

A REVISION OF THE NORTH AMERICAN *PERITTIA*
(=*ONCEROPTILA*), WITH FIRST NEARCTIC RECORDS OF
THE GENUS *MENDESIA* (ELACHISTIDAE)

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ABSTRACT. The genus *Onceroptila* Braun, 1948, is synonymized with *Perittia* Stainton, 1854. Four *Perittia* species are recognized as occurring in North America: *Perittia cygnodiella* (Busck, 1921) (**new combination**) in western Canada and United States; *P. eremonoma* (Braun, 1948) (**new combination**) in western United States; *P. passula*, **new species**, in California; and *Perittia herrichiella* (Herrich-Schäffer, 1855) in eastern Canada. *Perittia passula* is compared with the related *P. andoi* Kuroko, 1982, which occurs in Japan and the Russian Far East. *Perittia herrichiella* is widespread in Europe, from where the species probably has been introduced to North America with honeysuckle plants. Two species of *Mendesia* Joannis, 1902, are recognized from North America: *Mendesia serica*, **new species**, from Colorado, and *M. metaxea*, **new species**, from Texas. The genus *Mendesia* (s.l.) previously was known only from the western Palaearctic and South Africa.

Additional key words: systematics, taxonomy, introduced species, new species, *Lo-nicera*.

Since Braun's (1948) revision of the Elachistidae of North America, little has been published on this group, although extensive material has been collected. The aim of this and coming papers is to revise and redescribe the species recorded in former works and describe the new material. The present paper treats the small genera *Perittia* and *Mendesia*, which belong to a group of Elachistinae (sensu Hodges 1978) that feed on dicotyledonous plants.

MATERIAL

Material for this study was obtained from following museums:

ANSP—Department of Entomology, Academy of Natural Sciences of Philadelphia, USA (D. Azuma).

CNC—Canadian National Collection, Agriculture Canada, Ottawa, Canada (J.-F. Landry).

Sakai University of Osaka Prefecture, Sakai, Osaka, Japan (T. Hirowatari).

UCB—Essig Museum, Division of Entomology and Parasitology, University of California, Berkeley, USA (J. A. Powell).

NMNH—Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (R. W. Hodges).

ZMH—Zoological Museum, University of Helsinki, Finland (L. Kaila).

Genus *Perittia* Stainton

Perittia Stainton, 1854:177. Type species: *Aphelosetia obscurepunctella* Stainton, 1848. *Scirtopoda* Wocke in Heinemann, 1876:465 (nom. praeocc.). Type species: *Tinagma herrichiella* Herrich-Schäffer, 1855.

Onceroptila Braun 1948:10, **new synonymy**. Type species: *Aphelosetia cygnodiella* Busck, 1921.

Swezeyula Zimmerman and Bradley, 1950:194. Type species: *Swezeyula lonicerae* Zimmerman and Bradley, 1950.

Braun (1948) described *Onceroptila* for two Nearctic species, *O. eremonoma* Braun, 1948, and *Aphelosetia cygnodiella* Busck, 1921. She distinguished the new genus from the closely related *Perittia* Stainton, 1854, by the conspicuously developed manica in the male genitalia and two characters in wing venation: veins R_4 and R_5 are long stalked in *Onceroptila* but are coincident in *Perittia*; and $1A+2A$ is furcate in *Perittia* but without any indication of basal forking in *Onceroptila* (Braun 1948).

Of the Palaearctic species included in *Perittia*, the manica is well developed in at least *P. herrichiella* (Herrich-Schaffer, 1855), *P. biloba* Sruoga, 1990, *P. andoi* Kuroko, 1982, *P. lonicerae* (Zimmerman & Bradley, 1950), *P. unicolorella* Sinev, 1992, *P. petrosa* Sruoga, 1992, and *P. obscurepunctella*. The stalk of R_4 and R_5 in *P. andoi* and *P. herrichiella* is as long as in *O. cygnodiella*. The length of stalking shows intraspecific variation at least in *Perittia herrichiella* (L. Kaila, unpubl.), and therefore this character is not particularly useful in separating the two genera. The basal forking is clearly present in *Perittia herrichiella* and to some extent in *P. obscurepunctella*, but in *P. petrosa* Sruoga it is absent (venation of other species have not been studied).

The species *obscurepunctella* and *cygnodiella* are nearly indistinguishable in characters of the male genitalia. However, they appear to represent distinct species on the basis of the following differences in female genitalia: ostium bursae is very wide, as wide as the 8th sternum in *O. cygnodiella*, much narrower and rounded in *P. obscurepunctella*; ductus bursae is several times longer than abdomen and spirally coiled in *O. cygnodiella*, much shorter and straight in *P. obscurepunctella*.

Therefore, as I have found no reliable characters that would support separation of the genera *Perittia* and *Onceroptila*, *Onceroptila* is hereby proposed to be a junior subjective synonym of *Perittia*, **syn. n.**

SYSTEMATICS

Key to North American species of *Perittia*

1. Forewing unicolorous dark gray, except a whitish or light grayish patch on posterior margin (Figs. 5–8) (3)
- 1'. Forewing light or leaden gray, with scattered light scales and a dark streak in the fold (Figs. 1–4) (2)
2. Head gray; valva tapered into a curved, strongly sclerotized cucullus (Fig. 10); apex of each lobe of juxta unilobed (Fig. 16); ostium bursae very wide; ductus bursae very long, spirally coiled (Figs. 22–23) *P. cygnodiella*
- 2'. Head creamy white; cucullus of valva broad, rounded (Fig. 11); apex of each lobe of juxta bilobed, one a sclerotized thorn (Fig. 19); ostium bursae small, rounded, ductus bursae short and straight (Fig. 24) *P. eremonoma*
3. Valva tapered into a curved, strongly sclerotized cucullus (Figs. 12–13); apex of

each lobe of juxta unilobed, without setae (Figs. 17–18); ostium bursae narrow, with parallel sides and V-shaped ventral margin (Fig. 26); ductus bursae straight; signum a laterally dentate, elongate, medially broadened patch (Fig. 34) *P. herrichiella*

- 3'. Valva smoothly rounded, with no distinct cucullus (Fig. 14); apex of each lobe of juxta with a sclerotized, broad thorn and a rounded lateral lobe with setae (Fig. 20); ostium bursae funnel shaped, tapering toward colliculum (Fig. 28); ductus bursae spirally coiled (Fig. 29), signum a sclerotized, oval plate with two or three strong thorns in the middle (Fig. 35) *P. passula*

Perittia cygnodiella (Busck, 1921), n. comb.

Figs. 1–3, 10, 16, 22–23, 32

Apheloseitia cygnodiella Busck, 1921:280

Onceroptila cygnodiella; Braun 1948:11

Labial palpi light gray, drooping, straight, length of third segment equal to second; head and neck tufts gray, tips of some scales often whitish; antenna gray, segments of distal third with slightly raised scales; tegula, thorax and abdomen gray; legs gray, tibia and tarsal segments with slightly lighter distal rings; forewing gray, in the middle of wing at fold an elongate dark spot, surrounded by bluish-white scales forming an irregular light patch; at three-fourths of forewing another weak and irregular dark spot, which may be reduced to a few dark scales or expanded as a large dark patch; very dark grey line in cilia, prominent around apex, weak near tornus; cilia gray. Forewing length 3.5–5.5 mm. Hindwing gray, basally often lighter; underside of wings gray.

