Journal of the Lepidopterists' Society
32(4), 1978, 256–260

LARISA SUBSOLANA, A NEW GENUS AND SPECIES OF MOTH FROM EASTERN NORTH AMERICA (OLETHREUTIDAE)

WILLIAM E. MILLER

U.S. Dept. of Agriculture, Forest Service, North Central Forest Experiment Station, Folwell Ave., St. Paul, Minnesota 55108

ABSTRACT. *Larisa* Miller, new genus, is proposed for *Larisa subsolana* Miller, new species. *Larisa* is intermediate between the subfamilies Laspeyresiinae and Eucosminae but is tentatively placed in the former. *Larisa subsolana* is described from more than 130 adult specimens representing a geographic range from Texas and Florida north to Michigan, Ontario, and Massachusetts. Capture dates in Florida range from March 14 to September 27; elsewhere April 10 to August 7.

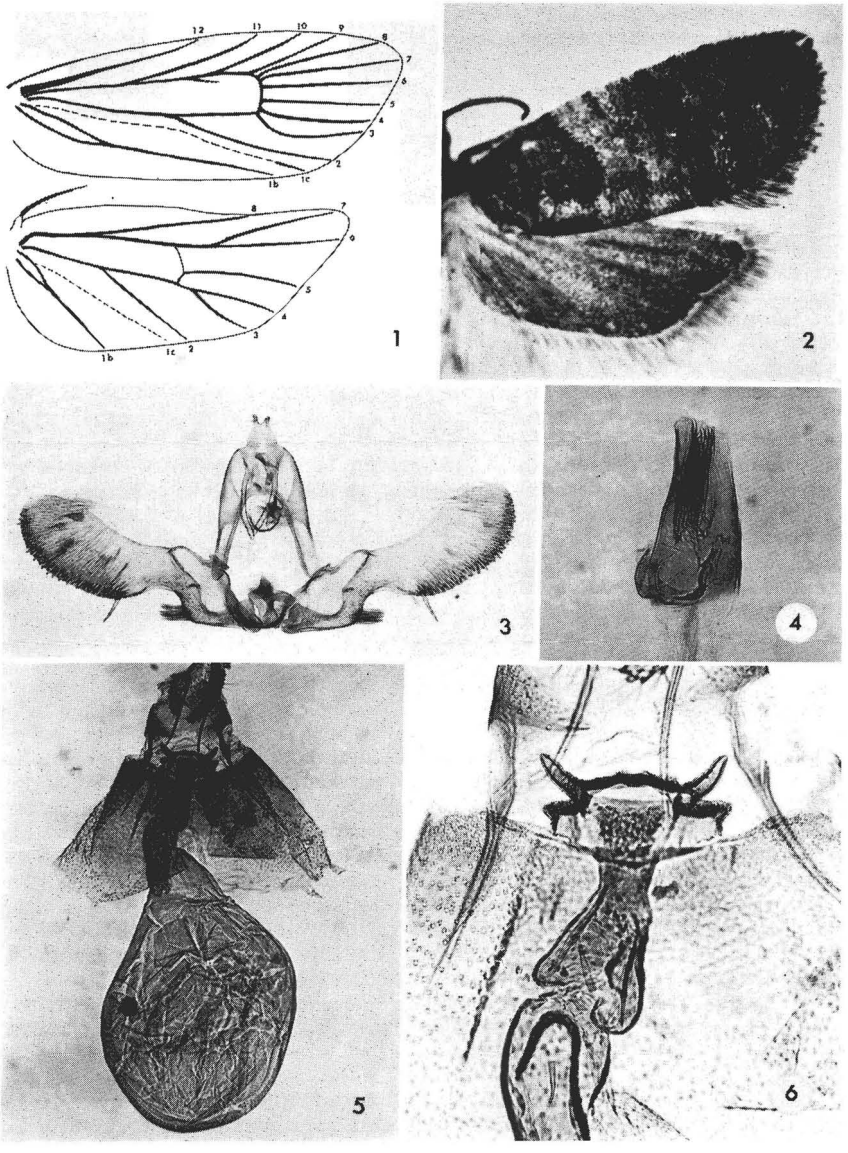
I have noticed the species discussed here in museums and private collections for a decade. It was sometimes identified as *Epinotia*, *Gypsonoma*, or *Laspeyresia*, genera which represent two olethreutid subfamilies. Detailed study eventually showed that the species cannot be placed in any existing genus. This report is based on more than 130 adult specimens. The letter *n* denotes number of observations or specimens underlying a particular statement.

