

# The Moths of America North of Mexico

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FASCICLE 15.2

## PYRALOIDEA Pyralidae (Part)

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- D, figure 1); corpus bursae of females with one signum (text figures 8 *a, b*, 10 *a, b*, 12 *a, b*, 18 *d*, 22 *b*) or with no signum (*Acrobasis indigenella*) ..... 3
3. Gnathos weakly developed mesially (text figure 21 *b*); female genitalia noticeably sclerotized and with a pair of granulate lobes behind genital opening (text figure 22 *a*) ..... *Hypargyria*  
p. 74
- Gnathos with a strong hooklike element (text figures 7 *a, c*, 9 *a, c*, 11 *a, c*, 18 *b*); female genitalia membranous, without pair of granulate lobes (text figures 8 *a*, 18 *d*) ..... 4
4. Upper side of forewing with scale ridge whitish ochre to pale brown; male valva with marginal cluster of scales in angle between sacculus and cucullus (text figure 18 *b*) ..... *Anabasis*  
p. 71
- Upper side of forewing with scale ridge present or absent, if present darker (usually brown or black, but sometimes, in part, or completely, gray, purple, or red); male valva without marginal cluster of scales between sacculus and cucullus (text figures 7 *a, c*, 9 *a, c*, 11 *a, c*) . . . . .  
..... *Acrobasis*  
p. 8

GENUS

*Cryptoblabe* Zeller

*Cryptoblabe* Zeller, 1848, *Isis von Oken*, 41: 644.

Type species: *Ancylosis rutillella* Zeller, 1839, considered to be a synonym of *Phycis bistriga* Haworth, 1811. Monotypy.

*Albinia* Briosi, 1877, *Atti Staz. Chimico-Agraria Sperimentale Palermo*, 1: 61.

Type species: *Albinia wockiana* Briosi, 1877. Monotypy.

NOTE—*Albinia* Briosi, 1877 is preoccupied by *Albinia* Robineau-Desvoidy, in the Diptera.

According to Janse (1941), *Cryptoblabe* contains many species in the Palearctic, Afrotropical (Ethiopian), Oriental, and Australian Regions. Some of the species assigned to the genus, however, probably belong in other genera. *Cryptoblabe* apparently has no indigenous species in the Western Hemisphere; it is represented in the Americas by one introduced species, *gnidiella*. The following generic description is based on *gnidiella* and the type species *bistriga*.

Antenna of males (plate C, figures 1, 2) with simple basal segment and base of shaft with small scale

tuft and a shallow sinus. Enlarged, hooklike sensillum (probably sensillum chaeticum) in sinus, and rows of indistinct small spinelike sensilla along remaining distal segments. Sensilla trichodea (cilia) of shaft of males numerous and shorter than width of basal segments of shaft.

Frons weakly rounded, somewhat roughly scaled. Labial palpus upturned, slender, reaching a little above vertex. Maxillary palpus simple. Haustellum well developed. Ocelli present.

Forewing of male (text figure 1 *a*) with costa slightly concave to slightly convex on basal half. Upper side of forewing of both sexes without transverse antemedial ridge of raised scales. Under side of forewing of male without sex-scaling (androconia). Forewing with  $R_2$  separate from  $R_{3+4}$  and  $R_5$ ,  $M_1$  bent toward base, from upper angle, or very close to upper angle of cell;  $M_2$  and  $M_3$  closely approximate at base, rarely connate;  $Cu_1$  from before angle of cell. Hindwing with  $Sc$  and  $R_s$  closely approximate, contiguous, or weakly anastomosing for a short distance beyond cell;  $M_2$  and  $M_3$  from angle, closely approximate at base, thence diverging;  $Cu_1$  from before and more or less removed from lower angle of cell; cell distinctly less than half wing length. Lateral sclerites of thorax of males without patches of sex scales, penicilli, or specialized scale tufts.

Venter of eighth abdominal segment of male without scale tufts.

