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THE SYNONYMY AND SYSTEMATIC POSITION OF SOME TEXAS LYCAENIDAE

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Three species of North American hairstreaks remained systematically unplaced when I prepared the account of that group in Ehrlich & Ehrlich's "How to know the butterflies": "*Strymon*" *laceyi* Barnes & McDunnough; "*Strymon*" *facuna* Hewitson; and "*Strymon*" *buchholzi* Freeman. All three are primarily Mexican and barely reach the United States in southernmost Texas. All are, furthermore, quite rare in collections.

Thanks to Mr. Roy O. Kendall of San Antonio, Texas, and to Mr. H. Avery Freeman of Garland, Texas, I have been able to study Texas specimens of the first two of these species, with the systematic and synonymic results set forth below. Remarks are also added on another misunderstood species from the same region.

STRYMON ALEA (Godman & Salvin)

Thecla alea Godman & Salvin, 1887, Biol. Centr. Amer. Rhop., 2: 95, pl. 58, figs. 10, 11 (Tres Marias Ids., Nayarit, Mexico); Hoffmann, 1941, An. Inst. Biol. Mexico, 11: 720.

Callicista laceyi Barnes & McDunnough, 1910, Canad. Ent., 42: 365 (Del Rio, Texas).
NEW SYNONYMY.

Strymon laceyi, Stallings & Turner, 1946, Ent. News, 57: 49; Freeman, 1950, Field & Lab., 18: 68; Klots, 1951, Field Guide Butterflies, 282; Clench, 1961, in Ehrlich & Ehrlich, How to Know the Butterflies, 219, fig. 422.

Thecla (*Callicista*) *columella* (not Fabricius, 1793), Holland, 1931, Butterfly Book, rev. ed.: 240 (in part).

The male genitalia show a single acuminate cornutus in the aedeagus, exerted with the vesica in the specimen examined, and numerous small basally directed teeth on the tips of the valvae, characteristic of true *Strymon*. There is little question that this is the correct generic placement of the species. The tip of the aedeagus is somewhat upturned.

Strymon alea appears to exist in two seasonal forms (cf. also Stallings

& Turner, 1946). The summer form, represented by the illustration of *alea* in Godman & Salvin, by the type of *laceyi*, and by the single Mazatlán female cited below, has a fairly even grayish ground color below, the pm lines edged inwardly with red, a more or less distinct reddish cap on the "Thecla spot" below, and probably a more extended pale marginal area on the hindwing above in both sexes. The winter form (Figs. 3, 4) is represented by a pair loaned for study by Mr. Kendall: the male from San Patricio Co. (April) and one of the two Comal Co. (November) females in the list below. In these specimens the ground of the underside is darker gray between the pm line and the postbasal spots on the hindwing, much lightened distad of the pm line, lacks red edging on the pm line, the cap on the "Thecla spot" is faintly ochreous, and the pale marginal area of the hindwing above is reduced (particularly in the male) to hardly more than pale bluish rings around the subterminal spots.

The synonymy is, I believe, correct, though the problem is complicated by the description of the two names from widely separated localities, by the seasonal differences just described, and especially by the rarity of the species and the consequent insufficiency of comparative material. The possibility that *laceyi* may be subspecifically distinct from *alea* can be neither excluded nor affirmed at this time.

The following records are all that are known to me of the species.

TEXAS: Del Rio (Val Verde Co.), vii.1909 (1 ♀, type of *laceyi*); Pharr (Hidalgo Co.), v, x, xii (Stallings & Turner, 1946; Freeman, 1950; Klots, 1951); Lake Corpus Christi State Park (San Patricio Co.), 22.iv.1961 (1 ♂, R. O. Kendall); Landa Park, New Braunfels (Comal Co.), 7.xi.1964 (2 ♀, R. O. Kendall).

MEXICO: Islas Tres Marias (Nayarit) (type of *alea*); 16 mi N of Mazatlán (Sinaloa), 29.x.1961 (1 ♀, Cary-Carnegie Museum Exp.); Córdoba (Veracruz) (W. Schaus); (Godman & Salvin, 1887); Tampico (Tamaulipas), 21-22.vi.1964 (1 ♀, H. A. Freeman); Cd. Mante (Tamaulipas), 21-22.vi.1964 (1 ♂, 1 ♀, H. A. Freeman); states of Jalisco and Michoacan (Hoffmann, 1941).

