

Literature Cited

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TWO NEW MEXICAN HESPERIIDAE

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Among the HesperIIDae collected by the Carnegie Museum-Catholic University of America expedition to eastern Mexico in January, 1966, were two short series of apparently new hesperiine skippers. When the Allyn Mexican expedition was undertaken in January and February, 1969, an opportunity was provided to obtain more specimens and to observe more closely the habits of these hesperiids. The combined series from the two trips comprise the type-series for the two new species below.

Although perhaps not so many specimens nor species can be taken in Mexico during the temperate zone winter as might be collected during the summer months, many worthwhile species apparently are found only during January and February, or at least are most abundant during this time. These two new skippers are evidently among such "winter" butterflies.

Vinius freemani Miller, new species

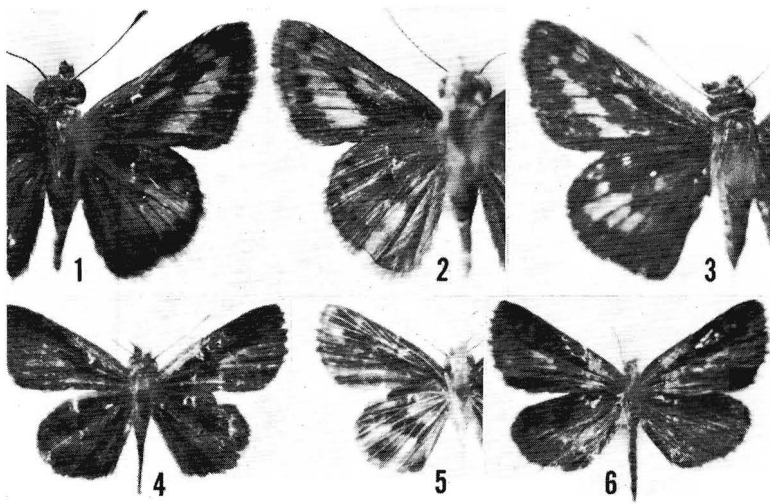
Figs. 1, 2 (♂), 3 (♀), 7 (♂ genitalia)

Male: Head, thorax and abdomen blackish-brown, clothed above with greenish-ochre hairs; below with dense tan hairs. Antennae brown above, ringed with brown and bright fulvous below; nudum dull brown. Palpi brownish-fulvous above, grayish-tan below. Legs densely clothed with brownish-fulvous hairs.

Upper surface of forewing reddish-fulvous with veins fuscous and with the following fuscous markings: apex and outer margin broadly dark; this border narrowing in space M_1-M_2 , then broadening to anal angle; the border enclosing three light subapical spots in spaces R_3-R_4 , R_4-R_5 and R_7-M_1 . A dark streak bisecting discal cell throughout its length. A patch just distad of the cell in M_1-M_2 connecting the outer marginal band with the black androconial mass; latter passing along bases of spaces M_3-Cu_1 and Cu_1-Cu_2 , then diagonally through space Cu_2-2A to $2A$.

Hind wing fuscous above, densely overlaid with basal brownish hairs extending along the anal veins; a diffuse reddish-fulvous cell-spot; a short extradiscal band of same color composed of a small spot in space R_5-M_1 , a long one in M_1-M_2 and somewhat shorter ones in M_3-Cu_1 and Cu_1-Cu_2 . Fringes fulvous, darker from Cu_1 to apex of forewing, and plain or only slightly checkered.

Under surface of forewing broadly black basally and along anal cell to inner angle, the black continuing anteriorly as a tapering submarginal band, broad in space Cu_2-2A and reduced to mere points in M_1-M_2 and M_2-M_3 cells. Remainder of wing dull fulvous with the fuscous markings of upper surface lightly indicated by darker fulvous.



Figs. 1-6. New Hesperidae from Mexico. 1, *Vinius freemani* Miller, holotype ♂, upper surface. 2, Same, under surface. 3, *Vinius freemani* Miller, paratype ♀, VERACRUZ: 2 mi. SE Coatzacoalcos, upper surface. 4, *Virga clenchi* Miller, holotype ♂, upper surface. 5, Same, under surface. 6, *Virga clenchi* Miller, paratype ♀, TABASCO: 2-3 mi. E LaVenta, upper surface. The figures are approximately twice life-size.

Under side hind wing fulvous, shaded with fuscous in space 2A-3A, and with an irregular fuscous spotband across discal cell from Sc-Rs to vein 2A (the spot in Sc-Rs distad of the others), and a V-shaped band of small fuscous spots in the same spaces, the one in M_2-M_3 nearest outer margin. Fringes fulvous, slightly darker toward apex of forewing, and slightly checkered with fuscous.

Forewing length of holotype, 12.0 mm., of the seven male paratypes, 11.5 to 12.5 mm., averaging 11.9 mm.

Male genitalia (Fig. 7) quite distinct from those of other *Vinius* species (see Hayward, 1950, pl. 10, fig. 13, and Evans, 1955, pl. 58), with simpler valvae and tip of penis with a long saw-like ventral projection.