Larisa Miller, **new genus**

Male and female. Head: Maxillary palpus with two developed segments (3 *n*); labial palpus slightly upturned, second segment expanding apically; antenna 2/5 × forewing length; scaling of front and crown dense, bushy. **Thorax:** Smooth-scaled; metathoracic legs unmodified. **Forewing:** Smooth-scaled; slightly broader toward termen; costal fold absent; costa slightly and uniformly curved from base to apex; apex acute; termen convex; dorsum curved; 12 veins, all separate, upper internal vein of cell arising between veins 10 and 11, vein 11 arising near middle of cell (Fig. 1, 5 *n*). **Hindwing:** Costa convex near middle; apex acute; termen concave; dorsum straight between veins 1b and 3; pecten normal; veins 3 and 4 stalked to almost connate; vein 5 straight or slightly bent at base toward 4; veins 6 and 7 stalked (Fig. 1, 5 *n*). **Abdomen:** Smooth-scaled; eighth segment of male with a pair of lateral scale tufts; eighth tergite of female with scales as well as setae. **Male genitalia:** Uncus well developed, sclerotized and bifid; gnathos fused ventrally across middle; hami long, finger-like; valva simple with rudimentary clasper, a tuft of fine setae on base of sacculus; one to several long, slender setae may be present on latero-ventral surface of cucullus; aedeagus sleeve-like, short, tapered; deciduous cornuti present; dorsal plate of anellus not developed. **Female genitalia:** Papillae anales simple; posterior apophyses slightly longer to slightly shorter than anterior apophyses; sterigma shield-shaped with short finger-like projections beside ostium, ostium on anterior margin; ductus bursae short, enlarged near middle, sclerotized except for a short distance beyond enlargement, convoluted at junction with corpus bursae; dual thorn-like signa.

Type-species. *Larisa subsolana*, new species.

Comments. *Larisa* keys to Laspeyresiinae or Eucosminae (Heinrich 1923, Obraztsov 1958) depending on character variability and interpretation. It is an intermediate genus but is tentatively placed in Laspeyresiinae. In the male, the



Figs. 1–6. **Larisa subsolana, new species.** 1, Venation of fore- and hindwing. 2, Fore- and hindwing of specimen from Devil's Den State Park, Arkansas. Length of forewing 5.0 mm. 3, Male genitalia of specimen from 3 km E Palmdale, Florida. 4, Enlargement of aedeagus of preceding male. 5, Female genitalia of specimen from preceding locality. 6, Enlargement of sterigma and associated structures of preceding female.

rudimentary clasper and well developed uncus are characteristic of Eucosminae. Within Laspeyresiinae, *Larisa* most resembles *Laspeyresia* and *Hemimene* or *Pammene* (Heinrich 1926, Obraztsov 1960) but differs from both by its convex forewing termen, long setae on outer surface of cucullus, setal tufts on sacculus, well developed hami, and in previously enumerated details of forewing or hindwing venation. *Larisa* is feminine gender and a patronym for Larisa K. Miller, my volunteer assistant.

