

intermediate between these forms: TEXAS. BREWSTER Co.: *B. H. Warnock 711* (T); *M. S. Young s.n.*, summer 1915 (T); *C. H. Mueller 8024* (T, M); *B. C. Tharp s.n.*, Oct. 9, 1936 (T, M); *O. E. Sperry s.n.*, July 31, 1938 (in part) (TAM). NEW MEXICO: DONA ANA Co.: southwest corner of Range Reserve in Mountains, *E. O. Wootton s.n.* Oct. 6, 1912 (US); Guadalupe Mts., *L. N. Goodding s.n.*, Oct. 29, 1936 (this plant approaches the typical form of the variety—the sheet bears a notation in pencil, initialed THK, that the plant is the same as one in the Herb. of Soil Conserv. Service, Tucson, and is cited as from the Guadalupe Mountains of that state (US).

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The Distribution and Flower Preferences of the Theclinae of Texas (Lepidoptera, Rhopalocera, Lycaenidae)

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In 1944 I began work on the hairstreaks of North America. Since that year, nine new records for the United States, and one new species, were found in the vicinity of Pharr, Hidalgo County, Texas. While collecting over the State, I have found thirty-three species, five subspecies, and two forms, representing five genera of hairstreaks. One new Texas record is reported in this paper, *Mitoura siva* (Edw.) Most of the information contained here was obtained at first hand; but the fine collection of Stallings and Turner, at Caldwell, Kansas, was checked for Texas specimens.

My primary purpose here is to furnish data for future collectors, especially on distribution, date of capture, and

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the flowers² with which these insects were associated.

The classification follows in part that used in J. McDunough's "Check List of the Lepidoptera of Canada and the United States of America."³ The numbers correspond only to the species found in Texas.

1. *Atlides halesus* (Cramer)

Typical *halesus* is confined to the southeastern part of the United States.

1a. *Atlides halesus corcorani* normal form *estesi* Clench

Distribution.—Palo Pinto (May), Kerrville (June), Fort Davis (June), Davis Mountains (May), San Antonio (May), Austin (May), Devils River (June), Laredo (October), Pharr (December), Rio Grande City (May), Dallas (June-August), Lancaster (April-June, September, October), Vickery (April-June, September).

Flower preferences.—*Ligustrum japonicum* Thunb., *Ligustrum vulgare* L., *Eryngium Leavenworthii* T.&G., and *Mentha arvensis* L.

2. *Strymon maesites* (Herrich-Schaeffer)

Confined in the United States to the area around Miami, Florida.

2a. *Strymon maesites telea* (Hewitson)

Distribution.—Apparently very rare in Texas; the only specimen I have seen from this State was collected during June, 1935, in downtown Laredo.

Flower preferences.—This specimen was flying down a street about six feet from the ground. The nearest flowers were a grove of oleanders in bloom.

3. *Strymon simaethis* (Drury)

Confined to the Antilles.

3a. *Strymon simaethis sarita* (Skinner)

Distribution.—This is the mainland subspecies of this very pretty hairstreak. In Texas I have collected individuals of this subspecies at Pharr, in October, November, December; and at Brownsville during November.

Flower preferences.—*Mentha spicata* L., *Mentha arven-*

²The flowers were identified by Dr. Lloyd Shinnars and Mr. V. L. Cory.

³Part 1. Macrolepidoptera. *Memoirs of the Southern Calif. Acad. of Sci.*, vol. 1, 1938, pp. 1-275.

sis L., *Houstonia nigricans* (Lam.) Fernald, and *Euphorbia pulcherrima* Willd.

4. *Strymon pastor* (Butler & Drury)

Distribution.—Pharr (December), Brownsville (May, July, August, November, December).

Flower preferences.—*Prosopis juliflora* var. *glandulosa* (Torr.) Ckll., *Euphorbia pulcherrima* Willd., *Mentha arvensis* L., *Mentha spicata* L., and *Solidago altissima* L.

5. *Strymon zebina* (Hewitson)

Distribution.—Only one individual so far has been collected in the United States, and that a female (by Mrs. E. J. Kelso at Pharr, Texas, in December, 1935).

Flower preferences.—This specimen was found feeding on *Euphorbia pulcherrima* Willd.

6. *Strymon spurina* (Hewitson)

Distribution.—I collected a female at Pharr, Nov. 25, 1945; the only specimen collected so far in the United States.

Flower preferences.—This individual was feeding on *Euphorbia pulcherrima* Willd.

7. *Strymon yojoa* (Reakirt)

Distribution. The only specimen so far collected in the United States was taken by me at Pharr, on Dec. 12, 1945.

