

dle and of normal length (reaching about to falcal shoulder). Includes *bourkei* Kaye (Jamaica), *guadala* Schaus (Middle America), *brescia* Hewitson (neotropical, widespread), *palegon* Cramer (neotropical, widespread).

Subgroup B. Male scent pad duplex, but without a rim of modified scales; corematial process broad, parallel-sided, long and apically rounded; larger cornutus with many teeth; valvae of normal length, contiguous to near tips. Includes *thoana* Hewitson (Middle America) and possibly several South American species of similar appearance (*stagira* Hewitson; *erenea* Hewitson).

Subgroup C. Male scent pad duplex and rimmed with enlarged, densely packed scales of ground color; corematial process elongate, tapering-triangular; larger cornutus without apical teeth; valvae extremely elongate-attenuate (similar to those of the genus *Allosmaitia* Clench 1964), reaching about to the tip of the falx, loosely contiguous to tips. Includes *lausus* Cramer (neotropical, widespread).

THREE HAIRSTREAKS (LYCAENIDAE) NEW TO TEXAS AND THE UNITED STATES

ROY O. KENDALL

135 Vaughan Place, San Antonio, Texas 78201

Hurricane "Beulah" struck the mainland of extreme south Texas near Brownsville, 20 September 1967. Thousands of acres in the Lower Rio Grande Valley were completely inundated. Santa Ana National Wildlife Refuge located on the Rio Grande near Alamo, Hidalgo County, Texas, was such an area. This is a favorite collecting spot for lepidopterists and a number expressed concern over the insect life there. With so much water, some collectors thought the insect life would be largely destroyed. When collecting trips could be resumed, I found that little if any damage to the insect populations had been done. On the contrary, in many ways improvements had occurred.

Extensive flooding had germinated seeds of native plants which had been dormant for a long time. A profusion of vegetation was produced the following year. "Beulah" also evidently distributed insects over wide areas, extending normal ranges for many species. This is evident by new records in 1968 for Hesperiiidae, Lycaenidae, and Heliconiinae

from Texas and the United States. Only the Lycaenidae are treated in this paper.

It will be interesting to see if these species become established in the Refuge, and if so for what period of time. A number of species found in Texas appear to be periodic residents when conditions are favorable.

Ocaria ocrisia Hewitson, 1868

Thecla ocrisia Hewitson 1868, Descr. New Species Lycaenidae, p. 5 (TL: Ecuador); *ibid.* 1869, Ill. D. Lep. Lycaenidae, p. 123, pl. 48 figs. 235, 236; Godman & Salvin 1887, Biol. C.-Amer., Lep. Rhop. 2: 49, pl. 54 figs. 5, 6; *ibid.* 1901, *op. cit.* (suppl.), p. 718; Draudt 1920, in Seitz, Gross-schmett. Erde 5, p. 775, pl. 152 h; Hoffmann 1941, An. Inst. Biol. (Mexico) 11: 711; Comstock & Huntington 1962, J. New York Ent. Soc. 70: 39 (Note: original description erroneously credited to "Specimen of a Catalogue of Lycaenidae in the British Museum").

Ocaria ocrisia: Clench 1970, J. Lepid. Soc. 24: 56, 58.

One ♀, very worn, Santa Ana Nat. Wildlife Refuge, nr. Alamo, Hidalgo Co., Texas, 11-xi-1968 (*leg.* R.O.K.).

In Mexico this is a widespread but uncommon and rather local species occurring mostly in mesic to moist forest. It has been found (Hoffman, *l.c.*, and Carnegie Museum) as far north as southern Tamaulipas and Jalisco.

Thereus palegon Stoll, 1780

Papilio palegon Stoll 1780, Pap. Exot. 3: 159, pl. 282 figs. C, D (TL: "Sierra Leona, sur la Côte d'or de l'Afrique," which is erroneous; the type was probably taken in Surinam); Comstock & Huntington 1962, J. New York Ent. Soc. 70: 100.