Male genitalia (text figures 1 *b, c*) with uncus broad, apical margin rounded and invaginated; gnathos a small simple hook; transtilla complete with elongate central element; valva relatively simple, with costal margin distinctly convex at base, a small setiferous protuberance near inner base, and large scale and setal tufts arising from near sacculus; aedoeagus without cornuti; vinculum broad and with terminal margin concave.

Female genitalia (text figure 1 *d*) with ductus bursae and corpus bursae membranous; genital opening simple except for a narrow, sclerotized band behind or above the opening; ductus bursae with numerous minute spines near union with corpus bursae. Corpus bursae, at least in part, with numerous minute spines and scobinations; one or two signa present, developed as scobinate cups (on *bistriga* a slender, deeply invaginate, horn-shaped cup); ductus seminalis arising from corpus bursae near, or some distance from, junction of ductus and corpus bursae.

Larvae (text figure 2) possess a large distinct pinaculum ring associated with the SD1 setae on the mesothorax and a less conspicuous pinaculum ring around SD1 on the eighth abdominal segment. Head

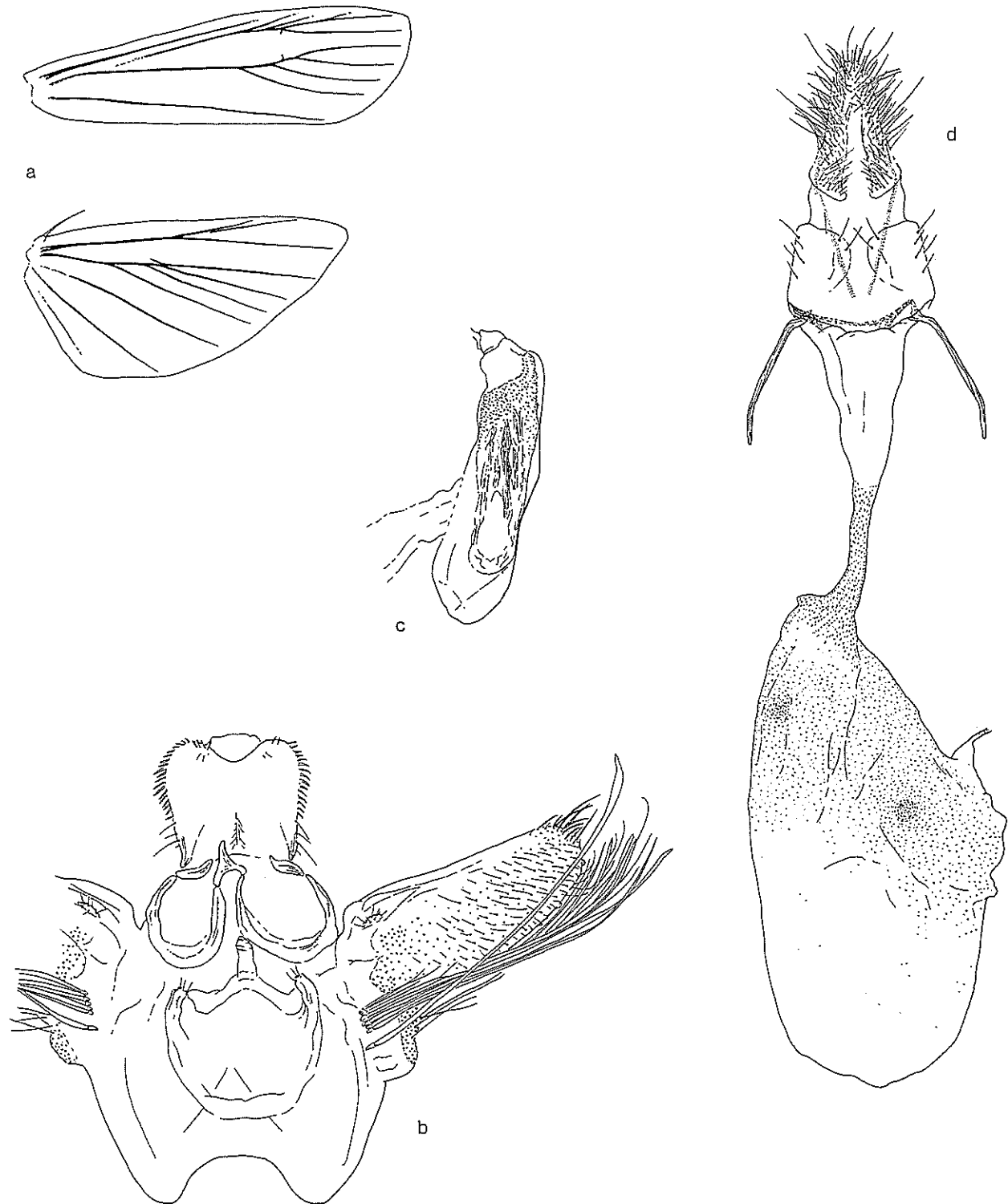


FIGURE 1: *CRYPTOBLABES GNIDIELLA*

a. Male forewing and hindwing; b. Male genitalia (left valva, aedeagus and some scales and setae of tufts near base of sacculus omitted);  
c. Aedeagus; d. Female genitalia.

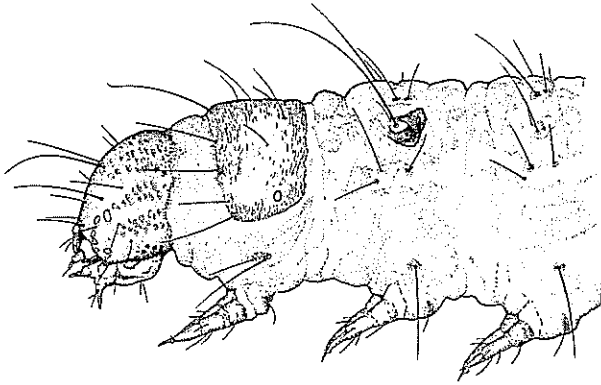


FIGURE 2: LAST STAGE LARVA OF  
*CRYPTOBLABES GNIDIELLA*. (LATERAL  
VIEW OF HEAD AND THORAX)

only slightly sculptured and body longitudinally striped. Tonofibrillary platelets moderately distinct on head and indistinct on body. Thoracic shield and prespiracular plates strongly united into a single sclerite. Mandibles relatively simple, sometimes with an extra, feebly developed, marginal tooth. Maxillae with simple (non-forked) sensilla trichodea.

