

LARVAL FOOD PLANTS AND DISTRIBUTION NOTES FOR
THREE TEXAS HESPERIIDAE

ROY O. KENDALL

135 Vaughan Place, San Antonio, Texas

Larval food plants are here recorded for the first time for Texas populations of *Poanes viator* (Edwards), *Ancyloxypha numitor* (Fabricius), and *Erynnis brizo burgessi* (Skinner). Also, a few notes on broods and spatial distribution are given. The arrangement and nomenclature follow dos Passos (1964).

Poanes viator (Edwards)

Edwards described this species in 1865, and apparently nothing has heretofore been published on its life history. The distribution of *viator* in Texas is based on a few scattered records and is therefore not well defined. However, through careful collecting this insect should be found closely associated with its larval food plant, marsh millet, *Zizaniopsis miliacea* (Michx.) Doell. & Archers (Gramineae) which occurs over most of the eastern half of Texas. Present knowledge indicates that this skipper is multiple-brooded; it has perhaps four generations in Texas. A larval or pupal diapause is indicated, but additional research will be necessary to determine this.

Guadalupe County: On 19 June 1965 at Lake Dunlap near the village of Clear Spring, adults were found in abundance flying in and around the tall marsh millet which covers several acres in the shallow backwaters of the lake. After collecting 49 males and six females, a cursory examination was made of several *A. miliacea* plants for immatures. Since we were not equipped for marsh collecting, only plants which could be reached from the bank were examined. One empty pupal case, one live pupa, one dead last-instar larva, and three live larvae were collected. Two of the larvae were preserved. On 27 June a male emerged from the pupa. The one larva which was reared through pupated 24 June and a male emerged 2 July.

Larval habits of this species are quite interesting. A formal shelter, which is characteristic of so many skippers, is not constructed. The larva of *viator* hides deep in the recess between the sheath and stem of the food plant when not feeding. The hiding place is above water level. Feeding is mostly on the upper half of the grass blades. Pupation occurs in the unimproved shelter. A bit of silk is placed in the bottom of the recess and along the sides, and the larva then pupates head-upward with the cremaster loosely anchored at the bottom.

On a return visit to the spot on July 25 even more adults were on the wing. Forty-two adults, all males, were collected two and three at a time, mostly on the blossoms of *Ampelopsis arborea* (L.) (Vitaceae), at about midday. It was theorized that females had not yet emerged or were

ovipositing on the *Z. miliacea*, and hence, were not visiting flowers at the time.

The writer and Mrs. Kendall have collected or observed *viator* in three other Texas counties: Bexar Co., near San Antonio, one seen at close range, 16 May 1964. Comal Co., New Braunfels, 9 May 1954 (1♀). Nueces Co., Calallen, 11 April 1962 (1♂). Freeman (1951) indicated that *viator* has been collected at Waco, McLennan County, in July and August, and at Dallas, Dallas County, on 17 July 1948.

Ancyloxypha numitor (Fabricius)

The "least skipper" is distributed over a wide area in east, central, and southern Texas. It flies from April to November and may be found at or near watercourses and wet places where its larval food plants grow. There appear to be at least four broods in central Texas. The only known larval food plant in this area is marsh millet, *Zizaniopsis miliacea* (Michx.) Doell. & Archers (Gramineae). Since the insect has been collected in places where this plant was not found, it may be assumed that other local grasses, associated with wet places, are equally acceptable as larval food plants. A diapause is indicated but the specific immature stage in which it takes place is unknown.

Karnes County: On 25 July 1965 at a small stream near the village of Gillett, fresh adults were observed fluttering about *Z. miliacea* which was growing in the water. In addition to six freshly emerged males, 17 larvae, three pupae, and six empty pupal cases were collected on *Z. miliacea*. Several larvae and pupae were preserved. Adults emerged from five of these pupae as follows: 27 July (2♂♂), 29 July (1♂, 1♀), 31 July (1♂). Larvae which were reared through pupated: 26 July (1), 3 Aug. (2), 5 Aug. (1), and 13 Aug. (1); adults emerged: 1 Aug. (1♀), 10 Aug. (1♂), and 16 Aug. (1♀).

The larva lives in a leaf shelter constructed by cutting and folding over a small portion of the long grass blade. Early instars select the terminal edge while older larvae move toward the median section of the leaf blade. Pupation takes place in the leaf shelter, on the living plant suspended above its aquatic environment.

Other Texas counties in which the writer and Mrs. Kendall have observed or collected *numitor* are: Bastrop Co., Bastrop State Park, 5 Sept. 1961 (4♂♂); 25 Aug. 1962 (2♂♂, 1♀); 7 Aug. 1965 (8♂♂). Bexar Co., San Antonio, 1 Aug. 1964 (13♂♂, 1♀); 25 Oct. 1964 (3♂♂). Comal Co., near New Braunfels, 27 July 1963 (1♀); 7 Nov. 1964 (1♀); 11 April 1965 (1♀); 19 June 1965 (1♂). Guadalupe Co., Clear Spring, 19 June 1965 (1♂). Kerr Co., 8 mi SW of Hunt, 27 June 1963 (3♂♂, 1♀); Dr. John M. Burns, who accompanied the writer, collected 10 adults the same day. Kimble Co., near Junction, 20 July 1963 (1♂). Smith Co., near Tyler, 31 Aug. 1963 (3♂♂, 2♀♀).

