

A NEW SPECIES OF OPOSTEGIDAE FROM FLORIDA¹

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The following is a description of the characteristics of male and female specimens of a new species of *Opostega* collected in 1964 and 1965 by Mrs. Spencer Kemp on Key Largo, Florida. The series, consisting of 9 males and 4 females, was referred to the author by Mr. Charles P. Kimball of West Barnstable, Massachusetts and Sarasota, Florida.

Opostega kempella new species

(Fig. 1, 2, and 3)

DESCRIPTION: Alar expanse: male: 4-5 mm, female: 5-5.5 mm. Head: snow white; mouth-parts, light fawn; Antenna: eye-cap, glistening white with seven transverse rows of imbricated scales; flagellum, white to golden yellow beneath, approximately $\frac{3}{4}$ length of front wing; Eye: semiglobose, black; vertical diameter about $\frac{3}{4}$ length of eye-cap; Thorax: white, under parts and legs slightly more yellow with spines and spurs darker; Fore wing: snow white with an elliptical brownish black dorsal spot on hind margin approximately $\frac{2}{5}$ from base. A few rows of white scales separate this spot from the margin, especially in the female, (Fig. 1). The apical fasciae consist of two broad strigils extending from the costal margin, converging at the apex and continuing diagonally and mesad across the tornus as a single band. This does not quite reach the hind margin. Apical dot sub-triangular, purplish black, iridescent. Apical fringe approximately $\frac{1}{12}$ length of wing and composed of white and tawny cilia. The venation of the forewing is more reduced than any other species I have examined. Vein R (Forbes 1923 = II of Spuler 1913) is completely atrophied and veins Cu and 1st A. are vestigial and almost hidden by the cubitoanal fold. Hind wing: light fawn, cilia greyish. Abdomen: white above, fawn beneath.

Male genitalia: (Fig. 5) Harpe: Costa with a large dorsal oval plate, (the "pectinifer" of Janse 1945) which bears 38 recurved pointed teeth along the outer margin. The inner distal surface of the base bears three transverse rows of setiferous punctures. The pectinifer is attached to the base of the cucullus by a membranous pedicel. Cucullus with a recurved terminal tooth and constricted at its point of union with the sacculus, the two forming a columbiform shaped harpe which possess a slender inwardly-curved basal process which is weakly attached to the vinculum by the extensor muscle, (Forbes 1939). Central, expanded portion of the sacculus with five transverse rows of setiferous punctures and a smaller group situated mesally caudad of the slender basal process. Four prominent tubercles bearing recurved setae adorn the mesodistal angle of the sacculus adjoining the base of the cucullus. Vinculum with a broad U-shaped saccus. Gnathos and anellus combined to form a cone shaped central plate bearing a median finger like process. The distal portion of the median plate adorned with three transverse rows of short recurved teeth.

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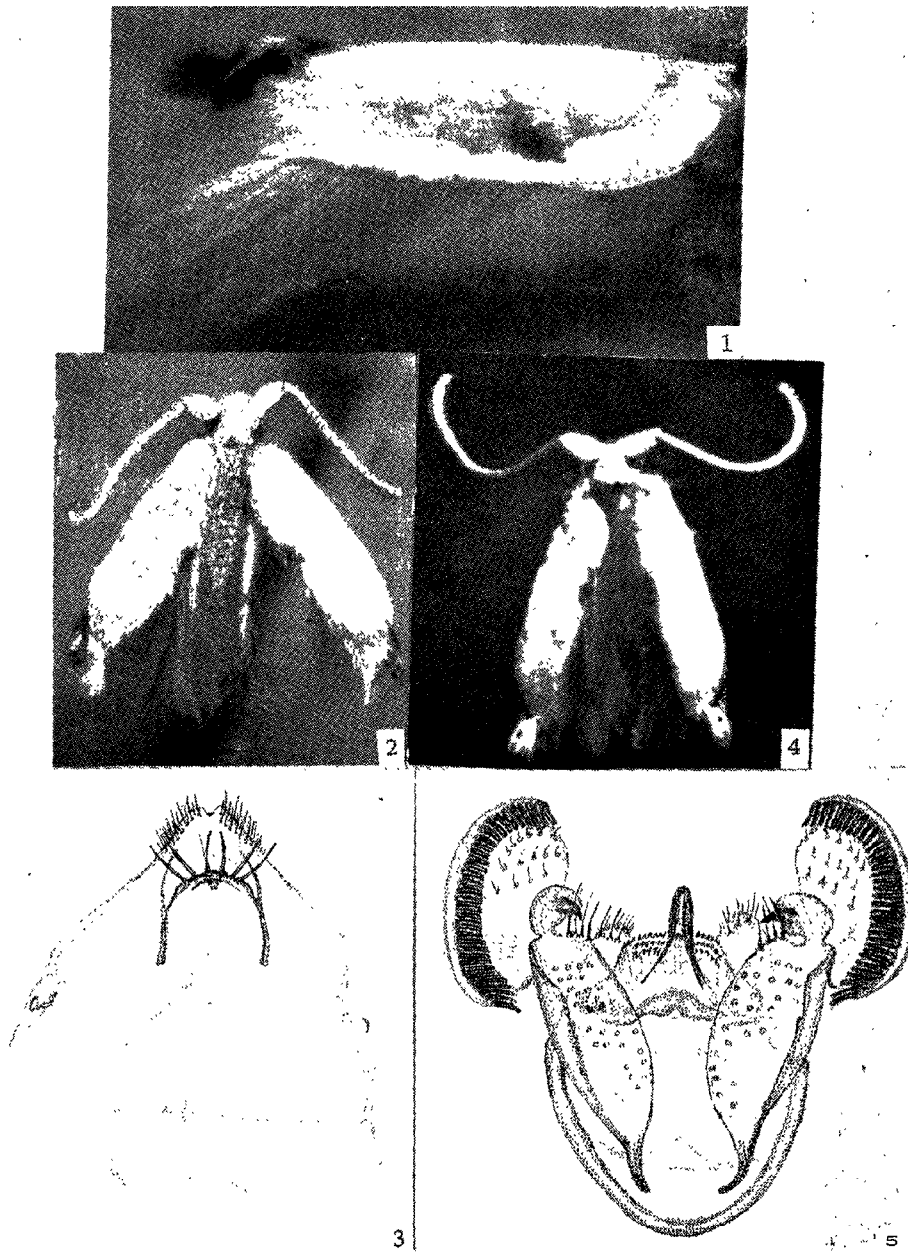


