

## A new species of *Schinia* Hübner (Lepidoptera: Noctuidae: Heliothinae) from Texas, Oklahoma, and Louisiana

ED KNUDSON<sup>1</sup>, CHARLES BORDELON<sup>1</sup> & MICHAEL G. POGUE<sup>2</sup>

<sup>1</sup> Texas Lepidoptera Survey, 8517 Burkhart Rd., Houston, TX 77055, USA; [eknudson@earthlink.net](mailto:eknudson@earthlink.net); [legitintellexit@earthlink.net](mailto:legitintellexit@earthlink.net)

<sup>2</sup> Systematic Entomology Laboratory, PSI, Agricultural Research Service, U. S. Department of Agriculture, c/o Smithsonian Institution, P.O. Box 37012, NMNH, MRC-168, Washington, DC 20013-7012, USA  
[mpogue@sel.barc.usda.gov](mailto:mpogue@sel.barc.usda.gov)

### Abstract

*Schinia varix*, **new species**, is described, illustrated, and compared to similar species. Male and female adults and genitalia are figured. Comparative adults of *S. siren* (Strecker), *S. roseitincta* (Harvey), and *S. antonio* (Smith) also are figured.

**Key words:** *Schinia varix*, *Schinia siren*, *Schinia roseitincta*, *Schinia antonio*, Asteraceae, Big Thicket National Preserve, Texas Nature Conservancy

### Introduction

The recent monograph on the Heliothinae of North America (Hardwick 1996) did not include this new species of *Schinia*, *Schinia varix*, **new species**. Because of this omission, we decided to describe this species to make the name available for the Texas Lepidoptera Survey. Beginning in 1944 a series of *S. varix* was collected in eastern Texas. Subsequent material was collected in Louisiana and Oklahoma.

From 1994–1997, Knudson and Bordelon accumulated a moderate-sized series of *S. varix* from various locations along road and trail margins within, or adjacent to, Big Thicket National Preserve in southeastern Texas. In other areas of Texas, *S. varix* was collected in the vicinity of mature beech-loblolly pine forest, pine savannah, and bay-gallberry bogs. Examples from Oklahoma were collected in oak-hickory areas.

Attempts were made to discover the biology of this species. The closely related species *S. siren* (Strecker) and *S. antonio* (Smith) both use Asteraceae as larval host plants. By searching and sweeping various Asteraceae in habitats where specimens of *S. varix* were

collected at lights, we hoped to collect larvae and determine the host, but we were not successful. The suspected larval host is a *Gaillardia* species (Asteraceae). The distribution of *S. varix* conforms to the distribution of this plant genus in humid habitats. No attempts were made to induce confined females to oviposit.

### Abbreviations

BITH: Big Thicket National Preserve, Beaumont, TX

CEH: Charles E. Harp private collection, Littleton, CO

CWB: Charles W. Bordelon private collection, Houston, TX

LSU: Louisiana State University, Baton Rouge, LA

MSU: Mississippi State University, Mississippi State, MS

RSP: Richard S. Peigler private collection, San Antonio, TX

TAMU: Texas A&M University collection of Insects and Spiders, College Station, TX

