

NEW NORTH AMERICAN SPECIES AND RECORDS
IN THE GENUS *XENOLIMOSINA* ROHÁČEK
(DIPTERA: SPHAEROCERIDAE: LIMOSININAE)

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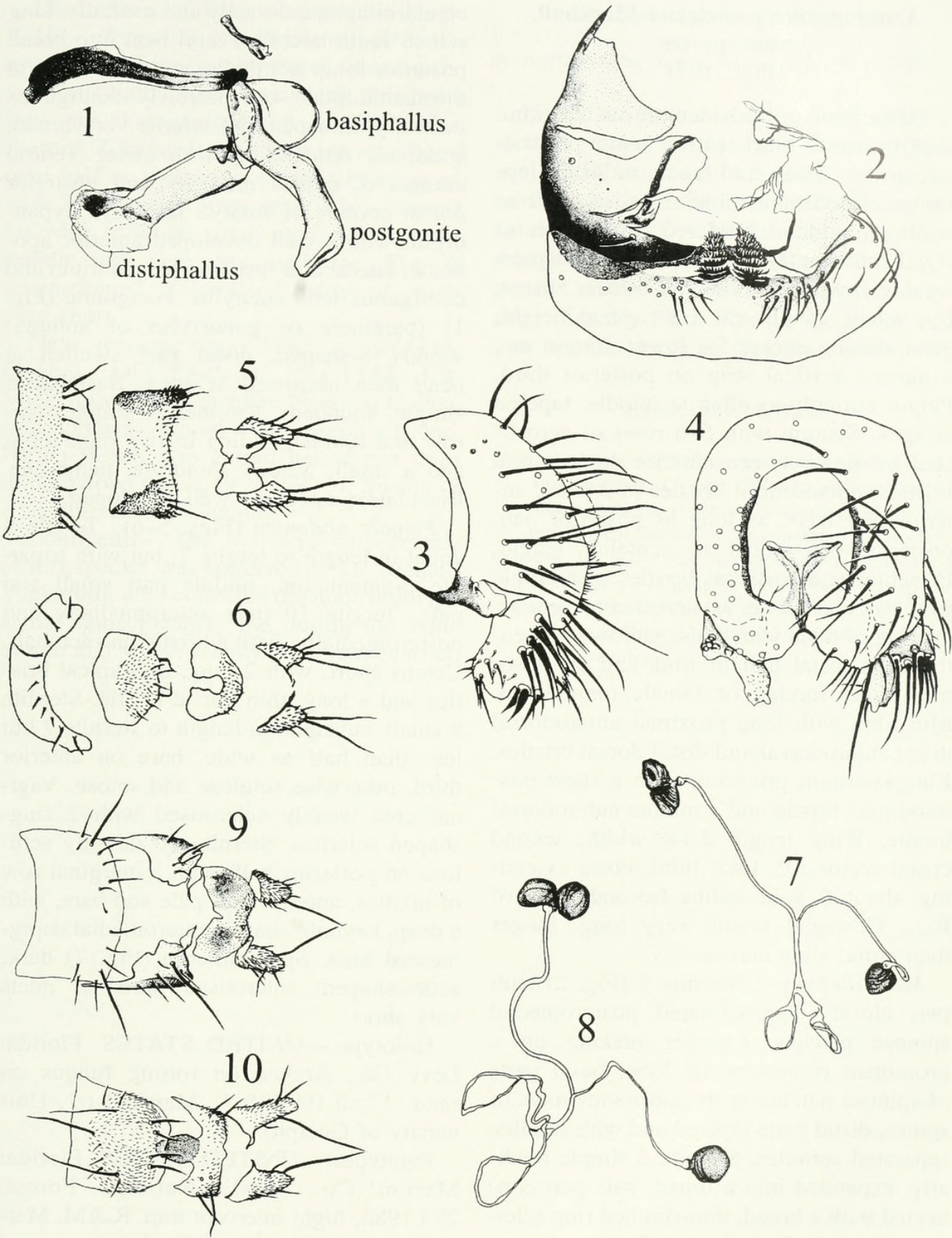
Abstract.—*Xenolimosina glabrigena*, new species, is described from northern Florida, the female of *Xenolimosina phoba* Marshall is described, and new distributional records are given for *X. phoba* and *X. sicula* Marshall.

