

**TAXONOMY AND DISTRIBUTION OF
THE ATHETINE GENUS *LYPOGLOSSA* FENYES
(COLEOPTERA: STAPHYLINIDAE: ALEOCHARINAE) IN
NORTH AMERICA, WITH DESCRIPTION OF A
NEW SPECIES**

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Abstract.—The athetine genus *Lypoglossa* Fenyes is reviewed and redescribed. Two North American species are treated, of which one is described as new: *franclemonti* from the boreal region of northern North America. The following new specific synonymy is proposed: *fenyesi* Bernhauer 1907 (= *angularis* Mäklin, 1853). Lectotypes are designated for *Lypoglossa fenyesi* (Bernhauer) and the Palearctic species *L. lateralis* (Mannerheim).

Adult mouthpart structures are illustrated for the first time for the genus; species distributional data are recorded and mapped; all bionomic data are presented; habitus, male aedeagus, female spermatheca, and other diagnostic characters are illustrated with the aid of line drawings and scanning electron photomicrographs; and a key to species is provided.

The genus *Lypoglossa* was proposed by Fenyes in 1918 to contain the single species *Dasyglossa fenyesi* Bernhauer (1907:402) described from the Pacific Northwest. During the next half century, no important contributions were provided on the systematics of this little known genus of athetine Aleocharinae. In 1978, C. H. Seevers, in his tribal and generic revision of North American aleocharine rove beetles, gave little information on this taxon and its characters, other than to include it in a key to genera (p. 46). Our knowledge of the genus was further amplified in 1985, when Lohse and Smetana, while studying numerous types of species of oxypodine and athetine staphylinids described by Mannerheim and Mäklin from northwestern North America, noted that *Myrmedonia angularis* Mäklin (1853:181) belonged to the genus *Lypoglossa*; in their paper they formalized this new combination, thus adding a second species of this genus to our faunal list. In their discussion, Lohse and Smetana gave a brief diagnosis to differentiate *L. angularis* and *L. fenyesi*, based on characters of the antenna, color and shape of the pronotum, and male and female genitalia. They also synonymized the Palearctic genus *Megacrotona* Scheerpeltz (1968:159), including the single species *M. lateralis* (Mannerheim), with *Lypoglossa*.

The present paper resulted in part from my request to examine unidentified specimens of Staphylinidae in the collection of the University of Vermont, in particular the aleocharine rove beetles. To my surprise, included in this material were specimens of a large, distinctive athetine from the high elevations of southern Vermont which at first I was unable to name but later tentatively identified as belonging to the genus *Lypoglossa*. Other borrowed material, from collections listed in Acknowledgments, included specimens from high elevations of northern New York and New Hampshire, a bog in Maine in the East, and numerous localities in western North America. In

this paper, I provide a detailed redescription and diagnosis of the genus *Lypoglossa* with illustrations of adult habitus, mouthparts, and other structural characters, new synonymy, lectotype designations, description of a new species, and a key to aid in the identification of the North American species.

Genus *Lypoglossa* Fenyes

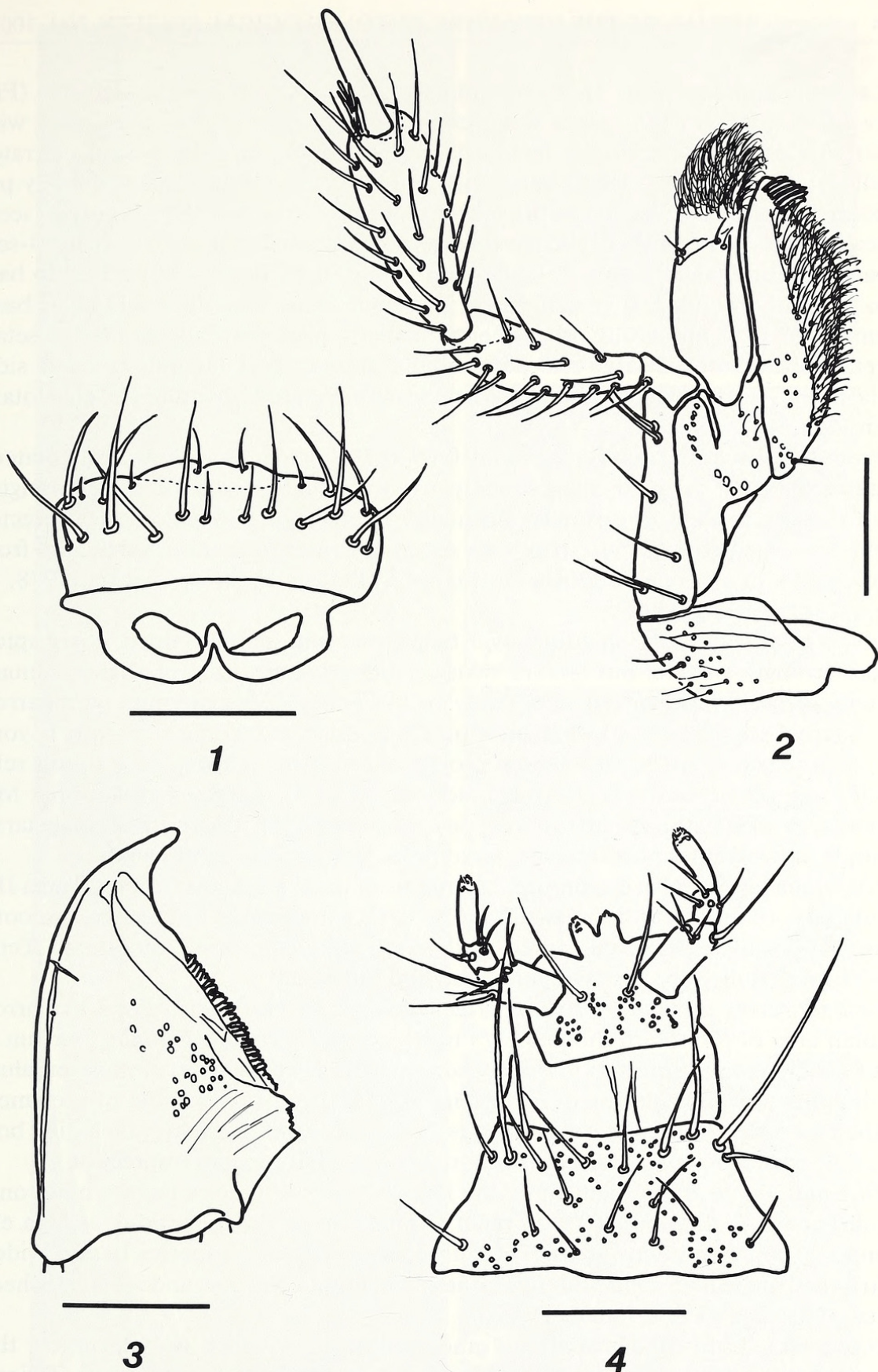
Lypoglossa Fenyes, 1918:23; 1920:239; Blackwelder, 1952:228; Moore and Legner, 1975:448, Seevers, 1978:46, 134. Type species: *Dasyglossa fenyesi* Bernhauer, 1907: 402, by monotypy.

Megacrotona Scheerpeltz, 1968:159 (as new subgenus of *Atheta*); Lohse and Smetana, 1985:294 (as junior synonym of *Lypoglossa*). Type species: *Oxypoda lateralis* Manerheim, 1830:484, by monotypy.

Diagnosis. Members of *Lypoglossa* share a striking overall resemblance to *Devia prospera* Erichson (Oxypodini), and to some large specimens of *Oxypoda* (Oxypodini), but differ principally by the 4,5,5 tarsal formula (5,5,5 in *Devia prospera* and *Oxypoda* spp.) and the unique punctation and pubescence of the dorsal abdominal segments (Fig. 5) in which terga III-V are densely, finely punctured, with short, silky, dense, appressed microsetae, whereas terga VI-VIII are very sparsely punctured, with sparse microsetae (uniform punctation and microsetae on dorsal abdominal segments in *Devia prospera* and *Oxypoda* spp.). *Lypoglossa* can be further characterized by the following combination of characters: relatively large (3.3–4.5 mm), fusiform in shape; pronotum exceptionally broad, $0.69\text{--}0.79 \times$ wider than long; pronotal pubescence along midline directed cephalad, remaining microsetae swirling laterad from midline (Pattern E of Seevers, 1978) (Fig. 5); hypomera incompletely visible from lateral view; mesocoxae narrowly separated; mesosternal process long, slender, acute at apex (Fig. 8); mesosternal process: isthmus: metasternal process ratio, 12:5:1; tarsal formula 4,5,5.