Larisa *subsolana* Miller, new species

Male. Length of forewing 3.8–5.8 mm (71 *n*). **Head:** Labial palpus brown, scales white-tipped, length of second segment 1 × eye diameter and 2.9–4.0 × length of apical segment as estimated from scaled and descaled specimens (21 *n*); front and crown light brown; antenna brown. **Thorax:** Brown dorsally, including tegula, scales white-tipped; shining white ventrally; pro- and mesothoracic legs brown on outer side, scales white-tipped, tarsi white-banded, shining white on inner side; metathoracic legs shining white. **Forewing** (Fig. 2): Length 2.6–2.9 × width (5 *n*); ground color of upper side brown; basal patch sharply delineated; middle crossband grayish brown grading apically to darker brown, a thin brown line centrally from costa to dorsum; distal third grayish brown, tinged in costal half with rust; fringe brown; underside light brown, mottled with white in costal area. **Hindwing** (Fig. 2): Widest membranous part 1.1–1.4 × that of forewing (5 *n*); upperside, underside, and fringe light brown. **Abdomen:** Grayish brown dorsally, paler ventrally, including genital scaling. **Genitalia** (Figs. 3–4): Width of valval neck 0.43–0.74 × greatest width of cucullus (24 *n*), the individual values showing a normal frequency distribution; 8–17 deciduous cornuti or empty cornutus sockets (12 *n*).

Female. As described for male except forewing length 4.1–6.3 mm (61 *n*) and brown genital scaling. **Genitalia** (Figs. 5–6, 20 *n*): Sterigma with short finger-like projections lateral to ostium bursae; posterior apophyses slightly longer to slightly shorter than anterior apophyses.

Types. HOLOTYPE ♂: ARKANSAS, Devil's Den State Park, Washington Co., June 26, 1966 (R. W. Hodges), No. 72093 in National Museum of Natural History. ALLOTYPE ♀: ARKANSAS, same data as holotype except May 30, 1966, in National Museum of Natural History. PARATYPES, 10 specimens: ARKANSAS, same data as holotype except 22 May 1966, ♂ genitalia slide USNM Tor 2, wing slide WEM 5; same data as holotype except 20 May 1966, ♂ genitalia slide LKM 1219766; 13 km SE Ethel, Arkansas Co., 9 July 1969 (R. L. Brown); MISSISSIPPI, Clinton, Hinds Co., 14 July 1974 (Bryant Mather), No. 73267, ♀ genitalia slide LKM 403772; MICHIGAN, East Lansing, Ingham Co., 15 July 1968 (J. P. Donahue), ♂ genitalia slide JAB 34; T4N, R2W, Sec. 35, Ingham Co., 12 June 1966 (J. P. Donahue), ♂ genitalia slide KAK 73; ALABAMA, 21 km SW Greensboro, 23 April 1976 (J. B. Heppner); FLORIDA, 3 km E Palmdale, 4 May 1974 (J. B. Heppner), ♀ genitalia slide JBH 455; same data as preceding except ♂ genitalia slide JBH 454; NEW YORK, Ithaca, 2 July 1976 (J. G. Franclemont), ♀ genitalia slide RLB 645. Paratypes are in National Museum of Natural History; California Insect Survey, University of California, Berkeley; Florida State Collection of Arthropods; Cornell University; University of Minnesota, Twin Cities; and collections of Richard L. Brown, John B. Heppner, and Bryant Mather. Specimens not designated as paratypes are in the above repositories, also University of Michigan and Field Museum of Natural History.

Geographic distribution. Present records for the species occur from Texas and Florida north to Michigan, Ontario, and Massachusetts (Fig. 7).

Biology. Available biological information is based on adults captured in flight. The hostplant is unknown. There is probably more than one generation a year. Capture dates in Florida range from March 14 to September 27 (20 *n*); elsewhere,

