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THE GENUS *ITHOME* IN NORTH AMERICA NORTH OF MEXICO (WALSHIIDÆ)

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Several factors have combined to create confusion concerning the generic names *Ithome* and *Eriphia*. Each was proposed with one included species, *Ithome unimaculella* and *Eriphia concolorella*. Later, CHAMBERS (1878) described *albalineella* and *nigrilineella* and placed them with reservation in *Eriphia*; and in 1879 he stated that *unimaculella* was congeneric, not conspecific, with *Perimede erransella* Chambers. RILEY (1891) incorrectly interpreted CHAMBERS' statement concerning *unimaculella* with the result that he treated *unimaculella* as a synonym of *P. erransella*. BARNES and McDUNNOUGH (1917) indicated that *Eriphia* Chambers was preoccupied, and they placed it as a synonym of *Ithome*; however, they cited *unimaculella* as a synonym of *P. erransella*. It is difficult to understand their *lapsus* in removing the type of *Ithome* from the genus. BRAUN (1919) cleared up this supposed synonymy by indicating the characters of each genus, *Ithome* and *Perimede*, and by pointing out that CHAMBERS had said that the two species were congeneric, not conspecific. Also, though not stated, she inferred that *unimaculella* and *concolorella* are congeneric. FORBES (1923) concurred with BARNES and McDUNNOUGH that *Ithome* is the valid name, even though it is a junior synonym of *Eriphia*, because *Eriphia* is a junior homonym; and he included *unimaculella* in *Ithome*; however, in 1931 he reversed his position, without giving an explanation, and used *Eriphia* as the valid name.

BRAUN (1923) placed *albalineella* in *Tanygona*, leaving three species, *concolorella*, *nigrilineella*, and *unimaculella*, in *Ithome*; and McDUNNOUGH (1939) followed this arrangement. FORBES (1931) said that *concolorella* and *unimaculella* are conspecific. I have examined CHAMBERS' specimens

of *concolorella* and *unimaculella* and confirm his statement that they are conspecific. *E. nigrilineella* has been removed (Hodges, in press) to a new genus in the Cosmopterigidæ. In this paper *I. quinquepunctata* (Forbes) is recorded from Florida, and three new species are described, bringing the number of species of *Ithome* for our fauna to five.

An additional point should be mentioned: FORBES (1931) stated that *Eritarbes* Walsingham is a synonym of *Eriphia*. The venation of *Eritarbes* is close to that of *Ithome* but not close enough to warrant the synonymy without study of the male and female genitalia.

The known larvæ of species of *Ithome* feed on the flowers of members of the Leguminosæ and Polygonaceæ. NAMBA (1956) illustrated the larva and pupa and presented the life history of *I. concolorella*, which has probably been introduced into the Hawaiian Islands.

A full definition of the Walshiidæ will appear later (Hodges, in press). The genera of Walshiidæ occurring in the United States and Canada are *Walshia*, *Stilbosis*, *Ææa*, *Chrysopelia*, *Ithome*, *Perimede*, *Periploca*, *Amaurogramma*, and *Sorhagenia*.

I wish to thank the following persons and institutions for allowing me to study specimens under their care (the letters in brackets are used to designate the present location of specimens): DR. ANNETTE F. BRAUN [AFB]; MR. M. O. GLENN [MOG]; MR. C. P. KIMBALL [CPK]; DR. A. B. KLOTS [ABK]; DR. P. J. DARLINGTON, JR., Museum of Comparative Zoology [MCZ]; and DR. J. F. G. CLARKE, United States National Museum [USNM]. Specimens in the Cornell University Collection are indicated by [CU] and those in my collection by [RWH].

Ithome Chambers

(Fig. 1)

Type: (*unimaculella* Chambers, 1875) = *concolorella* Chambers, 1875. Monotypic.