Redescription. Moderate to large sized, length of North American specimens 3.3–4.5 mm. Body shape elongate, fusiform (Fig. 5). Body color testaceous to reddish-brown, except head and abdomen dark reddish-brown to piceous. Body microsculpture imbricate, dense and prominent on head, pronotum, and elytra (Fig. 9); that on abdominal segments transversely striate, consisting of obsolete, interconnected, wavy microlines; cuticular surface dull to slightly glossy; integument moderately to densely pubescent, microsetae appressed; macrosetae present, conspicuous on abdomen; punctures moderately dense throughout, very fine to slightly asperate, especially on basal three abdominal segments.

Head more or less transverse, slightly wider than long (L/W ratio = 0.84), broadest across temples just posterior to eyes, basal angles broadly rounded, neck absent. Eye size small, $0.40 \times$ length of head. Tempora moderate, subequal to length of eye, broadly rounded. Dorsal pubescence prominent, directed more or less medially on sides, and anteriorly along midline. Infraorbital ridge conspicuous posteriorly, absent anteriorly. Antenna moderately elongate, about as long as, or slightly longer than head and pronotum combined, slightly incrassate towards apex; articles 1–4 more or less elongate, article 3 longer than 2, articles 5–10 becoming more gradually transverse and increasing in width to apical articles; article 11 conical apically, about as long as articles 9 + 10.



Figs. 1–4. *Lypoglossa franclemonti*, adult mouthpart structures. 1, Labrum, dorsal aspect; 2, Maxilla, dorsal aspect; 3, Left mandible, dorsal aspect; 4, Labium, ventral aspect. (Scale line = 1.0 mm)

Labrum transverse (Fig. 1). Right and left mandibles with similar dentition (Fig. 3), without internal teeth, apices acute, entire; molar region slightly developed, with short row of spinose teeth on inner edge; membranous prostheca finely serrated medially. Maxilla (Fig. 2) with galea slightly longer than lacinia; galea densely pubescent in apical 0.4; lacinia with comb of single row of 6–7 large recurved teeth apically, and dense patch of recurved setae dorso-medially; maxillary palps 4-segmented. Labium as in Figure 4; ligula moderately short, deeply cleft nearly to base into 2 bluntly rounded, divergent lobes; 2 medial setae, broadly separated at base; prementum with numerous pseudopores medially plus posterior to medial setae, several pseudopores, 2 large real pores, and 1 spinose pore laterally on each side; labial palps 3-segmented, chaetotaxy of articles as in Figure 4; mentum and chaetotaxy as in Figure 4.

Pronotum broadly transverse, about $0.69\text{--}0.79\times$ wider than long; anterolateral margins obtusely rounded; sides broadly, evenly arcuate; posterior margin ranging from broadly arcuate to distinctly bisinuate; pubescence with microsetae directed cephalad in a narrow median strip, with remaining microsetae directed laterad from median row in swirling pattern as in Figure 5 (Pattern E, *sensu* Seevers, 1978, or Type I, *sensu* Hoeg, 1945).

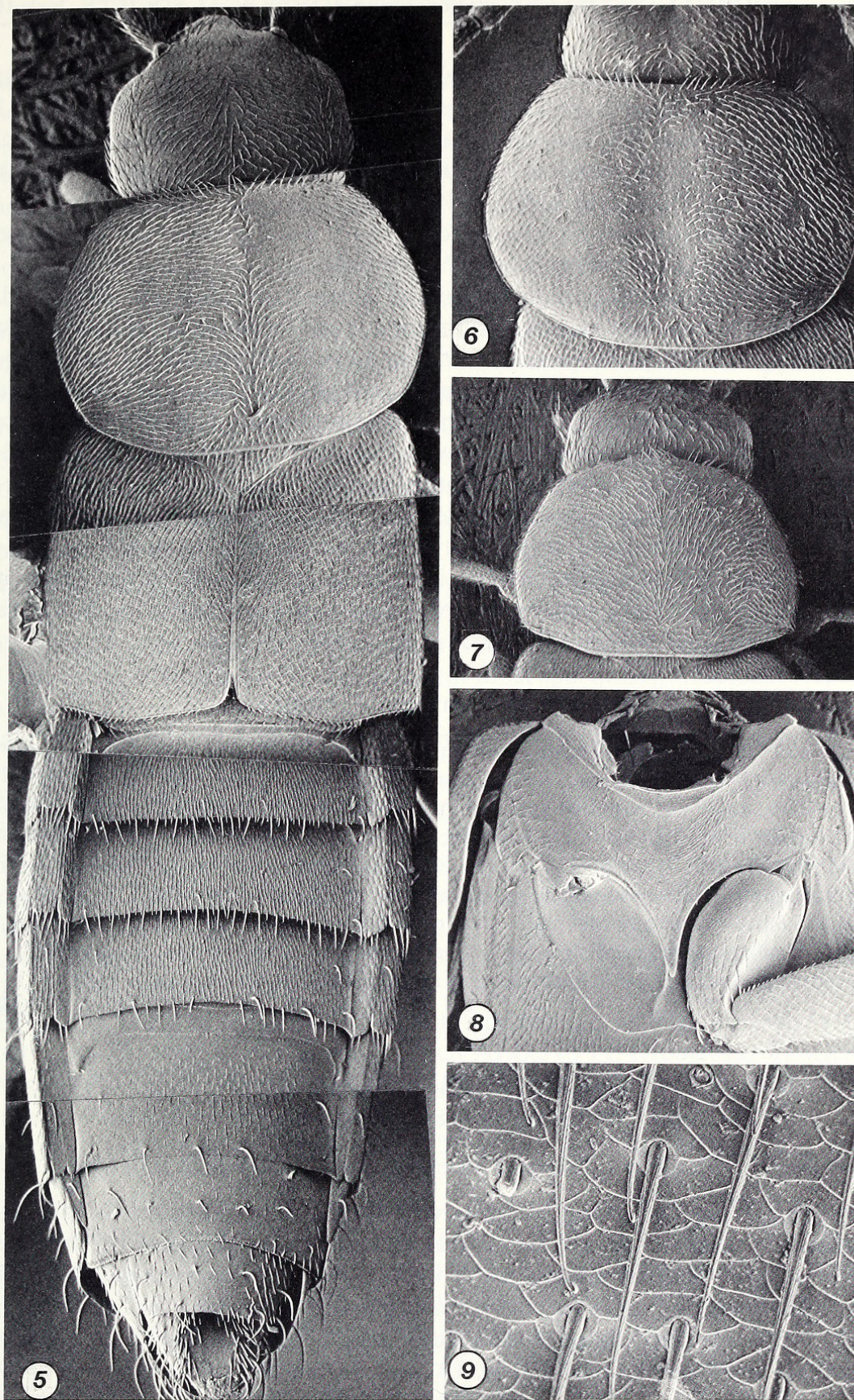
Elytra relatively short, slightly longer than pronotum, parallel-sided; outer apical angles strongly sinuate; pubescence dense, microsetae arranged in slightly sinuate pattern, directed more or less posteriorly, as in Figure 5. Mesosternum with narrow mesosternal process (Fig. 8), elongate, apically pointed, extending to slightly beyond middle of coxal cavities; metasternal process short, broadly rounded; isthmus relatively long; coxae narrowly separated, acetabulae finely margined posteriorly. Mesosternal process: isthmus: metasternal process ratio 12:5:1. Legs slender, long; tarsal formula 4,5,5; hind tarsus elongate, tarsomeres 1–4 decreasing in length.

Abdomen broad at base, elongate, tapered from basal segments to apex. Terga III–VI slightly, transversely impressed basally; basal impressions impunctate, smooth. Terga III–V dull, densely punctured, with short, silky, appressed microsetae. Terga VI–VIII less dull, very sparsely punctured and pubescent.

Secondary sexual characteristics. *Male:* Dorsum of head, and broad to narrow median area of pronotum moderately impressed (as in Fig. 6). *Female:* Dorsum of head evenly convex; pronotum evenly convex with slight narrow impression along median line in some specimens (as in Fig. 5). [The head and pronota of specimens of the type series of the Palearctic species *L. lateralis* (Mannerheim), including both sexes, are evenly convex dorsally without any apparent median impression.]

Distribution. At the present time, the known Nearctic species have a transcontinental, northern distribution, with relict populations in the mountains or high elevations of more southern areas. The only known Palearctic species is also widely distributed in the high elevations of northern and middle Europe, and Siberia (Scheerpeltz, 1968; Benick and Lohse, 1974).