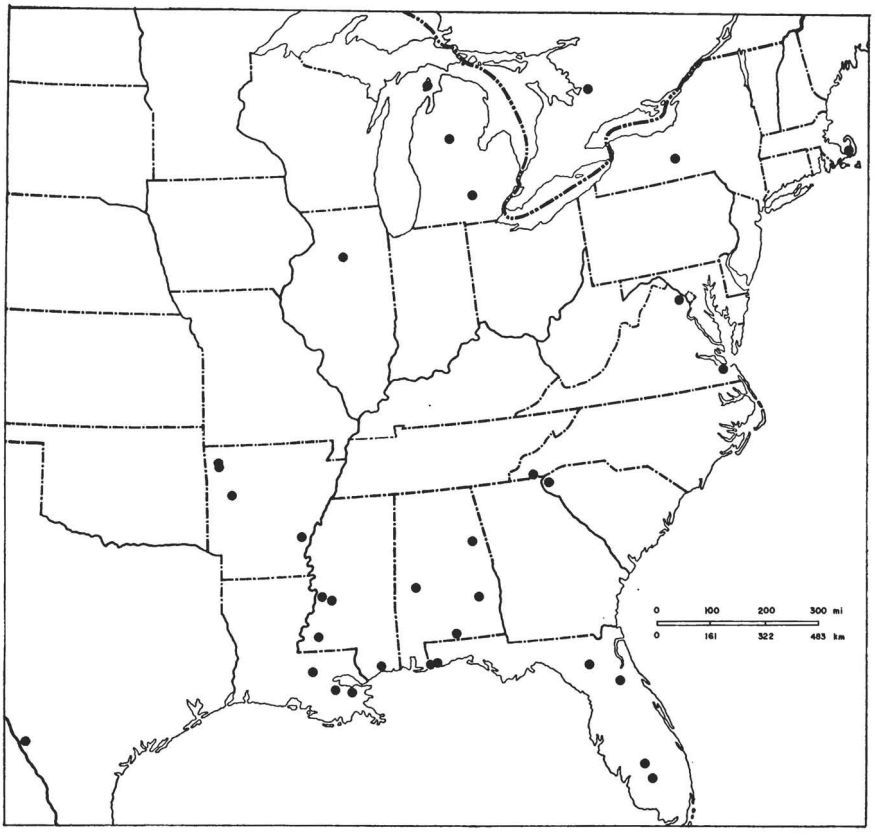


Fig. 7. Distribution of records for *Larisa subsolana*.

April 10 to August 7 (116 *n*). If the largest sample of moths from one locality (46 *n*, Devil's Den State Park, Arkansas, 20 May–22 July 1966, R. W. Hodges) represents one generation, the flight period is longer than that of many olethreutids and suggests a protected place of development insulated by shade, soil, or woody tissue. This sample also shows protandry typical of olethreutids (the median capture date of males preceding that of females by 12 days) and a male/female ratio of 0.92, essentially unity.

ACKNOWLEDGMENTS

I thank the following for specimen loans and other assistance: Jerry A. Powell, University of California, Berkeley; Don R. Davis, National Museum of Natural History; Roland L. Fischer, Michigan State University; Thomas E. Moore, University of Michigan; Bryant Mather, Clinton, Mississippi; Charles P. Kimball, West Barnstable, Massachusetts; and Henry Dybas, Field Museum of Natural History. I am espe-

cially indebted to Richard L. Brown, Cornell University, and John B. Heppner, University of Florida. After more than 50 *Larisa* specimens had come to my attention, I prepared a draft of this paper and asked several workers including Brown and Heppner to review it. Unknown to me, both were also independently studying the insect and each generously forwarded research information and more than 60 additional specimens to me.

LITERATURE CITED

HEINRICH, C. 1923. Revision of the North American moths of the subfamily Eucosminae of the family Olethreutidae. U.S. Natl. Mus. Bull. No. 123, 298 pp.

———. 1926. Revision of the North American moths of the subfamilies Laspeyresiinae and Olethreutinae. U.S. Natl. Mus. Bull. No. 132, 216 pp.

OBRAZTSOV, N. 1958. Die Gattungen der Palaearktischen Tortricidae. II. Die Unterfamilie Olethreutinae. Tijdsch. Entom. 101: 229–261.

———. 1960. Die Gattungen der Palaearktischen Tortricidae. II. Die Unterfamilie Olethreutinae. 3. Teil. Tijdsch. Entomol. 103: 111–143.