Fig. 1-5. 1. Fore wing of female paratype. 2. Female paratype. 3. Female genitalia, ventral view. 4. Male paratype. 5. Male genitalia, ventral view.

The extensive chitinization and armature of this plate and its articulation to the inner basal margins of the tegumen suggests that this structure is a combination of the anellus and gnathos. The aedoeagus is membranous and scarcely visible even when stained. Tegumen transverse, short and bears a pair of short, broadly rounded socii each armed with a subterminal row of three prominent setae and several terminal rows of shorter, more slender setae.

Female genitalia: (Fig. 3) monotrysian type; somite 7 weakly chitinized, spiracles clearly visible. Anterior apophysis slender, well chitinized; posterior apophysis weakly chitinized and curves mesally at its base to fuse with the lateral margin of the ostial plate or 9th sternite. (These latter features suggest a similar arrangement of parts as shown by Braun 1963 for *Bucculatrix gossypiella*.) Ostium without lateral pads but bears a postero-median row of 6 setiferous tubercles; 9th tergite consists of two acuminate lobes, heavily armed with setae on the lateral and terminal margins, meson with a distinct U-shaped indentation. Internal genitalia largely membranous and stain very weakly; bursa an elongate sac without signum; ductus seminalis long, convoluted, lightly chitinized and enters the ductus bursae near its anterior enlargement.

TYPE: ♂, Key Largo, Monroe Co., Fla., 10-X-1964 (Mrs. Spencer Kemp) (U. S. N. M., Type No. 69077).

PARATYPES: 8 ♂, 4 ♀, same locality as type, ♂: 8-X-1964; 11-X-1964; 17-X-1964; 1-X-1964; 4-X-1964, 7-XI-1964; 2ex., 8-XI-1964 ♀: 2-X-1964; 26-X-1964; 4-XI-1964.

FOOD PLANTS AND IMMATURE STAGE: unknown.

HABITAT: Key Largo, Monroe County, Florida. The characteristics of this locale are described by Kimball (1964).

REMARKS: In coloration and wing markings, *O. kempella* Eyer resembles *O. cretea* Meyrick more closely than any other nearctic species I have seen. However its much smaller size, the bifid nature of the costal portion of the apical fascia and the shape of the dorsal spot are quite distinctive. Its size compares closely with *O. trinidadensis* Busck (1910). The pectinifer and combined gnathos and anellus of the male genitalia is somewhat similar to *O. cretea* Meyr. and also to *O. spatulella* MS., of Europe but both of these lack the transverse rows of spines. The female genitalia resemble those of *O. scioterma* Meyr., in the rounded ostial plate and absence of lateral lobes. It is interesting to note that both male and female genitalia possess certain characters in common with the *thurberiella* group as figured and described by Braun in her monograph of the genus *Bucculatrix* (1963).

LITERATURE CITED

- Braun, Annette F. 1963. The genus *Bucculatrix* in America north of Mexico. Amer. Entomol. Soc. Mem. 18.
- Busck, August. 1910. A list of Trinidad microlepidoptera with descriptions of new forms. Dept. of Agr. Trinidad. Bul. 9: 66, 241-245.
- Forbes, Wm. T. M. 1923. The Lepidoptera of New York and neighboring states. Cornell Univ. Agr. Exp. Sta. Mem. 68.
- Forbes, Wm. T. M. 1939. The muscles of the lepidopterous male genitalia. Ann. Entomol. Soc. Amer. 32:1-10.