Ithome Chambers, 1875, *Can. ent.* 7: 93. Chambers, 1879, *Can. ent.* 11: 9 (as synonym of *Perimede*). Chambers, 1878, *Bull. U. S. geol. geog. surv. terr.* 4: 151 (referred to *Laverna*). Barnes & McDunnough, 1917, *Check list of the Lepidoptera of Boreal America*: 152. Braun, 1919, *Ent. news* 30: 262. Forbes, 1923, *Mem. Cornell univ. agric. exp. sta.* 68: 329. Fletcher, 1929, *Mem. dept. agric. India, ent. ser.* 11: 119 (as synonym of *Mompha*). Forbes, 1930, *Scientific survey of Porto Rico and the Virgin Islands* 12: 110. Forbes, 1931, *Jour. dept. agric. Porto Rico* 4: 358 (as synonym of *Eriphia*). McDunnough, 1939, *Mem. so. California acad. sci.* 2: 63. Namba, 1956, *Proc. Hawaiian ent. soc.* 16: 95.

Eriphia Chambers, 1875, *Can. ent.* 7: 55; not *Eriphia* Latreille, 1817; not *Eriphia* Meigen, 1826; not *Eriphia* Herrich-Schaeffer, 1856. Chambers, 1875, *Can. ent.* 7: 94. Chambers, 1877, *Bull. U. S. geol. geog. surv.* 3: 137, 141. Chambers, 1878, *Bull.*

U. S. geol. geog. surv. terr. 4: 95. Chambers, 1878, *Bull. U. S. geol. geog. surv. terr.* 4: 140. Chambers, 1880, *Jour. Cincinnati soc. nat. hist.* 2: 204, fig.41 (illustration misleading). Riley, in Smith, 1891, *List of Lepidoptera of Boreal America*: 108. Dyar, 1902 [1903], *Bull. U. S. natl. mus.* 52: 540 (Busck notes that *Eriphia* is probably a synonym of *Mompha*). Kearfott, in Smith, 1903, *Check list of the Lepidoptera of Boreal America*: 118. Barnes & McDunnough, 1917, *Check list of the Lepidoptera of North America*: 152 (as synonym of *Ithome*). Braun, 1919, *Ent. news* 30: 263 (as synonym of *Ithome*?). Forbes, 1923, *Mem. Cornell univ. agric. exp. sta.* 68: 329 (as synonym of *Ithome*). Fletcher, 1929, *Mem. dept. agric. India, ent. ser.* 11: 85 (as synonym of *Mompha*). Forbes, 1931, *Jour. dept. agric. Porto Rico* 4: 358. McDunnough, 1939, *Mem. so. California acad. sci.* 2: 63 (as synonym of *Ithome*).

Description: Head smooth-scaled; tongue moderate in length, scaled; maxillary palpus short, folded over base of tongue; labial palpus recurved, reaching beyond vertex, second segment longer than third, third segment smooth-scaled or slightly rough-scaled; antenna two-thirds length of forewing, pecten of one seta present, scape twice as long as wide, simple; ocelli visible. Metathoracic tibia with long dorsal scales. Forewing: lanceolate, apex acute; 12 veins present; 1b furcate basally; 2 from before end of cell, weak basally, curved dorsally then running parallel with 3; 3 and 4 distant basally; 6, 7, and 8 stalked; 10 opposite 2; 11 from one-half of cell. Hindwing: linear, apex acute; a series of scales on costal margin at one-fourth; 1b simple, weak; 3 and 4 distant; 4 and 5 connate; 6 and 7 stalked to five-sixths. Male genitalia: valvæ symmetrical or asymmetrical; processes arising from base of valvæ or absent; vinculum with narrow dorsal arms; ædeagus ankylosed; tegumen narrow, an irregular sclerotized band connecting pedunculi; subscaphium a narrow sclerotized band; uncus present; gnathos and socii absent. Female genitalia: bursa copulatrix lightly sclerotized; signa two or absent; ductus bursæ membranous; apophyses anteriores and posteriores heavily sclerotized.

Ithome is a tropical American genus which has few representatives in the United States, and of these only *concolorella* is known to occur as far north as Ohio. The other species are recorded from Texas to Florida along the Gulf of Mexico.