Bionomics. Limited distributional and ecological evidence would suggest that members of *Lypoglossa* are probably restricted to the boreal forest zone of North America (and Eurasia), a coniferous forest with a floor cover of mosses or of low herbs and shrubs, interspersed with extensive lakes (Rowe, 1972), which extends in a continuous belt from Newfoundland and the Labrador coast in the east, west to the Rocky Mountains and then northwards to the mouth of the Mackenzie River



Figs. 5-9. *Lypoglossa* spp.: 5-6 & 8-9, *L. franclemonti*. 5, Dorsal habitus; 6, Pronotum, dorsal aspect, male; 8, Meso- and metasternum; 9, Elytral microsculpture. 7, *L. angularis*, Pronotum, dorsal aspect, female.

and the central areas of Alaska (with relictual areas in the mountains of Arizona, New Mexico, and Colorado, and high elevations of eastern New York through New England) (Scudder, 1979). The principal tree species of the boreal forest include White and Black Spruce, various pine and fir species, and White Birch, Trembling Aspen and Balsam Poplar (Scudder, 1979).

Remarks. *Lypoglossa*, as now known, consists of 2 widely distributed boreal species in North America and 1 species in the Palearctic region.

Having amassed a considerable number of specimens of both identified and unidentified North American material from various collections, I assumed these specimens, segregated into 2 distinct, but similar morphospecies, would be readily assignable to the two available North American names. However, this was not the case. After careful examination of the types of *Lypoglossa angularis* (Mäklin) and *L. fenyesei* (Bernhauer), I discovered that they are conspecific, thus necessitating the new synonymy stated herein, and the description of a new species.

Most specimens of *Lypoglossa* in collections, if determined, are identified as *L. fenyesei*, thought originally to be the only included species of the genus. The new species, *franclemonti*, described herein, is often included in identified series of *L. fenyesei*. Specimens of both species, however, can be separated readily by the shape of the pronotum, and by key differences in the male genitalia.

KEY TO NORTH AMERICAN *LYPOGLOSSA*

1. Pronotum less transverse, broadly oval in shape (L/W ratio = 0.75–0.79), posterior margin usually evenly arcuate, with posterior angles broadly rounded (as in Figs. 5–6), pronotal color testaceous to light reddish-brown, usually strongly contrasting with darker color of head and elytra; median lobe of aedeagus and apical lobe of paramerite as in Figs. 10–12 *L. franclemonti*, n. sp.
- 1'. Pronotum more transverse, rectangular in shape (L/W ratio = 0.69–0.71), posterior margin usually distinctly bisinuate, with posterior angles strongly obtuse (as in Fig. 7), pronotal color dark reddish-brown, usually concolorous with elytra, or only slightly contrasting; median lobe of aedeagus and apical lobe of paramerite as in Figs. 15–17 *L. angularis* (Mäklin)

Lypoglossa franclemonti, new species

Figs. 1–6, 8–14; Map 1

Lypoglossa fenyesei: *sensu* Lohse and Smetana, 1985:294 (not Bernhauer).

Diagnosis. *Lypoglossa franclemonti* is very similar externally to *L. angularis*, but can be readily separated by the more oval, less transversely-shaped pronotum with broadly arcuate posterior margin and evenly rounded posterior angles (Figs. 5–6), by the reddish-yellow pronotum which is usually contrasting with the head and elytra, and by the characteristic shape of the median lobe of the aedeagus (Figs. 10–11) and the apical lobe of the paramerite (Fig. 12).

Description. Length 3.3–4.5 mm. Body color testaceous to yellowish brown, except head, areas of elytra adjacent to scutellum and elytral suture, sometimes outer posterior angles of elytra, and abdominal segments darker, reddish-brown to piceous; in most specimens terga VI–VIII with bluish-black iridescent sheen.

Head obsoletely imbricate with moderately dense, irregular, wide, transverse sculp-

ticells, surface slightly glossy; microsetae moderately short, somewhat dense, appressed; punctures fine to very slightly asperate. Antenna elongate and slender, with articles 1–3 elongate, article 1 slightly incrassate, article 2 more slender, slightly shorter than article 3; article 4 distinctly longer than wide; articles 5–10 decreasing in length and becoming more quadrate and transverse; article 11 subequal to articles 9 + 10.

Pronotum less transverse, tending to be somewhat oval-quadrate (L/W ratio = 0.75–0.79); posterior margin broadly arcuate, or very obsoletely bisinuate in some specimens; posterior angles broadly rounded. Integument markedly imbricate, moderately glossy; pubescence with microsetae moderately short, dense, appressed, directed cephalad in narrow median strip, with remaining microsetae swirling laterad from median strip; punctures moderately fine, very slightly asperate.

Elytra slightly narrower than maximum width of pronotum; microsculpture densely imbricate (Fig. 9); pubescence with microsetae short, dense, appressed, directed posteriorly in a slightly sinuate pattern; punctures dense, uniform, slightly asperate.

Abdominal terga III–V with moderately dense pubescence; microsetae very fine, short, appressed; punctures fine, dense. Tergite VI with sparse, fine punctures; terga VII–VIII with punctures even more sparse than that of tergite VI; microsetae of terga VI–VIII moderately short, silky, fine, appressed; abdominal integument dull, with fine, transverse microsculpture, appearing (in most specimens) iridescent (especially terga VI–VII).

Male: Median lobe of aedeagus as in Figures 10–11. Paramere and apical lobe of paramerite as in Figure 12.

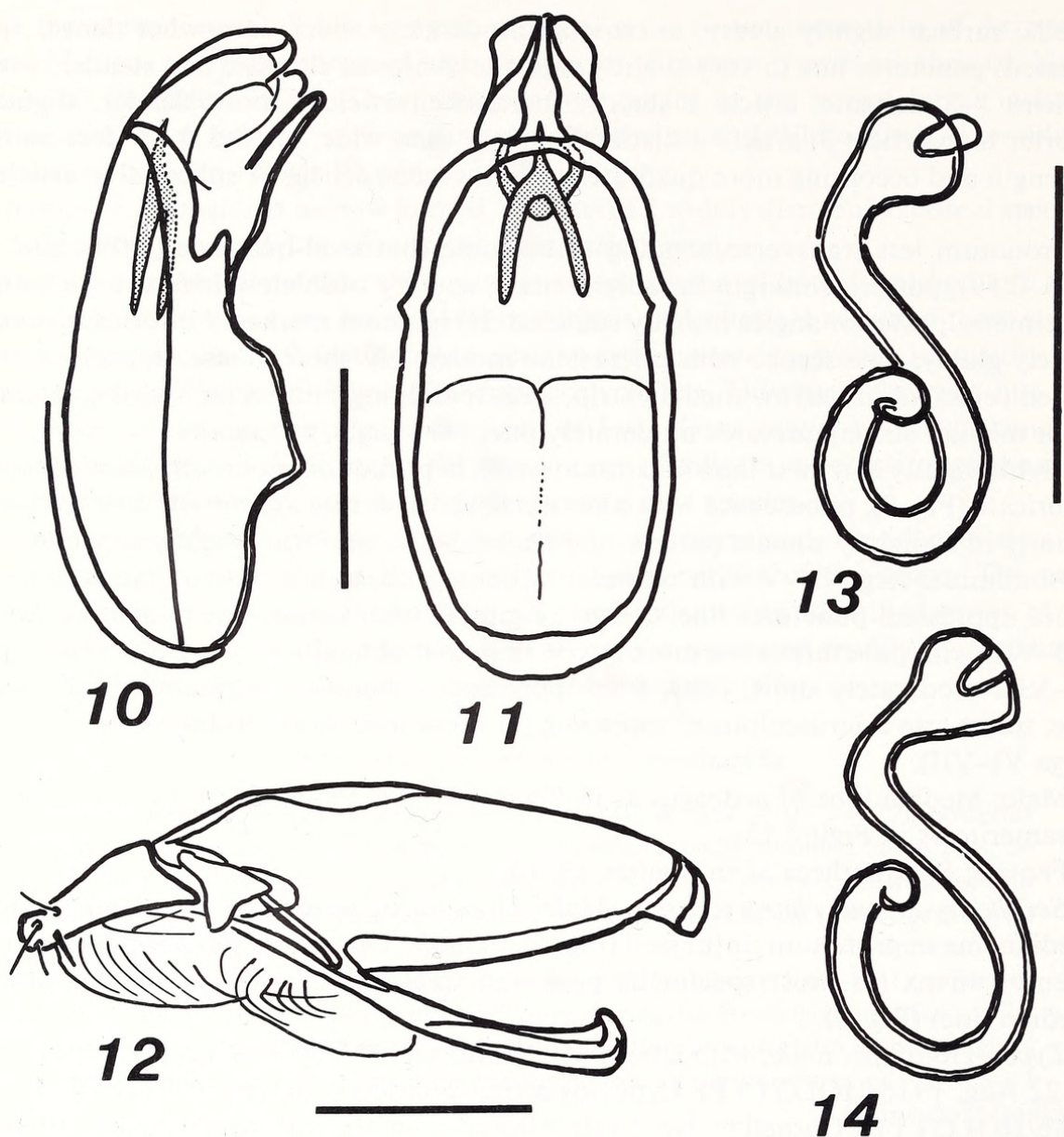
Female: Spermatheca as in Figures 13–14.

