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TWO NEW *DICHRORAMPHA*
(LEPIDOPTERA: TORTRICIDAE) FROM FLORIDA

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ABSTRACT

Dichrorampha sapodilla, new species, and *Dichrorampha manilkara*, new species, are described from Florida. The former species feeds as a larva on flowers of sapodilla (*Manilkara zapota* (Linnaeus) Van Royen) and the latter species feeds on flowers of wild dilly (*Manilkara bahamensis* (Baker) Lamarck & Meeuse).

RESUMEN

Dichrorampha sapodilla, nueva especie, y *Dichrorampha manilkara*, nueva especie, describir de Florida. Las especies antecedente alimentarse de sapodilla flores (*Manilkara zapota* (Linnaeus) Van Royen) como la larva y las especies último alimentarse de "wild dilly" [dilla inculto] (*Manilkara bahamensis* (Baker) Lamarck & Meeuse).

In anticipation of a future paper on the biologies of 2 new *Dichrorampha* tortricids from subtropical Florida, the new species are described herein. Both have been reared from host plants of the family Sapotaceae, one from commercial sapodilla, *Manilkara zapota* (Linnaeus) Van Royen, and the other from what is locally referred to as "wild dilly," *Manilkara bahamensis* (Baker) Lamarck & Meeuse. Larvae of both species of tortricids utilize the flowers of their respective hosts. Both species are currently known only from southern Florida, mainly from the Florida keys.

Dichrorampha sapodilla Heppner, NEW SPECIES

Fig. 1, 2, 5-8

Hemimene sp.—Kimball 1965: 263; Bacheler and Baranowski 1975: 158.

SIZE: Forewing length 3.8-4.5 mm.

HEAD: Gray mottled with tan; frons tan; labial palpus cream white; antenna gray and tan mottled.

THORAX: Gray fuscous; venter tan-white; legs tan. *Forewing*: gray with dark fuscous bar from basal 1/3 of anal margin to midwing, angled toward apex; costa with 6-7 major dark fuscous strigulae continued diagonally toward tornus, surrounded by yellow, with white borders immediately along costal margin; apical 4 fuscous strigulate continued to tornus after sharp