TLS: Texas Lepidoptera Survey, Houston, TX

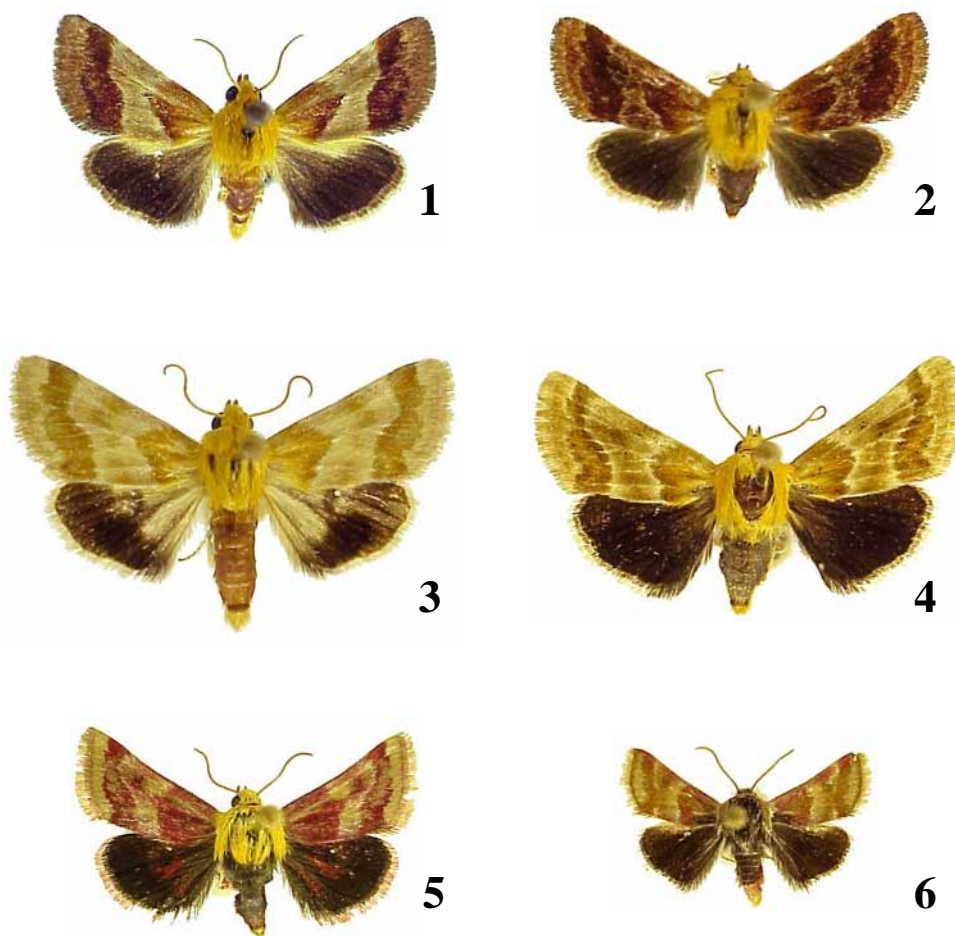
USNM: National Museum of Natural History, Washington, DC

VAB: Vernon A. Brou, Jr. private collection, Abita Springs, LA.

### *Schinia varix* Knudson, Bordelon and Pogue, new species

(Figs. 1–2, 7, 9, 11, 13, 15)

**Diagnosis. Maculation:** Forewing pattern is similar to that of *S. siren* (Figs. 3–4), except that the darker basal and subterminal areas are a rich, reddish purple (maroon) in *varix* and orange to greenish yellow in *siren*. The median paler area is wider in *siren* than in *varix* and is more heavily shaded with the basal and subterminal coloring in the females of both *siren* and *varix*. The basal area of the male hindwing is black in *varix* with no trace of the basal white scaling present in *siren*. The hindwing fringe is immaculate white in *siren* and cream with a dark inner band in *varix*. The wings undersurface in *varix* is similar in general pattern to those of *siren*, but in *varix*, the pale areas are strongly suffused with reddish purple, whereas in *siren*, they are white to pale yellow. **Abdomen:** Males of *siren* have prominent, eversible, hair pencils, with scent pockets on sternite 2. Males of *varix* have only vestigial scent pockets. **Male genitalia:** The uncus is short in *varix*, approximately 2/3 the length of the uncus in *siren*. The outer margin of the valve is slightly angulate at 2/3 length in *varix* and more smoothly curved in *siren*. The coronal spines are heavier and extend about 15% of valve length from apex along the outer margin of the valve in *siren* and are thinner and extend about 10% of valve length from apex along the outer margin of the valve in *varix*. The ampulla is shorter in *varix* than in *siren*. The vesica is shorter in *varix* with 3 coils and longer in *siren* with 3 1/2 coils. **Female genitalia:** The ovipositor lobe in *varix* has a slightly more pointed apex; the apex is more rounded in *siren*. The signa is not as well developed in *varix*, but in *siren* it is more conspicuous.



**FIGURES 1–6.** Adults. 1, *Schinia varix*, Holotype male. 2, *Schinia varix*, paratype female, Texas, Hardin Co., RE Larsen Sandyland Preserve. 3, *Schinia siren*, male, Texas, Hardin Co., RE Larsen Sandyland Preserve. 4, *Schinia siren*, female, Texas, Briscoe Co., Caprock Canyon State Park. 5, *Schinia roseitincta*, male, Texas, El Paso Co., W. Montana Hwy. 6, *Schinia antonio*, male, Texas, McMullen Co., 18 mi N of Freer.