Secondary sexual characteristics. Male: Dorsum of head, and broad area along median line of pronotum impressed (Fig. 6). Female: Dorsum of head and pronotum evenly convex (in most specimens pronotum may be narrowly impressed along median line) (Fig. 5).

Types. Holotype, male, with labels: Mt. Whiteface, N.Y. [Essex Co.], 2,000–4,000 ft, 22 Aug. 1916/HOLOTYPE *Lypoglossa franclemonti* ♂, design. 1991, E. R. Hoebeke/HOLOTYPE Cornell U. No. 6510. Allotype, female, with labels: Artist's Brook, Essex Co., N.Y., June 11, 1933, H. Dietrich/ALLOTYPE *Lypoglossa franclemonti* ♀, design. 1991, E. R. Hoebeke/ALLOTYPE Cornell U. No. 6510. Both holotype and allotype are deposited in the Cornell University Insect Collection, Ithaca, N.Y.

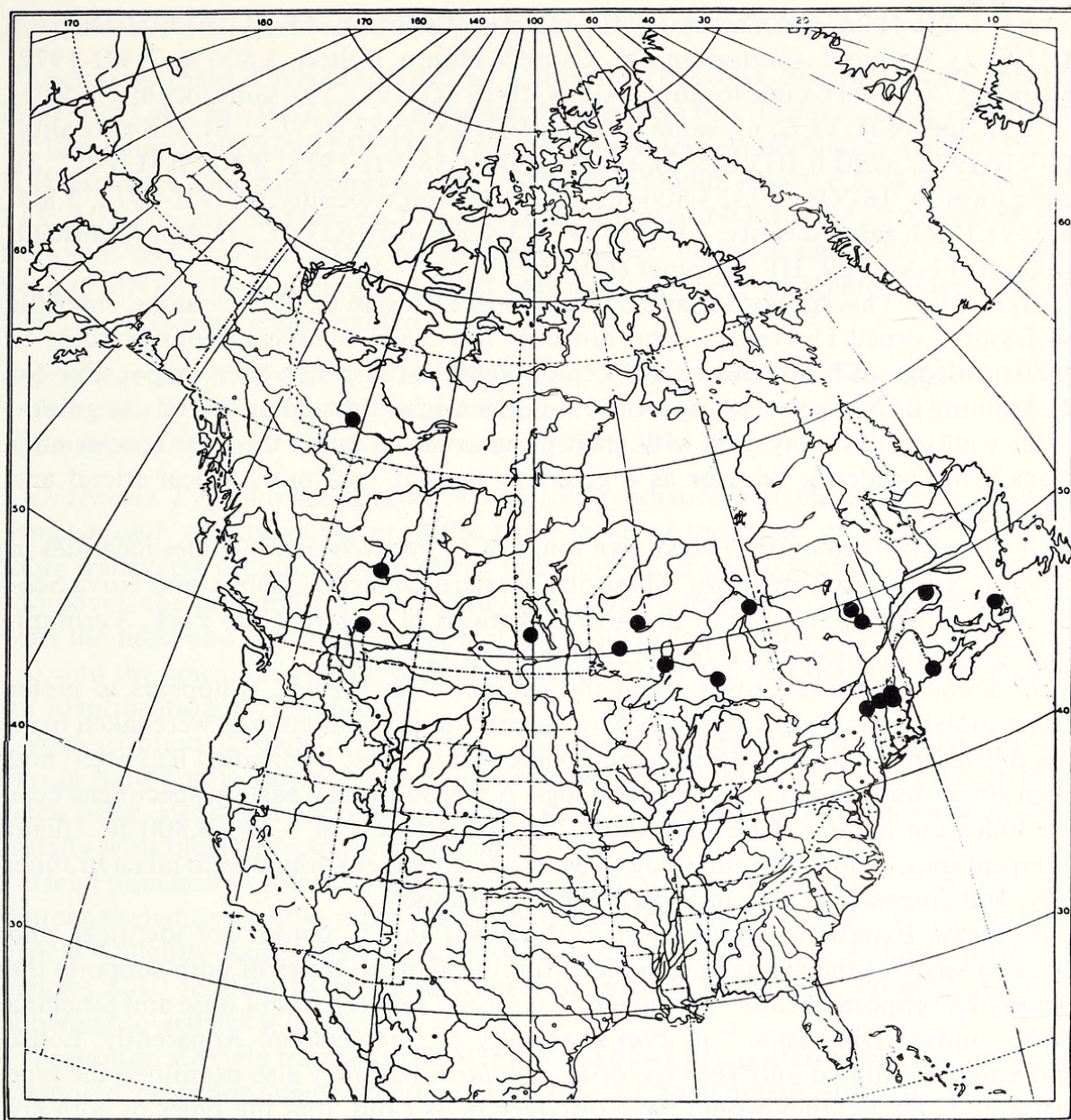
Paratypes, 182, are deposited in the CNCI, MCZC, FMNH, CUIC, SEMC, UVCC, and DENH.

CANADA: Alberta: 8 mi W Calgary, on 1A, 18–20-VI-1980 (CUIC, 2). George Lake, ca. 53°57'N, 114°06'W, 1-VI, 12-VI, 16-VI, 2-VIII, 10-VIII-1980, JS Ashe (SEMC, 16); George Lake, 53°57'N, 114°06'W, 1-X-1966, 10-IX-1966, 25-IX-1966, RE Leech (CNCI, 5). Lusk Creek, Kananaskis F.E.S., 14-VII-1971, JM & BA Campbell (CNCI, 4). *Manitoba:* Riding Mtn. N.P., Moon Lake, 17-IX-1979, A Smetana (CNCI, 6); nr Deep Lk., 7-IX-1979, A Smetana (CNCI, 4); Whirlpool Rv. at Hwy 19, 6-IX-1979, A Smetana (CNCI, 1). *Northwest Territories:* Hwy 3, 5 mi SE Ft. Simpson, 21-VI-1972, A Smetana (CNCI, 1). *Nova Scotia:* Cape Breton H.N.P., 410 m, Benjies Lake area, 18-IX-1984, JM Campbell & A Davies (CNCI, 1); 440 m, nr Sammy's Barren, 24-IX-1984, JM Campbell & A Davies (CNCI, 1). *Ontario:* Lk. Superior Prov. Pk., Garanyua, 9-VI-1973, JM Campbell & R Parry (CNCI, 10);



Figs. 10–14. *Lypoglossa franclemonti*. 10, Median lobe of aedeagus, lateral aspect; 11, Median lobe of aedeagus, dorsal aspect; 12, Paramere; 13, Spermatheca (Bolton, Vermont); 14, Spermatheca (Mt. Marcy, New York). (Scale line = 0.25 mm)

Frater, 9–13-VI-1973, JM Campbell & R Parry (CNCI, 5); Old Woman Bay, 13-VI-1973, Campbell & Parry (CNCI, 3); Agawa Bay, 13-VI-1973, Campbell & Parry (CNCI, 6); Baldhead Lk., 8-VI-1973, JM Campbell & R Parry (CNCI, 1). 46 mi N Hurkett, Black Sturgeon Lk., 28–29-VI-1973, R Parry & JM Campbell (CNCI, 2). 49 mi N Savant Lake, 23-VI-1973, Campbell & Parry (CNCI, 1). Moosenoe, 30-VI-1973, 2-VII-1973, Parry & Campbell (CNCI, 7). 21 mi & 41 mi N Pickle Lake, 19-VI-1973, Campbell & Parry (CNCI, 2). 36 mi S Pickle Lake, 22-VI-1973, Campbell & Parry (CNCI, 5). *Quebec*: Mistassini Post, 13-VI-1956, JR Lansway (CNCI, 1). Parc des Laurentides, Mare-du-Sault, 2,700 ft, 15–17-VIII-1970, JM & BA Campbell (CNCI, 2). Gaspesie Parc, Lac St. Anne, 12-VII-1972, 1,500 ft, JM & BA Campbell (CNCI, 1); Lac du Diable, 12-VII-1972, 1,500 ft, JM & BA Campbell (CNCI, 2);



Map 1. Known geographic distribution of *Lypoglossa franclemonti*.

Lac Cascadepedia, 14-VII-1972, 1,700 ft, JM & BA Campbell (CNCI, 1); Mont Albert, 9-VII-1972, 1,000 ft, JM & BA Campbell (CNCI, 4).