Pupae with typical shape of most lepidopterous pupae. Distinct punctures on dorsum of all thoracic and abdominal segments. Setae on head and body rather long. Gibba absent and cremastral "spines" hooked; the two mesial "spines" approximate and enlarged, and lateral "spines" widely separated and very weak (setalike).

Larvae are found associated with a wide variety of plants. Some (*bistriga*, for example) feed on the leaves, while others (such as *gnidiella*) damage mostly fruits and seeds.

Traditionally, most authors have allied *Cryptoblabes* closely with *Acrobasis*. General similarities, particularly in wing venation, established this relationship. There are, however, differences in wing venation and many aspects of adult morphology between the two groups. For example, in the hindwing,  $M_2$  and  $M_3$  are separate in *Cryptoblabes* and connate in *Acrobasis*, and the cell of the hindwing in *Cryptoblabes* is distinctly less than half the wing length, as contrasted with slightly less than half the wing length in *Acrobasis*. Also, the male genitalia of *Cryptoblabes* are particularly diagnostic in that they possess well-developed scale and setal tufts near the base of sacculus. Furthermore, obvious differences, particularly appearance of the scape, are apparent in the male antennae of the two genera.

Larval morphology provides support for relating *Cryptoblabes* and *Acrobasis*. Some larvae of *Acro-*

*basis* (*minimella* and *blanchardorum*) have the shield and the prespiracular plates of the prothorax fused into a single structure; this feature also occurs in *Cryptoblabes gnidiella* and *bistriga*. All other known phycitine larvae have the prothoracic shield and prespiracular plates separate.