KEY TO SPECIES OF *Ithome* BASED UPON MACULATION

1. Apex of antenna buff-white, base fuscous 2
 Shaft of antenna concolorous *quinquepunctata* (Forbes)
2. Scales of vertex and occiput of head concolorous 3
 Scales of vertex and occiput pale distally 4
3. A costal and a dorsal buff-white spot at three-fourths on
 forewing *concolorella* (Chambers)
 A costal buff-white spot at three-fourths on forewings; dorsal
 spot, if present, at two-thirds *ferax* Hodges
4. Most scales of vertex pale-tipped *lassula* Hodges
 Few scales of vertex pale-tipped; vertex sometimes buff
 *edax* Hodges

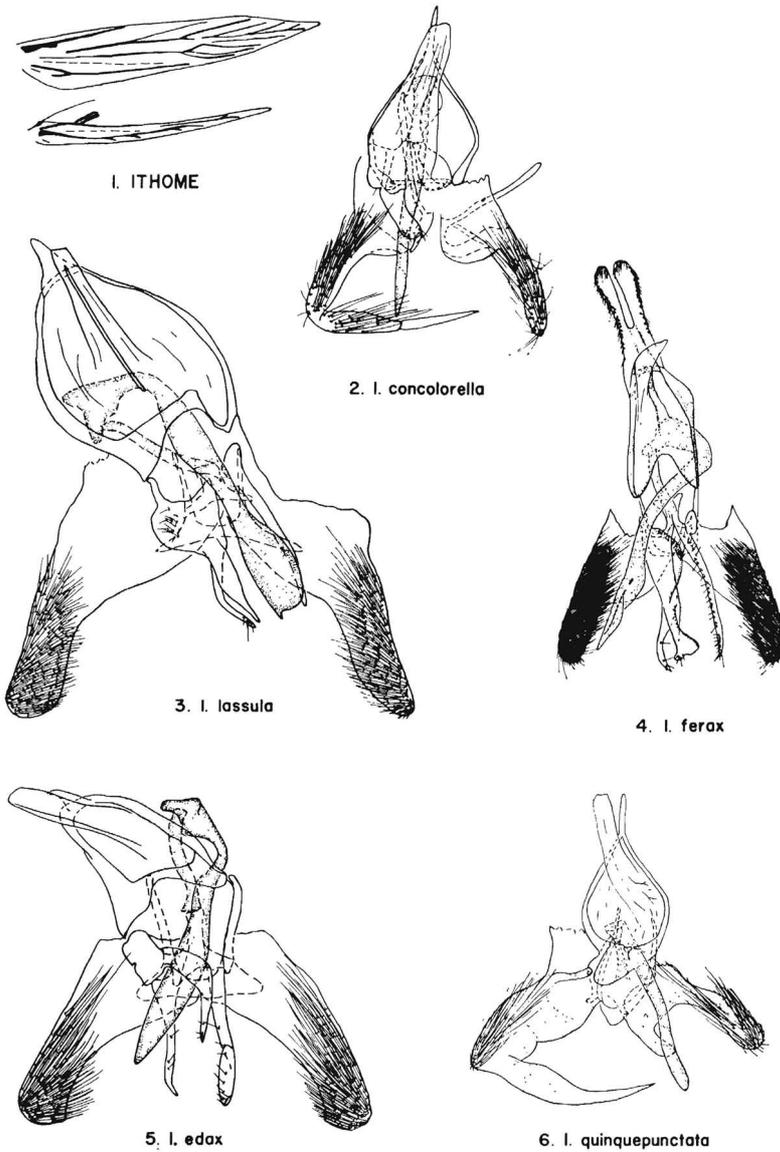


Fig. 1 — *Ithome*, venation; figs.2-6 — male genitalia of *Ithome*, ventral aspect: fig.2 — *I. concolorella* (Chambers); fig.3 — *I. lassula* Hodges; fig.4 — *I. ferax* Hodges; fig.5 — *I. edax* Hodges; fig.6 — *I. quinquepunctata* (Forbes).

