

ECOLOGICAL NOTES ON *SYNANTHEDON DOMINICKI*
DUCKWORTH AND EICHLIN (SESIIDAE) IN FLORIDA
AND FIRST DESCRIPTION OF THE FEMALE

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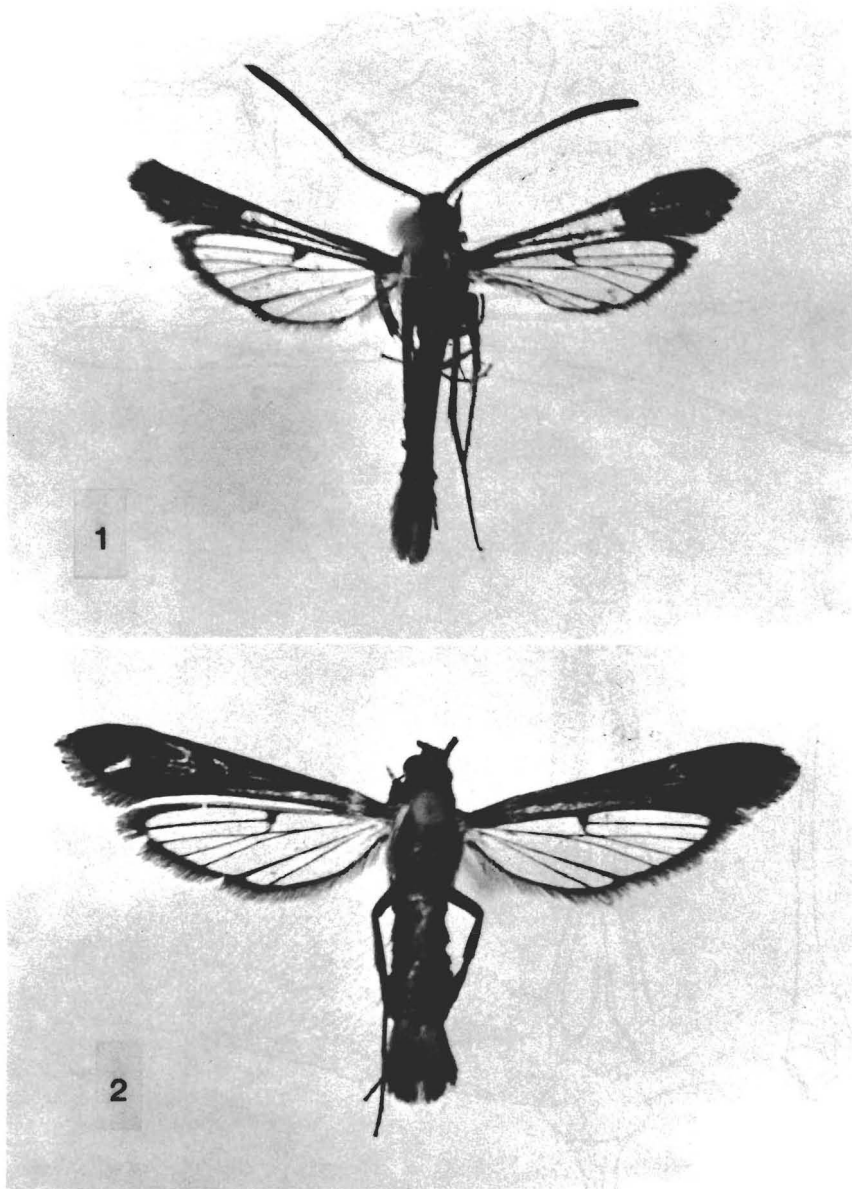
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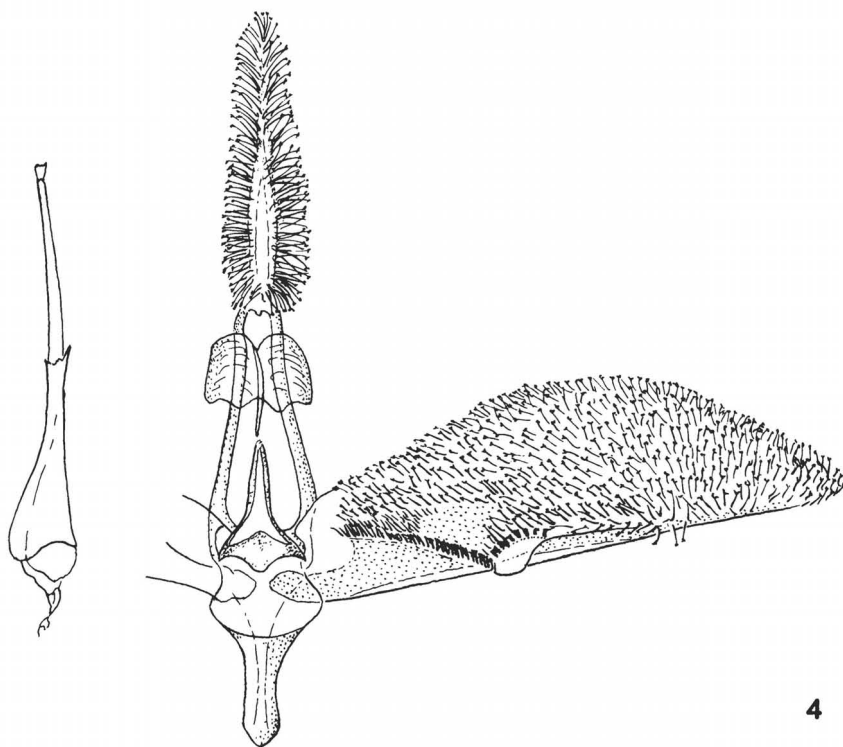
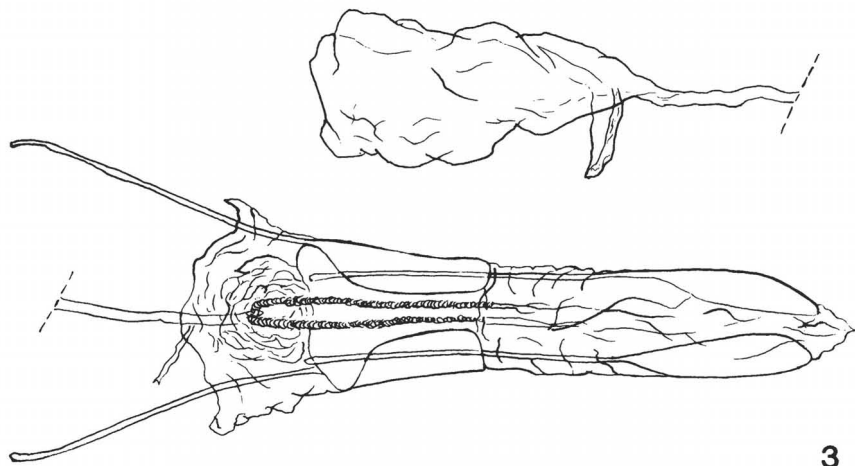
ABSTRACT. *Synanthedon dominicki* Duckworth and Eichlin, a clearwing moth previously known from only one specimen, was captured in sizeable numbers (40 specimens) in west-central Florida throughout most of the month of March 1985. The species responded only to the pheromone isomer (E,Z)-2,13-octadecadienyl acetate and occurred only in cypress swamp habitat and the adjacent hydric hardwood forest ecotone. It was totally absent from nearby mesic and xeric plant communities. The first females of *Synanthedon dominicki* ever collected are also described. The species appears to be widely distributed in Florida but in a narrow ecological zone seldom collected for sesiids.