Male genitalia. Uncus small, with some setae; gnathos rather large, elongate, setose; valva short and broad; costa proximally convex, weakly sclerotized, in the middle almost straight angled, forming a strongly sclerotized, distinct, narrow, blunt-tipped cucullus; sacculus weakly sclerotized, broad, convex to two-thirds from base, apically concave; digitate process visible only because of a small, dense group of setae; juxtal lobes longitudinally folded, long, sclerotized, each with a sharp, curved tip; vinculum rounded, slightly broadened ventrally; aedeagus long, slightly bent, without cornuti, caecum with a bilobed manica.

Female genitalia. Posterior margin of eighth segment with some large setae; papillae anales with small setae; apophyses stout, the length of apophyses anteriores two-thirds of the length of apophyses posteriores; ostium very broad, antrum funnel shaped, tapering into a very long, spirally coiled ductus bursae, which is partly lightly sclerotized, with longitudinal folds; corpus bursae with small inwardly directed spines; signum large, dentate, elongate, broadening medially.

Life history. Unknown.

Material examined. Canada, British Columbia: Holotype male, labelled: "Victoria B.C./23. April 1920/W. Downes", "388," [red] "Type no. 1133," "Apheloseitia/cygnodiella/Type Busck", "L. Kaila/prep.nro 886" (CNC).

Victoria, 26 April 1920, 1 M (W. Downes, ANSP); Victoria, 5 May 1923, 1 F (E. H. Blackmore, ANSP).

Alberta: Edmonton Whitemud, Crash ravine, 25 May 1983, 1 M (J.-F. Landry, CNC).

USA: Washington: Wawawai, 18 April 1929, 1 F (J. F. G. Clarke, ANSP).

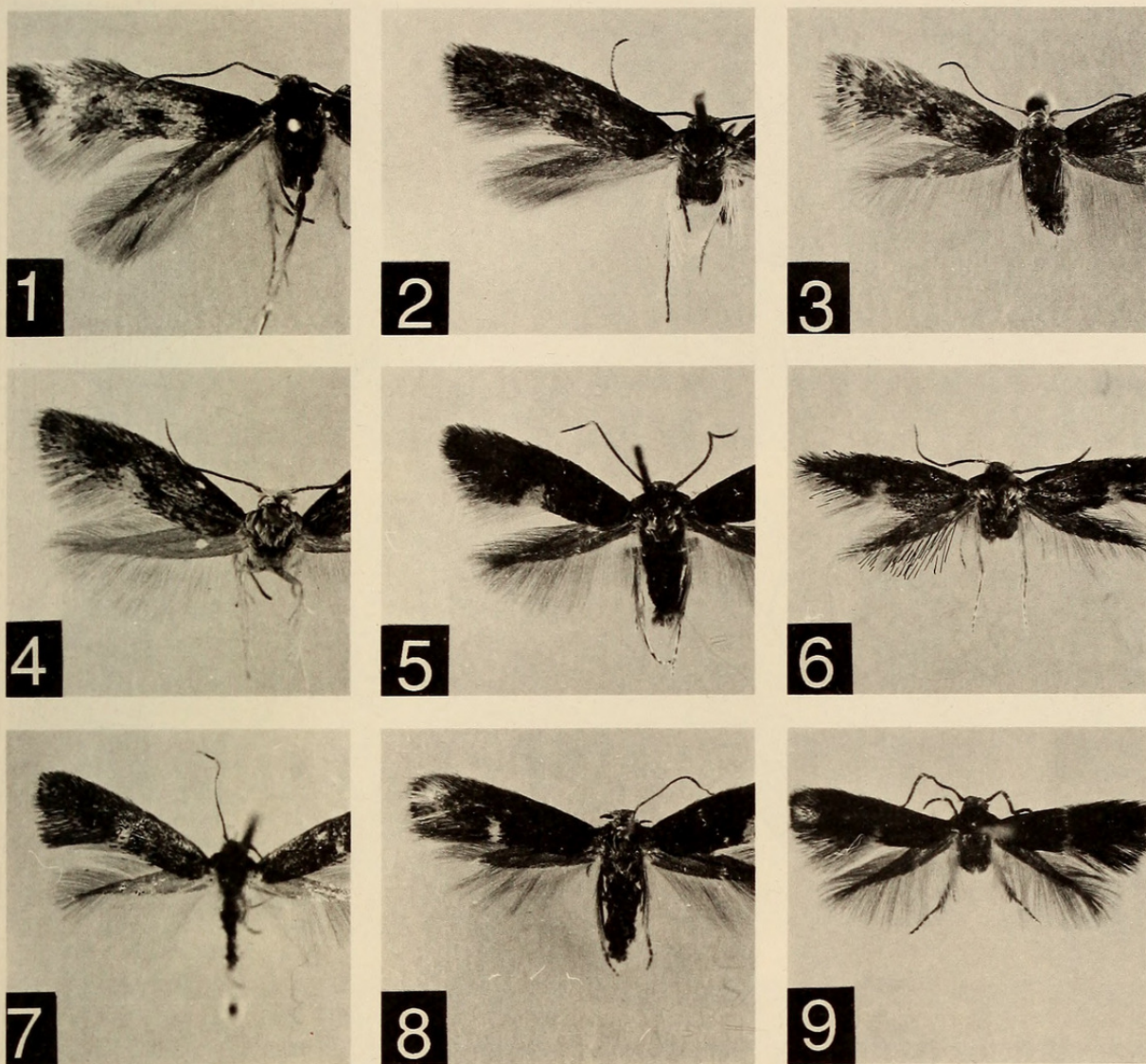
California: Plumas Co.: 1 mi. S. Meadow Valley, 18–19 May 1982, 1 F (J. A. Powell, UCB).

Perittia eremonoma (Braun, 1948), n. comb.