CALLOPHRYS (CYANOPHRYS) GOODSONI (Clench)

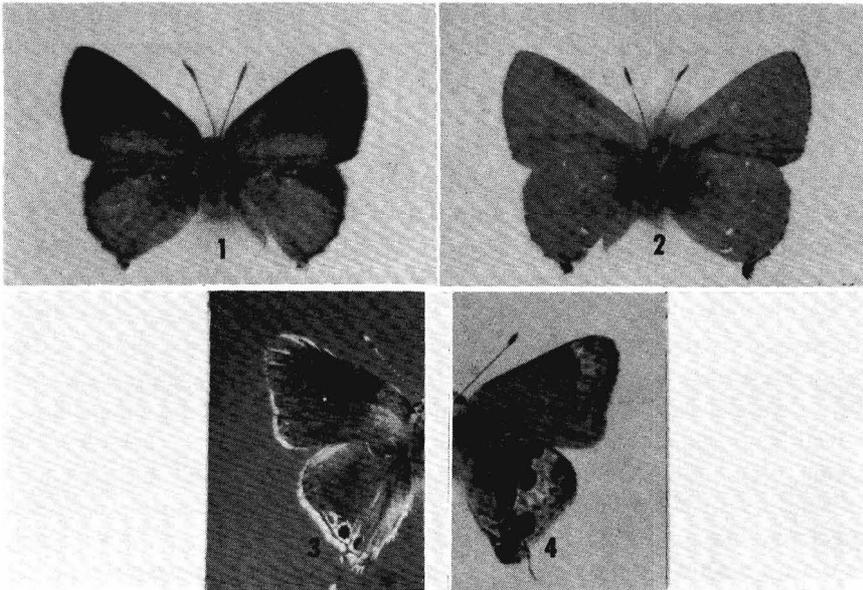
Thecla goodsoni Clench, 1946, Entomologist, 79: 186 (Tegucigalpa, Honduras).

Thecla (or *Strymon*) *facuna* (not Hewitson, 1877), Freeman, 1950, Field & Lab., 18: 14, 72; Klots, 1951, Field Guide Butterflies, 281; Clench, 1961, in Ehrlich & Ehrlich, How to Know the Butterflies, 220.

Strymon pastor facuna, dos Passos, 1964, Syn. List. Nearctic Rhop., 56.

Compare: *Thecla facuna* Hewitson, 1877, Ill. Diurn. Lep. Lycaenidae, 202, pl. 80, figs. 661, 662.

The Texas records of *facuna* given by Freeman and Klots were based on three specimens taken by Mr. Freeman and determined as *facuna* by W. P. Comstock and E. I. Huntington. Hewitson's figures of *facuna* indeed resemble the present species closely, every bit as much as his other



Figs. 1, 2. *Callophrys goodsoni* Clench, male, Hidalgo Co., Texas; 1, upperside; 2, underside. Figs. 3, 4. *Strymon alea* (Godman & Salvin), winter form; 3, male upperside, San Patricio Co., Texas, April; 4, female, underside, Comal Co., Texas, November. (Photographs by L. D. Miller).

figures resemble their respective species. On looking into the matter I became all but convinced that *goodsoni* would have to fall to *facuna*. Accordingly, I wrote to Mr. G. E. Tite of the British Museum Department of Entomology to ask his help. His prompt and detailed reply included a careful comparison of external characters of *goodsoni* and *facuna*, based on the types of each (among other material), and a drawing of the male genitalia of the type of *facuna*, reproduced here in Fig. 7.

In external features they differ (according to Mr. Tite's notes) as follows: in *facuna* males the blue of the upperside is shining and rather dark, deeper than in Hewitson's figure, while the blue of *goodsoni* male is pale and not shining; the male of *facuna* has no scent pad on the forewing, while *goodsoni* has; the green of *facuna* below has a tawny reflection absent in *goodsoni*; the fuscous area on the inner margin of the forewing underside reaches halfway to Cu_2 in *facuna*, all the way in *goodsoni*; the white pm spots of the hindwing below are few but present in *goodsoni*, completely absent in *facuna*; the tornus is less produced in *facuna* than in *goodsoni*.

