

THE SPECIES RELATED TO *MINETTIA OBSCURA* (LOEW), WITH
ONE NEW SPECIES AND ONE NEW SYNONYM

(DIPTERA: LAUXANIIDAE)

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ABSTRACT—Examination of the type specimens of *Minettia obscura* (Loew) and *M. americana* Malloch shows that the latter is a synonym of the former and that the species Malloch considered to be *M. obscura* is until now unnamed. *Minettia obscura* of authors, not Loew, is described as *M. shewelli*, n. sp., and a revised key to the species of the group to which it belongs is given.

Since Malloch (1923:53), in describing *Minettia americana*, and since Malloch and McAtee (1924:14), in their key to *Minettia*, identified *M. obscura* (Loew) as a species with 3 dorsocentral bristles, that species has been misidentified. Examination of the type of *M. obscura* shows that *M. americana* is a synonym of *M. obscura* and that the species that Malloch considered to be *M. obscura* is until now unnamed. I am here describing *M. obscura* of authors, not Loew, as *M. shewelli*, new species, and presenting a revised key to the species of this group.

The genus *Minettia* Robineau-Desvoidy in North America, as treated by Shewell (1938:105; 1965:701), includes 5 very similar species that may be called the *obscura* group after the first-named species. These species may be recognized easily by black thorax, abdomen, and halteres. The only characters of use in distinguishing the species of this group that I can discern are cited in the key below. The term pseud-aedeagus, used here, refers to the structure developed as a forked process from the end of the juncture of the aedeagal apodeme and the median anterior part of the hypandrium; it is what Shewell (1938) designated as "forked process of the genital sternite." A similar, even more aedeagus-like development occurs also in the Celyphidae. The male gonopore is just behind the base of the pseudaeaeagus, and a true aedeagus is either lacking or present as a short, apparently inflatable sac-like structure.

KEY TO SPECIES RELATED TO *Minettia obscura* (Loew)

- 1(10) Males.
- 2(7) Tip of pseudaeaeagal process in profile abruptly turned forward at or a little apicad of middle; *dc* normally 4, with well developed antesutural *dc*.

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- 3(4) Pseudaedeagal processes in anterior view apically convergent, acute, length less than that of hypandrium at base of connecting strip ----- **M. lobata** Shewell
- 4(3) Pseudaedeagal processes more or less divergent, length greater than that of hypandrium at base of connecting strip.
- 5(6) Surstylus with posterior edge not reflexed inwardly or only slightly so along entire length; hypandrium in profile steeply arcuately declivitous anteriorly; aedeagal apodeme in anterior view with free end only slightly expanded ----- **M. obscura** (Loew)
- 6(5) Surstylus with posterior edge strongly reflexed inwardly in basal half; hypandrium in profile gently declivitous anteriorly; aedeagal apodeme in anterior view with free end strongly expanded ----- **M. americanella** Shewell
- 7(2) Tip of pseudaedeagal process in profile not abruptly turned forward, either turned backward or only gently forward; *dc* normally 3.
- 8(9) Tip of pseudaedeagal process in anterior view strongly deflected laterad, medial sinus moderately broad ----- **M. lyraformis** Shewell
- 9(8) Pseudaedeagal process cuneiform, the 2 processes separated by narrow sinus, with acute tips closely adjacent to each other (fig. A) ----- **M. shewelli**, n. sp.
- 10(1) Females.
- 11(14) 8th sternum without depressions, or if with shallow basal depressions, the sternum much broader than long, mostly strongly convex and setose, and hind margin emarginate; *dc* normally 3.
- 12(13) 8th sternum nearly hemispherical ----- **M. lyraformis** Shewell
- 13(12) 8th sternum much broader than long, with pair of shallow, shining depressions in basal corners, otherwise strongly convex and setose, posterior margin emarginate (fig. B) ----- **M. shewelli**, n. sp.
- 14(11) 8th sternum with pair of well developed depressions; *dc* normally 4.
- 15(16) 8th sternum with pale yellowish lateral vesicles, tumid in life ----- **M. lobata** Shewell
- 16(15) 8th sternum without lateral vesicles.
- 17(18) 8th sternum subtriangular, decidedly broadest near apex ----- **M. obscura** (Loew)
- 18(17) 8th sternum subquadrate, broader than long, or subtrapezoidal ----- **M. americanella** Shewell

The number of rows of acrostichal hairs, development of longitudinal grayish stripes on the mesoscutum, and small differences in length of arisal hairs have not been found usable in distinguishing the species. The number of dorsocentral bristles, like chaetotactic characters in most groups of Diptera, is subject to some variation. In 140 specimens of *M. lyraformis* collected in one locality in Maryland, only 10 had a 4th, antesutural dorsocentral, and in most cases this occurred only on one side or the extra bristle was but little greater in length or thick-

ness than the surrounding hairs. In other species, even less abnormality in bristling was seen.