Figs. 4, 11, 19, 24–25, 33

Onceroptila eremonoma Braun, 1948:12

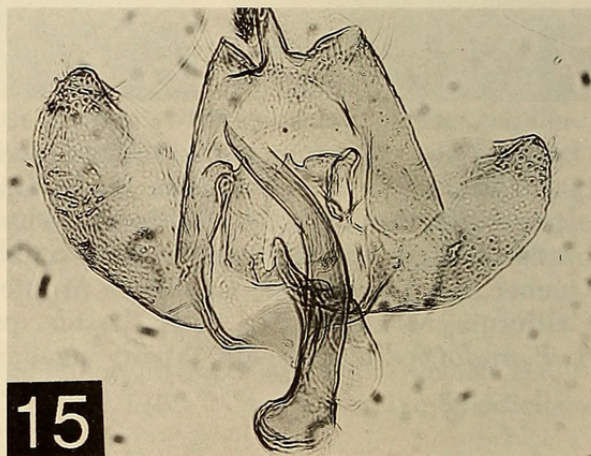
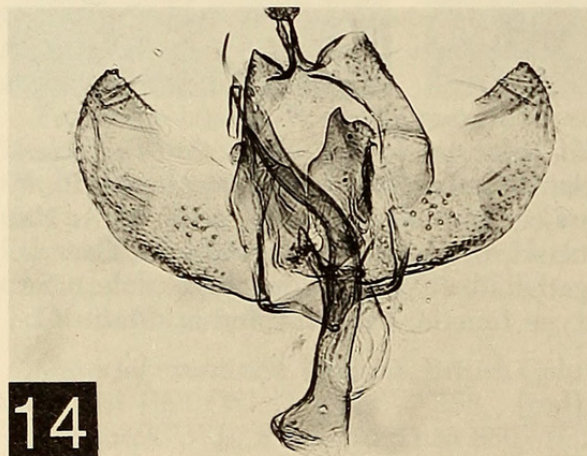
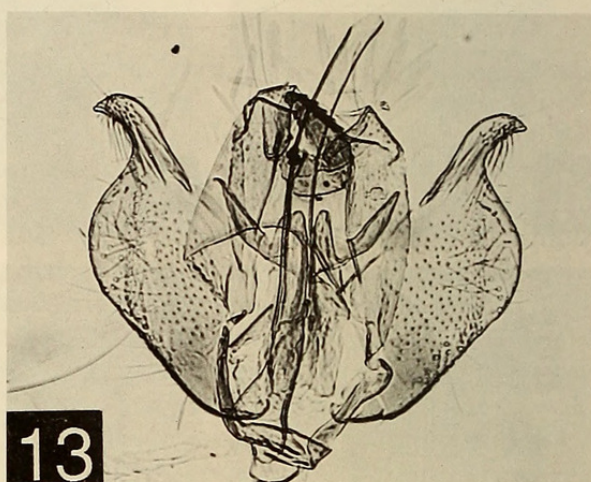
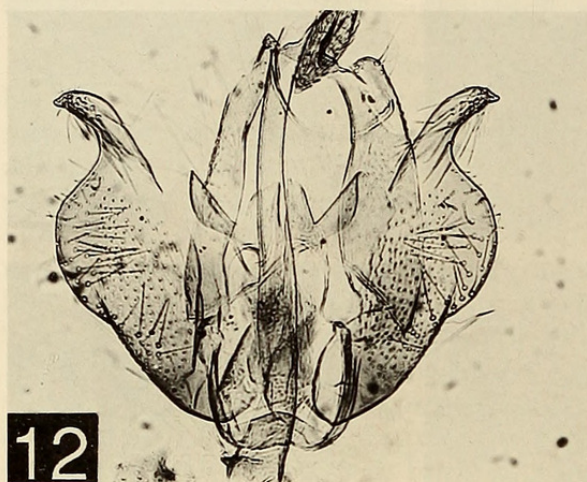
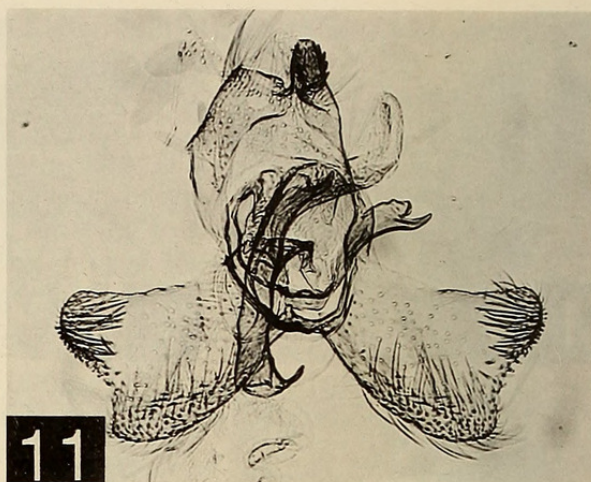
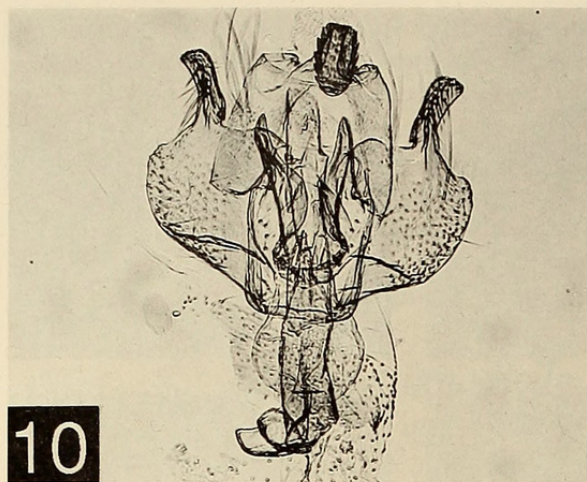
Labial palpus creamy white or slightly grayish, drooping to straight, length of third segment equal to second; head and neck tufts creamy white; antenna unicolorous gray,



FIGS. 1-9. *Perittia* species. 1, *P. cygnodiella*, holotype male, Canada, British Columbia, Victoria; 2, *P. cygnodiella*, male, Canada, Alberta, Edmonton Whitemud; 3, *P. cygnodiella*, female, USA, California, Plumas Co.; 4, *P. eremonoma*, male, USA, Nebraska, Cherry Co.; 5, *P. herrichiella*, male, Poland, Breslaw; 6, *P. herrichiella*, Canada, Quebec, dr. Terrebonne, Lac Brulé nr. Ste-Agathe; 7, *P. passula*, holotype male, USA, California, Monterey Co.; 8, *P. passula*, paratype female, USA, California, Marin Co.; 9, *P. andoi*, paratype male, Japan, Sugadaira.

segments on distal third with scales slightly raised apically; tegula gray basally, creamy white apically; thorax creamy white dorsally, gray ventrally; abdomen and legs gray; forewing whitish, densely mottled with dark-gray tips of scales making the wing gray; in the middle of wing at fold an oblique, dark spot, bound outwardly by an irregular whitish spot extending to posterior margin; line in cilia indistinct, dark gray; cilia gray. Forewing length 4.0-4.5 mm. Hindwing and underside of wings gray.

Male genitalia. Uncus reduced to a small, triangular setose swelling; gnathos rather small, elongate, setose; valva broadening proximally; costa not sclerotized, weakly concave; sacculus forming a large, rather weakly sclerotized lobe, with strong setae; termen of valva slightly concave, cucullus rounded, with strong setae; digitate process very small, with about five setae; juxta U-shaped, median margin strongly sclerotized, tapering as a strong, bent thorn apically; outer margin of apex distally enlarged as a blunt, weakly sclerotized, setose dilation; vinculum rounded; aedeagus without cornuti, bent at two-



FIGS. 10-15. Male genitalia of *Perittia* species. 10, *P. cygnodiella*, holotype, Victoria, British Columbia; 11, *P. eremonoma*, Colorado, Chaffee Co; 12, *P. herrichiella*, Quebec, Gatineau; 13, *P. herrichiella*, Finland, Helsinki; 14, *P. passula*, holotype, California, Monterey Co.; 15, *P. andoi*, paratype, Japan, Sugadaira.

thirds, tapering as sharp-tipped lobe on ventral side; distal opening very long and oblique; with a small, bilobed manica.

Female genitalia. Papillae anales short, triangular, setose; apophyses stout, length of apophyses anteriores two-thirds length of apophyses posteriores; ostium bursae rounded,



FIGS. 16-21. Juxta in male genitalia of *Perittia* species (the same specimens as in Figs. 10-15). 16, *P. cygnodiella*; 17-18, *P. herrichiella*; 19, *P. eremonoma*; 20, *P. passula*; 21, *P. andoi*.

antrum funnel shaped, well sclerotized; ductus bursae not sclerotized, less than three times the length of apophyses posteriores; corpus bursae rounded, with small inwardly directed spines and retinaculation; signum very large, dentate, elongate, broadened medially.

Life history. Unknown.

Material examined.

