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THREE BUTTERFLY SPECIES (LYCAENIDAE,
NYMPHALIDAE, AND HELICONIIDAE) NEW TO
TEXAS AND THE UNITED STATES¹

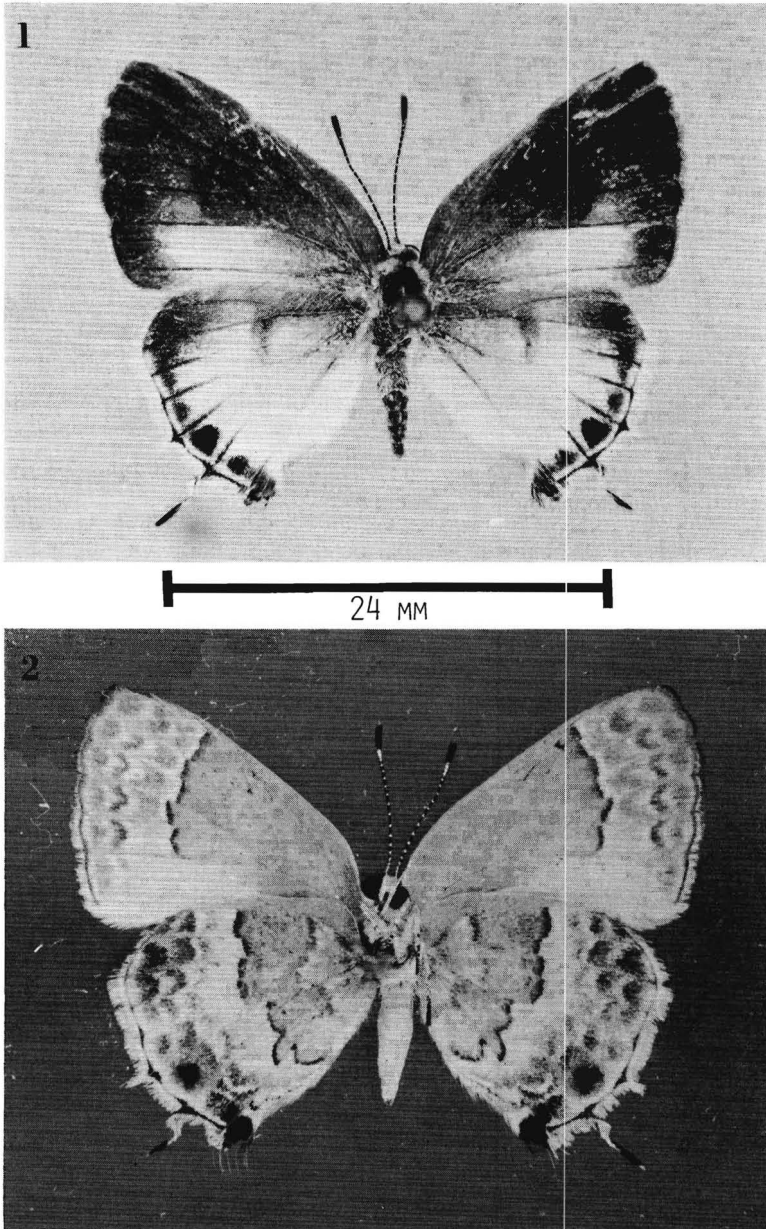
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The author (1970) gave five species of Rhopalocera new to Texas and the United States which were probably introduced through Hurricane Beulah of 1967. Three more species are now added. Time and additional research would be required to determine the specific ecological factors influencing permanent residence should any of these become established north of the Rio Grande.

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Figs. 1-2. *Strymon albata sedecia* (Hewitson). Dorsal and ventral surfaces of male.

Strymon albata sedecia (Hewitson)

Thecla sedecia Hewitson 1874, Ent. Mo. Mag. 11: 105 (TL: "Mexico"); *ibid.* 1877, Ill. Diurn. Lep. Lycaenidae: 198, pl. 18 figs. 637, 638; Godman & Salvin 1887, Biol. C.-Amer., Rhop. 2: 94; Draudt 1920, in Seitz, Gross-schmett. Erde 5: 808, pl. 159 k; Hoffmann 1941, An. Inst. Biol. Mexico 11: 719 (#744); Comstock & Huntington 1963, J. New York Ent. Soc. 71: 116.