***Minettia americanella* Shewell**

Minettia americanella Shewell, 1938:108, pl. 9, fig. 4-6; 1965:701.

The holotype is from Quebec. Other specimens were originally cited from several localities in Quebec, Ontario, and British Columbia. In 1965, Shewell cited New York, Pennsylvania, and North Carolina. I have strong doubts that this species is more than a variation of *M. obscura*, but have identified material that fits fairly well with Shewell's description and figures from New York, Pennsylvania, Michigan, Illinois, and Virginia.

***Minettia lobata* Shewell**

Minettia lobata Shewell, 1938:108, pl. 9, fig. 7-9; 1965:701.

The type series is from several localities in Quebec. Shewell (1965) also cited Illinois, Massachusetts, and Georgia. I have seen it from Missouri, Iowa, Michigan, Pennsylvania, New York, Massachusetts, Connecticut, Maryland, and Virginia. The species is easily distinguished from its relatives.

***Minettia lyraformis* Shewell**

Minettia lyraformis Shewell, 1938:109, pl. 9, fig. 10-12; 1965:701.

The holotype is from Quebec, and other material was originally cited from several localities in Quebec and Ontario. Shewell (1965) cited also Southern Manitoba, New York, Tennessee, North Carolina, and Georgia. This species is also easily recognized. I have seen it from Alaska (Palmer), Missouri, Indiana, Michigan, New York, Rhode Island, Massachusetts, New Jersey, and Maryland.

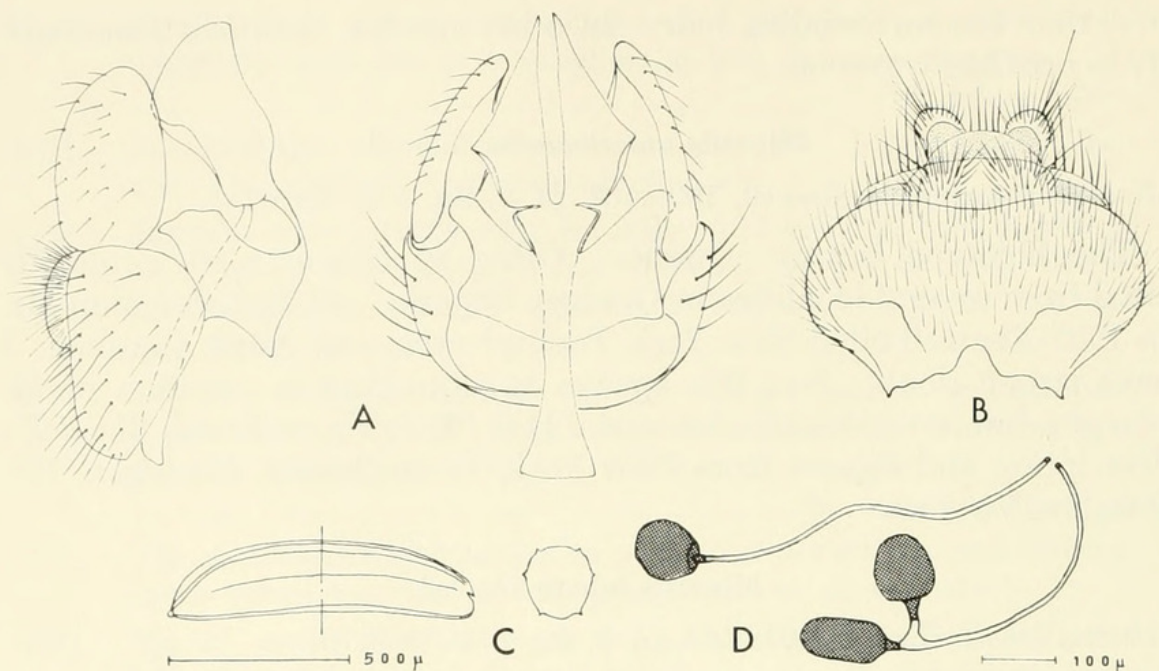
***Minettia obscura* (Loew)**

Lauxania obscura Loew, 1861:351 (Centuria I, no. 86).

