

A NEW FLORIDA *ETHMIA* MOTH (LEPIDOPTERA: OECOPHORIDAE)

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ABSTRACT.— *Ethmia kutisi*, new species, is described from north Florida. The new species is closely related to the more widespread species, *Ethmia longimaculella* (Chambers). The Florida *Ethmia* fauna now totals 9 species.

KEY WORDS: Boraginaceae, distribution, *Ethmia kutisi* n. sp., Ethmiinae, West Indies.

Following the monographic work on New World Ethmiinae by Powell (1973), a subtropical species of *Ethmia* was discovered in the Florida Keys and described as *Ethmia powelli* (Heppner, 1988). More recently two additional West Indian species of *Ethmia* have been discovered in south Florida by T. S. Dickel and L. C. Dow: *Ethmia abraxasella clarissa* Busck and *Ethmia submissa* Busck. The Florida ethmiine fauna, thus, has 8 primarily tropical species, and with the new species described below, totals 9 species of *Ethmia*. Only *Ethmia trifurcella* (Chambers) and the new species are more northerly components of the Florida *Ethmia* fauna, the remainder being Florida endemics related to West Indian species or are more widely distributed in the Caribbean.

Ethmia kutisi Heppner, new sp.

Diagnosis.— This new species closely resembles *Ethmia longimaculella* (Chambers) and usually can be distinguished by its heavier black forewing markings which tend to merge together, forming a dense network of spots and lines. Genitalia show distinctions for separating the species from *E. longimaculella*.

Description.— Forewing length: 7.9-9.6mm ♂, 7.3-9.0mm ♀.

Male (Fig. 1).— *Head*: silvery white; labial palpus silvery white with black at base and near apex of each segment laterally, mostly white mesally; antenna fuscous. *Thorax*: silvery white, with patagia distal margin black, and thoracic dorsum with lateral black spots plus a posterior black spot; legs white mixed with black spots, especially black on tarsal segments. *Forewing*: silvery white with prominent black striae between major veins, converging basally, with prominent black striae in discal cell and almost merging with continuation to apex; tornal quarter with prominent black spot; fringes white; venter gray fuscous. *Hindwing*: gray fuscous, lighter near base; fringe white with fuscous bases; venter gray fuscous. *Abdomen*: gray, mixed with fuscous. *Male genitalia* (Fig. 3): tegumen and vinculum subovate; uncus membranous and indistinct; gnathos absent; valva a complex ovate form, with an elongated and twisted spined apical extension of cucullus, having bifurcate spines; distal saccular margin with 4 large and prominent flattened spines (sometimes 3 on left side); saccus undeveloped; anellus a nearly fused pointed dorsal plate extension, with lateral setose and

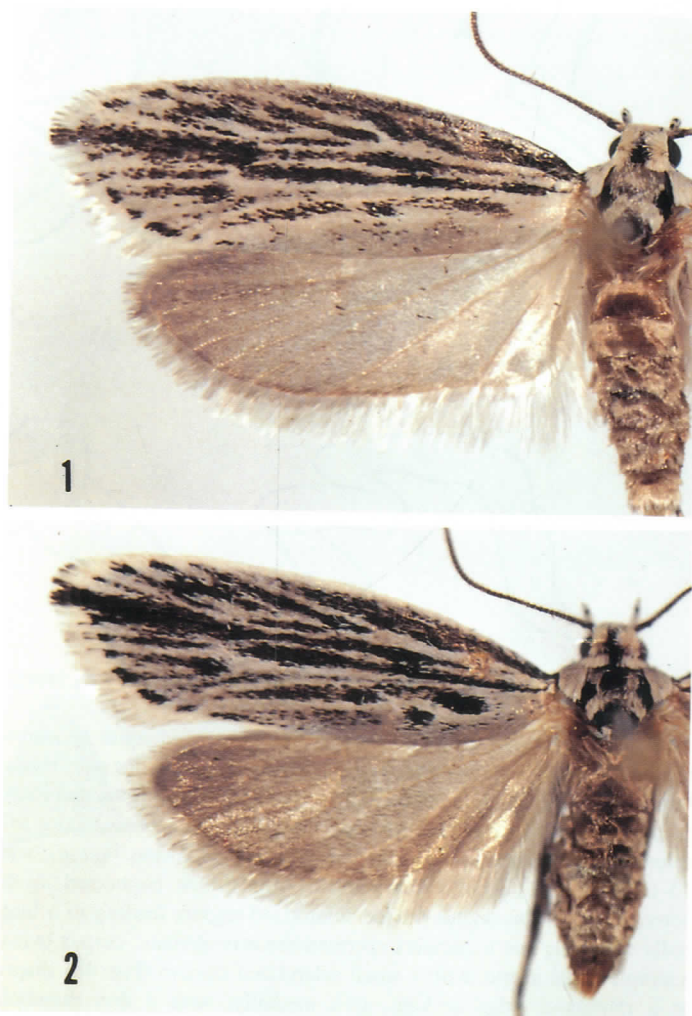


Fig. 1-2. *Ethmia kutisi* Heppner, new sp.: 1. Male paratype (Belleview, Marion Co.); 2. Female allotype (Belleview, Marion Co.).

elongated extensions somewhat longer than anellar plates; aedeagus (Fig. 3a) convex, with a bulbous phallobase and long ductus; cornutus elongated and thin, but indistinct.