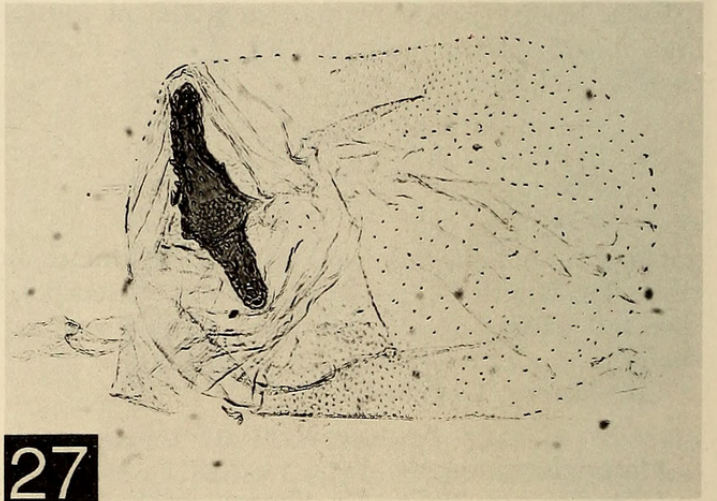
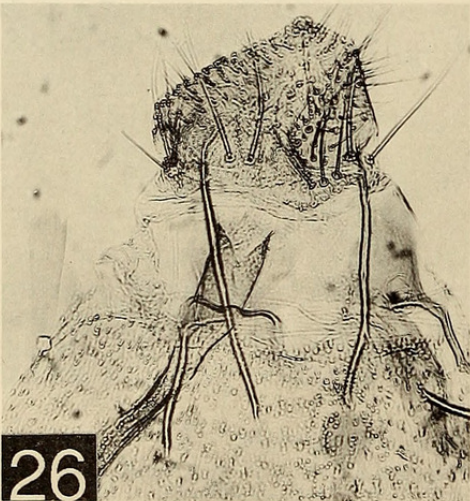
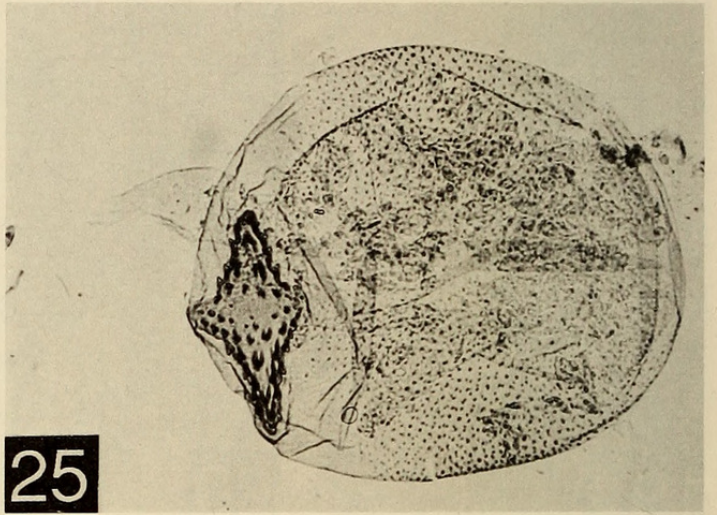
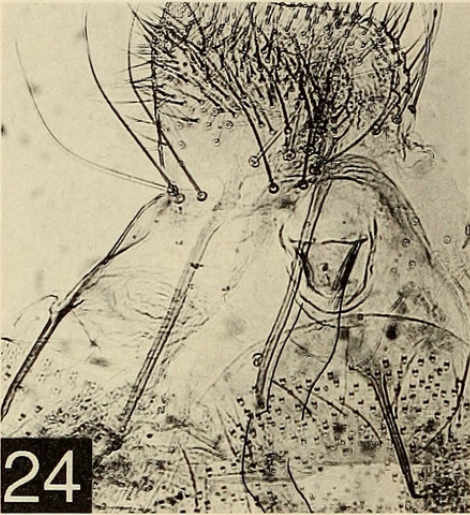
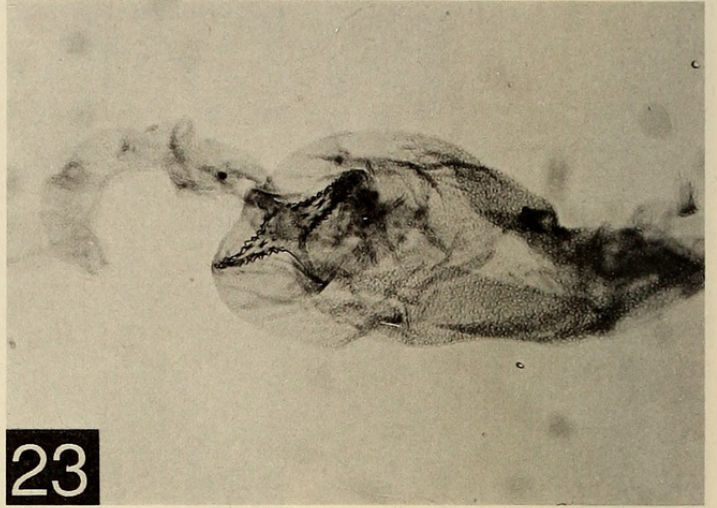
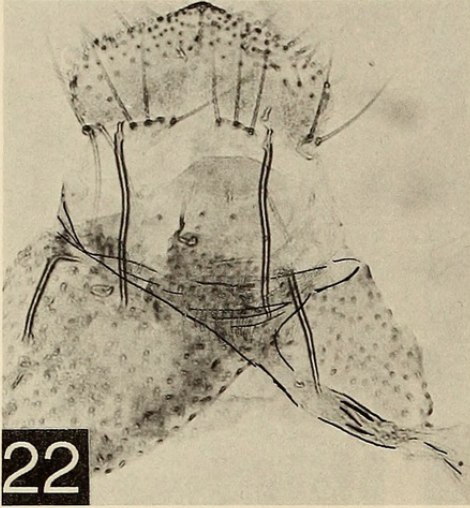
USA: Oregon: Baker Co.: Spring creek, 24 July 1968, 1 M, 3 June 1969, 1 M 1 F, 9 July 1969, 1 M, 7 July 1970, 1 M, 7 July 1970, 1 M (J. H. Baker, NMNH).

Utah: Sanpete Co.: Ephraim Can, 7100', Major's Flat, 20-21 July 1981, 2 M, 7500', Willow Cr. Road, 21-22 July 1981, 4 M (R. W. Hodges, NMNH).