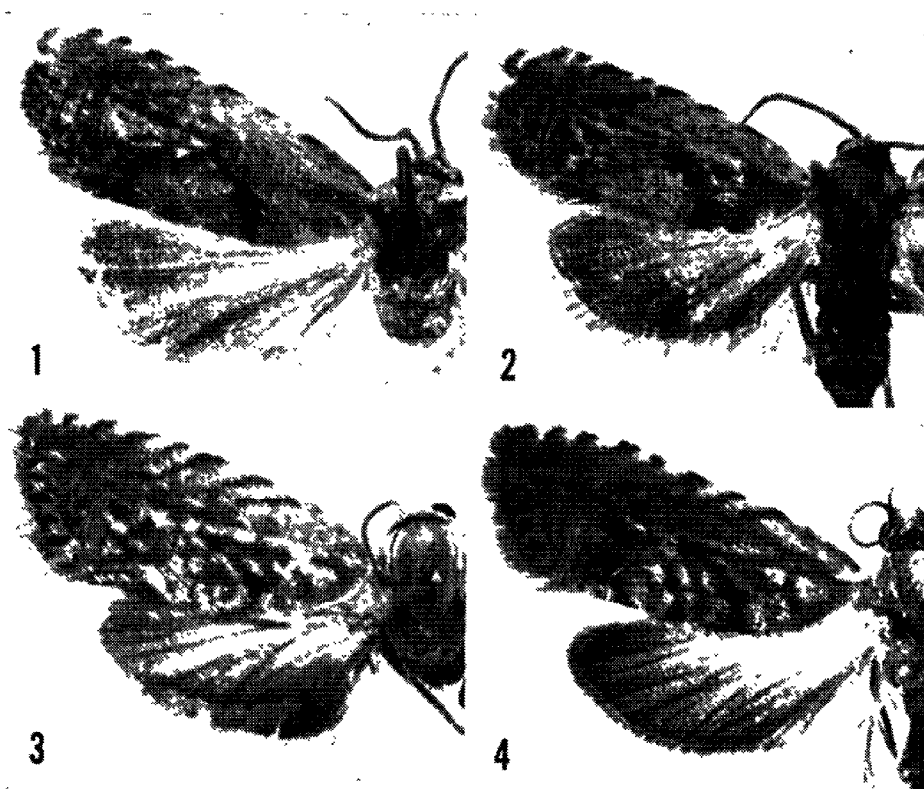


Fig. 1-4. Adults of *Dichrorampha* species: 1, *D. sapodilla* Heppner, new species, paratype ♂; 2, same, paratype ♀; 3, *D. manilkara* Heppner, new species, paratype ♂; 4, same, paratype ♀ [all from Florida].

bend at radius, surrounded by yellow except at tornus where a large dark fuscous mark has yellow only on distal side of mark; 5 small black subdistal (speculum) spots in yellow field; fringe fuscous; ventral side lustrous bronze fuscous. *Hindwing*: fuscous; fringe pale fuscous; ventral side lustrous bronze fuscous.

ABDOMEN: Fuscous; venter tan-white. *Male genitalia*: tegumen stout, arched to acute point; gnathos a narrow band across membrane at center; vinculum reduced; anellus a small semi-circular plate; valva elongate with setaceous dorsally directed cucullus, rounded along ventral margin; a narrow neck prior to broad base of valva; aedeagus small, wedge-shaped, with numerous (ca. 40) cornuti. *Female genitalia*: ovipositor with setaceous papilla anales; apophyses with anterior pair somewhat longer than posterior pair; ostium a cup-shaped sclerotized area posterior to 7th sternite, with a pointed fold extended over ostium; ductus bursae sclerotized to near a sclerotized area at bursa, with ductus seminalis emerging from near bursa; bursa copulatrix ovate, rugose interior walls; one large thorn-like signum. **TYPES:** *Holotype* ♂: Homestead, Dade Co., Florida, 4-IV-1974 (larva), R. M. Baranowski, emerged 18-IV-1974 ex "*Achras zapota*" (USNM type no. 76751). *Paratypes*: (6 ♂, 6 ♀) Florida.—Homestead, Dade Co., 4-IV-1974 (larvae), R. M. Baranowski, emerged ex "*Achras zapota*" 18-IV-1974 (2 ♂, 3 ♀) (FSCA); Miami, Dade Co., 18-V-1967, D. H. Habeck, on sapodilla

flowers (A160), (1 ♂) (FSCA); Subtropical Res. Sta., Homestead, Dade Co., 3-VI-1974, J. B. Heppner, emerged ex "*Achras zapota*" 13-VI-1974 (2 ♂, 2 ♀) (JBH); Dear Res., Big Pine Key, Monroe Co., 19-VI-1973, J. A. Powell, (1 ♂) (UCB); Homestead, Dade Co., 4-XI-1958, D. O. Wolfenbarger, (1 ♀) (CPK). Paratypes to BMNH and USNM.

ADDITIONAL RECORDS: Florida.—Homestead, Dade Co., 31-III-1959, ex "*Calocarpus zapota* flowers" 2-IV-1963 (CPK); Siesta Key, Sarasota Co., 11-V-1957, (CPK). [Kimball (1965) records].

HOST: *Manilkara zapota* (Linnaeus) Van Royen (Sapotaceae) flowers [plant is sometimes referred to as *Manilkara zapotilla* (Jacq.) Gilly and in other genera].