Papilio myrtillus Stoll 1784, Pap. Exot. 4: 178, pl. 380 figs. B, C (TL: "Suriname"); Comstock & Huntington 1961, J. New York Ent. Soc. 69: 176.

[Name has sometimes been misspelled *mytillus*.]

Thecla juicha Reakirt 1866, Proc. Acad. Nat. Sci. Philadelphia: 338 (TL: near Vera Cruz, Mexico); Comstock & Huntington 1961, J. New York Ent. Soc. 69: 56. [Name has sometimes been misspelled *juica*.]

Thecla palegon: Hewitson [1867], Ill. D. Lep. Lycaenidae, P. 86; Godman & Salvin 1887, Biol. C.-Amer., Lep. Rhop. 2: 37; *ibid.* 1901, *op. cit.* (suppl.), p. 716; Draudt 1919, in Seitz, Gross-schmett. Erde 5: 761, pl. 150 d, e; Hoffmann 1941, An. Inst. Biol. (Mexico) 11: 707.

Thereus palegon: Clench 1970, J. Lepid. Soc. 24: 58, 59.

One ♂, condition fairly good, Santa Ana Nat. Wildlife Refuge, nr. Alamo, Hidalgo Co., Texas, 9-xi-1968 (*leg.* R.O.K.).

A common and widespread species of the New World tropics, known in Mexico (Hoffmann, *l.c.*, and in Carnegie Museum) as far north as southern Tamaulipas. It is found chiefly in tropical and subtropical forest, including nearby open areas.

Allosmaitia pion Godman & Salvin, 1887

Thecla pion Godman & Salvin 1887, Biol. C.-Amer., Lep. Rhop. 2: 56, pl. 54 figs. 28-30 (TL: Dueñas (Polochic Valley) and Calderas, both in Guatemala, were listed by

the authors; Comstock & Huntington (1962, *infra*) restricted it to the former); *ibid.* 1901, *op. cit.* (suppl.), p. 718; Draudt 1920, in Seitz, *Gross-schmett. Erde* 5: 780, pl. 155 g; Hoffmann 1941, *An. Inst. Biol. (Mexico)* 11: 712; Comstock & Huntington 1962, *J. New York Ent. Soc.* 70: 115.
Allosmaitia pion: Clench 1964, *J. Res. Lepid.* (1963) 2: 255.

One ♀, worn, Santa Ana Nat. Wildlife Refuge, nr. Alamo, Hidalgo Co., Texas, 11–xi–1968 (*leg.* R.O.K.).

This is an uncommon species in Mexico, occurring chiefly in scrub and low forest, particularly in montane areas. Hoffmann (*l.c.*) records it from no farther north than Tabasco and southern Veracruz. There are specimens in Carnegie Museum, however, from as far north as Sinaloa (19 mi E Concordia) and Hidalgo (7 mi N Zimapan, 1830 m).

ACKNOWLEDGMENT

To Harry K. Clench, Carnegie Museum, Pittsburgh, Penn., I wish to express my sincere appreciation for determining these specimens, reviewing this paper, providing the references cited, and furnishing additional distribution data for each species.

INEXPENSIVE PHOTOMICROGRAPHY

JOHN M. KOLYER

55 Chimney Ridge Drive, Convent, New Jersey, U.S.A.

INTRODUCTION

In essence, photomicrography usually consists of positioning a film several inches from the ocular lens of a compound microscope to receive the magnified image of the subject. A special camera, without lens, generally is used for this purpose; detailed descriptions are given in texts such as those by Allen (1941) and Shillaber (1944). An inexpensive camera may be used *without* removing the lens (Loveland, 1943), but this method has serious disadvantages, e.g. tendency of a "flare spot" (bright area in the center of the field) to appear in the picture.

Following is a brief description of construction and operation of home-made equipment of the camera-without-lens style using both negative-positive (conventional) and Polaroid processes.

CONVENTIONAL FILM

Apparatus.—The apparatus (Figure 1) consisted of two parts: (1) a wooden base, with generous working area, on which two rigid uprights