Freeman (1951) recorded *numitor* from six Texas counties: Bowie (Texarkana), August; Comal (New Braunfels), April to November; Dallas (Dallas), June to October, (Garland), July and August, (Lancaster), June to October; Hays (San Marcoe), April to November; Hidalgo (Pharr), October.

Erynnis brizo burgessi (Skinner)

In his excellent treatment of *Erynnis*, Burns (1964) indicated that this species was strictly univoltine. Recent rearing studies, conducted in an outdoor environment, indicate *burgessi* to be multiple brooded, although oviposition and egg development took place under laboratory conditions. Additional research is necessary to determine which stage and what conditions are involved in the initiation of diapause. Oak is confirmed as the larval food plant. Nothing can be added to its known spatial distribution.

Brewster County: On 1 April 1965 in Green Gulch at Big Bend National Park adults were found flying in fair numbers. These were mostly males which were patrolling certain areas, stopping only briefly on blossoms of wild flowers. Several species of oak may be found in Green Gulch. We were operating with a research permit, and two males were collected. On the following day, five males and one female were taken, and the female was kept alive for eggs. The elusiveness of *burgessi* was clearly demonstrated by one which escaped from the beak of a roadrunner, *Geococcyx californianus* Lesson. As the writer was attempting to capture a specimen, the roadrunner suddenly appeared, quickly approached, and plucked the quarry from the flower on which it was feeding. The skipper was not to be captured as it freed itself with a violent flapping of wings and disappeared.

Under laboratory conditions, 31 eggs were deposited between 5 and 10 April, mostly on the stems of terminal twigs of *Quercus fusiformis* (Small) (Fagaceae). The eggs started hatching on 10 April. Seven eggs and other immature stages were preserved. Larvae were placed outdoors on a caged, living plant 28 April. Since I assumed that the larvae would soon enter diapause, only infrequent examinations were made thereafter. On 12 June it was discovered that two larvae had pupated and one of these had already emerged; the adult could not be found. The remaining larvae pupated: 19 June (1), 20 June (3), 22 June (1), 23 June (1), 25 June (1), 27 June (1), 29 June (2), 30 June (1), 6 July (1), and 9 July (1). Pupation occurred in leaf shelters on the living plant. The manner in which this species pulls two leaves together to form the shelter provides excellent camouflage and renders the shelters almost undetectable. Seven males and five females emerged: 19 June (1♂), 24 June (1♂), 25 June (1♂), 26 June (1♂), 29 June (1♀), 30 June (1♂), 2 July (1♂), 5 July (1♀), 9 July (1♂, 1♀), 10 July (1♀), and 16 July (1♀).

No adults were found on a return visit to the Green Gulch site 30 April 1965, but on 8 and 9 September, several *Erynnis* which were thought to be *burgessi* were seen. The identity of one was confirmed when it chanced to light on the fruit of a prickly pear, *Opuntia engelmannii* Parry, close to the writer. These data might lend credulity to

the collection data accompanying a specimen examined by Burns (1964) from Paradise, Arizona, which was reputedly collected in July.

Burgessi has been collected in four additional Texas counties from late March to early May by various collectors as recorded by Burns (1964): Armstrong, Blanco or Burnet, Culberson, and Jeff Davis.

LITERATURE CITED

- BURNS, J. M., 1964. Evolution in skipper butterflies of the genus *Erynnis*. U. Calif. Publ. Ent., 37, 217 pp.
DOS PASSOS, C. F., 1964. A synonymic list of the Nearctic Rhopalocera. Mem. Lepid. Soc., No. 1.
FREEMAN, H. A., 1951. Ecological and systematic study of the Hesperioidea of Texas. Southern Methodist Univ. Studies, No. 6.
-

MELANIC MOTHS OF THE GENUS *OPOSTEGA* (TINEOIDEA)

JOHN R. EYER¹

New Mexico State University, University Park, New Mexico

In connection with examining specimens of *Opostega* from a number of North American museums and several private collections for the purpose of publishing a pictorial key (Eyer, 1964), I noted the presence of melanic individuals of *O. cretea* Meyrick, and *O. quadristrigella* Chambers. Information concerning melanic individuals of North American Opostegidae is, to the author's knowledge, absent in the literature. With the hope that collectors of microlepidoptera will watch for additional examples of such aberrations, especially in light trap collections, photographs and comments concerning their general color and characteristic markings are presented.

In a recent article on melanic tendencies of noctuid and geometrid moths in Pennsylvania, Sharp (1964) comments, "Industrial melanism has become standard citation in the literature of genetics and evolution, but relatively little has appeared in the United States on the subject . . ." Since the melanic specimens of *O. cretea* described here were collected in both industrial and nonindustrial areas and those of *O. quadristrigella* only in nonindustrial areas, further collection and observation is especially desirable.

¹ Journal Article No. 242. Agricultural Experiment Station, New Mexico State University, University Park, New Mexico.