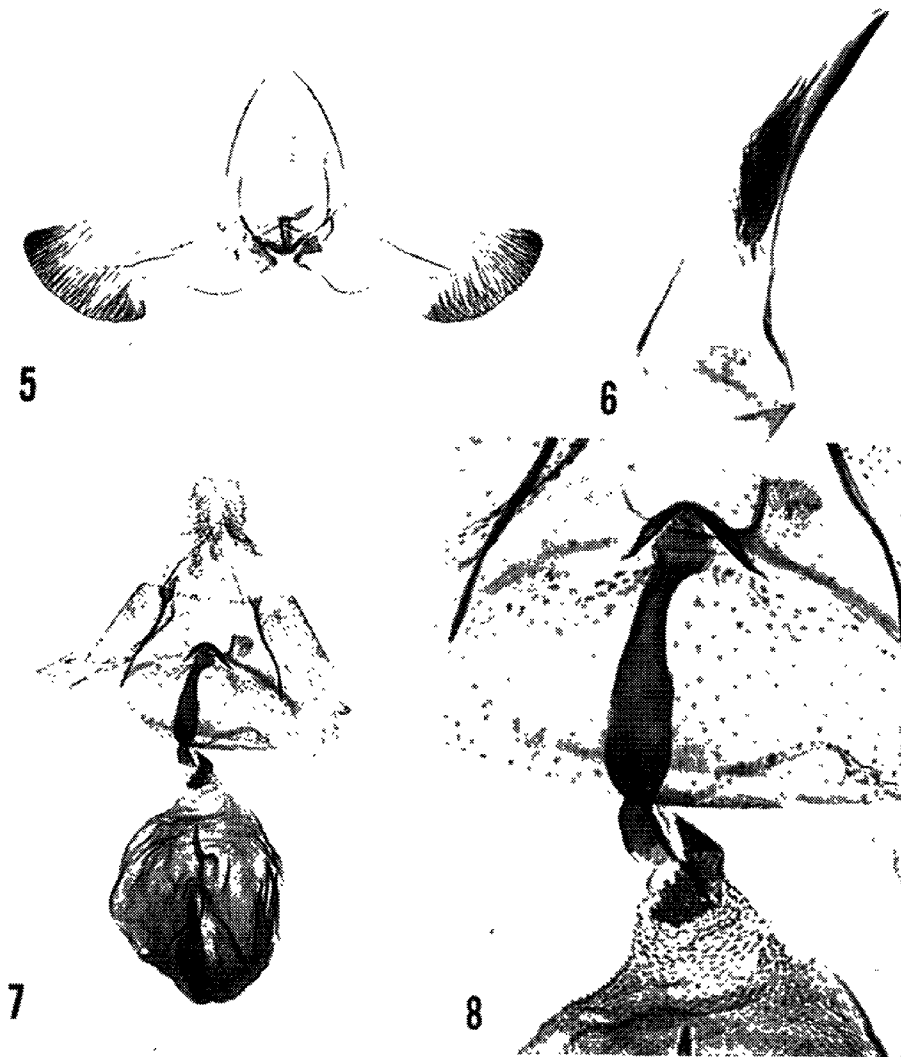


Fig. 5-8. *Dichrorampha sapodilla* Heppner, new species (Florida): 5, paratype ♂ genitalia; 6, same aedeagus (enlarged); 7, paratype ♀ genitalia; 8, same, ductus bursae.

REMARKS: This and the following new species are superficially rather similar but the genitalia are markedly different. The maculation of *D. sapodilla* is distinguished by the dark forewing mark near the wing base and the lack of the silvery tornal line of the hindwing which is present in males of *Dichrorampha manilkara*, new species. The genitalia will distinguish the species from other *Dichrorampha*.

Bachelor and Baranowski (1975) noted that *D. sapodilla* (as "*Hemimene* sp.") competes with the anthocorid *Paratriphleps laeviusculus* Bachelor and Baranowski on flowers of sapodilla.

Dichrorampha manilkara Heppner, NEW SPECIES

Fig. 3-4, 9-12

SIZE: Forewing length 3.5-4.5 mm.

HEAD: Gray with tan frons; labial palpus tan-white, apical segment gray; antenna fuscous.

THORAX: Fuscous; patagia tan; venter tan-white; legs tan with fuscous on distal sides. *Forewing*: gray with 7 dark fuscous strigulae bordered by orange (white on costal margin) from costal margin angled toward tornus; anal margin dark fuscous; 5 dark fuscous strigulae from basal 1/3 of anal margin angled toward apex and bordered by orange; distal 1/3 of wing orange with extensions of dark strigulae intruding and large silvery line from tornus straight to radius, then sharply angled away from apex to 4th strigula along costal margin; apical margin dark fuscous; fringe dark fuscous; ventral side lustrous dark fuscous. *Hindwing*: uniform dark fuscous becoming darker only along anal margin in both sexes; males with a silver iridescent line along tornal margin; ventral side as forewing.