Flower preferences.—This specimen was feeding on a large bush of *Euphorbia pulcherrima* Willd., near the Pharr-San Juan-Alamo High School building.

8. *Strymon cyphara* (Hewitson)

Distribution.—Pharr (May, August, November, and December), and near Hidalgo (May.)

Flower preferences.—*Euphorbia pulcherrima* Willd., *Ligustrum japonicum* Thunb., and *Solidago altissima* L.

9. *Strymon cecrops* (Fabricius)

Distribution. Elam Springs, Dallas Co. (June 3), Dallas (June-August), Lancaster (April, June-August), Vickery (March).

Flower preferences.—*Houstonia nigricans* (Cam.) Fernald, *Solidago altissima* L., *Vernonia Baldwini* Torr., and *Buddleja Davidii* Franchet.

10. *Strymon beon* (Cramer)

Distribution.—Brownsville (constant), Pharr (constant), McAllen (constant), Kingsville (April-May), Laredo (June), Del Rio (June, July), Kerrville (June), San Antonio (November), Tivoli (March), West Columbia (March, July), Lancaster (June-August), Garland (June-August).

Flower preferences.—*Verbesina encelioides* (Cav.) Benth. & Hook., *Mimosa biuncifera* Benth., *Houstonia nigricans* (Lam.) Fernald, *Mentha arvensis* L., *Mentha spicata* L., *Solidago altissima* L., and *Euphorbia pulcherrima* Willd.

11. *Strymon echion* (Linnaeus)

Distribution.—Only one specimen (a male) has so far been found in the United States, collected by me south of Pharr on May 22, 1948.

Flower preferences.—This specimen was collected on vines growing near an irrigation canal. There were no flowers in bloom nearby.

12. *Strymon clytie* (Edwards)

Distribution.—McAllen (April-September), Brownsville (April-September), Pharr (March-September). The winter form *maevia* (Godman & Salvin) is found at these localities from October to February.

Flower preferences.—*Prosopis juliflora* var. *glandulosa* (Torr.) Ckll., *Mimosa biuncifera* Benth., *Pithecellobium flexicaule* (Benth.) Coulter, *Mentha arvensis* L., *Mentha spicata* L., *Euphorbia pulcherrima* Willd., and *Solidago altissima* L.

13. *Strymon azia* (Hewitson)

Distribution.—Lancaster (April), Comfort (no date), Rio Grande City (May), Pharr (April, May).

Flower preferences.—*Mimosa biuncifera* Benth., *Buddleja Davidii* Franchet, and *Prosopis juliflora* var. *glandulosa* (Torr.) Ckll.

14. *Strymon rufofusca* (Hewitson)

Distribution.—South of Pharr, November and December.

Flower preferences.—*Mentha arvensis* L. and *Mentha spicata* L.

15. *Strymon columella* (Fabricius)

Typical *columella* comes from Hispaniola.

15a. *Strymon columella istapa* (Reakirt)

Distribution.—San Juan (constant), Pharr (constant), Brownsville (constant), McAllen (constant), and Hidalgo (constant).

Flower preferences.—*Verbesina encelioides* (Cav.) Benth. & Hook., *Mimosa biuncifera* Benth., *Mentha arvensis* L., *Mentha spicata* L., *Clematis Drummondii* T.&G., *Euphorbia pulcherrima* Willd., and *Eupatorium Parryi* Gray.

16. *Strymon laceyi* (Barnes & McDunnough)

Distribution.—Del Rio (July), Pharr: one male (Oct. 24, 1944) and one female (Dec. 14, 1946).

Flower preferences.—The male collected at Pharr was feeding on *Verbesina encelioides* (Cav.) Benth. & Hook., and the female on *Mentha spicata* L.

17. *Strymon buchholzi* Freeman

Distribution.—Pharr: one male (Nov. 24, 1946), and one female (Oct. 14, 1944).

Flower preferences.—The male was feeding on *Mentha arvensis* L., and the female on *Gomphrena globosa* L.

18. *Strymon melinus* (Huebner)

Distribution.—Texarkana (June-August), Naples (June-August), Marshall (March), Beaumont (July), Port Arthur (July), Paris (June).

Flower preferences.—*Asclepias capricornu* Woodson, *Asclepias tuberosa* L., and *Buddleja Davidii* Franchet.

18a. *Strymon melinus pudica* (Hy. Edwards)

Distribution.—Shumla (June), Alpine (May-July), Fort Davis (May-July), Temple (June), Midland (June), Sweetwater (June), Abilene (June), Seminole (July), Del Rio (June, July), and Langtry (June).