KEY TO SPECIES OF *Ithome* BASED UPON MALE GENITALIA

1. Valvæ symmetrical 3
Valvæ asymmetrical 2
2. Saccular region of left valva produced, forming a lobe
(Fig.6) *quinquepunctata* (Forbes)
Saccular region of left valva not produced (Fig.2
..... *concolorella* (Chambers)
3. Uncus simple (Fig.3) 4
Uncus bifid (Fig.4) *ferax* Hodges
4. Accessory processes of right valva equal in length; apex of left
accessory process simple (Fig.3) *lassula* Hodges
Dorsal accessory process of right valva shorter than ventral one;
apex of left accessory process expanded (Fig.5) *edax* Hodges

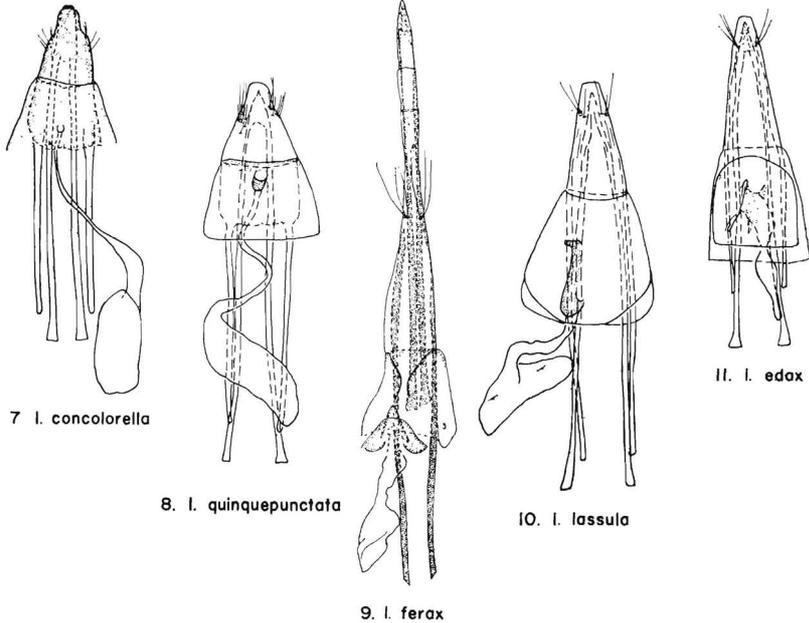
KEY TO SPECIES OF *Ithome* BASED UPON FEMALE GENITALIA

1. Lamella antevaginalis produced posteriorly (Fig.9) *ferax* Hodges
Lamella antevaginalis not defined (Figs.1, 10) 2
2. Ductus bursæ slender (Fig.7) 3
Ductus bursæ broad, becoming wider posteriorly (Fig.11)
..... *edax* Hodges
3. Ostium bursæ a circular opening (Fig.8) 4
Ostium bursæ an irregular opening (Fig.10) *lassula* Hodges
4. Ostium bursæ at posterior two-thirds of seventh sternum;
ductus bursæ sclerotized before ostium bursæ (Fig.8)
..... *quinquepunctata* (Forbes)
Ostium bursæ at middle of seventh sternum; ductus bursæ not
sclerotized (Fig.7) *concolorella* (Chambers)

Ithome concolorella (Chambers)

(Figs. 2, 7, 12)

Eriphia concolorella Chambers, 1875, *Can. ent.* 7: 55. Chambers, 1875, *Can. ent.* 7: 94. Chambers, 1877, *Bull. U. S. geol. geog. surv.* 3: 137, 141. Chambers, 1878, *Bull. U. S. geol. geog. surv. terr.* 4: 95. Chambers, 1878, *Bull. U. S. geol. geog. surv. terr.* 4: 140. Chambers, 1880, *Jour. Cincinnati soc. nat. hist.* 2: 204, fig. 41. Riley, in Smith, 1891, *List of Lepidoptera of Boreal America*: 108. Dyar, 1902 [1903], *Bull. U. S. natl. mus.* 52: 540. Kearfott, in Smith, 1903, *Check list of the Lepidoptera of*



Female genitalia of *Ithome* spp., ventral aspect: fig.7 — *I. concolorella* (Chambers); fig.8 — *I. quinquepunctata* (Forbes); fig.9 — *I. ferax* Hodges; fig.10 — *I. lassula* Hodges; fig.11 — *I. edax* Hodges.