Strymon albata sedecia: Clench 1967, J. Lepid. Soc. 21: 183 (TL: restricted to Mazatlán, Sinaloa, Mexico).

This subspecies, formerly known only from Mexico and Guatemala, is now represented by four examples from Texas. Three of these, in fair to poor condition, were taken by Michael A. Rickard at the Santa Ana National Wildlife Refuge, Hidalgo Co.: 9 November 1968 (1), 24 November 1968 (1), and 14 December 1968 (1). The latter male is in the author's collection. The fourth example, a fresh male (Figs. 1 & 2), was taken by John E. Hafernik, two miles east of Brownsville, Cameron Co., 10 July 1970.

Based on these data, this species seems to be established in Texas at least temporarily. It may have been introduced by Hurricane Beulah of 1967. Once we have reared it and know more about its life history a more precise evaluation can be made of its residence status.

Chlosyne rosita browni Bauer

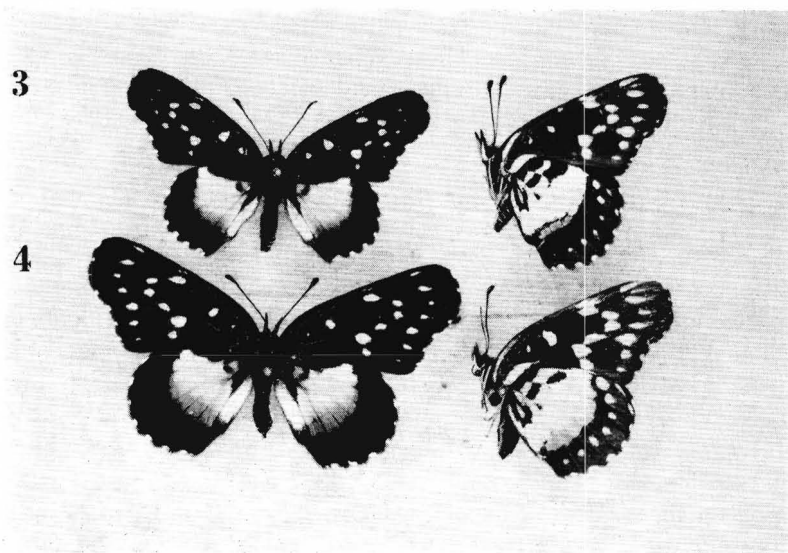
Chlosyne rosita Hall, 1924. Entomologist 57: 241-243, 2 figs. TL: Western Guatemala.

Chlosyne rosita browni Bauer, 1960. J. Lepid. Soc. 14 (2): 148-154, 2 figs. TL: El Salto, San Luis Potosí, Mexico.

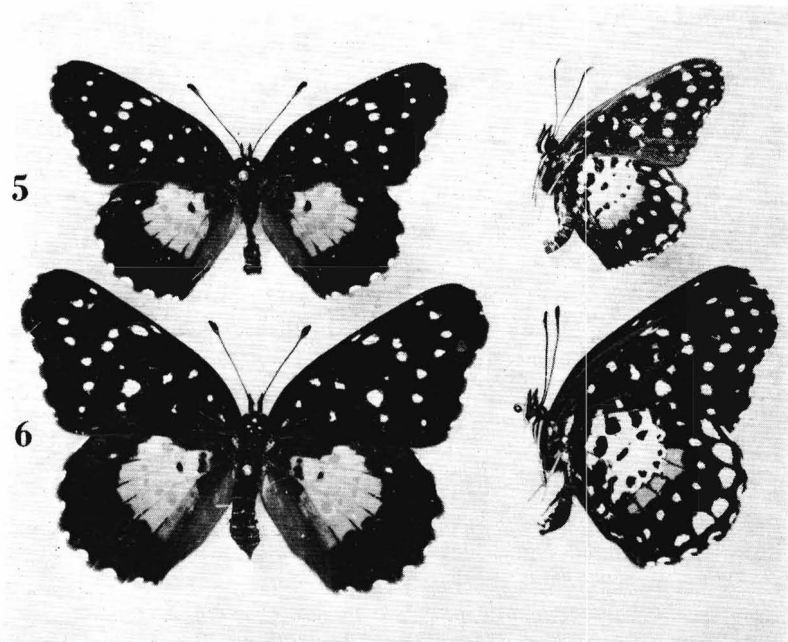
This subspecies was described from 36 specimens from Mexico (San Luis Potosí, Nuevo Leon, and Tamaulipas). It is now represented in the United States by a good series (42♂, 9♀) of field-caught specimens plus nine (5♂, 4♀) reared examples, all from Santa Ana National Wildlife Refuge, Hidalgo Co., Texas. Bauer (1960), in describing this subspecies, suggested that it might be found in the United States.