*Cryptoblabes gnidiella* (Millière) (Honeydew Moth)

PL. 1, FIGS. 1-3. PL. C, FIGS. 1, 2. TEXT FIGS. 1 a-d, 2.

*Ephestia gnidiella* Millière, 1864, *Iconographie et description de chenilles et Lépidoptères inédits*, 2: 308.

Type locality: France. [MNHP]

The adult of *C. gnidiella* has a wing length of only 5.0-6.5 mm. The small size in conjunction with the color of the upper side of the forewing, which is mostly brown with relatively indistinct patches of white and numerous patches and streaks of red scales, characterize this species.

Male antenna (plate C, figures 1, 2) and genitalia (text figure 1 b, c) as described for genus. Female genitalia (text figure 1 d) with two shallow, cuplike signa in corpus bursae.

Last stage larva (text figure 2) 10.0-11.5 mm long. Head yellowish brown to reddish brown with slightly darker tonofibrillary platelets. Joined thoracic shield and prespiracular plates about same color as head. Partly fused, usually purplish-brown longitudinal stripes on dorsum of body; more ventral parts of body also usually somewhat darkened. Pinacula dark brown to black and small, surrounded by paler integument. SD1 pinaculum ring on mesothorax dark brown to black.

Pupa about 6.0-7.0 mm long and yellowish brown. Other features as in generic description.

*C. gnidiella* has many hosts. Some of the plants reported in the literature (L'Homme, 1935; Gentry, 1965; Palmoni, 1969) include: almond (*Amygdalus communis* L.), apple (*Malus pumila* Miller), carrot (*Daucus carota* L.), castorbean (*Ricinus communis* L.), citrus (*Citrus* spp.), corn (*Zea mays* L.), cotton (*Gossypium* spp.), February daphne (*Daphne mezereum* L.), fig (*Ficus* spp.), grape (*Vitis* spp.), guava (*Psidium* sp.), loquat (*Eriobotrya japonica* (Thunberg) Lindley), onion (*Allium* sp.), peach (*Amygdalus persica* L.), pomegranate (*Punica* sp.), purple lythrum (*Lythrum salicaria* L.), quince (*Cydonia oblonga* L.), sorghum (*Sorghum vulgare* Persoon), spurgeflax (*Daphne gnidium* L.), tamarisk (*Tamarix* sp.), and wheat (*Triticum aestivum* L.). Various parts

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of hosts are attacked, most often the fruit or seeds. Damaged and desiccated fruit is usually most heavily infested.

*C. gnidiella* is indigenous to southern Europe, north Africa, and southwest Asia. Because of its frequent association with diverse fruits and seeds, it has been transported to many other places in the world. For example, it has become established in Central and South America and in Bermuda and Hawaii. In Bermuda, adults have been collected in January, February, April, and May. As far as I am aware, *gnidiella* has not been reported from the continental United States or Canada; it is included in this fascicle because of its occurrence in close proximity to our borders, and the distinct possibility that it will soon establish itself as part of our fauna.

### GENUS

#### *Acrobasis* Zeller

*Acrobasis* Zeller, 1839, *Isis von Oken*, 32: 176.  
Type species: *Tinea consociella* Hübner, 1796.  
Designated by Moore, 1886, *Lepidoptera of Ceylon*, 3: 359.

*Mineola* Hulst, 1890, *Trans. Amer. Ent. Soc.*, 17: 126.

Type species: *Myelois indigenella* Zeller, 1848b.  
Original designation.

*Seneca* Hulst, 1890, *Trans. Amer. Ent. Soc.*, 17: 177.

Type species: *Cateremna tumidulella* Ragonot, 1887, considered to be a synonym of *Acrobasis caryvorella* Ragonot, 1887. Original designation.