Flower preferences.—*Solidago altissima* L., *Mentha arvensis* L., *Mimosa biuncifera* Benth., *Ligustrum japonicum* Thunb., *Asclepias capricornu* Woodson.

18b. *Strymon melinus franki* Field

Distribution.—Kerrville (June), Rocksprings (June), Ranger (June), Rhome (June), Weatherford (June), Fort Worth (June), Grapevine (June-August), Garland (March-November), Wichita Falls (August), Greenville (June), Lancaster (March-November), Mineral Wells (April-September), Glen Rose (August, September), San Angelo

(June), Stephenville (June), Dallas (April-November), White Deer (April-August), Palo Duro Canyon (April-August), Pharr (constant), Brownsville (constant), Donna (constant), McAllen (constant), Edinburg (constant), Hidalgo (constant).

Flower preferences.—*Buddleja Davidii* Franchet, *Ligustrum vulgare* L., *Ligustrum japonicum* Thunb., *Monarda citriodora* Cerv., *Mimosa biuncifera* Benth., *Houstonia nigricans* (Lam.) Fernald, *Mentha arvensis* L., *Mentha spicata* L., *Euphorbia pulcherrima* Willd., *Dalea multiflora* (Nutt.) Shinnery, *Asclepias capricornu* Woodson, *Solidago altissima* L., *Prosopis juliflora* var. *glandulosa* (Torr.) Ckll., *Gomphrena globosa* L., *Clematis Drummondii* T.&G.

19. *Strymon ontario* (Edwards)

Distribution.—Palo Pinto (May), Dallas (May), Lancaster (May).

Flower preferences.—*Ligustrum vulgare* L., *Houstonia nigricans* (Lam.) Fernald, and *Asclepias capricornu* Woodson. This species frequents various species of *Quercus*.

19a. *Strymon ontario autolytus* (Edwards)

Distribution.—Mineral Wells (May), Palo Pinto (May), Lancaster (May, June), Hondo (May), Kerrville (May, June).

Flower preferences.—*Ligustrum vulgare* L., *Ligustrum japonicum* Thunb., *Mimosa biuncifera* Benth., *Asclepias capricornu* Woodson, and *Houstonia nigricans* (Lam.) Fernald.

20. *Strymon polingi* (Barnes & Benjamin)

Distribution.—Alpine (May, June), Sunny Glen Ranch, Alpine (June), Fort Davis (June), and Davis Mountains (May).

Flower preferences.—*Mimosa biuncifera* Benth., *Sideranthus spinulosus* (Pursh) Sweet, and on the leaves of *Quercus Emoryi* Torr. and *Quercus grisea* Liebm.

21. *Strymon alcestis* (Edwards)

Distribution.—Mineral Wells (May), Vickery (May), Lancaster (May, June), Kerrville (June), Rocksprings (June), Uvalde (June), and Palo Pinto (May).

Flower preferences.—*Ligustrum vulgare* L., *Ligustrum*

japonicum Thunb., and *Houstonia nigricans* (Lam.) Fernald.

21a. *Strymon alcestis oslari* (Dyar)

Distribution.—Alpine (June), Fort Davis (June), and Davis Mountains (May, June).

Flower preferences.—*Ligustrum japonicum* Thunb.

22. *Strymon titus* (Fabricius)

The typical species does not occur in Texas.

22a. *Strymon titus watsoni* (Barnes & Benjamin)

Distribution.—The only specimen I have seen was a female collected by Otto Buchholz at Kerrville, June 5, 1948.

Flower preferences.—This specimen was collected off *Mimosa biuncifera* Benth.

23. *Strymon edwardsii* (Saund.)

Distribution.—Lancaster (May).

Flower preferences.—Found on various specimens of *Quercus*.

24. *Strymon falacer* (Godart)

Distribution.—Lancaster (May, June), Vickery (May, June), Dallas (May), and Palo Pinto (May).

Flower preferences.—*Ligustrum vulgare* L.; also on the leaves of various species of *Quercus*.

25. *Mitoura siva* (Edwards)

Distribution.—Stallings & Turner collected a female of this species at Toyahvale, Texas, June 2, 1946. I caught a fresh male near the McDonald Observatory on the summit of Mt. Locke. This is a new hairstreak record for Texas.

Flower preferences.—*Linum rigidum* Pursh.

26. *Mitoura xami* (Reakirt)

Distribution.—Pharr (October-December), San Benito (June, July), McAllen (October), Lancaster: one female (April 15, 1949).

Flower preferences.—*Verbesina encelioides* (Cav.) Benth. & Hook., *Euphorbia pulcherrima* Willd., *Mentha spicata* L., *Mentha arvensis* L., for the lower Rio Grande valley area. The Lancaster specimen was found feeding on *Ceanothus ovatus* Desf.

