

# NEW *DIPLOSCHIZIA* SEEDGE MOTHS FROM FLORIDA (LEPIDOPTERA: GLYPHIPTERIGIDAE)

J. B. HEPPNER<sup>1</sup>

Florida State Collection of Arthropods, DPI, FDACS, P.O. Box 147100, Gainesville, Florida 32614-7100, USA

**ABSTRACT.**— Two new species of *Diploschizia* sedge moths are described from Florida: *D. kutisi* n. sp. from north-central Florida and *D. seminolensis* n. sp. from southern Florida.

**KEY WORDS:** *Diploschizia kutisi* n. sp., *Diploschizia seminolensis* n. sp., Nearctic, North America, systematics.

After monographing the family in an earlier work (Heppner, 1985), two new species of *Glyphipterix* were added to the North American total in another current paper (Heppner, 1997). In the related genus *Diploschizia*, two additional sedge moths have been discovered in Florida, and are described below. Biologies are unknown for the new species.

### *Diploschizia kutisi* Heppner, n. sp.

**DESCRIPTION.**— **MALE:** wingspan of 6.5mm. *Head:* dark fuscous. Labial palpus silvery white dorsally and ventrally on basal segment, then bands of fuscous and white toward apex. Antenna dark fuscous. *Thorax:* black-fuscous. Legs black-fuscous with white at distal end of each segment. *Forewing:* dull ochreous-brown on basal half and ochreous on distal half, with black at base and along costal margin, interrupted by 4 white marks from past midwing to apex; silver mark midwing at end of cell; apex with large circular black mark surrounded distally by fuscous fringe. Tornus with long silver line to white spot at basal end of tornus; dorsal margin with faint white and narrow crescent to midwing; black marks midwing and near base on dorsal margin; fringe fuscous, indented below apical spot; venter shining gray fuscous, with white marks of costal margin repeated. *Hindwing:* dark fuscous; venter shining gray fuscous. *Male genitalia:* main valval-aedeagus complex reduced in size and part of an enlarged and pleural-lobe arrangement of the last abdominal segment; tegumen undeveloped and only a large anal tube extends from the lateral sclerites; vinculum simple, rounded, merging with tegumen; saccus undeveloped; valva divided into two setous, elongated finger-like projections close to the aedeagus, with the ventral part somewhat more pointed than the dorsal part, and valva so reduced that the pleural lobes of the abdominal segment appear to function more as valvae; aedeagus large in relation to valva, elongated but robust and bulbous at termen, with 2 tubular cornuti; last abdominal segment modified as functioning pleural lobes and integrated with base of valvae, thus forming pseudo-valvae with a sharp tooth-like spine at the distal end each side.

**FEMALE:** like male but slightly larger, wing maculation similar; antennae thinner than in male. *Female genitalia:* setose ovipositor, somewhat short; apophyses thin, nearly subequal but anterior pair somewhat shorter; ostium bursae not well defined and nearly as wide as ductus bursae; antrum a simple oval; dustus bursae short and wide,

somewhat longer than bursa; bursa copulatrix a simple oval, with some straight spines; ductus seminalis thin and emergent from posterior venter of bursa below ductus bursae.

**TYPES.**— Holotype ♂: FLORIDA: Moss Bluff, nr. Lake Pendarvis, Marion Co., 7 May 1993, J. S. Kutis (JBH slide 2056, deposited with FSCA).

Allotype ♀: same as holotype (JBH slide 2057, FSCA).

**ETYMOLOGY.**— The species is named in honor of its discoverer, J. S. Kutis.

**DISTRIBUTION.**— Known only from Marion Co., north Florida.

**REMARKS.**— This is a remarkable species in terms of the highly unusual male genitalia. Some other sedge moths are known to also have the pleural lobes modified to function partly as enlarged valvae but *D. kutisi* has this developed to a much greater extent than seen thus far (*D. minimella* Heppner has a somewhat similar arrangement but still is radically different in details). The small actual valvae are almost non-functional as true valvae and probably only serve to hold the aedeagus in position. The enlarged pleural lobes have the armature of spines and size to presumably serve as the functional valvae to hold the female abdomen in place. Fig. 5 attempts to illustrate this complex arrangement: when the aedeagus is protruded, the valvae are somewhat spread out from their otherwise lateral position immediately next to the aedeagus, while the pleural lobes fan out as valvae do in other species with more normal valvae.