Key Words: Sphaeroceridae, Diptera, Florida insects

Xenolimosina Roháček is one of the most rarely collected genera of Sphaeroceridae, probably because most species seem to be active only during the colder months of the year. *Xenolimosina* previously included three species: *X. setaria* Villeneuve from Europe, *X. sicula* Marshall from Ontario, Quebec, Arkansas and California, and *X. phoba* Marshall from Quebec and Maryland. The latter species was previously known only from males, and a description of the female is given below along with new distributional records for both described North American species. A third Nearctic species, *Xenolimosina glabrigena* new species, is described from northern Florida. *Xenolimosina glabrigena* is recognisable as a *Xenolimosina* by the long exerted hind tibial bristle, small eyes, telescoping female abdomen, lack of a mid ventral bristle on the mid tibia, two spinose lobes on the male fifth sternite (Fig. 2), and the short surstylus with a long-setose posterolateral surface (Fig. 3). *Xenolimosina glabrigena* will key out to *X. sicula* in Marshall (1985), but it is distinctly different from *X. sicula* in details of the male and female genitalia. Most notably, the disti-

phallus of *X. glabrigena* is simple, broad and tubular, much like *X. phoba* (Marshall 1985, fig. 23), but in marked contrast to the broad, spinose and highly modified distiphallus of *X. sicula* (Marshall 1985, fig. 22) and *X. setaria* (Roháček 1983, fig. 322). Some of the characteristics of *X. glabrigena*, such as the dense pile of the male fore tibia and basitarsus, the shape of the postgonite (Fig. 1), and the sclerotization of the terminal sclerites of the female abdomen, are distinctive autapomorphies not found in the other species.

Roháček (1982) suggested that *Xenolimosina* belongs to the *Minilimosina* genus-group, and that it is probably the sister genus to *Minilimosina*. The distiphallus in *Minilimosina* species is generally simple and unadorned, suggesting that the characteristically adorned distiphallus of *X. sicula* and the European species *X. setaria* are synapomorphic, and these two species form a monophyletic group. The other two species in the genus, *X. glabrigena* and *X. phoba*, both have an elongate tubular distiphallus (Fig. 1) and a greatly enlarged costagial bristle, and together probably form the sister group to *X. setaria* plus *X. sicula*.



Figs. 1-10. 1-7, *Xenolimosina glabrigena*. 1, Aedeagus and associated structures. 2, Male sternites 5-7. 3, Male terminalia, left lateral. 4, Male terminalia, posterior. 5, Female terminalia, dorsal. 6, Female terminalia, ventral. 7, Spermathecae. 8-10, *X. phoba*. 8, Spermathecae. 9, Female terminalia, dorsal. 10, Female terminalia, ventral.

Xenolimosina glabrigena Marshall,
new species
(Figs. 1–7)

Description.—Body length ca. 2.0 mm, dark brown to black with a heavy pruinosity; lower frons and gena reddish; legs brown. Interfrontal plate $1.5\times$ as high as width at middle, bordered by 4 pairs of equal interfrontal bristles, lower two pairs weakly cruciate. Postocellar bristles absent. Eye small, height ca. $1.3\times$ genal height, gena shining except for lower margin and a narrow vertical strip on posterior third. Palpus strongly swollen at middle, tapered at apex. Scutum with 5–6 rows of acrostichal bristles between anterior dorsocentral bristles; dorsocentral bristles in 2 pairs, anterior pair $0.6\times$ as long as posterior pair, posterior pair equal to scutellar length. Prescutellar acrostichal bristles in a single pair twice as long as acrostichal setulae. Foreleg of male with dense yellow pile ventrally on distal half of tibia and on tarsomere one; foreleg of female unmodified. Mid tibia with long proximal anterodorsal distal anterodorsal and distal dorsal bristles. Katepisternum pruinose, with a short posterodorsal bristle and a minute anterodorsal bristle. Wing length $2.5\times$ width; second costal sector $1.0\text{--}1.4\times$ third; costa extending about 2 vein-widths beyond apex of R_{4+5} . Costagial bristle very long, longer than alula; alula narrow.