Minettia obscura (Loew): Melander, 1913:65.

M. americana Malloch, 1923:25; Malloch and McAtee, 1924:14, 16, pl. 1, fig. 5-7; Shewell, 1938:137, pl. 9, fig. 1-3. **New synonym.**

The description of *Lauxania obscura* cites "English River; Kennicot—Pennsylvania; Osten-Sacken." A pair, both labeled "Type," from English River (tributary of Winnipeg River, SW Ontario, Kenora District), has been examined through the kindness of Howard E. Evans, of the Museum of Comparative Zoology at Harvard University, Cambridge, Massachusetts. Both specimens are in good condition, with 4 dorsocentral bristles and the postabdomen easily discernible. The male has been selected as lectotype and so labeled. Both sexes are of the



Figs. A-D, *Minettia shewelli* Steyskal, n. sp.: A, male postabdomen, profile and ventral views; B, female postabdomen, ventral view; C, egg, lateral view and section taken at broken line; D, spermathecae.

same species, one that Malloch, as indicated above, described as *M. americana*. I have seen no original material from Pennsylvania.

The male holotype of *M. americana* and the allotype, which is actually also a male, are from Plummers Island, Maryland. Conspecific paratypes in the U.S. National Museum are from Plummers Island and Cabin John Bridge, Maryland, and Great Falls, Virginia. Other paratypes in the U.S. National Museum have proven to be *M. americanella*, *M. lobata*, and *M. lyraformis*.

Shewell cited Quebec and Ontario localities (1965) and the States of Kansas and Virginia (1965). I have seen *M. obscura* also from Ontario, Quebec, Michigan, Illinois, New Mexico (Pecos), and Maryland.

***Minettia shewelli*, n. sp.**

(Fig. A-D)

Minettia obscura (Loew), of Malloch and McAtee, 1924:14, 16, pl. 1, fig. 8; Steyskal, 1968:360. *Misidentification*.

Male. Apparently differing from *M. lyraformis* Shewell only in characters cited in preceding key. Dorsocentral bristles 3, all postsutural. Postabdomen as in fig. A; pseudadaeagal processes narrowly separated, tips extending closely adjacent to each other, in anterior view each process acutely cuneiform, in profile broad and gently sinuate, a little forwardly curved to sometimes mucronate tip; surstylus with mesal margin a little lobate or angulate in middle.

Female. Similar to male, except postabdomen (fig. B). Sternum 8 about 1.75 times as broad as long, lateral margins semicircular, anterior (basal) margin

erosely emarginate, posterior margin gently concave; surface dull, strongly convex, covered with rather dense fine hairs except on pair of shallowly concave shining areas in basal corners. Sternum 9 with rather long hairs, except in mesal fifth, which is bare and margined by inclinate hairs. Spermathecae 2 + 1, as in fig. D.

Egg (fig. C, dissected from female). Colorless, slightly curved, smooth, with 2 strong carinae on concave side and 2 pairs of somewhat finer carinae on convex side, 200 μ in diameter by 850 μ long.