On 24 October 1970, the author and Mrs. Kendall joined our very good friend Dr. J. W. Tilden at the Santa Ana National Wildlife Refuge for a weekend of collecting. On this day while collecting near the Dicliptera Trail, the author saw an adult but missed catching it. A few minutes later Mrs. Kendall took a fairly good male (possibly the same specimen). On the following morning, the insect was common along the Dicliptera Trail. Fourteen examples (13♂, 1♀) were collected. On 26 October, same location, we took seventeen more (13♂ 4♀).

Adults collected were mostly worn and were found mainly at two spots along the trail where *Dicliptera brachiata* (Pursh) Spreng var. *alternata* Gray and *Dicliptera vahliana* Ness (*Acanthaceae*) grow. At one spot both



45 MM 24 MM



58 MM 33 MM

plant species were growing together. The first named is a perennial, the latter an annual. At the last spot, in particular, males were observed flying back and forth low over these plants, apparently searching for virgin females. The females taken were sitting on these plants, leisurely flexing their wings in a preoviposition manner.

All four females taken 26 October were kept alive for egg production in the laboratory. Female Nos. 1, 2 and 3 each deposited a single multi-cluster of eggs beneath a leaf of *D. alternata* 27 October; females 1 and 2 were then placed in a killing jar. Female No. 3 deposited another cluster on 29 October and two more small clusters 31 October. No. 4 female deposited clusters 28 and 30 October. Both remaining females were placed in the killing jar 31 October. All egg clusters were deposited beneath leaves in a typical *Chlosyne/Phyciodes* manner.