The rare clearwing moth, *Synanthedon dominicki* Duckworth and Eichlin, is known from only one specimen taken on the Wedge Plantation, South Santee River, Charleston County, South Carolina on 27 March 1967 (Duckworth & Eichlin, 1973). The holotype is a male collected at a black light, and the female until now was unknown.

Throughout the early months of 1985, several sesiid pheromones, or, more correctly sex attractants, were employed to survey clearwing species at numerous locations in west-central Florida. The initial chemical isomer of the attractants was identified by Tumlinson et al. (1974), and the isomer effective for attracting *S. dominicki* was first identified by Schwarz et al. (1983). Several permanent sampling stations using sticky traps were placed in natural plant communities located on the 500 acre Ecological Research Area of the University of South Florida in Hillsborough County. Beginning on 4 March 1985, male *S. dominicki* began appearing in traps at two of the sampling stations. One group of traps was located in the center of a bald cypress (*Taxodium distichum*) swamp, and the other group was situated in a stand of water oaks (*Quercus nigra*) adjacent to the cypress swamp. A total of 40 male *S. dominicki* were taken in several traps baited with the attractant (E,Z) 2,13-octadecadienyl acetate between 4 March and 31 March. Most of these males (25) were trapped during a ten day period



FIGS. 1 & 2. Adults of *Synanthedon dominicki*: 1, male; 2, female.