### *Diploschizia seminolensis* Heppner, n. sp.

**DESCRIPTION.**— **FEMALE:** wingspan of 6.5mm. *Head:* dark fuscous. Labial palpus white, striped with black laterally and ventrally. Antenna gray-fuscous. *Thorax:* fuscous with a few tan scales. Forelegs white, midlegs gray-fuscous, and hind legs black fuscous, with white bands. *Forewing:* gray-fuscous, with white horizontal line midwing, which fades as long lighter streak to base; costal and dorsal margins unmarked until past midwing, where there begin 5 white marks of varying length nearly evenly spaced to apex on costal margin, interspersed with ochreous scales; black spots on apex and as patch on outer 1/3 of wing; silver at mesal end of each white mark, and as line along tornal margin; tornal angle with white mark merging mesally with silver-mark; fringe fuscous at tornus, black at apex and white along termen middle, with inner fringe dark fuscous with indentation on termen below apex. Venter shining

1. Contribution No. 854, Entomology Section, Division of Plant Industry, Florida Dept. of Agriculture & Consumer Services, Gainesville, FL.

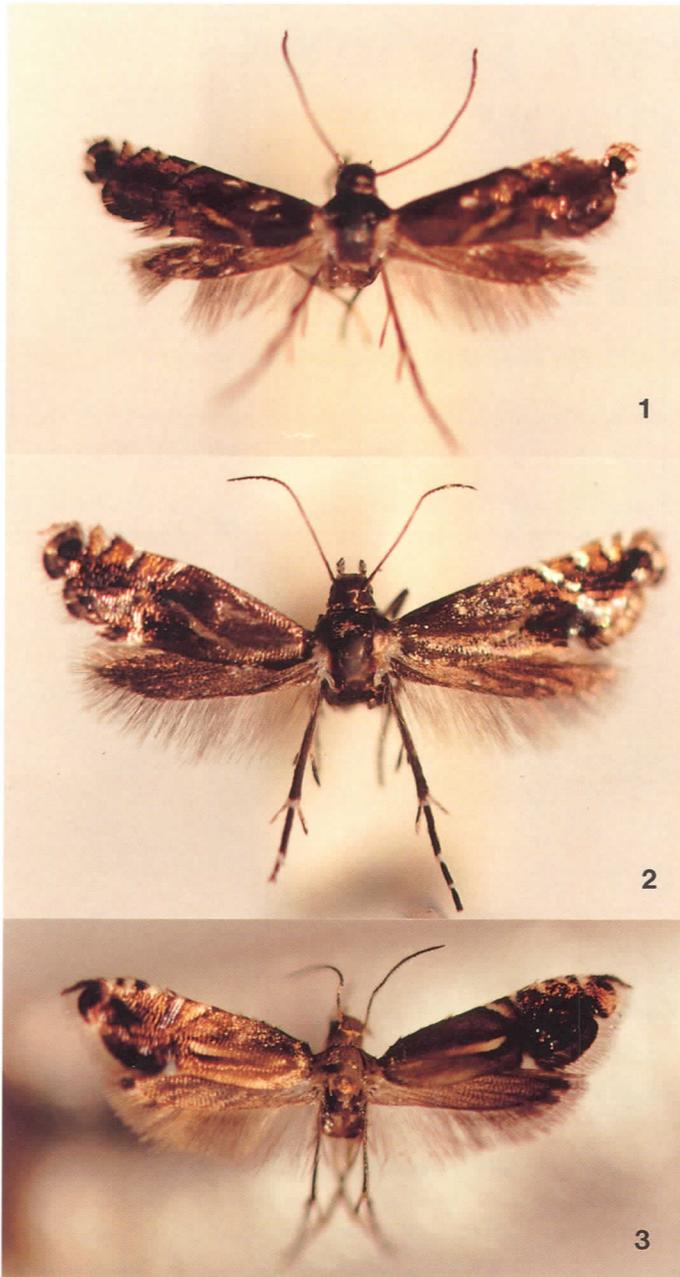


Fig. 1-3. *Diploschizia* species (abdomens removed): 1) *D. kutisi* n. sp., holotype ♂. 2) *D. kutisi* n. sp., allotype ♀. 3) *D. seminolensis*, holotype ♀. (ca. 11x)

fuscous, with only the costal marks repeated. *Female genitalia*: setose ovipositor, short; apophyses short and thin, subequal; ostium bursae undeveloped, as wide as ductus bursae; antrum a simple circle slightly depressed as funnel; ductus bursae a simple thin tube, widening towards middle of length, then thinning again before entering bursa; corpus bursae a very small oval, in relation to the ductus bursae; signum absent and no spines evident; ductus seminalis emergent from near ductus bursae, ventrally, about as wide as ductus bursae at entrance to bursa.