Female (Fig. 2).— Similar to male. *Female genitalia* (Fig. 4): elong-

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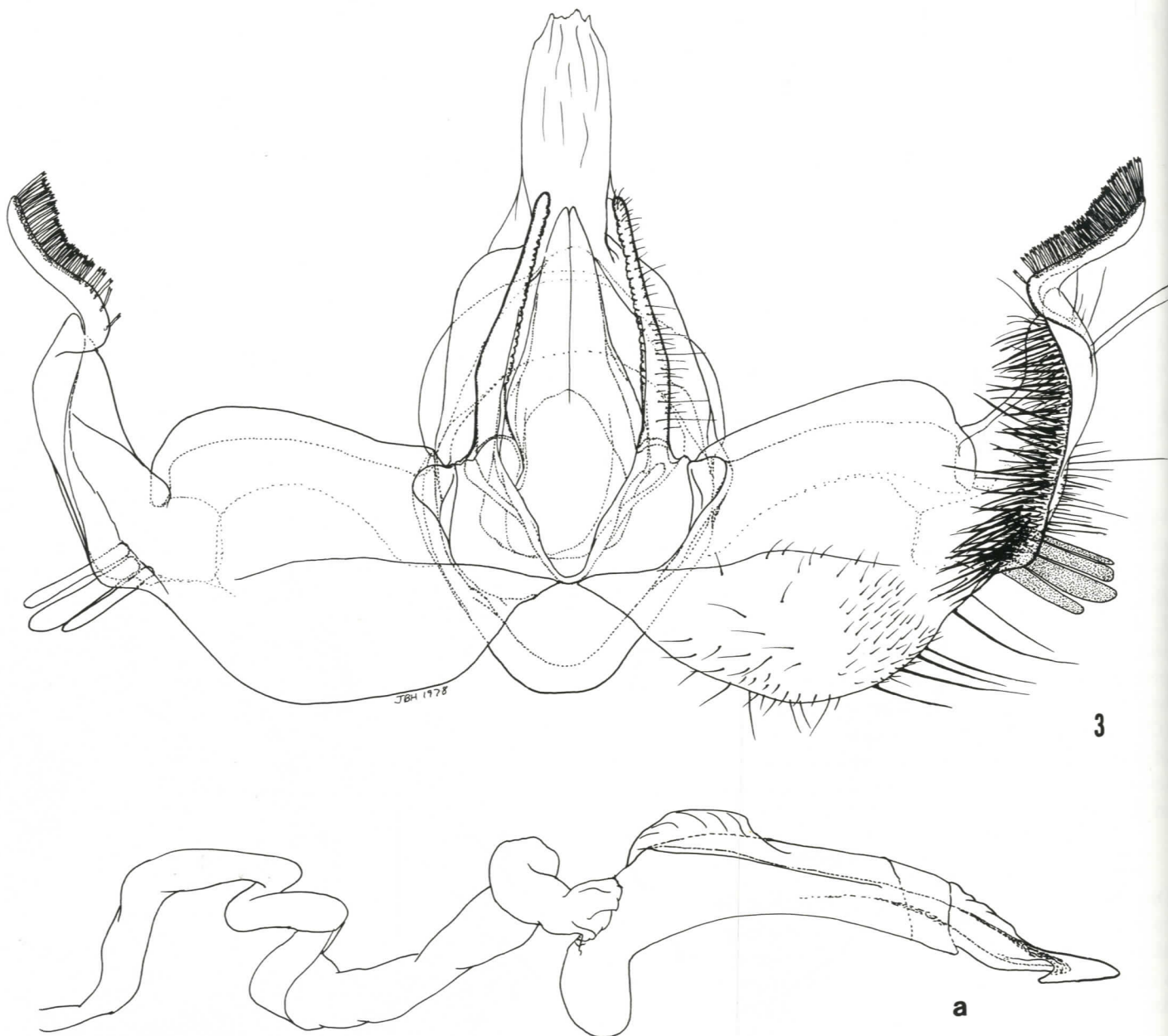


Fig. 3. *Ethmia kutisi* Heppner, new sp., male genitalia (paratype, JBH 1978); a) aedeagus.

ated internally, with short, setaceous ovipositor (subequal to corpus bursae); apophyses with anterior pair half length of posterior pair; ostium bursae (Fig. 4a) a simple ostium below a sclerotized sterigma and above an intersegmental fold; ductus bursae elongated and coiled anterior to a sclerotized antrum (Fig. 4a) (almost 4x length of corpus bursae), with 13-14 tight coils; ductus seminalis a simple tube connected at the anterior end of the ductus bursae sclerotized region, leading to a large bulla seminalis and a complex spermatheca arrangement; corpus bursae a simple ovate shape, with a small sclerotized signum (Fig. 4b) shaped as a rhomboid ridge or keel, split medially, with a thin rhomboid extension on dorsal bursa wall.