Boreal America: 118. Forbes, 1923, *Mem. Cornell univ. agric. exp. sta.* 68: 319, fig. 193. Fletcher, 1929, *Mem. dept. agric. India, ent. ser.* 11: 85. Forbes, 1931, *Jour. dept. agric. Porto Rico* 4: 359.

Ithome concolorella, Barnes & McDunnough, 1917, *Check list of the Lepidoptera of North America*: 152. McDunnough, 1939, *Mem. so. California acad. sci.* 2: 64. Namba, 1956, *Proc. Hawaiian ent. soc.* 16: 95.

Ithome (?) *concolorella*, Forbes, 1923, *Mem. Cornell univ. agric. exp. sta.* 68: 329.

Ithome unimaculella Chambers, 1875, *Can. ent.* 7: 94. Braun, 1919, *Ent. news* 30: 262. Forbes, 1923, *Mem. Cornell univ. agric. exp. sta.* 68: 329. Fletcher, 1929, *Mem. dept. agric. India, ent. ser.* 11: 119. McDunnough, 1939, *Mem. so. California acad. sci.* 2: 63.

Perimede unomaculella [sic], Chambers, 1879, *Can. ent.* 11: 9 (misspelling). Barnes & McDunnough, 1917, *Check List of the Lepidoptera of North America*: 152 (as synonym of *erransella*) (misspelling).

"*Ithome unomaculella* [sic], Cham. = *Perimede unomaculella* [sic], Cham., and referred to *Laverna*, q. v." Chambers, *Bull. U. S. geol. geog. surv. terr.* 4: 151 (misspelling) (the combination *Laverna unimaculella* does not occur in this work).

Perimede (*Laverna*) *unomaculella* [sic], Chambers, 1880, *Jour. Cincinnati soc. nat. hist.* 2: 199 (misspelling).

Laverna unomaculella [sic], Riley, in Smith, 1891, *List of Lepidoptera of Boreal America*: 106 (misspelling) (as synonym of *erransella*).

Mompha unomaculella [sic], Dyar, 1902 [1903], *Bull. U. S. natl. mus.* 52: 542 (misspelling) (as synonym of *erransella*).

Eriphia unimaculella, Forbes, 1931, *Jour. dept. agric. Porto Rico* 4: 359 (as synonym of *concolorella*).

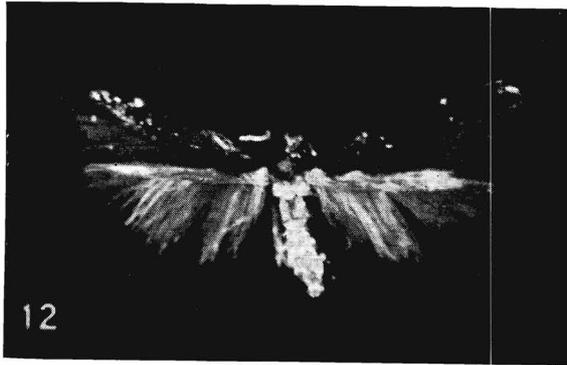


Fig.12. Habitus of *Ithome concolorella* (Chambers).

Description: Tongue fuscous-buff basally, ochreous distally. Maxillary palpus fuscous-buff. Labial palpus dark fuscous, base and apex of third segment buff-white, three to five buff-white dots on anterior surface of third segment. Face fuscous on lower third, buff-white on upper two-thirds and on anterior part of vertex, a few fuscous-black scales before each eye; posterior portion of vertex and all of occiput fuscous-black. Antenna fuscous-black, apical ten to twelve segments buff-white. Thorax fuscous-black. Legs fuscous on outer surface, buff to fuscous-buff on inner surface; metathoracic tibia with a buff-white annulation at middle and apex, outer tibial spurs shining buff-white in some lights; apices of first four segments and all of fifth segment of metathoracic tarsus buff-white. Forewing fuscous-black, a buff-white spot on costal and dorsal margins at three-fourths distance from base to apex of wing, a buff-white spot on fold at one-third distance from base to apex of wing; cilia concolorous with wing apically, pale fuscous-buff dorsally. Hindwings fuscous, cilia pale fuscous. Abdomen fuscous in male, last segment ochreous; fuscous-buff in female. Male genitalia: as in figure 2 (R. W. H. slide 878). Female genitalia: as in figure 7 (J. F. G. Clarke slide 10495). Alar expanse: 5-7 mm.