The male genitalia of *facuna* (Fig. 7) show clearly how distinct it

really is from *goodsoni* (Fig. 6). Particularly notable is the virtual absence of a saccus, the apically divergent valvae, the simple, acuminate, widely separated cornuti. By this configuration *facuna* is clearly no *Callophrys* at all and, indeed, cannot yet be assigned to any known genus. It must be a rare species, for there are only three specimens in the British Museum: the type (with no data), and two others both labeled as from Venezuela, one from the Godman & Salvin collection, one from the Felder collection.

The type of *Callophrys goodsoni* is in the British Museum also, but unfortunately it lacks its abdomen. This, however, is of no great moment, for in its external characters *goodsoni* is unlike any other member of the subgenus and is unmistakable: the lack of tails; strongly suppressed pattern elements below; small size; pale lavender blue of the male above; extremely broad fuscous apex of the male forewing above, reaching basad about to cell-end. Several Yucatan specimens are at hand and the genitalia of one of them (Fig. 6) were found identical to those of the Texas specimen loaned by Mr. Freeman. Since this species has never been figured, I am taking the occasion to illustrate the Texas male (Figs. 1, 2).

Callophrys goodsoni is a rare species and has been seen or recorded only from the following localities.

TEXAS: Near Pharr (Hidalgo Co.), 23.vii, 9.viii.1945 (H. A. Freeman).

MEXICO: Atoyac (Veracruz) (Clench, 1946); 2 mi NE Catemaco, 1,100 ft (Veracruz), viii (G. N. Ross); Pisté (Yucatán), x, and Chichén Itzá (Yucatán), ix, vi (all E. C. Welling).

HONDURAS: Tegucigalpa (type) and San Pedro Sula (Clench, 1946).

COSTA RICA: [Mt.] Irazu, 6,000–7,000 ft (Clench, 1946; an atypical female).

CALLOPHRYS (CYANOPHRYS) MISERABILIS Clench

Thecla pastor (not Butler & Druce, 1872), Barnes & McDunnough, 1913, Canad. Ent., 45: 183; Holland, 1931, Butterfly Book, rev. ed., 228 [pl. 64, figs. 14, 15, represent *longula* (= *pastor*), not *miserabilis*; erroneously listed as from Arizona].

Strymon pastor (not Butler & Druce, 1872), Stallings & Turner, 1947, Ent. News, 58: 39–40; Freeman, 1950, Field & Lab., 18: 66; Klots, 1951, Field Guide Butterflies, 139.

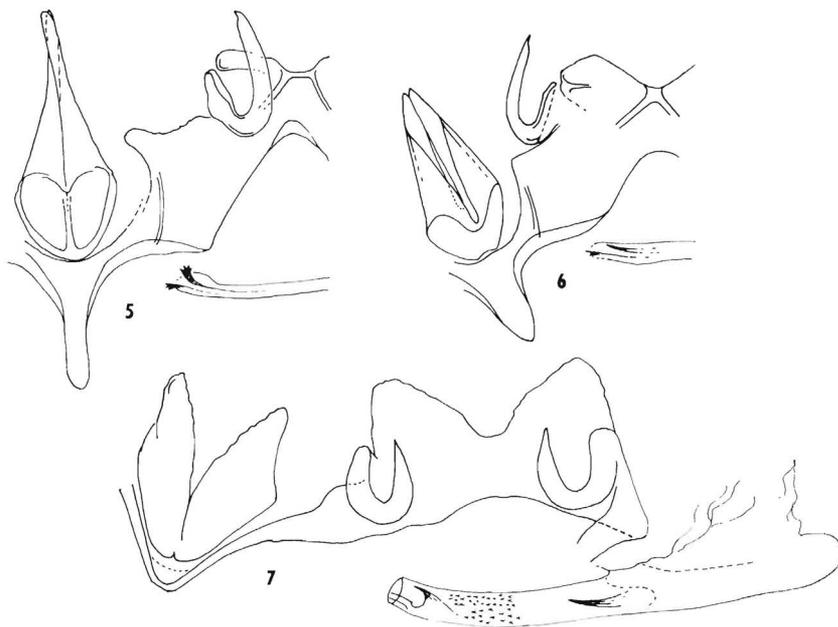
Strymon pastor pastor (not Butler & Druce, 1872), dos Passos, 1964, Syn. Cat. Nearctic Rhop., 56 [species name erroneously dated 1869].