MALE unknown.

TYPES.— Holotype ♀: FLORIDA: Collier-Seminole St. Pk., Collier Co., 28 Mar 1993, T. Harrison, ex species of *Cyperaceae*, em. 14 Apr 1993 (JBH slide 2055; deposited with FSCA).

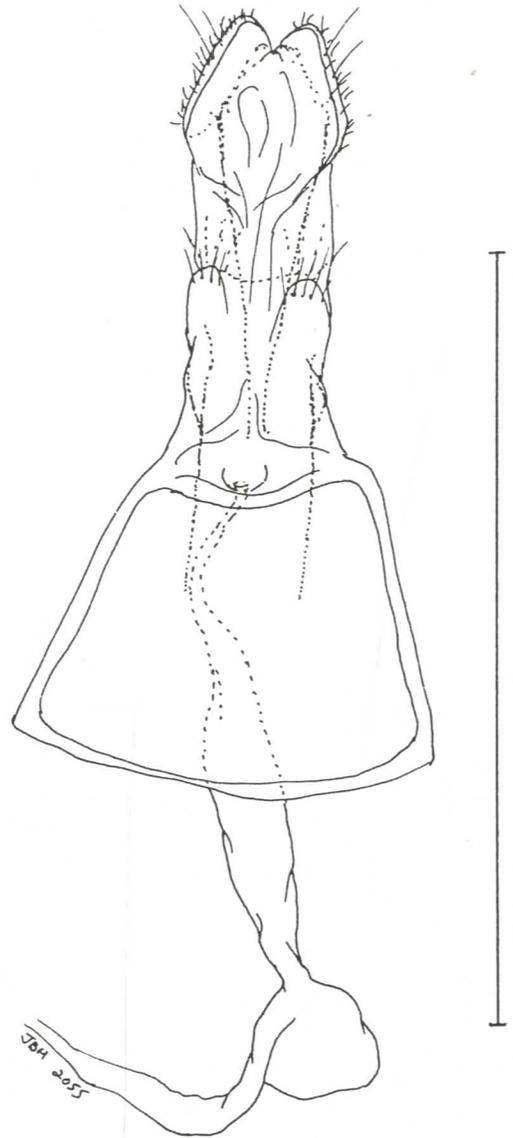


Fig. 4. *Diploschizia seminolensis* n. sp., holotype ♀ genitalia (JBH slide 2055) (scale line = 1mm).

ETYMOLOGY.— The species is named in honor of the Seminole Indians of Florida.

DISTRIBUTION.— Known only from the type locality in southern Florida.

REMARKS.— Although descriptions of new species from unique specimens are not desirable in general, the family has been monographed recently and *D. seminolensis* is clearly new. As is the case oftentimes with these small moths, it may be years before more specimens are collected. Relationships of this new species are unclear: it appears nearest only to *D. minimella* but the female genitalia are very different. In surveying the other known *Diploschizia* species, all with radically different genitalia in both sexes, one cannot surmise what the male genitalia may look like, based on the female at hand.