Food plant: *Prosopis chilensis* (Mol.) Stuntz and *Acacia farnesiana* (L.) in the Hawaiian Islands, no hosts recorded for the continental United States.

Types: Of *concolorella*, LECTOTYPE, PRESENT DESIGNATION, male, bearing following labels: 1) Type, 1356. 2) Tex. 3) Chambers. 4) 98. 5) male Genitalia Slide 875, Ronald W. Hodges. In Museum of Comparative Zoology. Of *unimaculella*, LECTOTYPE, PRESENT DESIGNATION, male, bearing following labels: 1) Type, 1520. 2) Tex. 3) Chambers. 4) 102. 5) male Genitalia Slide 878, Ronald W. Hodges. In Museum of Comparative Zoology.

Specimens examined: ARIZONA: 9♂♂, 4♀♀, Madera Canyon, 4880 feet, Santa Rita Mountains, Santa Cruz Co., August 4-October 10, 1959 (R. W. HODGES), [CU, RWH]; 1♀, same locality except for elevation, 5600 feet, October 14, 1959 [RWH]; 1♀, Madera Canyon, 4000

feet, Santa Rita Mountains, Pima Co., August 9, 1959 (R. W. HODGES), [RWH]; 4♂♂, same locality, but elevation 4400 feet, October 6-12, 1959 [CU, RWH]; 1♂, 1♀, Peña Blanca Canyon, Santa Cruz Co., August 7 & 11, 1959 (R. W. HODGES), [RWH]. FLORIDA: 3♂♂, Siesta Key, Sarasota Co., March 15-28, 1952 & 1960 (C. P. KIMBALL), [CPK]. LOUISIANA: 1♂, Schriever, June 17, 1917 [CU]. MISSISSIPPI: 4♂♂, Biloxi, June 13, 1917 [CU]; 2♂♂, Bay St. Louis, June 17, 1917 [CU]. NORTH CAROLINA: 6♂♂, 6♀♀, Highlands, 3865 feet, Macon Co., July 18-August 25, 1958 (R. W. HODGES), [CU, RWH]. OHIO: 1♂, 1♀, Cincinnati, July 22 & September 23, 1903 (ANNETTE F. BRAUN), [AFB]. TENNESSEE: 6♂♂, 12♀♀, Monteagle, 2000 feet, June 22-August 7, 1930 and 1931 (A. G. RICHARDS, JR.), [ABK, CU]. TEXAS: 1♂, Corpus Christi, May 14, 1943 (W. M. GORDON), [CU]; 1♀, Victoria, June 24, 1917 [CU].

Ithome quinquepunctata (Forbes), NEW COMBINATION

(Figs. 6, 8)

Eriphia quinquepunctata Forbes, 1931, *Jour. dept. agric. Porto Rico* 4: 361.

Description: Maculation as for *concolorella* except as follows: upper part of face pale fuscous; apex of scape of antenna buff, shaft gray-buff. Male genitalia: as in figure 6 (R. W. H. slide 656). Female genitalia: as in figure 8 (R.W.H. slide 657). Alar expanse: 6-7 mm.

Food plant: *Coccoloba uvifera* (L.) Jacq.

Type: in Cornell University Collection.

Type locality: Puerto Real, Vieques Is., Puerto Rico.

Specimens examined: FLORIDA: 6♂♂, 4♀♀, Ramrod Key, reared *ex Coccoloba uvifera*, emerged March 3 & April 6, 1945 [USNM]; 16♂♂, 12♀♀, Siesta Key, Sarasota Co., January 3-December 20, 1951-1957 (C. P. KIMBALL), [CPK, RWH].