Immature Stages.— Unknown.

Hosts.— Unknown. (Possible hostplants: species of *Lithospermum* and *Onosmodium* (Boraginaceae), the recorded hostplant genera for *E. longimaculella*. Also known for Florida are possible Boraginaceae hosts in the genera *Cynoglossum*, *Hackelia*, and *Heliotropium*.)

Types.— *Holotype* ♂: FLORIDA.— 2 mi. N. Belleview, Marion Co., 6 Nov 1988, J. S. Kutis (FSCA) (JBH 1979). *Allotype* ♀: [same locality], 30 Dec 1988, J. S. Kutis (FSCA) (JBH 1980).

Paratypes (9♂, 5♀): FLORIDA.— *Alachua Co.*: Gainesville, 20 Apr 1968 (1♂), 7 Jul 1972 (1♀), 17 Jul 1972 (1♀), F. W. Mead (FSCA). *Hernando Co.*: nr. Kirk Hill, Withlacoochee Natl. For., 9 Sep 1990 (1♂, 1♀), 3 Oct 1989 (1♂), L. C. Dow (LCD). *Marion Co.*: 2 mi. N. Belleview, 8 Feb 1989 (1♂), 1 Apr 1989 (1♂), 13 Jul 1989 (1♀), 6 Sep 1989 (1♂), 15 Sep 1989 (1♂), J. S. Kutis (JSK and FSCA); Lake Delancy, Ocala Natl. For., 23 Jun 1991 (1♀), 18 Oct 1990 (1♂), J. S. Kutis (FSCA); 21 Jun 1991 (1♂), H. D. Baggett (HDB).

Etymology.— The new species is named in honor of the collector of most of the recent specimens: John S. Kutis, of Belleview, Florida.

Distribution.— Florida: Alachua Co. to Hernando Co.

Flight Period.— Feb, Apr, Jun-Jul, Sep-Dec.

Remarks.— The relationship of *E. kutisi* to *E. longimaculella* is very close and, inasmuch as Powell (1973) placed Texas popula-