*Acrocaula* Hulst, 1900, *Can. Ent.*, 32: 169.  
Type species: *Acrocaula comacornella* Hulst, 1900, considered to be a synonym of *Acrobasis caryvorella* Ragonot, 1887. Original designation.

*Catacrobasis* Gozmány, 1958, *Ann. Hist.-Nat. Mus. Natl. Hungaricae*, 9: 224.

Type species: *Tinea obtusella* Hübner, 1796.  
Original designation.

A relatively large, mostly holarctic genus of moths easily recognized by the characteristically enlarged basal segment (scape) of the antenna of the male (plate A, figures 1, 3; plate B, figures 1, 3). Two other phycitine genera (*Anabasis* and *Hypargyria*) with similar male antennae occur in our fauna, but they are tropical insects restricted almost entirely to southern Florida.

Antennal shaft of male with a posteromesial basal sinus (weakly developed in some) and rows of spine-like sensilla usually starting in the sinus and extending along remaining distal segments; spinelike sensillum or sensilla in or near sinus usually distinctly larger than more distal sensilla. Sensilla trichodea (cilia) of shaft variable in number and in male distinctly shorter than, to longer than, width of shaft at midsinus.

Frons weakly rounded and smoothly to roughly scaled. Labial palpus slender to somewhat broadened, simple, upturned, reaching to, or slightly above, vertex. Maxillary palpus simple. Haustellum well developed. Ocelli present.

Basal half of costa of forewing of male usually straight, very slightly convex (text figure 3 a), or weakly concave (text figure 3 b, c); some members of genus with distinct concavity on basal half of forewing (text figure 3 d, e). Upper side of forewing of both sexes with or without a transverse antemedian ridge of raised scales; ridge, when present, very weak to strongly developed. Basic color pattern of forewing of many species including a paler, contrastingly colored, patch of scales immediately following scale ridge. Under surface of either fore- or hindwing, or both, of males, sometimes with contrastingly colored streaks or patches of scales (sex-scales); these contrasting scales of various colors, the most evident being black (plate E, figures 1-5). Forewing with  $R_2$  separate or shortly anastomosed at base with  $R_{3+4}$  and  $R_5$ ,  $M_1$  from slightly below upper angle of cell and relatively straight,  $M_2$  and  $M_3$  separate or connate,  $Cu_1$  rather well separated from  $M_3$ , and  $Cu_2$  from well before angle of cell. Hindwing with Sc and Rs shortly anastomosed beyond cell;  $M_2$  and  $M_3$  connate, arising from the lower outer angle of cell;  $Cu_1$  from before, but near, lower angle of cell; and  $Cu_2$  from cell before lower angle of cell; cell about half wing length.

Lateral sclerites of thorax of some males also with patches of contrastingly colored sex-scales. Usually these are most evident on the meso- and metathorax near bases of wings. Males of some species have metathoracic penicilli that extend between mesothorax and metathorax; metathorax of a few other species have smaller more exposed tufts of scales or penicilli.

Venter of eighth abdominal segment of males with two scale tufts (text figure 4 a, b). One tuft consisting of more or less transverse-oriented, paired scales, and a second more anterior tuft composed of either a transverse group of scales or a single penicilluslike, midventral group of scales. Both scale tufts with an