ABDOMEN: Fuscous; venter tan-white. *Male genitalia*: tegumen with a dorsal point; vinculum reduced; gnathos a broad band; anellus a large semi-circular plate; valva elongate and curved upwards, with a large setaceous cucullus and a mesally directed stoutly setaceous lobe midway along ventral margin; valval neck almost absent; ventral valval margin with several stout setae; aedeagus small, curved, with numerous (ca. 40) small spine-like cornuti. *Female genitalia*: ovipositor setaceous on papilla anales; apophyses subequal, of average stoutness; ostium a small sclerotized entrance behind an asymmetrical circular sternal plate; ductus bursae partially sclerotized near bursa, with ductus seminalis diverging from near bursa; bursa copulatrix ovate, rugose, with one large thorn-like signum.

TYPES: *Holotype* ♂: Middle Torch Key, Monroe Co., Florida, 12-VI-1974 (larval), J. B. Heppner, emerged ex "*Manilkara emarginata*" (rearing 74F4) 6-VII-1974 (USNM type No. 76750). *Paratypes*: (21 ♂, 33 ♀) Florida.—Middle Torch Key, 12-VI-1974 (larvae), J. B. Heppner, emerged ex "*Manilkara emarginata*" (rearing 74F4) 24-VI (1 ♂, 1 ♂), 25-VI (1 ♂), 27-VI (1 ♀), 29-VI (1 ♂, 3 ♀), 30-VI (1 ♂, 3 ♀), 2-VII (1 ♂, 1 ♀), 6-VI (1 ♂), 10-VII (2 ♂, 3 ♀), 11-VII (1 ♂), 12-VII (3 ♀), 20-VII (1 ♂) (JBH); Key Largo, Monroe Co., 27-II-1967, S. Kemp (1 ♀) (CPK), 19-III-1968 (1 ♂), 15-VII-1967 (8 ♂, 11 ♀), 7-XI-1965 (1 ♀) (CPK); 2 mi. NE. Tavernier, Key Largo, Monroe Co., 17-VI-1974, J. B. Heppner, (2 ♀) (JBH); 2 mi. NE. Tavernier, Key Largo, Monroe Co., 20-VI-1973, J. B. Heppner & J. A. Powell, (2 ♂-UCB; 3 ♀-JBH). Paratypes to BMNH, FSCA, USNM.