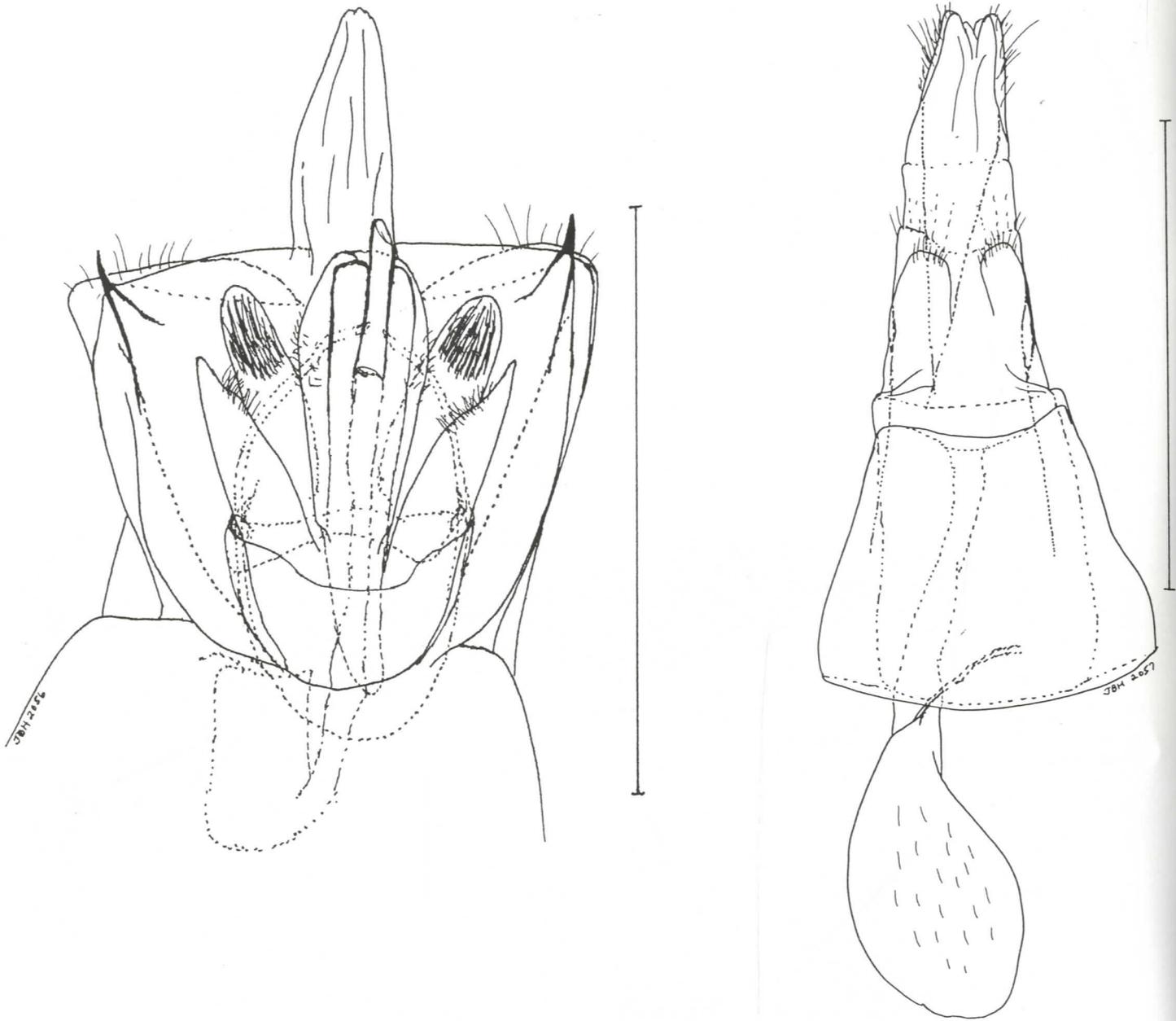


Fig. 5-6. Genitalia of *Diploschizia kutisi* n. sp.: 5) holotype ♂, with aedeagus in situ (JBH slide 2056) (scale line = 0.5mm). 6). allotype ♀ (JBH slide 2057) (scale line = 1mm).

#### ACKNOWLEDGMENTS

My thanks to J. S. Kutis (Belleview, Florida) for capturing the specimens of *D. kutisi* and depositing it with the Florida State Collection of Arthropods (FSCA), Gainesville, Florida, for study and preservation. Likewise, T. Harrison is thanked for providing the specimen of *D. seminolensis* for study and description.

#### LITERATURE CITED

##### Heppner, J. B.

1985. *The Sedge Moths of North America (Lepidoptera: Glyphipterigidae)*. Gainesville: Flora & Fauna Publ. 254pp.
1997. New *Glyphipterix* sedge moths from the southeastern United States (Glyphipterigidae). *Holarctic Lepid.* (Gainesville), 4:67-69.