1. *Cryptoblabes gnidiella* (Mill.), ♂. Bermuda, 22 January, F. M. Jones (USNM). (p. 7).
2. *Cryptoblabes gnidiella* (Mill.), ♀. Bermuda, 4 April, F. M. Jones (USNM). (p. 7).
3. *Cryptoblabes gnidiella* (Mill.), ♂. Europe (USNM). (p. 7).
4. *Trachycera suavella* (Zinck.), ♀. Paratype of *Rhodophaea supposita* Heinrich. Vancouver, B.C., 24 June 1938, R. Glendenning (USNM). (p. 67).
5. *Trachycera suavella* (Zinck.), ♂. Paratype of *Rhodophaea supposita* Heinrich. Vancouver, B.C., 24 June 1938, Host *Cotoneaster* sp. (USNM). (p. 67).
6. *Trachycera suavella* (Zinck.), ♂. Europe (USNM). (p. 67).
7. *Trachycera suavella* (Zinck.), ♀. Europe (USNM). (p. 67).
8. *Trachycera caliginella* (Hulst), ♂. Madera Canyon, 4,880', Santa Rita Mts., Santa Cruz Co., Ariz., 5 July 1963, J. G. Franclemont (USNM). (p. 68).
9. *Trachycera caliginella* (Hulst), ♂. Madera Canyon, 5,600', Santa Rita Mts., Santa Cruz Co., Ariz., 6 July 1963, J. G. Franclemont (USNM). (p. 68).
10. *Trachycera caliginella* (Hulst), ♀. Madera Canyon, 5,600', Santa Rita Mts., Santa Cruz Co., Ariz., 6 July 1963, J. G. Franclemont (USNM). (p. 68).
11. *Trachycera caliginella* (Hulst), ♂. Madera Canyon, 5,600', Santa Rita Mts., Santa Cruz Co., Ariz., 6 July 1963, J. G. Franclemont (USNM). (p. 68).
12. *Trachycera caliginella* (Hulst), ♀. Madera Canyon, 4,880', Santa Rita Mts., Santa Cruz Co., Ariz., 5 July 1963, J. G. Franclemont (USNM). (p. 68).
13. *Trachycera caliginella* (Hulst), ♂. Alpine Lake, hills N, 1,100', Marin Co., Calif., reared from *Quercus durata*, larva collected 17 April 1976, emerged 14 June 1976, J. Powell No. 76D19 (UCB). (p. 68).
14. *Trachycera caliginella* (Hulst), ♂. Alpine Lake, hills N, 1,100', Marin Co., Calif., reared from *Quercus durata*, larva collected 17 April 1976, emerged 14 June 1976, J. Powell No. 76D19 (UCB). (p. 68).
15. *Trachycera caliginella* (Hulst), ♀. Alpine Lake, hills N, 1,100', Marin Co., Calif., reared from *Quercus durata*, larva collected 17 April 1976, emerged 20 June 1976, J. Powell No. 76D19 (UCB). (p. 68).
16. *Trachycera caliginella* (Hulst), ♂. Paratype of *Rhodophaea durata* Opler. Ridge N of Liberty, Gulch nr. Alpine Lk., Marin Co., Calif., reared from *Quercus durata*, larva collected 15 April 1972, emerged 5 June 1972, J. Powell No. 72D10, Univ. Calif. Insect Survey Specimen #165016 (UCB). (p. 68).
17. *Trachycera caliginella* (Hulst), ♀. Piedmont Pines, NE Oakland, Calif., 19 June 1962, P. D. Hurd (UCB). (p. 68).
18. *Trachycera caliginella* (Hulst), ♂. 1 mi SW Angwin, Napa Co., Calif., 17 June 1980, J. Powell, bl. trap (UCB). (p. 68).
19. *Trachycera caliginella* (Hulst), ♂. 1 mi SW Angwin, Napa Co., Calif., 17 June 1980, J. Powell, bl. trap (UCB). (p. 68).
20. *Trachycera caliginella* (Hulst), ♂. Antioch, Contra Costa Co., Calif., larva collected 5 April 1956, emerged U. C. Campus Berkeley, 12 May 1956, J. Powell (UCB). (p. 68).
21. *Trachycera caliginella* (Hulst), ♀. 2 mi E Antioch, Contra Costa Co., Calif., collected (? larva) 26 May 1968, *Q. agrifolia*, emerged 10 June 1968, J. Powell No. 68E51, P. A. Opler Collector (UCB). (p. 68).