Thecla miserabilis Clench, 1946, Entomologist, 79: 156 (Rincon, 2,800 ft, Guerrero, Mexico).

Callophrys (Cyanophrys) miserabilis, Clench, 1961, in Ehrlich & Ehrlich, How to Know the Butterflies, 211, fig. 402.

Callophrys (Callophrys) miserabilis, dos Passos, 1964, Syn. Cat. Nearctic Rhop., 59.

The subgenus *Cyanophrys* is composed of a number of subtropical and tropical species, many of which are extremely similar to one another.



Figs. 5-7. Male genitalia of Theclinae; 5, *Callophrys miserabilis* Clench; 6, *Callophrys goodsoni* Clench, Yucatan, Mexico; 7, "*Thecla*" *facuna* Hewitson, type (in British Museum, without data).

They have given much trouble to systematists and the result, particularly in the present instance, is a great deal of confusion.

The first species to be described in the group of concern here was *longula* Hewitson (1868, Descr. Lycaenidae: 34). Hewitson appears to have lost the specimen he described, for a few years later (1877, Ill. Diurn. Lep. Lycaenidae: 200, pl. 80, figs. 651-654) he illustrated as *longula* quite a different species, and this became the accepted sense of the name. Butler & Druce (1872, Cist. Ent. 1: 105; see also Butler, 1873, Lep. Exot.: 157, pl. 57, fig. 5) redescribed the original *longula* under the name of *pastor*.

In 1913 Barnes & McDunnough identified a series of specimens taken in the Brownsville area of southeastern Texas as *pastor*, introducing this name into North American lists for the first time.

In 1944 (Bull. Mus. Comp. Zool. 94: 239) I pointed out the discrepancy between Hewitson's later use of the name *longula* and his original description of it, gave the name *pseudolongula* to the later one and synonymized *pastor* to true *longula*. By virtue of this, the United States record

of "*pastor*," assuming its correct identification, should have become *longula*, and in 1946 (*Entomologist* 79: 190) I actually did use the name *longula* so, reporting that it occurred in Texas. This was a mistake, for the identification of Texas specimens as *pastor*, by Barnes & McDunnough, appears to have been wrong. I have not seen the actual specimens so determined by these authors, but from their descriptive remarks I believe these specimens are of the same species as every other Texas specimen that I have seen purporting to be "*pastor*." All belong to the species described in 1946 as *miserabilis*.

C. miserabilis is not uncommon in southeastern Texas and it ranges widely through Mexico south to Costa Rica. The male genitalia are shown in Fig. 5.

It may be of help to summarize briefly the more important characters that discriminate the several species here discussed:

C. longula (= *pastor*). Frons brown; hindwing tailed; ♂ above brilliant morpho-blue; hindwing underside with subterminal maroon spots present.

C. pseudolongula. Frons brown; hindwing tailed in ♀, tailed or tailless in ♂; ♂ above brilliant morpho-blue; hindwing underside without subterminal maroon spots.

C. miserabilis. Frons brown; hindwing tailed; ♂ above dull steel blue; hindwing underside with subterminal maroon spots present or absent.

C. goodsoni. Frons green; hindwing tailless; ♂ above with pale lavender blue on each wing; hindwing underside without subterminal maroon spots.

The following conclusions summarize the situation as it now stands with regard to the subgenus *Cyanophrys* north of Mexico.

1. There are two species of *Cyanophrys* known from the United States (southeastern Texas): *goodsoni* and *miserabilis*.
2. So far as I can tell all records of "*pastor*" from Texas refer to *miserabilis*.
3. The name *pastor* is a synonym of *longula* Hewitson, a species not known to occur in the United States.
4. Despite Holland's statement, no member of the subgenus is known from Arizona. His figures appear to represent true *longula* (= *pastor*), but the figured specimens cannot be located in the Carnegie Museum collection and were presumably borrowed by Holland for illustration.