Female: Body and appendages as in male, except that dorsal hairs darker, and ventral ones somewhat duller tan.

Upper side of forewing fuscous with dull fulvous markings as follows: two small spots near end of discal cell, the lower one somewhat the larger; three subapical spots as in male; an extradiscal band of spots beginning as a small dot in space M_1-M_2 marginad of subapical spots and proceeding posteriad and somewhat basad to a V-shaped spot in Cu_2-2A . Hind wing likewise fuscous above with a poorly defined dull fulvous cell-spot and a row of extradiscal fulvous spots as in male, but composed of smaller spots. Fringes light brown at anal angle of hind wing, shading to dark brown at forewing apex. Under surface like that of male, but darker and duller.

Ten female paratypes with forewing lengths of 11.5 to 13.5 mm., averaging 12.6 mm.

Described from eighteen specimens, eight males and ten females, from two localities near Coatzacoalcos, Veracruz, Mexico.

HOLOTYPE ♂: MEXICO: VERACRUZ: 2 mi. SE Coatzacoalcos, Sta. 24, grassy scrub/marsh/palmetto savanna association; 18-i-1966; H. K. Clench and L. D. Miller

(L. D. Miller specimen no. 1966-738); CM-CUA expedition.

PARATYPES: 6♂ 7♀, same locality and date as holotype. 1♂ 3♀, MEXICO: VERACRUZ: 1-2 mi. W Nanchital, sea level, savanna; 2-ii-1969, Sta. 19 (1♂ 2♀), 3-ii-1969, Sta. 21 (1♀); L. D. and J. Y. Miller; Allyn Mexican expedition.

Holotype and 4♂ and 6♀ paratypes in Carnegie Museum, 2♂ and 2♀ paratypes in Allyn collection, 1♂ and 1♀ paratypes in collection of H. A. Freeman and 1♀ paratype in collection of the Direccion General de la Faune Silvestre, Mexico, D. F.

I take great pleasure in naming this distinctive skipper for my good friend H. A. Freeman of Garland, Texas, in recognition of his magnificent work on the Hesperiidæ of Mexico.

V. freemani will key to *letis* (Plötz) in Evans (1955, pp. 71-72). The under side of the hind wing of female *freemani*, however, is not noticeably greenish as in *letis*. Since *letis* is known only from southeastern Brazil, Paraguay and Argentina its conspecificity with the Mexican insect would be suspect, but the differences between the genitalia of *freemani* and *letis* are great, much greater than one could expect from the superficial similarities. *V. sagitta* (Mabille) from the Chiriqui, Panama, is clear yellow below, though marked rather like *freemani*, and the genitalia are different, whereas *V. t. tryhana* Kaye, which is known from Mexico, is very different superficially and genitally.

I suspect that *freemani* has been overlooked by collectors since it looks and behaves rather like a small reddish version of the abundant *Hylephila phyleus phyleus* (Drury). Both species show a distinct preference for various white flowers in the Coatzacoalcos area and may be seen in swarms on suitable blossoms, occasionally a hundred or more *phyleus* and one or two *freemani* on a single bush. My wife and I collected more or less extensively in a number of other areas around Coatzacoalcos without finding *freemani*, and I believe this skipper is restricted to swampy savanna situations.

***Virga clenchi* Miller, new species**

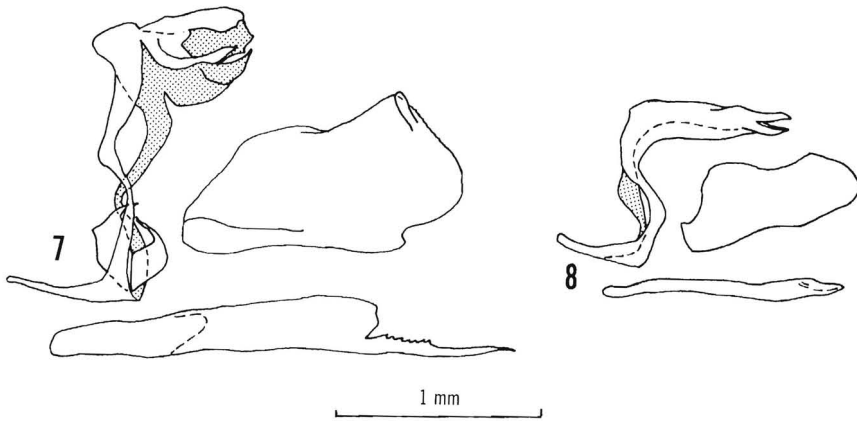
Figs. 4, 5 (♂), 6 (♀), 8 (♂ genitalia)

Male: Head, thorax and abdomen blackish-brown clothed above with dark-brown hairs, below with tan hairs. Antennal shaft brown above, yellow and brown ringed below; club brown above and yellow below; nudum dull brown. Palpi brown above, clothed with tan hairs below. Legs clothed with tan hairs.

Upper surface of forewing fuscous with a bronze cast and with fairly prominent bronze-fulvous extradiscal spots near bases of cells M_3-Cu_1 and Cu_1-Cu_2 , a bronze-fulvous streak in space Cu_2-2A and some fulvous costal shading. In some specimens two or three light subapical spots vaguely indicated.