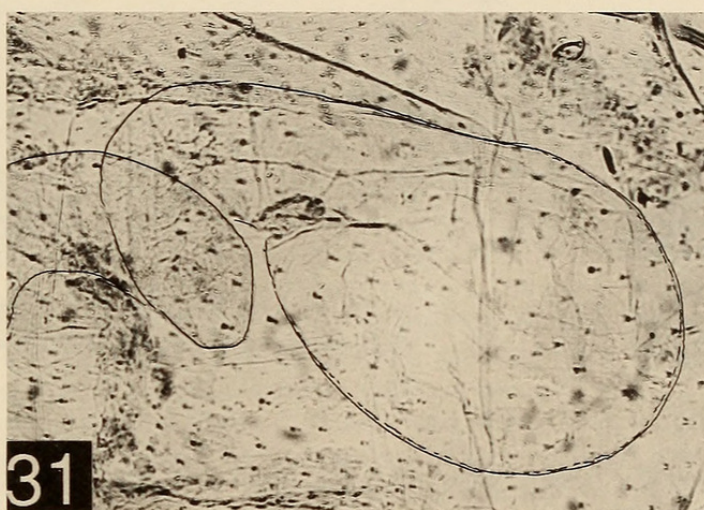
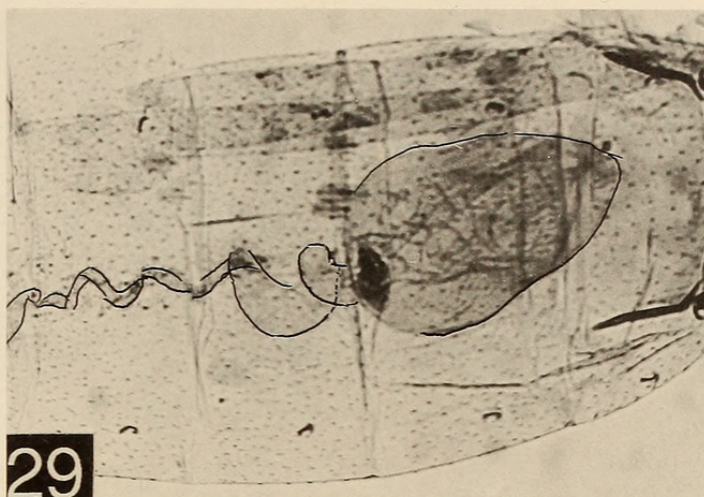
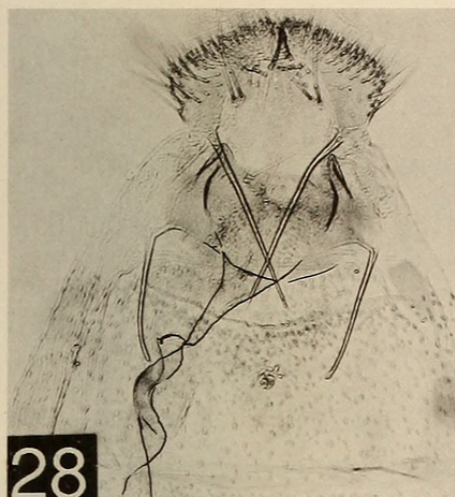
Nebraska: Cherry Co.: Ft Niobrara NWR, 2-19 June 1983, 8 M (R. W. Hodges, NMNH).

Colorado: Chaffee Co.: base Mt. Yale, 4 km W Rainbow Lake 2900 m, 13 July 1982, 1 M; Poncha Ck., 3 km S Poncha Springs, 14 July 1982, 1 M, (J.-F. Landry, CNC).

California: Tuolumne Co.: Baker Campgr. nr. Kennedy Meadow, 28 Aug. 1983, black light, 1 M (J. A. De Benedictis & J. A. Powell, UCB).



FIGS. 22-27. Female genitalia of *Perittia* species. 22-23, *P. cygnodiella*, California, Plumas Co; 24-25, *P. eremonoma*, Oregon, Baker; 26-27, *P. herrichiella*, Quebec, Gatineau.



FIGS. 28–31. Female genitalia of *Perittia* species. 28–29, *P. passula*, paratype, California, Strawberry Co.; 30–31, *P. andoi* Japan, Honshu, Sugadaira.

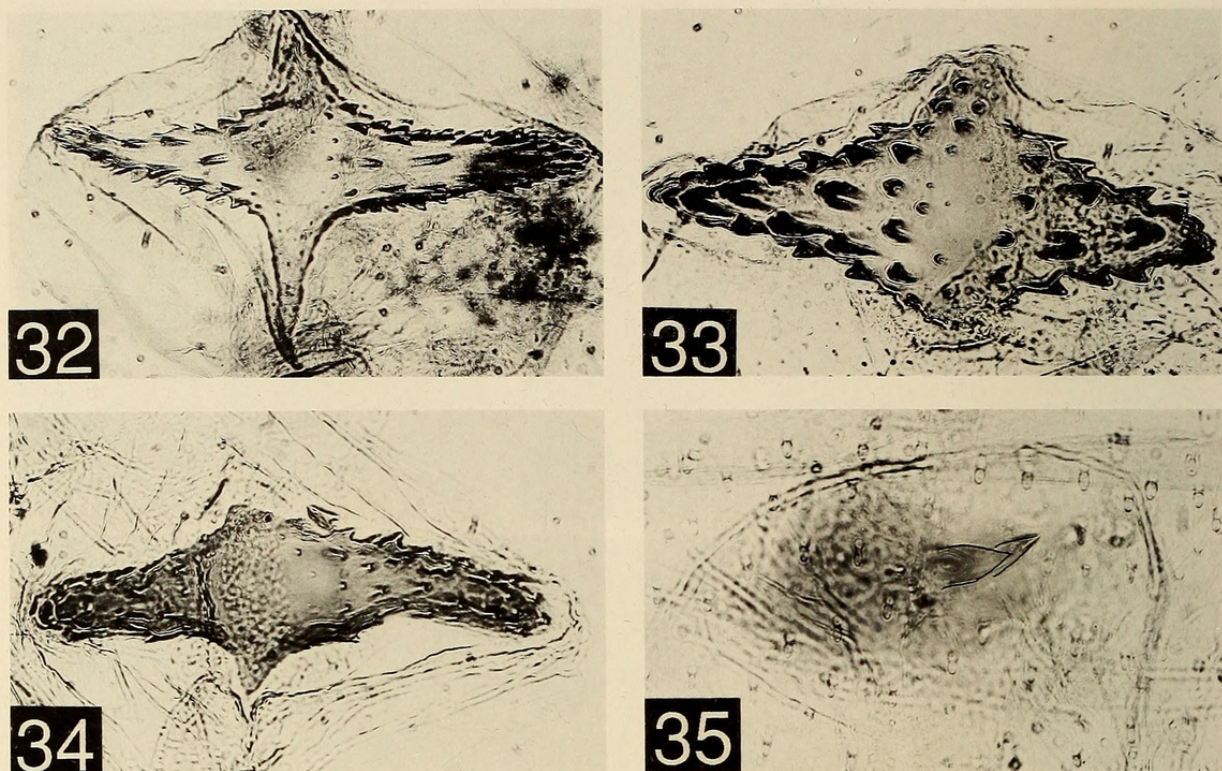
Perittia herrichiella (Herrich-Schäffer, 1855)

Figs. 5–6, 12–13, 17–18, 26–27, 34

Tinagma herrichiella Herrich-Schäffer, 1855:260

Labial palpus brownish gray, slightly lighter above, drooping, weakly curved, third segment two thirds length of second; head and neck tufts brownish gray, with slight bronzy sheen; antenna brownish gray, segments on distal third with apically raised scales; tegula and thorax brownish gray, with bronzy sheen; abdomen brownish gray, with bluish or greenish reflection; legs gray, tibia and tarsal segments with lighter distal rings; forewing dark gray with slight bronzy sheen, weakly mottled with very dark gray tips of scales; a creamy white triangular spot in the middle of posterior margin; in cilia indistinct, dark brownish gray line, cilia gray; forewing length 3.5–4.0 mm; Hindwing and underside of wings gray.

Male genitalia. Uncus small, rounded, tip setose; gnathos elongate, setose; valva short and broad; costa strongly convex proximally forming a membranous lobe, apically almost straight, sacculus strongly concave, tapering into a narrow, sclerotized, setose cucullus; digitate process reduced as a very small swelling without setae; juxta U-shaped, lobes broadly fused basally, long, rather broad, inner margin almost straight, apical margin oblique, rounded; vinculum rounded, enlarged anteriorly; aedeagus long and narrow,



FIGS. 32–35. Signum in female genitalia of *Perittia* species (the same specimens as in Figs. 22–31). 32, *P. cygnodiella*; 33, *P. eremonoma*; 34, *P. herrichiella*; 35, *P. passula*.

weakly bent, S-shaped, with blunt, rounded and bent caecum, without cornuti; with manica.