UNITED STATES: *Maine:* Washington Co., Carrying Place Cove, Lubec, 23-VII/24-VIII-1989, H. Främbbs (CUIC, 22). *New Hampshire:* Coos Co., Crawford Notch, 25-IX-1908 (MCZC, 3); Bretton Woods (FMNH, 1); 1 mi NE East Inlet Dam, 27-IX/17-X-1986, 26-IX-1986, DS Chandler (DENH, 2); Norton Pool, 2 mi E East Inlet Dam, 7-IX-1984, DS Chandler (DENH, 2); White Mts., GlenBoulder Trail, 2,500 ft, 17-VIII-1976, JM & BA Campbell (CNCI, 1); Glen Ellis Falls, 1,900 ft, 15-VIII-1976, JM & BA Campbell (CNCI, 1). *New York:* Essex Co., Mt. Whiteface, 21-X-1934, CR Crosby (CUIC, 3); Mt. Whiteface, 25-VIII-1921 (CUIC, 1); Top Mt. Marcy, 22-X-1936, H Dietrich (CUIC, 1); Top of Mt. Whiteface, 22-X-1936, H Dietrich (CUIC, 2); Essex Co. (no locality), 10-VII-1918 (CUIC, 4); Top Mt. Mc-

Intyre, 1-VII-1923, CR Crosby (CUIC, 1); Artist's Brook, 11-VI-1933, H Dietrich (CUIC, 1). *Vermont: Chittenden Co.*, Camel's Hump, Bolton, 3,800 ft, 7-VII-1972, RT Bell (UVCC, 11); same locality, 9-19-VIII-1972 (UVCC, 4); same locality, 1-VIII-1972, J Spence (UVCC, 6); same locality, VIII-IX-1972 (UVCC, 6); same locality, 24-VII-1972, 3790 ft (UVCC, 3); same locality, 18-VII-1973, 3,400 ft (UVCC, 2); same locality, 18-VII-1973, 3,800 ft (UVCC, 4); same locality, 17-VII-1972, 3,800 ft (UVCC, 6); same locality, 23-VIII-1975, Langworthy (UVCC, 1); Mt. Mansfield, 4,000 ft, 11-X-1969, HP Wimmer (UVCC, 1).

Etymology. This species is named in honor of Dr. John G. Franclemont, emeritus professor, Cornell University, who not only has made significant contributions to our knowledge of North American Lepidoptera, but also has been responsible for the training of many practicing North American insect systematists. In recognition of his eightieth birthday, it is with great pleasure that I name this new species after "Jack," my academic advisor as a graduate student, and now, a dear friend and colleague.

Geographic distribution. The known range of *L. franclemonti* includes localities in Alberta, Northwest Territories, Manitoba, western Ontario, Quebec, and Nova Scotia, with relict populations in the high elevations of eastern New York, Vermont, and New Hampshire, and a bog in Maine (Map 1).

Bionomics. Little is known about the habits of this species. It appears to prefer rather moist, rich, organic habitats. Most western specimens studied were taken from sifted litter in birch, birch-liedum, and black spruce bogs; from sifted leaf litter; and from sifted moss and lichens on rotten logs. A few additional eastern specimens bear the following habitat data: "pit traps" in spruce forest at 3,400–3,800 ft, "flight intercept trap," and "sift conifer logs." Most specimens examined were taken in June, July, and August, but also in September and October.

Remarks. Externally the types of *L. angularis* and *L. fenyesei* are identical, and detailed study of the genitalia of males from the syntype series of both supports the synonymy proposed below. The taxon "*L. fenyesei*" referred to in Lohse and Smetana (1985, under "Discussion," p. 294) is actually *L. franclemonti*. Apparently, Lohse and Smetana studied only the type of *L. angularis*; had they also examined the type series of *L. fenyesei* they would have discovered, as I did, that the types of both are conspecific and thus would have known that the other "widespread" species of *Lypoglossa* occurring in North America actually represented an undescribed species. The male and female genitalia figured in Lohse and Smetana (1985) as that of *L. fenyesei* (cf. Figs. 24–25, p. 295) is really that of *L. franclemonti*.

Lypoglossa angularis (Mäklin)

Figs. 7, 15–18; Map 2

Myrmedonia angularis Mäklin, 1853:181.

Lectotype male: UNITED STATES: Alaska: "Woskres." (=Woskersensk, Kenai peninsula) (UZMH). Specimen with labels: Coll. Mäklin; *Myrmedonia angularis* Mäkl. Woskres.; *Dasyglossa prospera* Er. det. Bernhauer; Mus. Zool. H. fors Spec. typ. No. 2270 *Myrmedonia angularis* Mäkl.; *Myrmedonia angularis* Mäklin Lectotypus Lohse design. 1983. Type specimen studied. Genitalia dissected and mounted.

Dasyglossa fenyesei Bernhauer, 1907:402; Leng, 1920:126. **New Synonymy.**

Lectotype male: CANADA: British Columbia (FMNH). Specimen with labels: Em[era]ld Lake, BC, 0.6.6.26, DrAFenyese; 330.; fenyesei Brh. Typus.; Chicago NHMus, M. Bernhauer Collection; LECTOTYPE *Dasyglossa fenyesei* Bernhauer, design. 1991, E. R. Hoebeke. One paralectotype, male, with labels: Banff, Alta, 0.6.6.24, DrAFenyese; 313.; 103. (in red ink); fenyesei Brh. Cotypus.; Chicago NHMus, M. Bernhauer Collection; PARALECTOTYPE *Dasyglossa fenyesei* Bernhauer, design. 1991, E. R. Hoebeke (FMNH). Type material studied and lectotype here designated. Genitalia of lectotype dissected and mounted.

Lypoglossa fenyesei: Fenyese, 1920:239, t. 5, f. 2; Bernhauer and Scheerpeltz, 1926: 597; Hatch, 1957:145; Moore and Legner, 1975:448; Seevers, 1978:271.

Lypoglossa angularis: Lohse and Smetana, 1985:281, 293.

Diagnosis. *Lypoglossa angularis* is practically indistinguishable externally from *L. franclemonti*. Adults, however, differ from those of the latter species by having a more transverse pronotum with rather pronounced, obtuse posterior angles (Fig. 7). Moreover, the pronotal color is usually darker in *L. angularis*, and less contrasting with the head and elytra. The shape of the median lobe of the aedeagus (Figs. 15–16), and the apical lobe of the paramerite (Fig. 17) are the best diagnostic characters for identification of this species.

Redescription. Length 3.7–4.2 mm. Body color generally dark, reddish-brown, except mouthparts, antennae, legs, and oblique, indistinct band across each elytron often paler. Head and abdomen generally darker, piceous. Abdominal terga VI–VII usually with bluish-black iridescent sheen.

Head punctuation, setation, and microsculpture similar to that in *L. franclemonti*. Antennae slightly shorter, more robust than in *L. franclemonti*; articles 1–3 elongate; article 4 slightly longer than or subequal to its width; articles 5–7 short, quadrate; articles 8–10 tending to be more transverse; article 11 conical, pointed apically, subequal to articles 9 + 10.

Pronotum strongly transverse (L/W ratio = 0.69–0.71), posterior margin distinctly bisinuate, posterior angles broadly obtuse (Fig. 7). Integument distinctly imbricate, moderately glossy; pubescence with microsetae as in *L. franclemonti*.

Elytra and abdomen as in *L. franclemonti*.

