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

ED KNUDSON1, CHARLES BORDELON1 & MICHAEL G. POGUE2
1 Texas Lepidoptera Survey, 8517 Burkhart Rd., Houston, TX 77055, USA; eknudson@earthlink.net; legitintellexit@earthlink.net
2 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

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, vari-
ably shaded with darker scales; orbicular spot absent; postmedian line pale yellow,
obsolete, 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 yellow-
ish 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 approxi-
mately 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. Aedoe-
agus 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);
macularation 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 Pre-
serve, Turkey Creek Unit, Kirby Nature trail (HQTRS), 4 Oct. 1994, collected by Ed
Knudson. Deposited in USNM.

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). OKLA-
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. Gillaspy (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. Bor-
delon (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), Bor-
delon & 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
SCHINIA VARIX

N. SP.

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, Schina 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.
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