Female genitalia. Posterior margin of eighth segment with some large setae; papillae anales triangular, with small setae; apophyses anteriores rather short and stout, apophyses posteriores more than twice length of apophyses anteriores; ventral margin of ostium bursae V-shaped, antrum sclerotized, with almost parallel lateral margins, gradually tapering into a narrow colliculum; colliculum densely covered with small chitinized spines internally beyond a short, membranous zone; ductus bursae narrow; corpus bursae with very small inwardly directed spines, signum large, dentate, elongate, broadened medially.

Life history. The species is widespread in Europe (Traugott-Olsen & Nielsen 1977). *Perittia herrichiella* is a leaf-miner on *Lonicera* spp. (Caprifoliaceae). It hibernates as a pupa in a cocoon under the bark of the host plant. At this stage the species may easily have been introduced to eastern Canada with *Lonicera* plants.

Material examined. Canada, Quebec: d.r. Gatineau, Aylmer, 15 June, 6 M, 2 F (J.-F. Landry, CNC); d.r. Terrebonne, Lac Brulé nr. Ste-Agathe, 8 July 1988, 1 M, MVL (J.-F. Landry, CNC).

Perittia passula Kaila, n. sp.

Figs. 7–8, 14, 20, 28–29, 35, 36

Labial palpus gray, rather long, drooping, second segment slightly curved basally, third segment two thirds length of second; head and neck tufts unicolorous gray; antenna gray, segments of distal half with apically slightly raised scales; tegula, thorax, and abdomen unicolorous gray; legs gray, tarsal segments with lighter distal rings; middle spurs of hind tibia at one-fourth from base, inner spur more than twice the length of outer spur; distal spurs shorter, outer spur two-thirds length of inner spur; ground color of forewing light gray, densely mottled with dark-gray tips of scales making the color dark gray; beyond

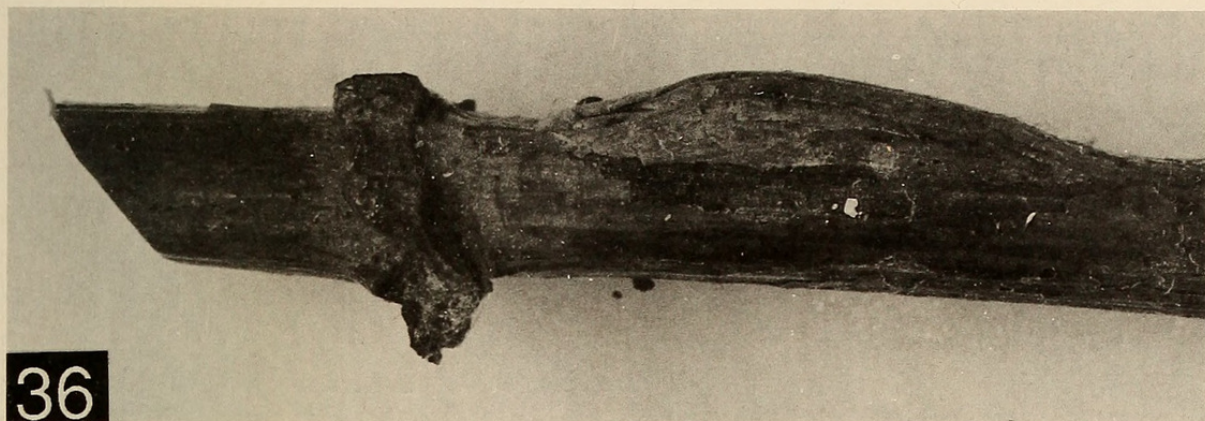


FIG. 36. Cocoon of *Perittia passula* on a twig of the host plant, California, Strawberry Co.

middle of posterior margin a small triangular white patch; line in cilia dark-gray, cilia gray; forewing length 3–4 mm. Hindwing and underside of wings gray.

Male genitalia. Uncus lobes small, triangular, tip without setae; gnathos elongate, setose; costa of valva weakly sclerotized, almost straight, valva rather short proximally, sacculus smoothly rounded, tapering distally into a blunt cucullus with a small distal thorn; digitate process very small, setose; lobes of juxta large, broad, lateral margin rounded, setose, apical margin strongly sclerotized, tapering into a thorn-shaped prolongation; vinculum sclerotized, tapering medially into a short saccus; aedeagus long, strongly bent in the middle, caecum with a small manica, distal opening oblique, without cornuti.

Female genitalia. Eighth sternum sclerotized; apophyses slender and rather long, length of apophyses anteriores two-thirds length of apophyses posteriores; ostium rounded, very large; antrum funnel shaped, ventral margin straight; ductus bursae long, spirally coiled, in posterior part sclerotized for short distance; corpus bursae with small inwardly directed spines, signum a sclerotized patch with two-three strong thorns.

Diagnosis. *Perittia passula* is closely related to *P. andoi* Kuroko, 1982, which occurs in Japan and Russian Far East in the Palaearctic. They differ in following characters: the thorn-shaped prolongation in the juxta of the male genitalia is larger in *P. passula*, and the aedeagus is longer and more strongly bent in *P. passula* compared to *P. andoi* (Figs. 14–15, 20–21). There is no signum in bursa copulatrix of *P. andoi* (Fig. 31); in *P. passula* the signum is a sclerotized, non-dentate plate with two or three strong thorns (Fig. 35).

Life history. The species is a leaf-miner feeding at least on *Lonicera hispidula* (Caprifoliaceae). Pupation occurs in a dense cocoon that the larva makes under the epidermis of a twig of the host plant. The cocoon appears as a shuttlelike swelling, covered with epidermis of the twig (Fig. 36).

Material examined. Holotype: Male: California: Monterey Co.: 17.5 mi W of Solon, 19 March 1969, J. Powell No. 69C87, dead XI.1969, reared from *Lonicera hispidula* (P. Opler, UCB); L. Kaila, prep. nro 1015; Holotype *Perittia passula* Kaila [red]; Coll. UCB.

Paratypes: USA: California: Alameda Co.: Strawberry Cyn., 8 Feb. 1968, 2 M, 6 F, J. Powell No. 68B48-49, larva on *Lonicera* sp. (P. Opler, UCB, ZMH); Tilden Park, Berkeley Hills, 14 and 23 March 1969, 4 F, J. Powell 69D35.1; 69C91; reared from *Lonicera* (P. Opler, UCB).

Marin Co.: Marin Id., 13 Apr 1989, 1 M, J. Powell No. 89O20, reared from *Lonicera hispidula* (J. Powell & M. Prentice, UCB); 26 May 1989, 1 F, J. Powell No. 89E11, reared from *Lonicera hispidula* (J. Powell & M. Prentice, UCB).

Marin Co.: Carson Ridge nr. Woodacre, 30 March 1985 1 M, J. A. Powell No. 85C50, reared from *Lonicera hispidula* (J. Powell, ZMH).

Monterey Co.: 17.5 mi. W of Solon, 19 March 1969, 1 M, J. Powell 69C87, larva on *Lonicera hispidula* (J. Powell, UCB); Big Creek Res., 21-22 Feb 1988, 2 M, coastal scrub, J. Powell 88J19, reared from *Lonicera hispidula* (J. A. Powell UCB).