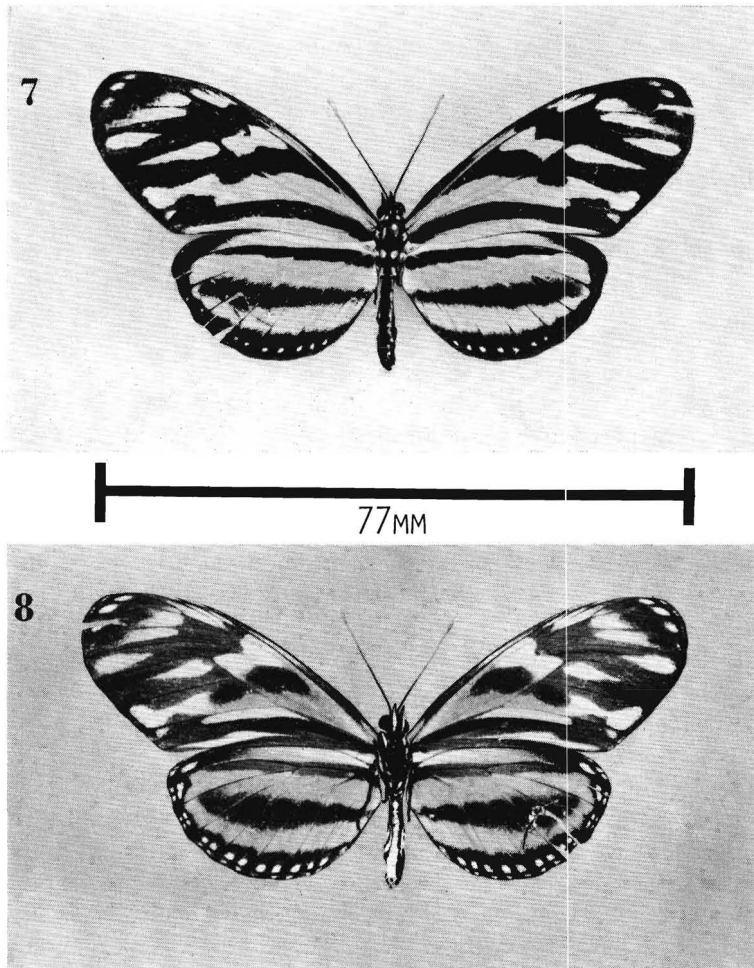
Eggs started hatching about 0600 on 5 November. Most first instar larvae were lost, reason undetermined, but the absence of fresh foliage suspected. A few remaining larvae were offered fresh foliage of *Siphonoglossa pilosella* Torr., which they readily ate. Later instars accepted *D. alternata*, the most likely preferred oviposition substrate. Pupation occurred: 6-XII (3), 7-XII (1), 8-XII (3), and 10-XII (3). Adults emerged: 13-XII (2♂, 1♀), 14-XII (1♂), 15-XII (2♂), 17-XII (2♀), and 18-XII (1♀) for a total of 5♂, 4♀. Preserved immatures include one small cluster of eggs, all first instar larvae that died, one last instar larva, and one pupa. Also, one small cluster of eggs was furnished Dr. Alvah Peterson for color photographing.

Following our lead, Tilden collected the same area during the period 25 October–17 November and took twenty (16♂, 4♀) examples. Those taken near the end of the period were badly worn, and several additional examples were released after capture. At the time we collected these specimens, we were under the impression they represented *Chlosyne janais* Drury. After returning to the laboratory and reexamining the specimens, the author realized this insect was not *C. janais*. Tilden kindly paid us a departing visit on 18 November at which time we discussed the matter. Upon returning to California, Tilden soon discovered by checking the literature and specimens in the California Academy of Sciences Museum that our insect was *C. r. browni*. He also discovered among his catch three examples (2♂, 1♀) of *C. janais* which had been taken in

←

Figs. 3–4. *Chlosyne rosita browni* Bauer. Dorsal and ventral surfaces of male and female.

Figs. 5–6. *Chlosyne janais* Drury. Dorsal and ventral surfaces of male and female.



Figs. 7-8. *Eueides cleobaea zorcaon* (Reakirt). Dorsal and ventral surfaces of female.

another part of the Refuge. On the chance this confusion may have happened to other collectors, the two species are illustrated (Figs. 3-6). The similarity is sufficiently great as to suggest a mimic/model relationship. Superficially, the larvae are more easily separated than the adults, although there should be no confusion when the adults of each are compared.

Based on available collection records, it would appear this subspecies has perhaps four broods. It probably has an inherent larval diapause,

manifested in a few immatures only, which may be triggered by temperature. Additional field research is necessary to determine this. Further, it is unknown whether the species is a permanent resident in Texas.

Eueides cleobaea zorcaon (Reakirt)