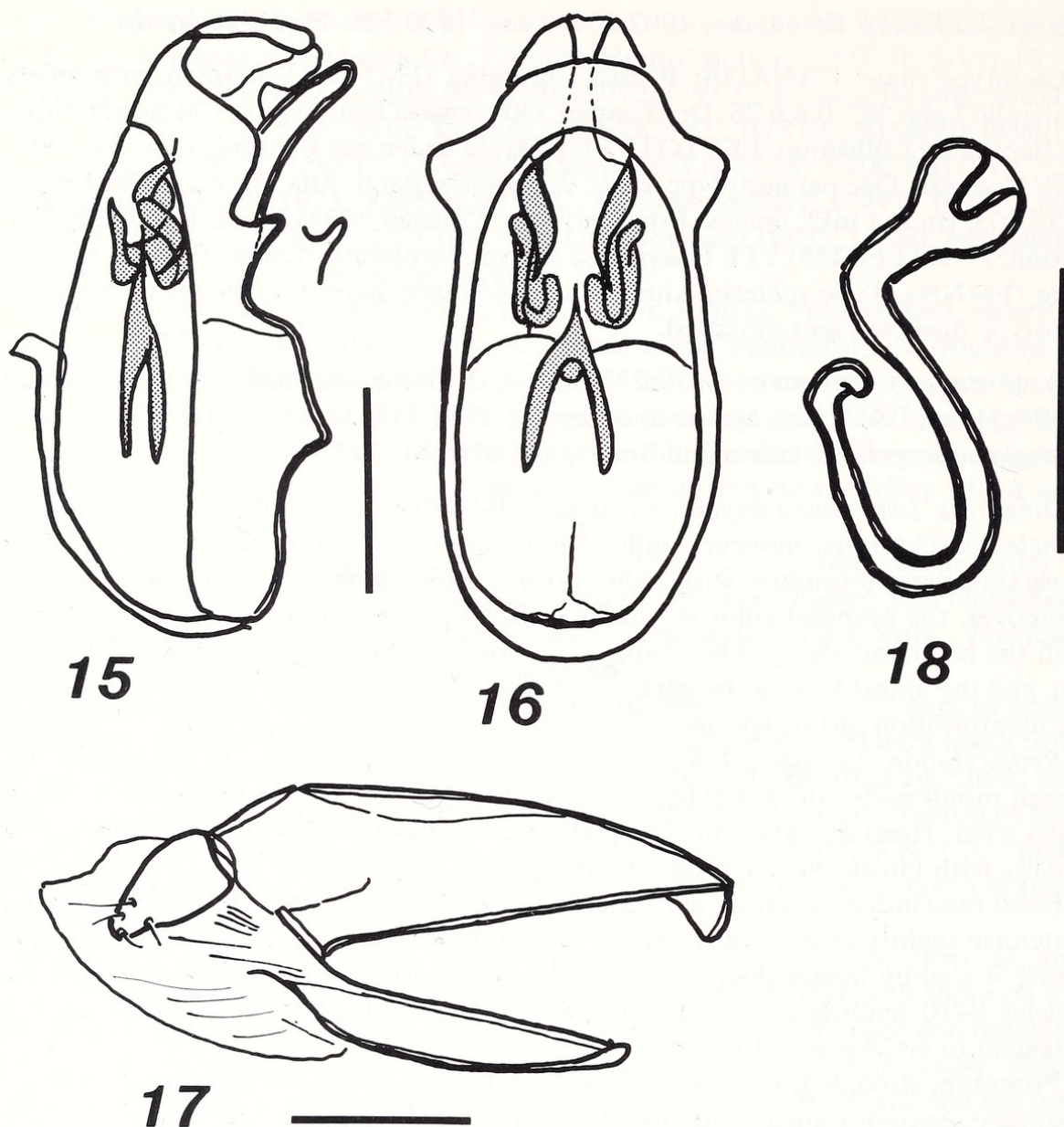
Male: Median lobe of aedeagus as in Figures 15–16. Paramere and apical lobe of paramerite as in Figure 17.

Female: Spermatheca as in Figure 18.

Secondary sexual characteristics. *Male*: Dorsum of head, and narrow median strip of pronotum impressed. *Female*: Dorsum of head and pronotum usually evenly convex (sometimes narrow, median line finely impressed).

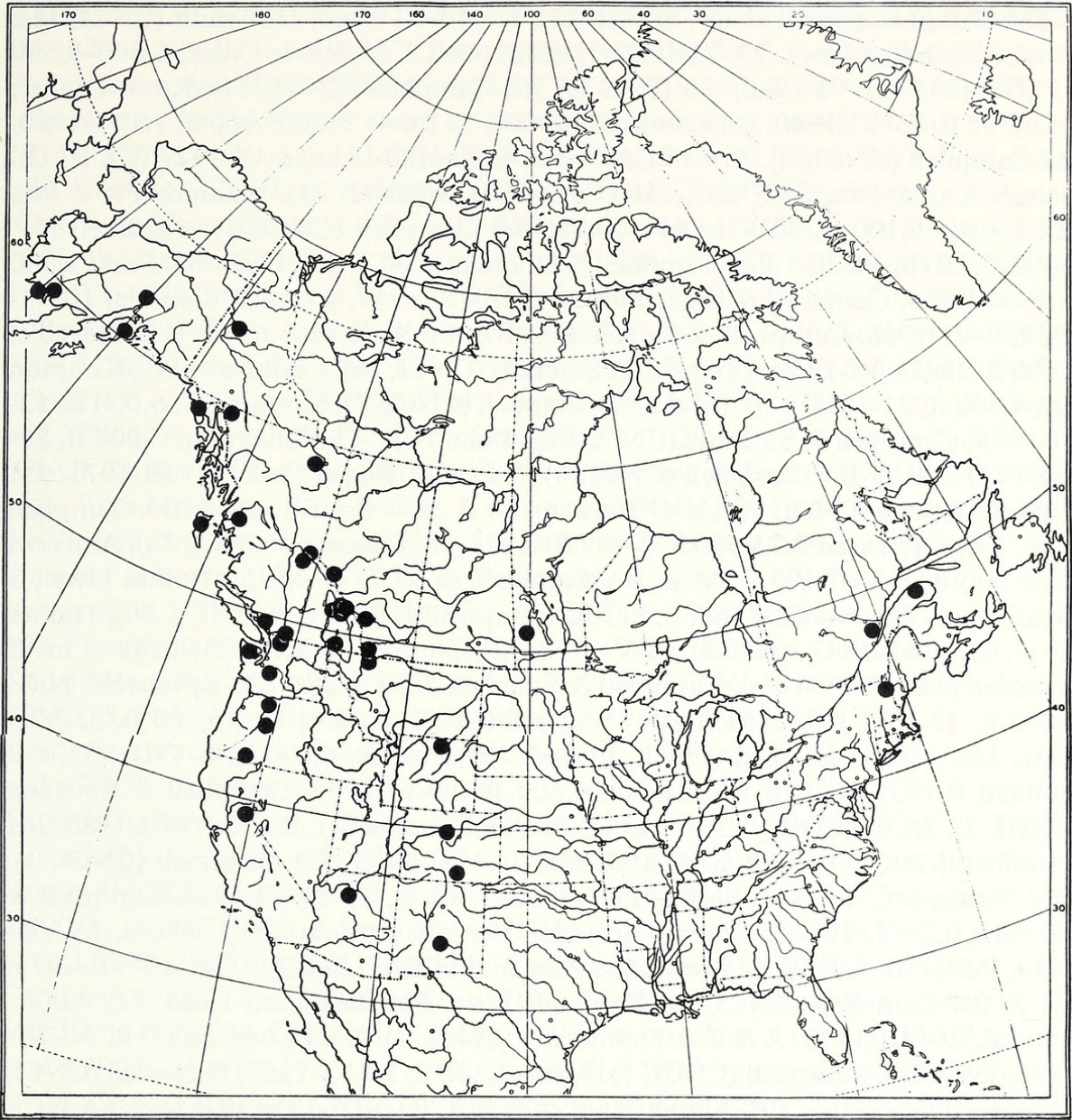
Geographic distribution. *Lypoglossa angularis* is widely distributed in northwestern North America (Alberta, British Columbia, Yukon Territory, Manitoba, and Alaska), with relict populations on the higher mountains in the Gaspé, eastern Quebec, and northern New Hampshire, and in the high elevations of northern California, Oregon, Washington, Colorado, New Mexico, Arizona, Wyoming, and Montana (Map 2).

Material examined. (1,087 specimens): CANADA: Alberta: Banff, 6-VI-1924 (CASC, 6); Banff, Dr A Fenyese (FMNH, 1). Banff N.P., Boom Lk., 6,000 ft, 16-VII-1971,



Figs. 15–18. *Lypoglossa angularis*. 15, Median lobe of aedeagus, lateral aspect; 16, Median lobe of aedeagus, dorsal aspect; 17, Paramere; 18, Spermatheca (Glacier, British Columbia). (Scale line = 0.25 mm)

JM & BA Campbell (CNCI, 11); Bow Lk., 16-VI-1968, 6,500 ft, Campbell & Smetana (CNCI, 4); Agnes Lk., 7,000 ft, 17-VII-1971, JM Campbell (CNCI, 2); Consolation Lk., 64–7,000 ft, 15-VI-68, Campbell & Smetana (CNCI, 26); Cirrus Mt., 5,500 ft, 16-VI-1968, Campbell & Smetana (CNCI, 1); Smith Lk., 15-VII-1971, JM & BA Campbell (CNCI, 1); Mt. Temple Ski Lodge, 6,600 ft, 12-VIII-1971, JM Campbell (CNCI, 1). Jasper N.P., Mt. Edith, Cavell, 6,000 ft, 22-VIII-1971, JM Campbell (CNCI, 1). Kananaskis F.E.S., Lusk Creek, 14-VII-1971, JM & BA Campbell (CNCI, 31); 2.5 mi SE Kananaskis, F.E.S., 15-VIII-1970, EE Lindquist (CNCI, 2); 10 mi SW Kananaskis F.E.S., Marmot Creek Basin, 6,500 ft, 13-VII-1971, JM & BA Campbell (CNCI, 19). Waterton Lks. N.P., Crypt Lake, 6,500 ft, 22-VI-1980, JM Campbell



Map 2. Known geographic distribution of *Lypoglossa angularis*.