22. *Trachycera caliginella* (Hulst), ♂. Santa Cruz Is., U. Calif. Field S Canada del Medio, Calif., 14 August 1968, C. L. Remington (UCB). (p. 68).
23. *Trachycera caliginella* (Hulst), ♂. Avalon, Santa Catalina Island, Ca 27 May 1932, Don Meadows (USNM). (p. 68).
24. *Trachycera caliginella* (Hulst), ♂. 4 mi E Monitor Pass, Mono Co., Calif., 30 June 1962, J. Powell (UCB). (p. 68).
25. *Trachycera caliginella* (Hulst), ♀. San Diego, Calif., Geo. H. Field, May 1911 (USNM). (p. 68).
26. *Trachycera pallicornella* (Rag.), ♂. Green Gulch, 5,400', Big Bend N Park, Brewster Co., Tex., 10 May 1972, J. G. Franclemont (USNM). (p. 69).
27. *Trachycera pallicornella* (Rag.), ♀. Green Gulch, 5,400', Big Bend N Park, Brewster Co., Tex., 8 May 1972, J. G. Franclemont (USNM). (p. 69).
28. *Trachycera pallicornella* (Rag.), ♀. Panther Pass, Chisos Mountain, 6,000', Brewster Co., Tex., 2 June 1973, Douglas C. Ferguson (USNM). (p. 69).
29. *Trachycera pallicornella* (Rag.), ♀. Devils River, Tex., at light, 6 May 1907, Bishop and Pratt (USNM). (p. 69).
30. *Anabasis ochrodesma* (Zell.), ♂. Delray Gardens, Fla., larva collected 8 September 1975, *Cassia obtusifolia*, H. H. Neunzig (NCSU). (p. 73).
31. *Anabasis ochrodesma* (Zell.), ♀. Delray Gardens, Fla., larva collected 9 September 1974, *Cassia obtusifolia*, H. H. Neunzig (NCSU). (p. 73).
32. *Anabasis ochrodesma* (Zell.), ♂. Lake Worth, Fla., 8 September 1975, light trap, H. H. Neunzig (NCSU). (p. 73).
33. *Anabasis ochrodesma* (Zell.), ♀. Lake Worth, Fla., 8 September 1975, light trap, H. H. Neunzig (NCSU). (p. 73).
34. *Anabasis ochrodesma* (Zell.), ♂. Homestead, Fla., larva collected 4 September 1975, *Cassia obtusifolia*, H. H. Neunzig (NCSU). (p. 73).
35. *Anabasis ochrodesma* (Zell.), ♀. Perine, Fla., larva collected 7 September 1974, *Cassia obtusifolia*, H. H. Neunzig (USNM). (p. 73).
36. *Anabasis ochrodesma* (Zell.), ♂. Perine, Fla., larva collected 7 September 1974, *Cassia obtusifolia*, H. H. Neunzig (USNM). (p. 73).
37. *Anabasis ochrodesma* (Zell.), ♀. Perine, Fla., larva collected 7 September 1974, H. H. Neunzig (USNM). (p. 73).
38. *Hypargyria slossonella* (Hulst), ♀. Key Largo, Fla., larva collected May 1981, *Hippocratea*, L. Grimes (USNM). (p. 77).
39. *Hypargyria slossonella* (Hulst), ♀. Lower Matecumbe Key, Fla., larva collected 20 May 1979, *Hippocratea*, L. Grimes (NCSU). (p. 77).
40. *Hypargyria slossonella* (Hulst), ♂. Key Largo, Fla., larva collected May 1981, *Hippocratea*, L. Grimes (NCSU). (p. 77).
41. *Hypargyria slossonella* (Hulst), ♂. Lower Matecumbe Key, Fla., larva collected 20 May 1979, *Hippocratea*, L. Grimes (NCSU). (p. 77).
42. *Hypargyria slossonella* (Hulst), ♂. Key Largo, Fla., larva collected May 1981, *Hippocratea*, L. Grimes (USNM). (p. 77).
43. *Hypargyria slossonella* (Hulst), ♂. Key Largo, Fla., larva collected May 1981, *Hippocratea*, L. Grimes (USNM). (p. 77).