ITHOME EDAX Hodges, NEW SPECIES

(Figs. 5, 11)

Description: Maculation as for *concolorella* except as follows: occiput sometimes buff-white with fuscous scales above each eye, and some scales of vertex and occiput pale-tipped. Male genitalia: as in figure 5 (R.W.H. slide 10013). Female genitalia: as in figure 11 (R. W. H. slide 10015). Alar expanse: 6-7 mm.

Food plants: *Byra ebenus* (?).

HOLOTYPE: male, Brownsville, Texas, *ex Ebony blossoms* (*Byra ebenus*?), emerged June 7, 1944 (R.W.H. slide 10013), [USNM].

PARATYPES: TEXAS: 3♂♂, 11♀♀, same data as holotype [USNM, RWH]; 9♂♂, 4♀♀, Corpus Christi, May 8 & 14, 1943 (W. M. Gordon), [CU, RWH].

I. edax may be separated from *I. lassula* as follows: the dorsal accessory process of the right valva passes over the aedeagus in *edax*; in *lassula* the same process is parallel with the ventral one and does not pass over the aedeagus. The aedeagus of *edax* tapers gradually to the apex, whereas in *lassula* it is broad almost to the apex. In the female genitalia *edax* has no signa; *lassula* has two signa.

ITHOME LASSULA Hodges, NEW SPECIES

(Figs. 3, 10)

Description: Maculation as for *concolorella* except as follows: third segment of labial palpus slightly rough-scaled; head fuscous, apices of scales on vertex and occiput gray-buff; apex of scape of antenna buff; forewing with dorsal buff-white spot anterior to costal one or absent; abdomen fuscous with purple reflections. Male genitalia: as in figure 3 (R.W.H. slide 10021). Female genitalia: as in figure 10 (R.W.H. slide 10023). Alar expanse: 6-8 mm.

Food plant: *Leucæna glauca* (L.) Bentham.

HOLOTYPE: male, Key West, Florida, ex flowers of *Leucæna glauca*, emerged April 19, 1945 (R.W.H. slide 10021), [USNM].

PARATYPES: FLORIDA: 5♂♂, 10♀♀, same locality as holotype, emerged March 16-April 17, 1945 [USNM, RWH]; 1♂, Homestead, March 31, 1959 (D. O. WOLFENBARGER), [CPK].

I. lassula may be separated from *I. edax* as indicated under *edax*.

ITHOME FERAX Hodges, NEW SPECIES

(Figs. 4, 9)

Description: Maculation as for *concolorella* except as follows: face fuscous-buff; forewing with dorsal buff-white spot, if present, anterior to costal one; abdomen fuscous, last segment ochreous. Male genitalia: as in figure 4 (R.W.H. slide 637). Female genitalia: as in figure 9 (R.W.H. slide 638). Alar expanse: 7-10 mm.

Food plant: unknown.

HOLOTYPE: male, Siesta Key, Sarasota County, Florida, February 29, 1960 (C. P. KIMBALL), [Cornell University Type No. 3828].

PARATYPES: FLORIDA: 5♂♂, 6♀♀, same locality as holotype, January 4-April 12, 1960 (C. P. KIMBALL), [CPK, RWH]; 2♂♂, St. Petersburg, March 16 & 23, 1960 (A. K. WYATT), [MOG].

I. ferax may be distinguished from *I. concolorella* by the valvæ of the male genitalia being symmetrical; in *concolorella* the valvæ are asymmetrical. In the female genitalia the lamella antevaginalis is present in *ferax*; it is absent in *concolorella*.

The illustration of the female genitalia (Fig. 9) would lead one to believe that a difference exists between *ferax* and the other species of *Ithome* because the genitalia are fully extended. It is almost impossible to obtain a preparation of this nature because the orifice at the posterior extremity of the eighth abdominal segment is small and does not allow the other segments to pass. It seems to me, however, that the normal, extended position of all five of the species is much the same as is shown for *ferax*.

ACKNOWLEDGEMENTS

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The specimens of *I. concolorella* from Highlands, North Carolina, were collected during the summer of 1958 when the author was assisting Dr. J. G. FRANCLEMONT. The collecting was done under the auspices of a grant from the Penrose Fund of the American Philosophical Society.

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