**Description:** MALE: *Head:* Front and vertex yellow orange, antenna and palpus yellow orange; ventral lip of frons slightly projected; eye large and globular. *Thorax:* Yellow orange, clothed dorsally with long hairlike scales; legs yellow orange; foretibia with one inner and one outer pair of heavy spines and a variable number of smaller spines dorsal to these; underside with shiny white flat scales and yellow-orange hairlike scales. *Abdomen:* Yellow orange, but slightly lighter than thorax; sternite 2 with lateral vestigial scent pockets. *Forewing:* Length 8.6–10.2 mm, average 9.6 mm (n = 12). Dorsally with extreme base clothed with long yellowish, hairlike scales, which partially obscure a small basal patch of lead-colored scales; basal third to antemedial line reddish purple (maroon); antemedial

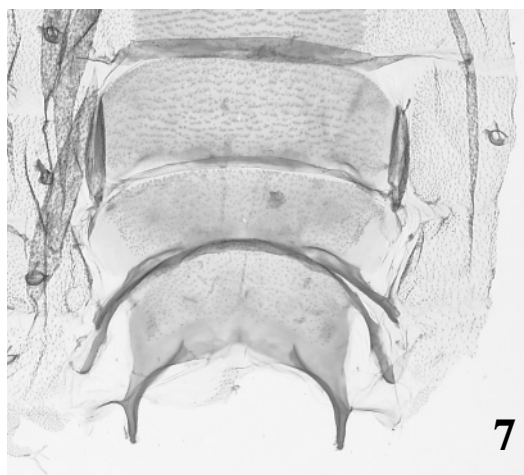
line obscure, pale yellow, angled outwardly over cell; median third pale yellowish, variably shaded with darker scales; orbicular spot absent; postmedian line pale yellow, obscure, slightly expanded at costal margin, gently sinuate from outer 1/3 of costa to inner 1/3 of inner margin; subterminal space maroon, variably spotted with blackish scales, especially near tornus; subterminal line obscure, yellowish, somewhat dentate; terminal space brownish, variably suffused with maroon scales; terminal line absent; fringe yellowish white with dark inner band. Ventrally blackish, with costal margin and apex maroon, inner margin pale yellowish. *Hindwing*: Dorsally black, with extreme costal margin to outer 1/3, pale yellow; fringe whitish yellow, with dark inner band. Ventrally with costal 2/3 maroon, anal 1/3 black. *Genitalia* (Figs. 9, 11): Uncus short (0.3 X valve length), robust. Valve of medium width (length 6.25 X width), costal margin slightly angulate at approximately 2/3 length; ampulla short (0.03 X valve length); corona at apical 10% of valve length; sacculus well developed and 1/3 length of valve; ventral margin produced. Aedeagus slightly curved; vesica with 3 coils and minute spicules.

**FEMALE:** As in male except forewing length 8.9–10.2 mm, average 9.6 mm (n = 8); maculation of forewing darker maroon; median space narrower, more suffused with maroon and blackish scales; antemedial and postmedial lines better defined. *Genitalia* (Figs. 13, 15): Papillae anales broadly rounded, apex broadly rounded. Seventh segment longer than eighth; short setae randomly scattered. Eighth segment with fine spicules. Ductus bursae moderately elongate, approximately 1 1/4 times length of corpus bursae. Appendix bursae with 3 coils. Corpus bursae ovate; signa composed of 2 faint scobinate bars.

**Type material.** HOLOTYPE: Male, Texas, Hardin Co., Big Thicket National Preserve, Turkey Creek Unit, Kirby Nature trail (HQTRS), 4 Oct. 1994, collected by Ed Knudson. Deposited in USNM.