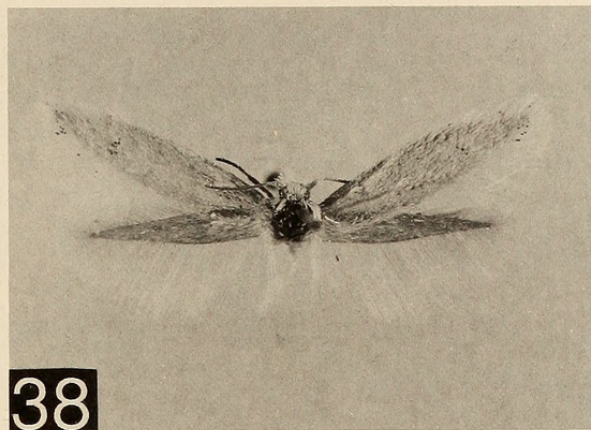
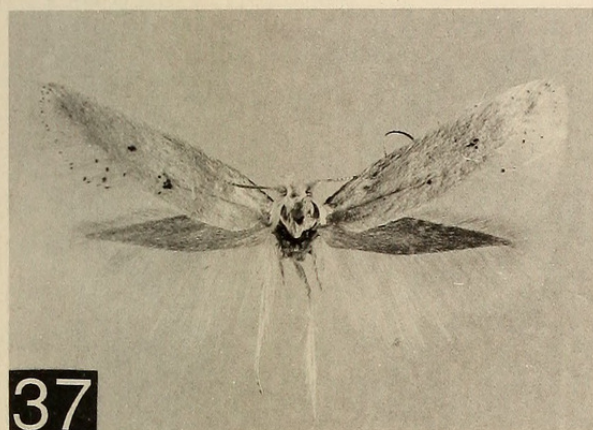
Los Angeles Co.: Sta. Catalina Is., middle cyn., 500-750', 1 May 1978, 1F (J. Powell, UCB).

Genus *Mendesia* Joannis

Mendesia Joannis, 1902:231. Type species: *Mendesia echiella* Joannis, 1902.

Triboloneura Walsingham, 1908:54. Type species: *Elachista sepulchrella* Stainton, 1872.

Previously recognized species of *Mendesia* are distributed in the Western Palaearctic region (Traugott-Olsen & Nielsen 1977, Traugott-Olsen 1990, Klimesch 1990). In addition, a species currently assigned to *Mendesia* (Parenti 1988) has been reported from South Africa. No species of *Mendesia* or the closely related *Polymetis* Walsingham, 1908, have been reported from North America (Braun 1948, Hodges et al. 1983). Elachistidae material collected by R. W. Hodges (NMNH) and J.-F. Landry (CNC) from the southern United States contain two undescribed species that I provisionally assign to this genus, although both species share characters not present in previously described species of *Mendesia* or related genera. These characters are a tuft of scales above the eyes, the sharply produced, long saccus in male genitalia, and a long, tongue-shaped appendix in the costa of the valva. The same or a similar structure also is present in *Mendesia aganope* Meyrick, 1911, from South Africa (see Parenti 1988). The generic names of this group of Elachistidae have not been revised, and the genera in current use probably do not represent monophyletic natural groups. Moreover, I believe that a number of species belonging to this group await description, and the taxonomic value of the characters on which the genera in current use are based on is unknown. Therefore, I shall not introduce a new generic name for the present species solely on the basis of the



FIGS. 37–38. *Mendesia* species. 37, *M. serica*, holotype male, USA Colorado, 1 mi S Poncha Springs; 38, *M. metaxea*, holotype male, USA, Texas, Brewster County, Chisos Mts.

characters mentioned, especially since the females of both these species remain unknown.

Diagnosis

The two species described below are apparently closely related. Both are silky white, with some darker scales. In *M. serica* the darker scales are very dark brown; in *M. metaxea* they are light brownish. The sacculus is concave beneath the cucullus in *M. metaxea*; straight or slightly convex in *M. serica*.

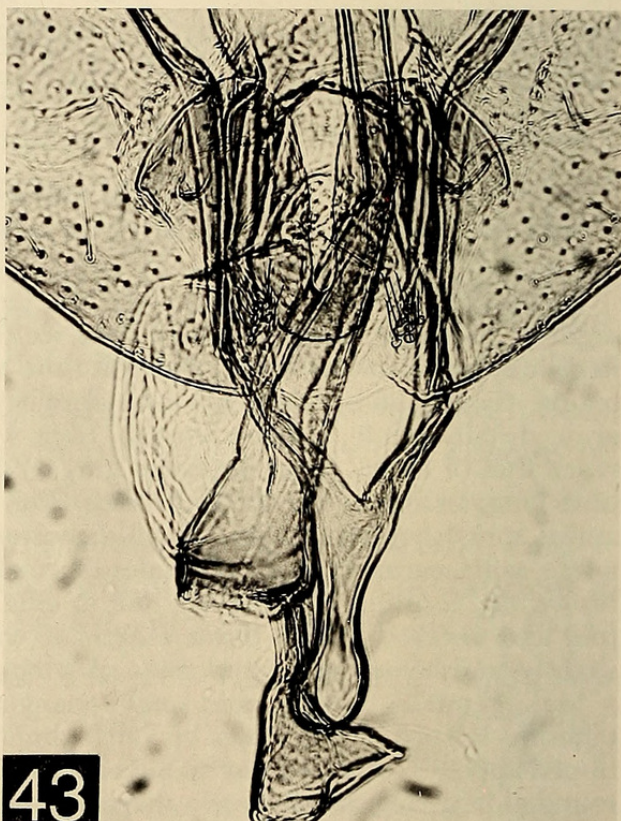
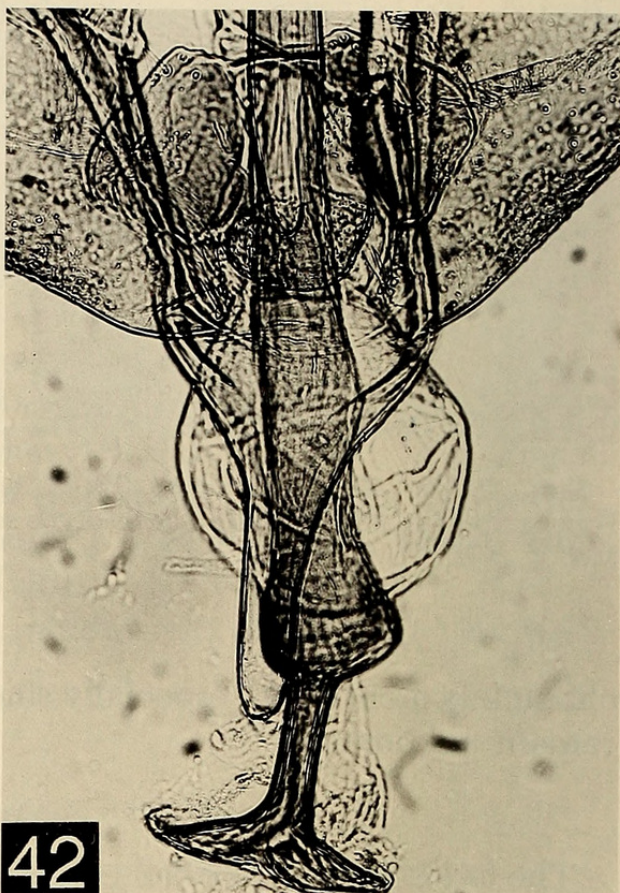
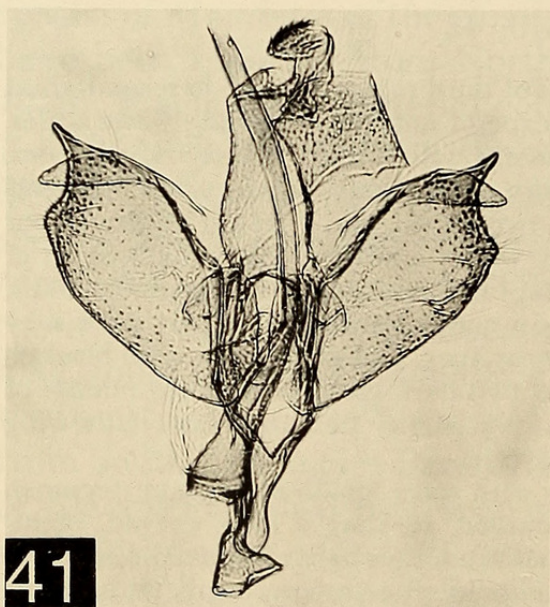
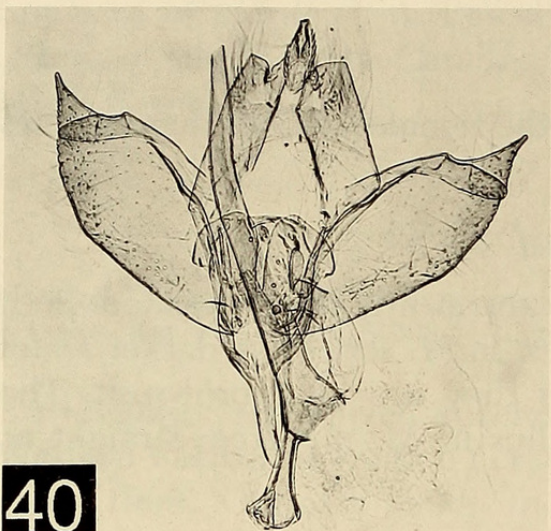
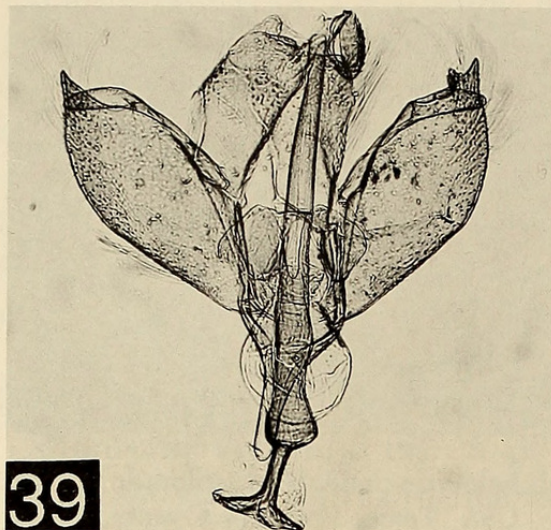
Mendesia serica Kaila, n. sp.