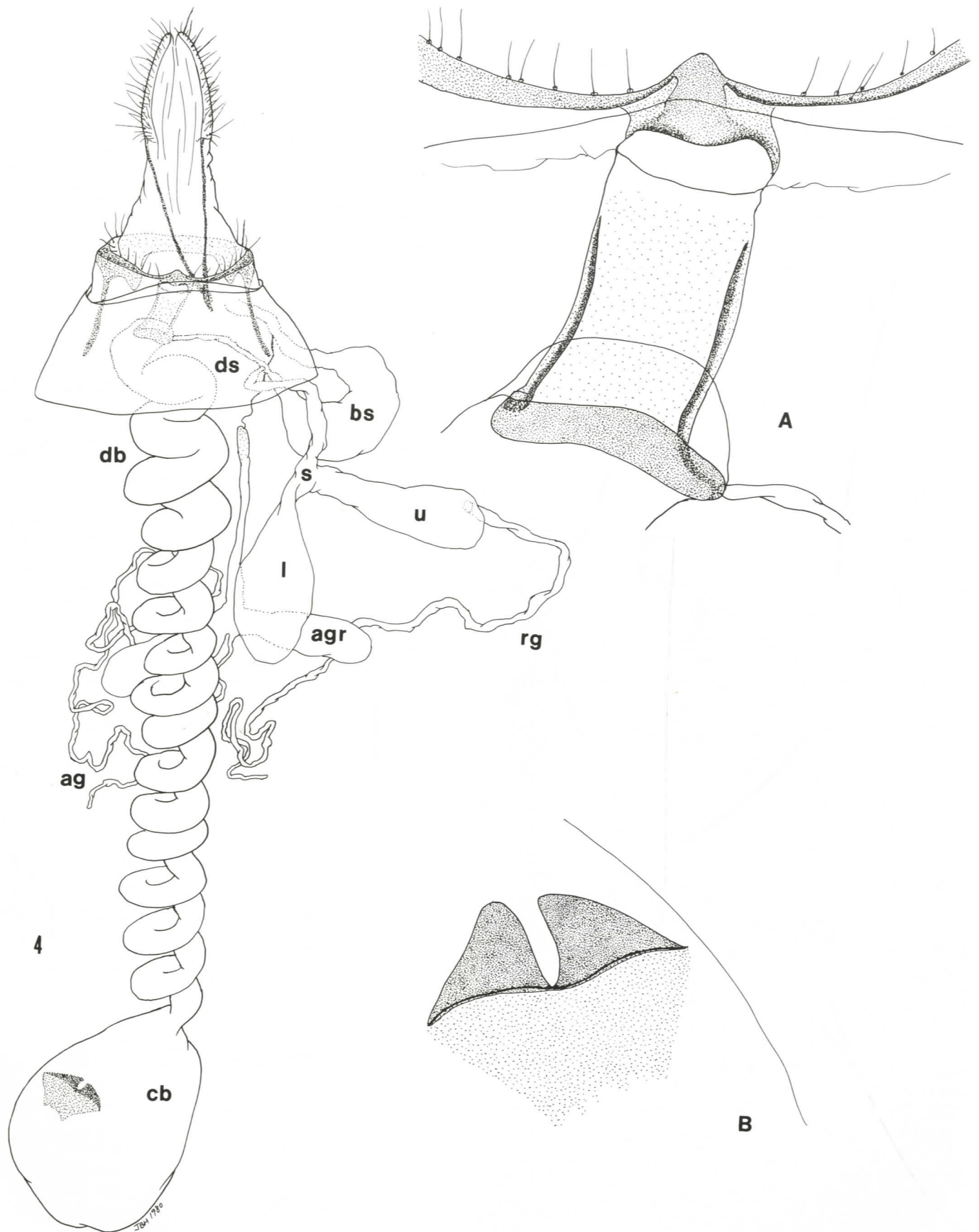


Fig. 4. *Ethmia kutisi* Heppner, **new sp.**, female genitalia (allotype, JBH 1980), with details of antrum and ostium area (**A**) and signum (**B**): *ag* accessory gland, *agr* accessory gland reservoir, *bs* bulla seminalis, *cb* corpus bursae, *db* ductus bursae, *ds* ductus seminalis, *l* lagena, *rg* receptacular gland, *s* spermatheca, *u* utriculus.

tions as subspecies *Ethmia longimaculella coranella* Dyar, it is conceivable that *E. kutisi* should be considered a southeastern or Florida subspecies of *E. longimaculella*. A number of other moths are known to be darker in Florida than their northern counterparts within a species. Two specimens of the *E. kutisi* type series are lighter than the others and resemble *E. longimaculella* even more in their maculation. For the present I prefer to consider *E. kutisi* a distinct species and await further collecting in the southeastern United States, and rearing of the species, to determine the actual status of the new species.

The biology of *E. kutisi* is unknown; however, it is probable that a Boraginaceae plant is the hostplant, as is true for *E. longimaculella* and many other Ethmiinae. Boraginaceae are not very common in Florida, which may indicate a very localized distribution for the species and, thus, explain the lack of previous collections other than the specimens collected in 1968 and 1972 in Gainesville.

The female genitalia of *E. kutisi* (Fig. 4) are illustrated in more detail than usual to show the complicated accessory ducts and glands in addition to the main bursal configuration. Both the accessory gland and the receptacular gland are extremely long and thin, and both lead into the almost dumbbell-shaped reservoir bullae. The posterior end of the bulla seminalis provides the site of the entrance of the accessory gland common reservoir duct, as a very thin extension of the main gland area; the remaining ovarian and rectal complexes are not further illustrated.

The new additions for Florida reported here are *E. abraxasella clarissa* and *E. submissa*. Both are Caribbean species known from Cuba, Puerto Rico, and Jamaica, with *E. abraxasella* (Walker) also known from Hispaniola and its subspecies *E. a. clarissa* known from Cuba and the Bahamas. L. C. Dow, Largo, Florida, collected *E. abraxasella clarissa* from Key Largo (Monroe Co.), 3 Jul 1987 (1♀); and T. S. Dickel, Homestead, Florida, collected *E. submissa* from north Key Largo Key.

The following species of *Ethmia* are now known to occur in Florida:

- 994.1 *Ethmia abraxasella clarissa* (Walker)
- 994.2 *Ethmia submissa* Busck
- 995 *Ethmia notatella* (Walker)
- 996 *Ethmia confusella* (Walker)
- 997 *Ethmia julia* Powell
- 998 *Ethmia farrella* Powell
- 998.1 *Ethmia powelli* Heppner
- 999.1 *Ethmia kutisi* Heppner
- 1003 *Ethmia trifurcella* (Chambers)

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Thanks are also due J. A. Powell, University of California, Berkeley, for comments on the manuscript and notes on Gaines-

ville specimens of the new species.

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