PARATYPES: LOUISIANA: Bossier Parish, Barksdale A.F.B., 14 Sep. 1996 (5 males), R. L. Brown, shortleaf pine forest (MSU). Natchitoches Parish, Red Dirt National Wildlife Refuge, Kisatchie National Forest, 6 Sep. 2002 (31 males, 3 females), V. A. Brou (VAB). Vernon Parish, Kisatchie National Forest, 14-IX-96, (1 male, 31°00'48"N, 93°04'49"W; 1 female, 30°58'57"N, 93°08'05"W), D. Landau coll. (LSU). OKLAHOMA: Lincoln Co., Chandler, 29 Aug. 1991 (1 male), Chuck & Cecil Harp coll. (CEH). Oklahoma Co., Luther, 30-VIII-91 (1 male, 1 female), Chuck Harp coll. (CEH). TEXAS: Same data as holotype (3 males) (TLS). Bastrop Co., Stengl Ranch, 5-6 Sep. 1994 (1 male), J. Gillaspay (TAMU). Brazos Co., College Station, 27-IX-56 (1 male), H. Van Cleave coll. (TAMU); 20-IX-78 (1 male), R. Peigler coll. (RSP). Cass Co., Atlanta State Park, 30-VIII-85 (1 male), Knudson coll. Hardin Co., Silsbee, 14-IX-96 (4 males), C. Bordelon (CWB); R.E. Larsen Sandyland Preserve (Texas Nature Conservancy), 14-IX-96 (7 males (TLS), (1 male and genitalia slide USNM 47173) (USNM), (1 female) (TLS), Bordelon & Knudson coll. Kenedy Co., Padre Island National Seashore, 29 Sep. 1975 (1 male), M. & A. E. Blanchard (USNM). Leon Co., Buffalo, 7-IX-75 (1 female), Knudson

coll. Montague Co., 8 mi S of Forestburg, 26 Aug. 1944 (1 female), L. H. Bridwell (USNM). Tyler Co., BITH, Hickory Creek Unit, Easement Rd., 16-IX-95 (1 male), Knudson coll.; Kirby State Forest, 3-4-IX-94 (2 males (TLS), (1 male and genitalia slide USNM 47174) (USNM), 4 females (TLS), 1 female (USNM), Bordelon & Knudson coll.; Town Bluff (Dam B), 21 Sep. 1970 (3 males, 2 females, genitalia slide USNM 47168), 22 Sep. 1970 (2 males, genitalia slide USNM 47167), M. & A. E. Blanchard (USNM).



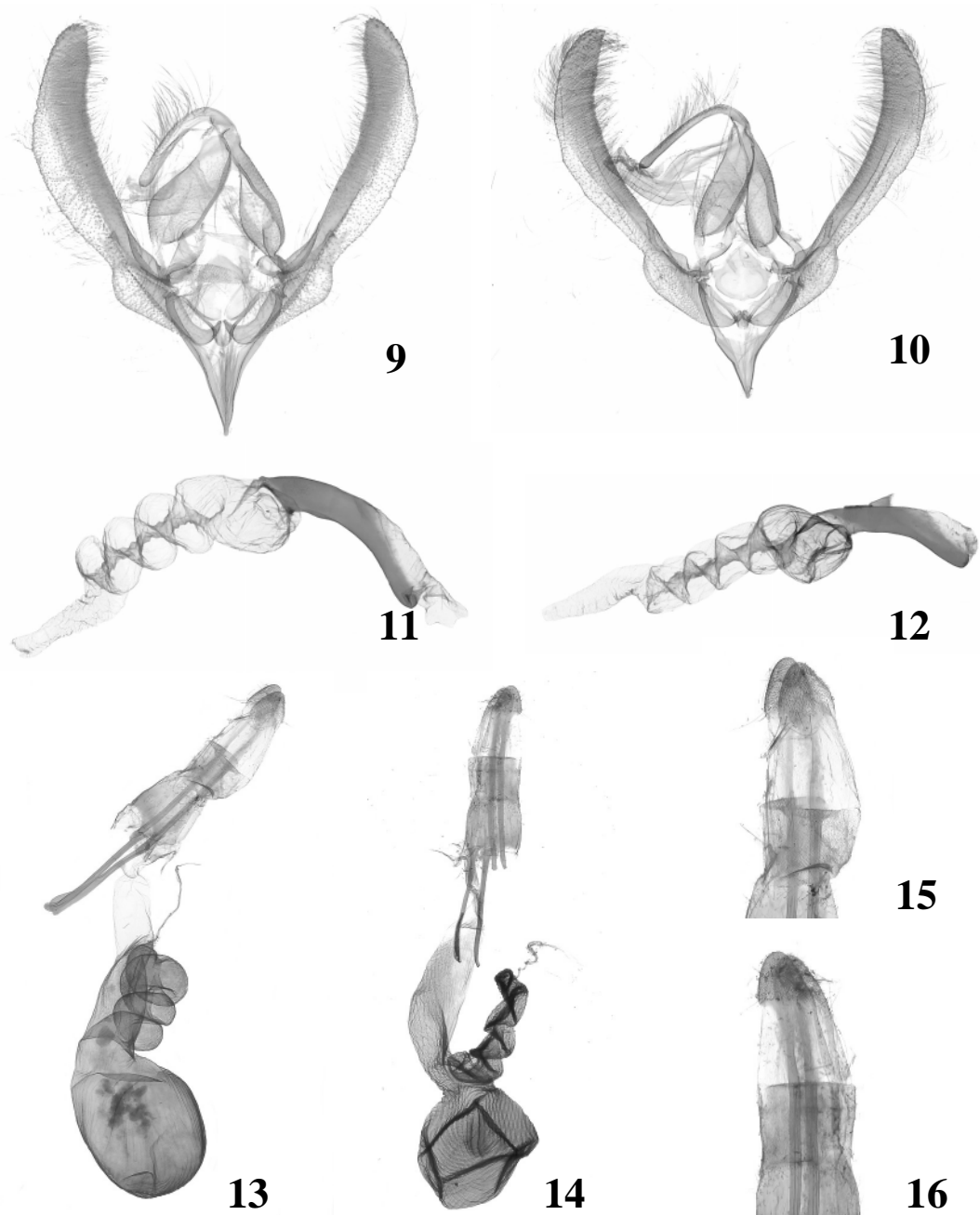
**FIGURES 7-8.** Scent pockets on second sternite. 7, *Schinia varix*, paratype male, Texas, Tyler Co., Town Bluff (Dam B), Genitalia slide USNM 47167, USNM ENT 155500. 8, *Schinia siren*, male, Texas, Nueces Co., N. Padre Island, Genitalia slide USNM 47165.