27. *Mitoura damon* (Cramer)

The typical species does not occur in Texas.

27a. *Mitoura damon castalis* (Edwards)

Distribution.—Kerrville (June), Rocksprings (June), Palo Duro Canyon (April-June), White Deer (April-June), Amarillo (April-June), Cedar Hill (April, May), Dallas (April-June), Lancaster (April-June), Vickery (April-June), Garland (April-June), Palo Pinto (April, May), Mineral Wells (April, May), Fort Worth (May), Glen Rose (September), Grapevine (August). The dark form *brehmei* Barnes & Benjamin, occurs rather rarely at Kerrville during June and in the Palo Duro Canyon during July.

Flower preferences.—*Ligustrum vulgare* L., *Ligustrum japonicum* Thunb., *Ceanothus ovatus* Desf., and on cedars.

28. *Incisalia irus* (Godart)

There is an undated specimen in the United States National Museum from Dallas, Texas.

Flower preferences.—In some localities this species seems to prefer *Ceanothus americanus* L.

29. *Incisalia hadros* (Cook & Watson)

Distribution.—Houston (no date); I took a male at Lancaster, on April 14, 1941.

Flower preferences.—The male specimen was collected from *Ceanothus ovatus* Desf.

30. *Incisalia henrici* (Grote & Robinson)

Typical *henrici* does not occur in Texas.

30a. *Incisalia henrici solatus* (Cook & Watson)

Distribution.—Round Mountain (February, March).

Flower preferences.—Found on cedars.

30b. *Incisalia henrici turneri* Clench

Distribution.—Vickery (March, April), Lancaster (March, April), Cedar Hill (March, April), Palo Pinto (April), Mineral Wells (April), Dallas (March), West Columbia (March), and Garland (April).

Flower preferences.—*Cercis canadensis* var. *texensis* (S. Wats.) Hopkins, *Ceanothus ovatus* Desf., and various species of *Prunus*. Occasionally specimens will be found on cedars.

31. *Thecla bazochii* (Godart)

Distribution.—Rio Grande City (May), Pharr (May, October, December), McAllen (October, November).

Flower preferences.—*Gomphrena globosa* L., *Mimosa biuncifera* Benth., *Mentha spicata* L., and *Mentha arvensis* L.

32. *Thecla cestri* (Reakirt)

Distribution.—The only specimen found thus far in the United States is a female collected by me south of Pharr, on March 25, 1945.

Flower preferences.—This specimen was found feeding on a species of *Phyla*, near La Reforma Ranch, south of Pharr.

33. *Thecla facuna* Hewitson

Distribution.—I found one female (July 23, 1945), and two males (Aug. 9, 1945), on La Reforma Ranch, south of Pharr. These are the only specimens of this species so far collected in the United States.

Flower preferences.—These specimens were not collected on flowers but were resting under and upon a large Texas Ebony tree (*Pithecellobium flexicaule* [Benth.] Coulter).

The Species of *Matelea* (Including *Gonolobus*) in North Central Texas (Asclepiadaceae)

Lloyd H. Shinnery¹

MATELEA gonocarpa (Walter) Shinnery, comb. nov. *Vincetoxicum gonocarpos* Walt., Fl. Carol. 104. 1788. (Emend. Gray and Perry.) *Gonolobus gonocarpos* (Walt.) Perry, Rhodora 40: 284. 1938.²

In attempting a treatment of the *Asclepiadaceae* for a local flora of north-central Texas, the broad generic limits adopted by Dr. Woodson (1941) have proved most logical and convenient, with one exception: the separation of *Gonolobus* and *Matelea*. Concerning these two Dr. Woodson remarks (pp. 239-242): "I have tried in vain to find characters of the corona which will separate *Gonolobus* and *Matelea*, but the structures of the anthers of the two genera appear to me as amply sufficient for distinction. The anthers of both vary considerably . . . But in the species that I have assigned to *Gonolobus* the anther proper bears a more or less conspicuous, fleshy, usually laminate dorsal appendage which I have never found indicated to any degree in species

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²**MATELEA suberosa** (L.) Shinnery, comb. nov. *Cynanchum suberosum* L., Sp. Pl. 212. 1753. *Gonolobus suberosus* (L.) R. Br., in Ait. Hort. Kew. (ed. 2) 2: 82. 1811. *Vincetoxicum suberosum* (L.) Britton, Mem. Torr. Bot. Club 5: 266. 1894. According to Miss Perry (1938), this is found from Virginia to Florida.