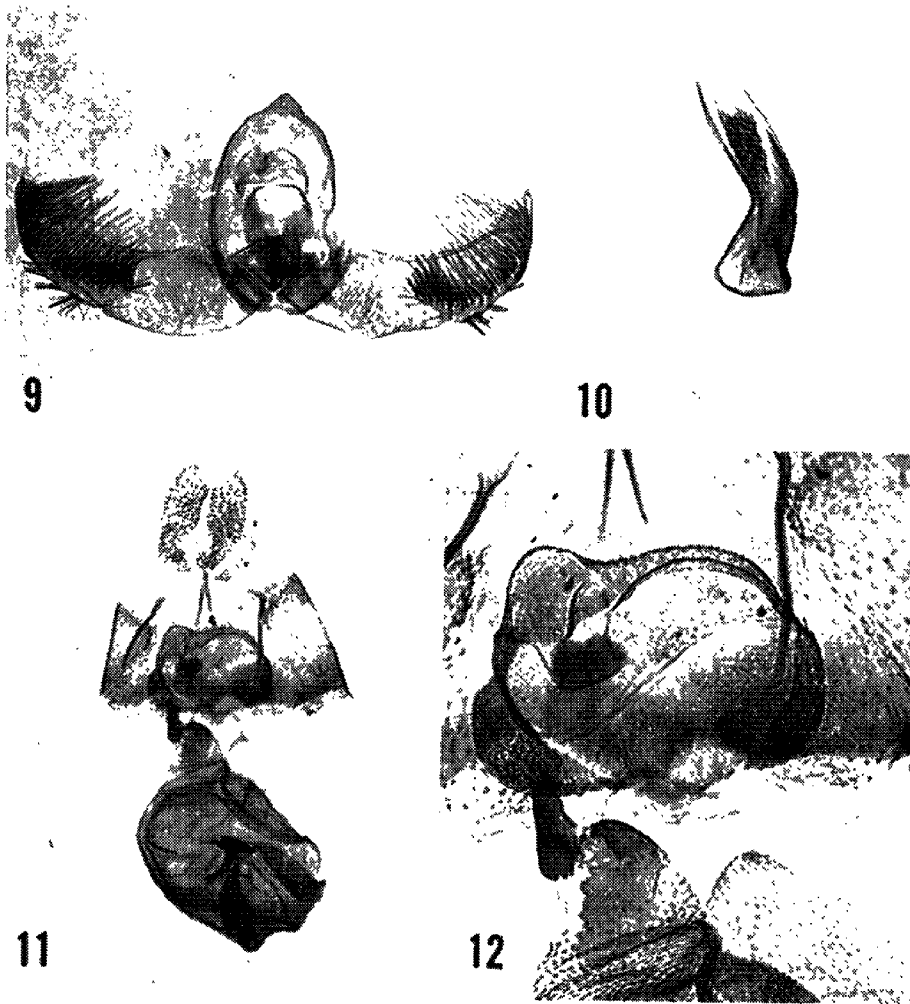


Fig. 9-12. *Dichrorampha manilkara* Heppner, new species (Florida): 9, paratype ♂ genitalia; 10, same, aedeagus (enlarged); 11, paratype ♀ genitalia; 12, same, sternal plate.

HOST: *Manilkara bahamensis* (Baker) Lamarck & Meeuse (Sapotaceae) flowers [called "wild dilly" locally].

REMARKS: The remarks for the previous species will serve to distinguish the 2 species. *Dichrorampha manilkara* superficially also resembles a more northern species, *Dichrorampha leopardana* (Busck), but is smaller and has less orange on the forewings in addition to very different genitalia. Both the male and female genitalia are very unusual for the genus *Dichrorampha*. This species appears to be common locally wherever wild dilly bushes are found.

ACKNOWLEDGMENTS

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(CPK); Florida State Collection of Arthropods, Gainesville, Florida (FSCA); John B. Heppner Collection, Washington, D.C. (JBH); University of California, Berkeley, California (UCB); and the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM). In addition to paratype deposition with the above collections, paratypes will be deposited with the British Museum (Natural History), London (BMNH). R. L. Brown and J. F. G. Clarke (Smithsonian Institution) kindly provided helpful criticisms. I wish also to thank the University of Florida (Department of Entomology, Institute of Food and Agricultural Sciences) for support of my research efforts while at the University of Florida, which made possible several field trips to southern Florida as well as study in Gainesville.

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ADULT ACTIVITY OF GROUND-SURFACE SPIDERS
IN ARID-GRASSLAND AND PINYON-JUNIPER
ASSOCIATIONS IN SOUTHWESTERN NEW MEXICO^{1,2}

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ABSTRACT

Maturity and adult activity data were accumulated for 21 species of ground-surface spiders from 2 locations in the pinyon-juniper life zone and 2 in the arid-grasslands of southwestern New Mexico. Web-building *Psilochorus* species were found to be the most dominant ground-surface adult spiders in both associations. The 2 species concerned were not strongly seasonal in maturity and adult activity indicating that they either matured erratically or the adults were long lived. Except for *Herpyllus propinquus* Keyserling, other less dominant or prevalent species were found to vary seasonally in periods of maturity and adult activity. Some were also restricted to 1 or the other of the 2 plant associations. A few were restricted to 1 plot.

RESUMEN

Se acumularon datos sobre la madurez y la actividad adulta de 21 especies de arañas de la superficie del suelo en 2 localidades en la zona de piñon - junípero y en 2 localidades en los terrenos pastorales áridos del suroeste de

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