Figs. 37, 39–40, 42

Labial palpus short, brownish white, the length of third segment equal to second, third segment drooping; head and neck tufts white; scape of antenna with long white scales, flagellum pale brownish gray, in distal third segments with distally slightly raised scales; tegula, thorax, and abdomen white; foreleg white above, gray below, tarsal segments gray, distally white; midleg whitish, tibia with two apical spurs, length of inner spur twice that of outer, tarsal segments gray, distally white; hindleg white, middle spurs of tibia long, arising at one-third distance from base, inner spur twice the length of outer, apical spurs short, inner spur slightly shorter than outer. Forewing: ground color silky white, with scattered yellowish scales especially near apex, and some scales with blackish brown tip, forming an irregular line in cilia and two dark spots, one before middle of fold and another at two thirds length of wing; cilia white. Length 6 mm. Hindwing slightly translucent, gray; underside of wings gray.

Male genitalia. Uncus lobes small, triangular, with setae; gnathos elongate; tegumen tapering toward uncus; costa of valva slightly curved, forming a long, curved, blunt-tipped appendix with setae at tip beyond middle; costa concave beyond appendix; sacculus rounded, tapering distally into a sharp, setose cucullus; digitate process small, setose; lobes of juxta large, setose, median margin slightly rounded toward apex, apical margin rounded, slightly produced laterally; vinculum well sclerotized, produced into a long, blunt-tipped saccus; aedeagus long, narrow, slightly bent medially, without cornuti; caecum ventrally with a large, apically dilated, bilobed manica.

Female genitalia. Unknown.



FIGS. 39-43. Male genitalia of *Mendesia* species. 39, *M. serica*, holotype male, Colorado, Poncha Springs; 40, *M. serica*, paratype, Colorado, Poncha Springs; 41, *M. metaxea*, holotype male, Texas, Brewster County; 42, *M. serica*, holotype male: lobes of juxta, vinculum and manica; 43, *M. metaxea*, holotype male: lobes of juxta, vinculum and manica.

Life history. Unknown.

Material examined. Holotype: Male: Colorado: Chaffee Co.: 1 mi S Poncha Springs, 7000', 6 July 1982 (Ronald W. Hodges, NMNH), Pinyon-juniper/oak-cottonwood/willow-Rhus; L. Kaila prep. nro 923; Holotype *Mendesia serica* Kaila [red].

Paratypes. Colorado: Chaffee Co.: 1 mi S Poncha Springs, 7000', Pinyon-juniper/oak-cottonwood/willow-Rhus, 13 July 1982, 1 M (R. W. Hodges, NMNH), L. Kaila prep. nro 946; Poncha Ck. 3 km S Poncha Springs, 14 July 1982, 1 M, at black light, pinyon-juniper-oak forest (J.-F. Landry, CNC), L. Kaila prep. nro 931.

Mendesia metaxea Kaila, n. sp.

Figs. 38, 41, 43

Labial palpus short, white, straight, length of third segment equal to second; head and neck tufts white; scape of antenna with long white scales, flagellum pale brownish gray, on distal third segments distally with slightly raised scales; tegula, thorax, and abdomen white; fore- and midlegs brownish, tarsal segments gray with white distal rings; midtibia with two apical spurs, inner spur longer than outer; hindleg whitish, middle spurs of tibia at one-fourth distance from base, outer spur twice the length of inner spur, apical spurs short, inner spur longer than outer. Forewing: ground color silky white, scattered scales with light brown tip, forming an irregular spot at two thirds wing length and an irregular line in cilia. Length 5 mm. Hindwing slightly translucent, gray; underside of wings gray.

Male genitalia. Uncus lobes small, setose; gnathos short, rather broad; costa of valva curved, forming at two thirds from base a long and broad, curved, gradually tapering appendix with setae at inner margin; costa concave beyond appendix; sacculus slightly rounded from base to two thirds length where it forms a gentle angle; sacculus concave beyond angle, tapering distally into a sharp, bare cucullus; digitate process very small, setose; lobes of juxta large, setose, median margin slightly convex toward apex, apical margin rounded, lateral margin straight; vinculum sclerotized, produced into a long, clavate saccus; aedeagus long, narrow, medially slightly bent, without cornuti; caecum ventrally with a large, apically dilated bilobed manica.

Female genitalia. Unknown.

Life history. Unknown.

Material examined. Holotype: Male: Texas, Brewster Co.: Chisos Mts, K-Bar Ranch, 3400 ft, 1 June 1973 (R. W. Hodges, NMNH); L. Kaila prep. nro 939; Holotype *Mendesia metaxea* Kaila [red].

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