Janse, A. J. T. 1945. The moths of South Africa. Vol. 4, Part 2, Adeli-
dae. p. 79-148.

Janse, A. J. T. 1948. The moths of South Africa. Vol. 4, Part 3, Nepti-
culidae. p. 149-185. Pretoria.

Kimball, C. P. 1965. Arthropods of Florida and neighboring land areas.
Vol. I. Lepidoptera. Div. Plant Ind., Fla. Dep. Agr., Gainesville.
363 p.

Pierce, F. M., and J. W. Metcalfe. 1935. The genitalia of the Tineina.
T. Chell & Son, Liverpool. 116 p.

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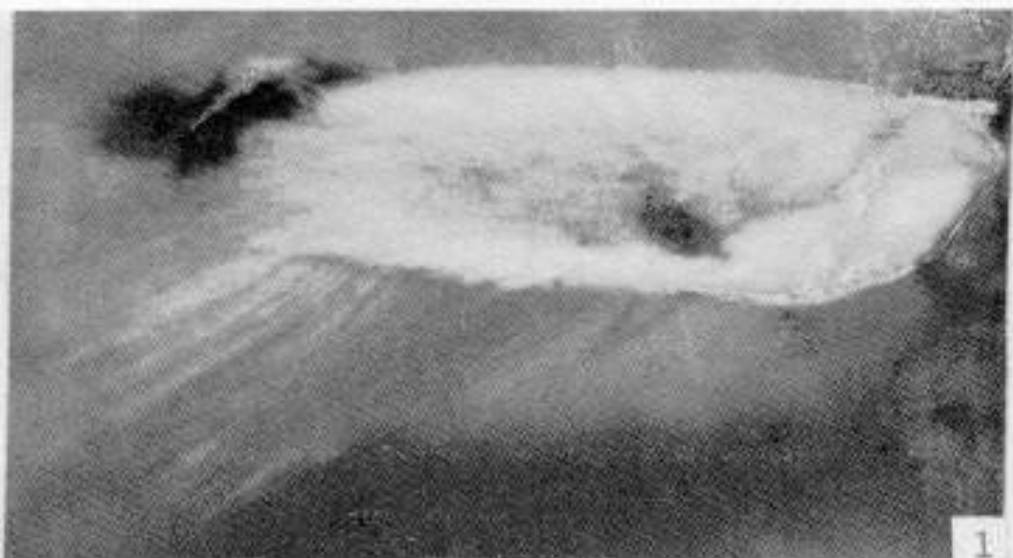
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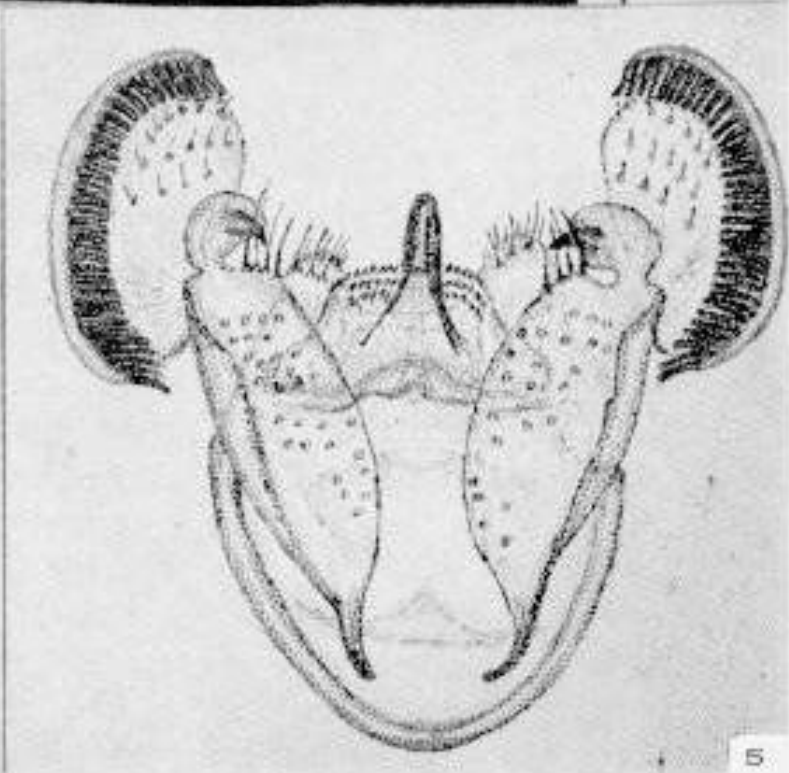
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