(CNCI, 1); Crypt Lk. Tr., 4,900 ft, 23-VI-1980, JM Campbell (CNCI, 1); Lower Bertha Falls, 4,800 ft, 10-VI-1980, JM Campbell (CNCI, 3); Bertha Creek, 49–5,800 ft, 10-VI-1980, JM Campbell (CNCI, 5); Summit-Carthew Lks. Tr., 7,000 ft, 17-VI-1980, JM Campbell (CNCI, 3). Lower Waterton Lk., 4,500 ft, 26-VI-1980, JM Campbell (CNCI, 1); Cameron Cr., 5,200 ft, 24-VI-1980, JM Campbell (CNCI, 7); Cameron Lk., 8–9-VI-1980, 9–14-VI-1980, 17–19-VI-1980, 5,450–5,500 ft, JM Campbell (CNCI, 19); Cameron Lake, 5,500 ft, 31-VII-1980, DE Bright (CNCI, 1); Cameron Lake, 7.VI.1980, 8–11-VI-1980, 23-VI-1980, IM Smith (CNCI, 4); Cameron Ck. picnic ground, 12–16-VI-1980, 17–28-VI-1980, 5,350 ft, IM Smith (CNCI, 29); Rowe Lks. Tr., 5,300–6,500 ft, 7–15-VI-1980, JM Campbell (CNCI, 48); Mother Duck Tr. above Cameron Lk., 17-VI-1980, IM Smith (CNCI, 9); Mother Duck Tr., 58–6,200 ft, 17-VI-1980, JM Campbell (CNCI, 11); Crandell Lk., 19-VI-1980, 5,000

ft, JM Campbell (CNCI, 11); Crandell Lk. Tr., 13-VI-1980, IM Smith (CNCI, 11); Little Prairie picn. area, 23-VI-1980, I Smith (CNCI, 2); Rowe Creek, 5,300–5,500 ft, 7-VI-1980, 21-VI-1980, 4-VIII-1976, JM Campbell (CNCI, 14); Rowe Cr. Tr., 60–6,300 ft, 15-VI-1980, JM Campbell (CNCI, 4); Rowe Trail, 6,400 ft, 16-VI-1980, JM Campbell (CNCI, 4). *British Columbia*: Em[era]ld Lake, 6-VI-1927 (CASC, 2). Glacier, Dr. A Fenyes (CASC, MCZC, FMNH, AMNH, 23). Manning Prov. Pk., Mt. Frosty, 6,100 ft, 30-VII-1975, JM & BA Campbell (CNCI, 1); Blackwell Pk., 6,000–6,750 ft, VI-20-1968, Campbell & Smetana (CNCI, 26); Blackwell Peak, 3,000 ft, V-31-1968, Campbell & Smetana (CNCI, 6). 8 mi W, 21 mi W Creston, 10-VI-1968, 9-VI-1968, Campbell & Smetana (CNCI, 3). Slide Mt., 10 mi E Barkerville, 4,500 ft, 23–24-VI-1968, Campbell & Smetana (CNCI, 25). Kootenay N.P., Kimpton Cr., 4,000 ft, 21-VII-1971, JM & BA Campbell (CNCI, 7); Sinclair Cr., 6,000 ft, 12-VI-1968, Campbell & Smetana (CNCI, 22). Yoho N.P., Lk. McArthur, 7,000 ft, 28-VII-1971, JM & BA Campbell (CNCI, 4); Valley of Hagen Peak, 6-VIII-1971, JM & BA Campbell (CNCI, 1); Lk. O'Hara, 6,700 ft, 30-VII-1971, JM & BA Campbell (CNCI, 6); Otterhead R., 5,500 ft, 3–7-VIII-1971, JM Campbell (CNCI, 38); Amiskwi R., 6,000 ft, 5-VIII-1971, JM & BA Campbell (CNCI, 4). Mi 56 Haines Hwy., 3 Guardsmen Pass, 4-VII-1968, 3,200 ft, Campbell & Smetana (CNCI, 26); Haines Hwy., km 143–144, 2,400 ft, 22-V-1978, Smetana & Becker (CNCI, 4). 5 mi E Whistler's Mt., 29-V-1968, Campbell & Smetana (CNCI, 28). Mt. Revelstoke N.P., 6,500 ft, 18-VIII-1971, JM & BA Campbell (CNCI, 1); Eva Lk., 6,500 ft, 25-VII-1971, JM & BA Campbell (CNCI, 61); Mt. Revelstoke, 6,000 ft, 8-VII-1952, GP Holland (CNCI, 2); Mt. Revelstoke, 6,300 ft, 18-VI-1968, Campbell & Smetana (CNCI, 7). 7.6 km E Hwy 25, 6.2 km S Terrace, Copper Mt. Rd., 24-VIII-1983, JM Campbell (CNCI, 1). 46 km W McBride, 26-VIII-1983, JM Campbell (CNCI, 1). Two Sisters Mt., 15 mi E Barkerville, 4,500–6,500 ft, 23–24-VI-1968, Campbell & Smetana (CNCI, 16). Courtney, Forbidden Plateau, nr Courtney Lookout, 25-VII-1979, IM Smith (CNCI, 4); Forbidden Plateau, McPhee Lake, 3,700 ft, 19-VII-1975, JM & BA Campbell (CNCI, 1). Garibaldi Prov. Pk., Diamond Head Tr., 4,000–4,500 ft, 26-VII-1973, A & Z & D Smetana (CNCI, 1); Opal Cone, 5,200 ft, 3-VIII-1975, JM & BA Campbell (CNCI, 1). Atlin, 2,200 ft, 23-VI-1955, H Huckel (CNCI, 1). Summit Lake, Mi 392 Alaska Hwy., 4,200 ft, 23-VIII-1959, RE Leech (CNCI, 1). Queen Charlotte Isl., Moresby Isl., Mt. Moresby, 2,100 ft, 25-VII-1983, JM Campbell (CNCI, 5). *Manitoba*: Riding Mt. N.P., 1 km SE Long Lake, 16-IX-1979, A Smetana (CNCI, 1); Stathclair Trail, 4.5 km S Kinnis Crk., 12-IX-1979, A Smetana (CNCI, 6). *Quebec*: Parc Gaspesie, Lac Cascapedia, 14-VII-1972, 1,700 ft, JM & BA Campbell (CNCI, 1); Mont Albert, 8-VII-1972, 1,000 ft, JM & BA Campbell (CNCI, 3); Mont Albert, 10-11-VII-1972, 2,800–3,700 ft, JM Campbell (CNCI, 8); Mt. Albert, 3,150 ft, 20-VI-1954, 2-VI-1954, GP Holland (CNCI, 9). Parc des Laurentides, Lac Arthabaska, 2,800 ft, 21–22-VIII-1970, JM & BA Campbell (CNCI, 3); Mare-du-Sault, 2,700 ft, 15–17-VIII-1970, JM & BA Campbell (CNCI, 4); Bois Verts, 2,800 ft, 18-VIII-1970, JM & BA Campbell (CNCI, 1). Mont Jacques, Cartier, 4,000 ft, 22-VII-1972, JM Campbell (CNCI, 4). *Yukon Territory*: Dempster Hwy., Mi 29.5, 2,800 ft, 24-VII-1978, JM Campbell & A Smetana (CNCI, 2); Mi 45, 3,500 ft, 14-VII-1968, Campbell & Smetana (CNCI, 4); Mi 42, N Klondike R., 3,300 ft, 18-VII-1978, Smetana & Campbell (CNCI, 14); Mi 53, North Fork Pass, 4,200 ft, 24-VII-1978, A Smetana & JM Campbell (CNCI, 1).