Male abdomen: Sternite 5 (Fig. 2) with two closely approximated posteromedial spinose patches, together making up a prominent posteromedial lobe; basal parts of spinose patches with continuous rows of spines, distal parts tapered and with smaller, separated spinules. Sternite 6 simple medially, expanded into a broad, pale part connected with a broad, thin-rimmed ring sclerite posteriorly. Epandrium (Fig. 3) uniformly setose; surstylus with a quadrate, ventrally notched anteroventral lobe, a rounded posteroventral lobe with 3 stout bristles, and a densely long-setose lateral swelling. Cercus (Fig. 4) weakly differentiated from

epandrium, bare dorsally and medially, long setose ventrolaterally, cerci bent into broad posterior lobes at middle, not fused to form a subanal plate but narrowly contiguous ventrally. Subepandrial sclerite very broad, quadrate, articulating with inner ventral corners of cercus medially and posterior dorsal corners of surstyli laterally. Hypandrium with a well developed anterior apodeme; lateral arm fused with epandrium and contiguous with surstylus. Postgonite (Fig. 1) (paramere or gonostylus of authors) weakly S-shaped, distal part swollen at bend then narrowed at apex. Basiphallus simple, rounded; distiphallus simple, narrow and tubular, ending in two dark lobes and a small, weakly spinulose membrane. Ejaculatory apodeme well developed.

Female abdomen (Figs. 5–6): Tergite 8 equal in length to tergite 7, but with tripartite pigmentation, middle part small and pale. Tergite 10 pale anteromedially and posteromedially, with a bristle on each half. Cercus short, with 2 long, thin apical bristles and a long, thin dorsal bristle. Sternite 8 small, subequal in length to sternite 7 but less than half as wide, bare on anterior third, otherwise setulose and setose. Vaginal area weakly sclerotised with 2 ring-shaped sclerites. Sternite 10 densely setulose on posterior half, with a marginal row of bristles; anterior half pale and bare, with a deep, keyhole-shaped anteromedial depigmented area. Spermathecae (Fig. 7) dark, acorn-shaped; sclerotised parts of ducts very short.

Holotype.—UNITED STATES. Florida: Levy Co., Archer, on rotting fungus on sand, 17.xii.1997, S.A. Marshall (δ , University of Guelph).

Paratypes.—UNITED STATES. Florida: Marion Co., Ocala National Forest, 29.i.1986, flight intercept trap, R.&M. Marshall (2 ϕ , University of Guelph).

Xenolimosina phoba Marshall
(Figs. 8–10)

Xenolimosina phoba Marshall 1985: 764 (male only).

Description of female terminalia (Figs. 8–10).—Tergite 8 completely divided; tergite 10 uniformly pigmented posteriorly, anteromedially pale. Cercus long, thin, with long apical, preapical and dorsal bristles. Sternite 8 large, longer than sternite 7 and over half as wide, almost entirely setulose, with 2 transverse rows of bristles. Sternite 10 with tripartite pigmentation anteriorly, middle part bare. Spermathecae (Fig. 8) acorn-shaped, sclerotised parts of ducts very short.

New records since 1985.—CANADA. Quebec, Old Chelsea, 17.x.1988, J.R. Vockeroth (1 ♀, Canadian National Collection, Ottawa). Ontario, St. Joseph's Island, Hilton Beach, fish entrail baited pan traps in hardwood forest, ix–x.1987, J. Swann (8 ♂, University of Guelph).

Comments.—The first and only female of this species was collected by Dr. Richard Vockeroth, who collected the male holotype at the same locality, and during the same month and week, twenty four years earlier.

Xenolimosina sicula Marshall

Xenolimosina sicula Marshall 1985: 765.

New distributional records.—In addition to the original records from Ontario, Quebec, California and Arkansas, specimens have been examined from the following localities: CANADA. British Columbia: Carmanah Valley. Ontario: Wellington Co., Algonoma Co. UNITED STATES. New Hampshire: Strafford Co. Florida: Leon Co. All new records are from October–November.

LITERATURE CITED

- Marshall, S. A. 1985. The genera *Xenolimosina* and *Terrilimosina* (Diptera: Sphaeroceridae: Limosininae) in North America. *Proceedings of the Entomological Society of Washington* 87: 759–769.
- Roháček, J. 1982–3. A monograph and reclassification of the previous genus *Limosina* Macquart (Diptera, Sphaeroceridae) of Europe. Part 1, *Beiträge zur Entomologie* 32: 195–282 and Part 2 *Beiträge zur Entomologie* 33: 3–195.



Marshall, Stephen A. 1999. "NEW NORTH AMERICAN SPECIES AND RECORDS IN THE GENUS XENOLIMOSINA ROHACEK (DIPTERA : SPHAEROCERIDAE : LIMOSININAE)." *Proceedings of the Entomological Society of Washington* 101, 270–273.

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