- Eueides* Hübner, 1816. Verz. bekannt. Schmett. (1): II; type species *Nereis dianassa* Hübner [1806]. Samml. exot. Schmett. 1: pl. [8], selected by Scudder, 1875, Proc. Acad. Arts Sci., Boston 10: 169.
- Eueides zorcaon* Reakirt, 1866. Proc. Acad. Sci. Phila. V. [18], 243, no. 12. (TL: Near Vera Cruz, Mexico); Fassl, A. H., 1909, Jugendzustände Trepischer Tagfalter. Soc. Ent. 24: 105–107 (mentions larval foodplant, egg and larva); Seitz, A., (1913), Vol. 5, p. 398 [pl. 80g], (ranging through Central America as far west as Mexico); Wolcott, G. H., 1923, Insectae Portoricensis, J. Dept. Agr. Puerto Rico 7 (1): 1–313 (records *Passiflora* sp. as larval foodplant); Seitz, A., 1924, Die Gross-Schmetterlinge der Erde. Vol. V. Die Amerikanischen Tagfalter. Stuttgart, 1141 pp. (describes egg, generic larva, and records *Passiflora* sp. as larval foodplant). Wolcott, 1936, Insectae Portoricensis, J. Dept. Agr. Puerto Rico 20: 1–627 (again records *Passiflora* as larval foodplant).
- Eueides cleobaea zorcaon*: Neustetter, H., 1929, Lepidopterorum Catalogus (makes *zorcaon* a subspecies of *cleobaea* Geyer); Hoffmann, C., 1940, Catalogo Sistemático y Zoogeográfico de los Lepidopteros Mexicanos. An. Inst. Biol. Mex. 11 (2): 639–739 (gives range as warm and hot regions of the Gulf Coast and Chiapas); Ross, Gary N., 1964, Life history studies on Mexican butterflies, J. Res. Lepid. 3 (4): 207–229 (describes the egg, larva [1–5 instars], and pupa; illustrates, in black and white, adult [upper side], egg, 5th instar larva, head capsules of 1st and 5th instar larvae, and pupa [dorsal and lateral views]).

This subspecies, previously known only from Central America and Mexico, is now represented in the Nearctic fauna by 13 examples, all from Texas. One of these is illustrated (Figs. 7–8). It would appear from collection dates that *zorcaon* has perhaps three broods when, from time to time, it becomes temporarily established north of the Rio Grande.

In 1966 the author examined three examples of this subspecies in the Panther Junction Museum, Big Bend National Park, Brewster Co., Texas. They were collected in the park by Rollin H. Baker, 15 July 1937 (1) and 22 July 1937 (2).

In 1968, thirty years later, this insect was distributed over a wide area in Texas, but it has not been seen since. Its reintroduction and temporary residence probably resulted from Hurricane Beulah of 1967. Known examples collected in Texas during 1968 are: Near Skidmore, Bee Co., 20 April (3), leg M. A. Rickard; same location and date, (2), leg Roy Jameson; two other specimens were sighted at this location. On the same day Rickard saw one example at Lake Corpus Christi State Park, San Patricio Co. San Antonio, Bexar Co., 21 April (1♀), leg Glenn Y. Belyea. Big Bend National Park, Brewster Co., 11 June (1), leg David A. Easterla; this specimen was feeding on blossoms of *Acacia greggi* Gray growing in the Chisos Mountains basin. McAllen, Hidalgo Co., 4 May (2♀), leg Dr.

J. Bolling Sullivan III. Santa Ana National Wildlife Refuge, Hidalgo Co., 24 June (sight record), 25 June (2♀), leg J. R. Heitzman.

ACKNOWLEDGMENTS

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I am also indebted to Harry K. Clench, Cyril F. dos Passos, William D. Field, Paddy McHenry, Dr. J. W. Tilden, and Dr. Howard V. Weems, Jr., for providing certain references and for reviewing the MS in whole or in part. Special thanks go to my good friend and fellow lepidopterist André Blanchard for taking time from his own research on Texas Lepidoptera (Heterocera) to photograph the species here recorded and illustrated.

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MORE NEW MOTHS FROM TEXAS (NOCTUIDAE)

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This is a follow-up of the Blanchard 1966, 1968 and 1970 papers.

***Oncocnemis cottami*, A. Blanchard, new species.**

Head: Black; scales on upper half of front, vertex, and base of antennae long, raised and whitish tipped; antennae simple; palpi rough scaled, whitish basally, blackish distally; second segment longest, not quite reaching middle of front; third segment very short, porrect.

Collar: Black basally, dark gray on top; the white band in between is itself divided in two by a thin black line.

Thorax: Disc and patagiae brownish gray; sordid white below; foretibia short, armed with a strong claw; each segment of foretarsus contrastingly dark basally, whitish distally; middle and hind tibiae loosely clothed with brown and whitish scales and long hairs.