female of *L. osornoi* collected at Chirristis, Municipio de Tuquerres, Nariño, Colombia, 15-VIII-1944, J. A. Montoya. These specimens, among others, were previously described and illustrated by Rozeboom (1947). It appears now that 2 other conspecific males from the same collection were given to Dr. O. Mangabeira for study. Later, Sherlock (1962) described these specimens and named them *L. montoyai* as suggested by Mangabeira. The male of *L. osornoi*, described by Rozeboom (1947) and seen by us, clearly agrees with the original description of *L. montoyai*. Sherlock (1962) stated that the wing length of *L. montoyai* is 2.6 mm, but this appears to be incorrect judging from Fig. 8 which shows the wing to be over 3.0 mm. Following Rozeboom (1947), we also believe that the females from Chirristis represent *L. osornoi* and therefore conclude that this species and *L. montoyai* are conspecific. Complete synonymy is given below.

Lutzomyia osornoi (Rist. and Van Ty)

Phlebotomus osornoi Ristorcelli and Van Ty, 1941, Ann. Parasit. Hum. Comp. 18:260-263 (female, Valle de Capuli, Nariño, Colombia). Barretto, 1947, Arq. Zool. Est. São Paulo 5:215. Rozeboom, 1947, Proc. Ent. Soc. Wash. 49:177-181 (Taxonomy). Barretto, 1951, Arq. Hig. Saude Públ. 15:22. Floch and Abonnenc, 1952, Faune de L'Union Française 14:41, 45 (Keyed). Fairchild, 1955, Ann. Ent. Soc. Amer. 48:194. Fairchild and Hertig, 1957, Ann. Ent. Soc. Amer. 50:326, 330. Fairchild and Hertig, 1961, Proc. Ent. Soc. Wash. 63:26. Ortiz, 1963, Rev. Sanidad. Asist. Soc. (Caracas) 28:312. Ortiz, 1965, Acta Biol. Venez. 5:25.

Sergentomyia osornoi, Barretto, 1955, Rev. Brasil. Ent. 3:185.

Lutzomyia osornoi, Barretto, 1962, Rev. Inst. Trop. Med. São Paulo 4:96. Theodor, 1965, J. Med. Ent. 2:183. Forattini, 1971, Papéis Avulsos 24:99. Martins and Morales, 1972, Rev. Brasil. Biol. 32:368.

Phlebotomus montoyai, Sherlock, 1962, Mem. Inst. Oswaldo Cruz 60:328-330 (male, Chirristis, Municipio de Tuquerres, Nariño, Colombia). NEW SYNONYMY.

Lutzomyia montoyai, Theodor, 1965, J. Med. Ent. 2:183. Forattini, 1971, Papéis Avulsos 24:103. Martins and Morales, 1972, Rev. Brasil. Biol. 32:368.

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EXTENDED DISTRIBUTION FOR *SCHIZOPYGA PULCHRA* (HYMENOPTERA: ICHNEUMONIDAE)—(Note.) A single male of *S. pulchra* Walley (Ephialtinae) was collected while sweeping vegetation along the shore of Bivens Arm (Lake) near Gainesville on 13 March 1974. Previously the southernmost record consisted of 2 males collected at Morehead City, North Carolina, in short vegetation near a beach (Townes, 1960, *Bull. U. S. Nat. Mus.* 216(2): 227); the suggested habitat is similar to many areas along the shoreline of Bivens Arm. Nielsen (1935, *Ent. Meddelelser* 19: 194-206) reported a nesting spider, *Chiracanthium erraticum* (Walckenaer) (= *C. carnifex* (Koch)) (Araneae; Clubionidae), to be the host for a European species of *Schizopyga*. Townes (1960, p. 224) recognized 2 Nearctic species of *Schizopyga*: *S. frigida* Cresson, which is Holarctic; and *S. pulchra* which may be a subspecies of the closely related European *S. circulator* (Panzer). *S. pulchra* may be distinguished from *S. frigida* by its fulvous hind tibiae which lack a subbasal dark band (*S. frigida* has white hind tibiae with such banding). The specimen is in the collection of the author. H. N. Greenbaum, Univ. Florida, Gainesville 32611.



	<i>R. subtropica</i>	<i>R. frustrana</i>	Pupal Parasite	Larval Parasite	Single Attack	Multiple Attacks	Month	Parasite Emerged	Alachua Co.	De Soto Co.	Dixie Co.	Glades Co.	Levy Co.	New Fla. Record
Braconidae														
<i>Bracon gemmaecola</i> (Cush.)	+		+	+			5,6,9		+			+		+
<i>Bracon gemmaecola</i> (Cush.)		+		+			2		+					+
<i>Macrocentrus ancylivorus</i> Roh.		+	+		+		5,7,9		+		+			+
Ichneumonidae														
<i>Temelucha</i> sp.	+		+		+		5					+		
Eulophidae														
<i>Hyssopus rhyacioniae</i> Gah.	+			+		+	2,5-7,9,10					+		+
Eupelmidae														
<i>Arachnophaga ferruginea</i> Gah.	+		+		+		10					+		+
Chalcididae														
<i>Haltichella rhyacioniae</i> Gah.	+	+		+			6				+			+
<i>Sphilocheilus flavopicta</i> (Cress.)	+	+		+			6,8-10				+	+		
<i>Sphilocheilus flavopicta</i> (Cress.)		+	+		+		5,10						+	

Fig. 1. Hymenopterous parasites of *Rhyacionia* spp. from Florida.

HYMENOPTEROUS PARASITES OF *RHYACIONIA* SPP. (LEPIDOPTERA: OLETHREUTIDAE) IN FLORIDA—(Note.) In 1971 an investigation was initiated on the biology of pine tip moths, *Rhyacionia subtropica* Miller and *R. frustrana* (Comst.), attacking commercial pine plantations in Florida. Seven species of hymenopterous parasites were recovered from individual tip moth larvae and pupae removed from *Pinus elliottii* Engelm. var. *elliottii* terminals and held in individual emergence containers (Fig. 1.). The 6 species recovered from *R. subtropica* are the first parasites reported from this tip moth (H. O. Yates III, USDA, Forest. Serv., Un-numbered Pub., 1967, 127 p.; Harman, D. M. and H. M. Kulman, Part I, 3-79 p. In D. M. Harman and H. M. Kulman [ed.], Univ. of Md., Natur. Resources Inst., Contrib. No. 527, 1973, 179 pp.). This note should encourage searches for additional species of tip moth parasites and predators in Florida, the Gulf Coast region, West Indies, and Central America. P. M. Marsh, R. W. Carlson, and B. D. Burks determined the braconids, ichneumonid, and eulophid, respectively. G. W. Berisford assisted in collecting *Bracon gemmaecola* (Cush.). The specimens are in the Florida State Collection of Arthropods, Gainesville. J. R. McGraw and R. C. Wilkinson, University of Florida, Gainesville, 32611; and E. E. Grissell, Division of Plant Industry, Gainesville, 32602.