Holotype (male), allotype, and 4 δ paratypes, Bethesda, Montgomery County, Maryland, 17 May 1968 (G. Steyskal, no. 70721 in USNM²; additional paratypes—1 δ , *ibid.*, 5 May 1968 (G. Steyskal); 2 δ (one with abnormal antenna), *ibid.*, 26 May 1968 (G. Steyskal); 7 δ , *ibid.*, 2 June 1968 (G. Steyskal and C. W. Sabrosky); 1 δ , 2 φ , *ibid.*, 17 May 1969 (G. Steyskal); 14 δ , *ibid.*, 30 May 1969 (G. Steyskal); Missouri: 9 δ , Columbia, 26 May–8 June 1906 (C. R. Crosby), in CU and CNC; Illinois: 1 φ , Chicago, 6 June 1903 (A. L. Melander); Wisconsin: 1 δ , Polk County, July (Baker); Michigan: 1 δ , Lake County, 7 July 1957 (R. and K. Dreisbach), in CNC; 1 δ , Midland County, 4 June 1937 (R. R. Dreisbach), in CNC; 1 δ , *ibid.*, 20 June 1954 (R. R. Dreisbach), in CNC; Indiana: 1 pair, Chesterton, 2 June 1916 (J. M. Aldrich); 2 δ , Lafayette, "V-28" (J. M. Aldrich); 1 δ , *ibid.*, "12 July" (J. M. Aldrich); 1 δ , *ibid.*, 13 July 1915 (J. M. Aldrich); 4 δ , *ibid.*, 16 May 1916 (J. M. Aldrich); Ohio: 1 δ , 4 mi E Kent, 16 July 1964 (W. B. Stoltzfus), in KSU; Tennessee: 2 δ , 1 φ , East Ridge, 9 May 1952 (O. Peck), in CNC; 7 δ , Rutledge, July 1954 (M. R. Wheeler), in UT; Georgia: 2 δ , 1 φ , Chickamauga Natl. Military Park, 7 May 1952 (G. S. Walley), in CNC; 2 δ , Clayton, 18–26 May 1911 (J. C. Bradley), in CNC; Cloudland Canyon State Park, 8 May 1952 (G. S. Walley), in CNC; 2 δ , Pine Mountain, Rabun County, 14 May 1957, 1400 ft. (J. R. Vockeroth), in CNC; Connecticut: 1 δ , Redding, 31 May 1930 (A. L. Melander); 1 δ , *ibid.*, 3 June 1934 (A. L. Melander); New York: 1 δ , 1 φ , "Dix. Hills," Long Island, 15 June 1935 (Blanton and Borders), in CNC; 1 δ , Halfway Hollow Hills, Long Island, 18 May 1935 (Blanton and Borders), in CNC; 1 δ , Ithaca, 10 June 1900, in CNC; Riverhead, Long Island, 27 May 1924 (Blanton and Borders), in CNC; Pennsylvania: 1 δ , Germantown, 4 June 1905 (Harbeck); Maryland: 1 δ , Plummers Island, 14 June 1917, in CNC; Virginia: 1 δ , Falls Church, 13 July 1934, in CNC; 3 δ , Great Falls, 9 July 1926 (A. L. Melander); 1 δ , *ibid.*, same date (J. M. Aldrich), in CNC; 3 δ , *ibid.*, 12 June 1949 (C. W. Sabrosky), in CWS; 1 δ , *ibid.*, 13 May 1951 (C. W. Sabrosky), in CWS; 1 φ , *ibid.*, 3 June 1951 (C. W. Sabrosky), in CWS; North Carolina: 1 φ ,

² Abbreviations of depositories: U. S. National Museum, Washington, D. C.; CNC, Canadian National Collection, Ottawa; CU, Cornell University, Ithaca, New York; CWS, collection of Curtis W. Sabrosky; KSU, Kent State University, Kent, Ohio; UT, University of Texas, Austin.

Clingmans Dome, Great Smoky Mountains National Park, 6300+ ft., 28 May 1957 (J. R. Vockeroth), in CNC; 1♀, Franklin, 17 June 1957 (J. R. Vockeroth), in CNC; 1 pair, Lake Junaluska, 27 May 1954 (H. V. Weems, Jr); 1♂, Willard, 10 May 1936 (F. S. Blanton), in CU. Specimens are in USNM, except as otherwise designated and 7 topotypical paratypes in CNC (1♂, 2♀, 17 May 1969; 4♂, 30 May 1969).

The type locality is in moist woods along Cabin John Creek at Bradley Boulevard, about 5 mi. W of the District of Columbia. The specimens were swept from low vegetation such as *Impatiens* sp., *Podophyllum peltatum*, *Rhus toxicodendron*, *Laportea canadensis*, *Galium* sp., *Eupatorium purpureum*, *Apios tuberosa*, and *Benzoin aestivale*. Also taken in this locality during 1968 and 1969 were 140 *M. lyraformis*, 39 *M. lobata*, and 12 *M. obscura*.

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MUSEUM NEWS

The U. S. National Museum has recently been divided into two separate museums, the National Museum of Natural History and the National Museum of History and Technology. Both are bureaus of the Smithsonian Institution. The U. S. National Museum now consists only of Offices of the Registrar, Administration and Exhibits. However, because all national biological and paleontological specimens have been and still are accessioned through the Office of the Registrar, it is appropriate to continue the designation USNM for specimens in all Smithsonian Museums.



1971. "The species related to *Minettia obscura* (Loew), with one new species and one new synonym (Diptera: Lauxaniidae)." *Proceedings of the Entomological Society of Washington* 73, 17–22.

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