UNITED STATES: Alaska: 2.5 mi S Lituya Bay, Mount Blunt, 2,500 ft, VI/3-IX-1977, 4-VI-1977, 1-VII-1977, Dan Mann (AMNH, 70). 7.5 mi NNW Dillingham, Wood River Red Bluff, 59°8'30", 158°33'W, 18-VI-1980, L Herman (AMNH, 4). Hagemeister Island, North shore at base of long sand spit, 24-VI-1980, 58°38'N, 161°04'30"W, L Herman (AMNH, 5). Kenai Pen., 3 mi SE Kenai, 7-VI-1978, Smetana & Becker (CNCI, 1); Kalifonsky Bch., nr Kenai, 8-VI-1978, Smetana & Becker (CNCI, 9); Clam Gulch, 6-VI-1978, Smetana & Becker (CNCI, 3); Hope, 12-VI-1951, WJ Brown (CNCI, 1); Nimilchik, 24-VI-1951 (CNCI, 1); Kasilof R. at Hwy. 1, 12-VI-1978, Smetana & Becker (CNCI, 1); 8 mi SE Kasilof, 9-VI-1978, Smetana & Becker (CNCI, 3); Anchor Riv. at Hwy, 450 ft, 4-5-VI-1978, Smetana & Becker (CNCI, 34); Anchor R. Cpgd., 12 mi N Homer, 450 ft, 5-VI-1978, Smetana & Becker (CNCI, 8). 12 mi N mi 78 Denali Hwy., Windy Cr., 13-VII-1978, Smetana & Campbell (CNCI, 1). Denali St. Pk., Byers Crk. at Hwy. 1, 20-VI-1978, Smetana & Becker (CNCI, 2); Byers Lk. Cpgd., 23-25-VI-1978, Smetana & Becker (CNCI, 49). Kenai Mts., 9 mi N Seward, 14-VI-1980, L Herman (AMNH, 7); 15 mi N Seward, 400 ft, 29-V-1978, Smetana & Becker (CNCI, 12); 16 mi N Seward, 500-600 ft, 26-V-1978, Smetana & Becker (CNCI, 2); 23 mi N Seward, 600-900 ft, 28-V-1978, Smetana & Becker (CNCI, 7); 22 mi N Seward, 600-800 ft, 27-V-1978, Smetana & Becker (CNCI, 30); Ptarmigan Ck. Cpgd., 500-600 ft, 26-V-1978, Smetana & Becker (CNCI, 9). Kenai Mts. Crk., above Tem Lk. Cpgd., 850-900 ft, 13-VI-1978, Smetana & Becker (CNCI, 52); same locality as preceding, except 850 ft, 16-VI-1978 (CNCI, 3). *Arizona:* *Coconino Co.*, San Francisco Mtns., Mt. Agassiz, 3,200 m, 28-VII-1976, JM Campbell (CNCI, 2); Snow Bowl, 2,800 m, 27-VII-1976, JM Campbell (CNCI, 1); San Franc[isco] Mts., Mann (CASC, FMNH, 3). *California:* *El Dorado Co.*, L. Tahoe, Cascade Lk., 6,300 ft, 11-VIII-1969, A Smetana (CNCI, 1). Deer Park Inn, Dr. A Fenyes (MCZC, 3). *Colorado:* *Huerfano Co.*, 15 mi SSW LaVeta, Cucharas Creek, 9,400 ft, 16-VIII-1982, L Herman (AMNH, 3). *Grand Co.*, Rollins Pass, 11,000 ft, 5-VIII-1973, JM Campbell (CNCI, 1). Coal Bank Pass, 10,550 ft, 31-VII-1973, JM Campbell (CNCI, 3). *Montana:* *Glacier Co.*, Glacier N.P., Logan Pass, 6,600 ft, 11-VII-1971, JM & BA Campbell (CNCI, 7). *New Hampshire:* *Coos Co.*, Mt. Washington, 3,800 ft, 16-VIII-1976, JM & BA Campbell (CNCI, 3); above Lake of the Clouds, 6-VII-1914, CA Frost (CASC, 1); Mt. Wash[ington] (CASC, 5). Randolph, 18-IX-1909 (CNCI, 1). Starr Lake, 4,890 ft (CASC, 1). *New Mexico:* *Lincoln Co.*, Sierra Blanca, 11,500 ft, 18-VII-1969, A Smetana (CNCI, 5); Sierra Blanca Ski Area, 10,600 ft, 18-VII-1969, A Smetana (CNCI, 2). *Oregon:* *Deschutes Co.*, 12 mi SW Sisters, FSR 1551, 4,400 ft, 23-VII-1979, JM & BA Campbell (CNCI, 1). *Hood River Co.*, Mt. Hood, Cloud Cap Rd., Tilly Jane Crk., 4,100 ft, 30-VI-1974, A & D Smetana (CNCI, 8). *Klamath Co.*, Cold Spring Camp, 33 mi NW Klamath Falls, 5,800 ft, 22-VI-1978, J Schuh, L & N Herman (AMNH, 3). *Wasco Co.*, 19 mi WNW of Dufur, Wampus Springs, 4,800 ft, 9-VII-1978, L & N Herman (AMNH, 1). *Washington:* *Clallam Co.*, Olympic N. P., 13 mi S Port Angeles, 4,000 ft, 11-VIII-1979, JM & BA Campbell (CNCI, 1). *Pierce Co.*, Mt. Ranier N.P., N Puyallup River, 3,700 ft, 10-VIII-1973, A & Z & D Smetana (CNCI, 2); Sunbeam Falls, 4,000 ft, 17-V-1968, Campbell & Smetana (CNCI, 2). *Whatcom Co.*, Mt. Baker, 4 mi N Silver Fir Camp, 4,000 ft, 16-VIII-1975, JM & BA Campbell (CNCI, 7). *Wyoming:* *Sheridan Co.*, 27 mi WSW Ranchester, Big Horn Mts., nr Prune Creek Campgd., South Tongue River, 7,700 ft, 25-26-VIII-1982, L Herman (AMNH, 17).

Bionomics. Very little is known about the habits of this species. Some Alberta and British Columbia specimens were taken in sifted moss and liverworts, and from sifted alder, *Populus*, willow, spruce, Douglas fir, and Lodgepole pine litter. Other specimens bear the following habitat data: "human dung trap, mouse nests, gopher burrows, pitfall edge meadow, sifting bear dung, river debris, under bark, sifting pile of squirrel midden, dung pan traps," and "horse dung." Most specimens have been taken in May, June, July, and August, and occasionally in September.

Remarks. Male and female genitalia of *L. angularis* are accurately figured in Lohse and Smetana (1985, Figs. 19–21, p. 295). The above authors also mentioned the presence of "1 specimen [of *L. angularis*] from Newfoundland" in the Canadian National Collection (CNCI). I did not examine any CNCI specimens of *L. angularis* collected from Newfoundland, but the distributional record would not surprise me.

Lypoglossa lateralis (Mannerheim)

Oxypoda lateralis Mannerheim, 1830:70.

Megacrotona lateralis: Benick and Lohse, 1974:103.

Lypoglossa lateralis: Lohse & Smetana, 1985:294.

In the course of examining specimens for this taxonomic study of *Lypoglossa*, I had the opportunity to examine type specimens (syntype series) of *L. lateralis* (Mannerheim), the only known Palearctic representative of this holarctic genus. As a result, it seems appropriate and warranted to designate a lectotype here.

The original syntype series in the Mannerheim collection, Zoological Museum, University of Helsinki, Finland, consists of 4 pinned specimens (see Silfverberg, 1988). I examined all specimens of the series. They are labeled as follows: *Spec. No. 1*: [red triangle] = Villnas, Finland (a manor some 30 km NW of Turku/Abo)/"Abo"/"Coll. Mannh."/"Spec. typ."/"108"/[red square]/"Mus. Zool. H:fors Spec. typ. No. 211 Oxypoda lateralis Mann." *Spec. No. 2*: [red triangle]/"Abo"/"Coll. Mannh."/"Spec. typ."/"109"/[red square]/"Mus. Zool. H:fors Spec. typ. No. 212 Oxypoda lateralis Mann." *Spec. No. 3*: [red triangle]/"117." *Spec. No. 4*: [red triangle] only.

Specimen No. 1 bearing the label "Spec. typ. No. 211" is hereby designated as lectotype (sex undetermined, undissected) of *Oxypoda lateralis*; the label LECTOTYPE *Oxypoda lateralis* Mann., design. 1991, E. R. Hoebeke, is attached. Specimen No. 4, male, bearing only a small [red triangle] label, was dissected and remounted on a small cardboard placard; the aedeagus is mounted in a drop of Hoyer's medium on the card. The label PARALECTOTYPE *Oxypoda lateralis* Mann., design. 1991, E. R. Hoebeke, is attached to Specimen Nos. 2–4 of the syntype series.

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American Museum of Natural History, New York (AMNH), L. H. Herman
California Academy of Sciences, San Francisco (CASC), D. H. Kavanaugh
Canadian National Collection, Ottawa (CNCI), J. M. Campbell
Cornell University Insect Collection, Ithaca, NY (CUIC)

Field Museum of Natural History, Chicago (FMNH), A. F. Newton, Jr.
Museum of Comparative Zoology, Cambridge, MA (MCZC), D. G. Furth
Snow Entomological Museum, University of Kansas, Lawrence, KS (SEMC), J. S. Ashe
University of Vermont, Burlington, VT (UVCC), R. T. Bell
University of New Hampshire, Durham, NH (DENH), D. S. Chandler
Zoological Museum, University of Helsinki, Finland (UZMH), H. Silfverberg

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