**Larval host:** Unknown

**Flight period:** August to early October.

**Distribution:** Central Oklahoma, eastern Texas, Louisiana.

**Etymology:** The name *varix*, from Latin, refers to the predominant color of the wings, which is a dark purplish red, like the color of a bruised or broken vein.



**FIGURES 9–16.** Genitalia. 9, *Schinia varix*, paratype male, Texas, Tyler Co., Town Bluff (Dam B), Genitalia slide USNM 47167, USNM ENT 155500. 10, *Schinia siren*, male, Texas, Nueces Co., N. Padre Island, Genitalia slide USNM 47165, USNM ENT 155685. 11, *Schinia varix*, paratype male, aedeagus of USNM 47167. 12, *Schinia siren*, male, aedeagus of USNM 47165. 13, *Schinia varix*, paratype female, Texas, Tyler Co., Town Bluff (Dam B), genitalia slide USNM 47168, USNM ENT 155499. 14, *Schinia siren*, female, Texas, Tyler Co., Town Bluff (Dam B), genitalia slide USNM 47166, USNM ENT 155686. 15, *Schinia varix*, paratype female, papillae anales of USNM 47168. 16, *Schinia siren*, female, papillae anales of USNM 47166.

**Discussion:** *Schinia varix* is probably both sympatric and synchronic with *S. siren* in most of the localities from where it is known. However, *S. siren* has a much wider distribution, occurring throughout the southeastern U.S. and west to Arizona. *Schinia varix* is sexually dimorphic with the females having the forewing median space heavily inundated with maroon ground color resulting in light colored antemedial and postmedian lines; sometimes the forewing can be the solid maroon ground color. There is no other species in the range of *varix* with which it may be confused. *S. roseitincta* (Harvey) may come close to the range of *S. varix* in Oklahoma, but the former is smaller and usually has reddish on the dorsal surface of the hindwing. *Schinia antonio* is a tiny, diurnal species that occurs in southern Texas. It easily can be separated from *S. varix* by the reduced eyes, size, and habits.

### Acknowledgments

For critically reviewing a draft of this paper, we thank Charles E. Harp, Littleton, CO; Norman E. Woodley and David R. Smith, Systematic Entomology Laboratory, U.S.D.A., Washington, DC; and two anonymous reviewers. The authors thank management and staff at Big Thicket National Preserve, Texas Nature Conservancy, Texas Parks & Wildlife Dept. and those who have submitted specimens for review, including C. Harp, Littleton, CO; D. Landau, Louisiana State University, Baton Rouge, LA; V. A. Brou Jr., Abita Springs, LA; E. Riley, College Station, TX; R. Peigler, San Antonio, TX; and R. L. Brown, Mississippi State University, Mississippi State, MS.

### Literature cited

Hardwick, D.F. (1996) *A monograph to the North American Heliothentinae (Lepidoptera: Noctuidae)*. David F. Hardwick, Ottawa, Ontario, 281 pp.