Hind wing above fuscous with a bronze sheen and an ill-defined band of extradiscal streaks from cell M_1-M_2 to cell Cu_2-2A . Fringes gray-brown with fuscous checkering on forewing.

Under surface of forewing fuscous with markings in M_3-Cu_1 and Cu_1-Cu_2 repeated in grayish, veins from Sc to Cu_1 yellowish distally and small gray subapical spots in spaces R_1-M_1 and M_2-M_3 .



Figs. 7-8. ♂ genitalia of new Mexican Hesperidae. 7, *Vinius freemani* Miller, genitalia of paratype ♂, VERACRUZ: 2 mi. SE Coatzacoalcos (LDM slide M-1577). 8, *Virga clenchi* Miller, genitalia of paratype ♂, VERACRUZ: 2 mi. SE Coatzacoalcos (LDM slide M-1581).

Hind wing below fuscous with basal grayish-tan area and an extradiscal band of same color from costa to Cu_2-2A ; veins yellowish-gray. Fringes grayish-tan, those of forewing checkered with fuscous.

Forewing length of holotype, 9.0 mm., of the ten male paratypes, 8.5 to 9.5 mm., averaging 9.0 mm.

Male genitalia (Fig. 8) quite different from those of other two species known from Mexico and Central America, *virginius* (Möschler) and *xantho* (Schaus), figured by Evans (1955, pl. 59) and Godman and Salvin (1879-1901, pl. 103). *V. clenchi* especially characterized by simple valvae and long gnathos.

Female: Body and appendages as in male.

Upper surface of forewing fuscous with no bronze sheen and with bronze-fulvous spots in four of five specimens in spaces M_2-Cu_1 and Cu_1-Cu_2 and two subapical bronze spots in two of five specimens.

Hind wing above fuscous with poorly defined extradiscal bronze band as in male. Fringes as in male, but checkering more pronounced.

Under surface as in male.

Five female paratypes with forewing lengths of 9.0 to 10.0 mm., averaging 9.6 mm.

Described from sixteen specimens, eleven males and five females, from various localities in coastal southern Veracruz and northernmost Tabasco, Mexico.

HOLOTYPE ♂: MEXICO: VERACRUZ: 2 mi. SE Coatzacoalcos, Sta. 24, grassy scrub/marsh/palmetto savanna association; 18-i-1966; H. K. Clench and L. D. Miller (L. D. Miller specimen no. 1966-717); CM-CUA expedition.

PARATYPES: MEXICO: VERACRUZ: 2♂, 13 mi. NW Alvarado, 10 m.; Sta. 23 (CM-CUA); 16-i-1966; H. K. Clench and L. D. Miller (1♂); Sta. 12 (Allyn Mexican); 29-i-1969; L. D. and J. Y. Miller (1♂). 1♀, 16 mi. E Acayucan, Sta. 25 (CM-CUA); 18-i-1966; H. K. Clench and L. D. Miller. 2♂ 3♀, same locality and date as holotype. 1♂, 1-2 mi. W Nanchital, sea level savanna, Sta. 17 (Allyn Mexican); 1-ii-1969; L. D. and J. Y. Miller. 1♂, 5 mi. SE Coatzacoalcos, 10 m., dense scrubby swampland, Sta. 20 (Allyn Mexican); 3-ii-1969; L. D. and J. Y. Miller.

TABASCO: 4 ♂ 1 ♀, 2-3 mi. E LaVenta, 10 m., swamp forest, Sta. 15 (Allyn Mexican); 31-i-1969; L. D. and J. Y. Miller.

Holotype and 3 ♂ and 3 ♀ paratypes in Carnegie Museum, 5 ♂ and 1 ♀ paratypes in Allyn collection, 1 ♂ and 1 ♀ paratypes in collection of H. A. Freeman and 1 ♂ paratype in collection of the Direccion General de la Fauna Silvestre, Mexico, D. F.

I am happy to name this little skipper for my friend and colleague Harry K. Clench of Carnegie Museum, Pittsburgh, Pennsylvania, who helped collect those specimens of the type-series collected by the Carnegie Museum—Catholic University of America expedition in 1966.

V. clenchi may have masqueraded in collections as *virginius* from which it may be distinguished by its smaller size, less prominent markings and the genitalic differences (for comparison see particularly the figure of the genitalia of *virginius*, as *cometho* Godman, in Godman and Salvin, 1879-1901, pl. 103). The present species is found in small numbers in a rather broad area along the southern coast of the Gulf of Mexico, usually in moist or swampy habitats, but its occurrence in a disturbed situation east of Acayucan demonstrates that *clenchi* is an adaptable insect. This Acayucan locality is not, however, far from the great marsh west of Coatzacoalcos, so the specimen might have strayed from a more suitable habitat. These butterflies are avid flower visitors, preferring white blooms, as do most skippers.

Finally, I would like to thank H. A. Freeman for checking these two skippers against his great Mexican hesperiid collection.

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