FIGS. 3 & 4. *Synanthedon dominicki*: 3, female genitalia (ventral view); 4, male genitalia (ventral view, left valve removed).

in mid-March. *S. dominicki* failed to respond to any of five other isomers used, and none was trapped in either February or April in the Tampa Bay area, even though all traps were baited continuously during those months also. Thus, the emergence window for adults was rather short and confined to early spring. This species appears to be quite habitat specific, because no males were taken in numerous traps placed in plant communities located just outside the swamp ecotone, such as pine flatwoods, pine-turkey oak, oak-palmetto scrub, live oak hammock, wax myrtle-brush, or old-field communities.

Traps were checked at hourly intervals for several days in mid-March to determine the duration of the daily flight period for male *S. dominicki*. They entered traps only between 1300–1600 h, with the greatest flight activity occurring at mid-afternoon.

Two additional male *S. dominicki* were taken in sticky traps set 5–14 April 1985 in a swampy hardwood forest near Crystal River, Citrus County, Florida. This location is approximately 90 mi. north of the permanent sampling stations in the Tampa Bay area. Since this record is at least a week later than the end of the flight observed this year near Tampa, it suggests that the emergence period for the moth may be slightly later in north-central Florida or last somewhat longer.

While checking traps at the border of the cypress swamp on 10 March 1985, a single female *S. dominicki* was hand-netted as she hovered in the vicinity of a small waterlocust (*Gleditsia aquatica*). She was captured about 1600 h, while observed to be intermittently landing on and hovering above the vegetation of this tree. The host plant of *S. dominicki* is unknown, but it could not be determined if she was laying eggs on the waterlocust. This specimen constitutes the first record of the female of this rare clearwing moth, and the description follows below.

Surprisingly, a second female was collected in an insect flight trap on 15 April 1985 in a swampy area near White Springs in Columbia County, Florida. This is a northern Florida location about 200 mi. north of the Tampa Bay area and fits the postulated later emergence window as one proceeds northward.

Description of *Synanthedon dominicki*

Female (Fig. 2): **Head.** Front blue-black, some white adjacent to eyes; vertex blue-black, orange mixed posteriorly; occipital fringe orange; labial palp smoothly scaled, orange with black apically; antenna blue-black, lacking ventral cilia and lacking preapical white spot.

Thorax. Blue-black, narrow subdorsal stripe, orange beneath wings; legs blue-black, white on spurs and at joints of tarsal segments.

Wings. Forewing length: 9–10 mm. Forewing opaque, blue-black, ventrally with yel-

low at wing bases; hindwing hyaline with brown-black on small, narrowly triangular discal spot and with some diffuse dark scaling apically.

Abdomen. Entirely blue-black except for orange-red on posterior end, including anal tuft and tip of abdomen.

Female genitalia. Structures as shown (Fig. 3), with well-differentiated ostial region, and membranous narrow pouch-like protrusion on corpus bursae.

Male (Fig. 1) (see female description above and original description of species, Duckworth & Eichlin, 1973): Specimens differ slightly from male holotype in that the antennae lack pre-apical white spots, and the vertex of the head has orange mixed at the posterior margin. The major difference from the female is the forewing opaqueness, males with basal one-half hyaline, females entirely opaque.

Forewing length of males. 7–9 mm.

Male genitalia. As illustrated (Fig. 4).

Host plant. Unknown.

Distribution. Using sex attractants, the range has now been extended from South Carolina (type locality) to Georgia, Alabama and Florida.

Discussion. The data for the first recorded female specimen is as follows: Ecological Research Area, University of South Florida, Tampa, Hillsborough County, Florida, 10 March 1985, collected by L. N. Brown. This specimen will be deposited in the collection at the U.S. National Museum of Natural History, Washington, D.C.

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