NEW HESPERIIDAE FROM THE ANTILLES (LEPIDOPTERA: RHOPALOCERA)

BY FRANK E. WATSON

In the course of working up the West Indian material in the Museum collection a few apparently new forms were discovered. As it will probably be some time before the complete reports are published, these new names are proposed at this time.

Wallengrenia otho mutchleri, new subspecies

Differs from the nymotypical otho (Smith and Abbot) as follows.

MALE.—Upper side of primaries, spots and markings bright orange-tawny, this color well developed along costa, at base and inner margin. The costal band extends from the base to the subapical spots, usually obliterating one or two of them. The maculation in typical otho is much duller, and less well developed along costa, at base and along inner margin. The costal band, in otho, often does not reach the subapical spots and, when it does, it is as a thin streak along the costa. The round black spot of the stigma in mutchleri is reduced to a point or is obsolete. Beyond the stigma, in otho, is a quadrate patch of blackish-gray scales; in the Puerto Rican race this patch is bifid and extends slightly farther distad. Fringe, orange, brownish apically.

Secondaries, above, heavily overlaid with fulvous hairs and scales, so that the entire wings appear nearly fulvous except for a narrow marginal line, and a narrow area below the costa. In otho this overlaying is of dull tawny and is confined to the discal area, sometimes presenting a few more or less obscure discal spots. Fringes orange.

Primaries, below, differing from otho in the greater amount of dark fulvous.

Secondaries greenish fulvous with the discal spots obsolete. In otho these spots are more distinct and the greenish tint is entirely wanting.

FEMALE.—Above, showing about the same differences as the male. The fulvous markings are reduced and duller and the spots paler.

Underside, likewise showing about the same differences as the male but the discal spots are usually present.

Expanse, somewhat less than that of otho.

TYPES.—Holotype, male, Aibonito, Puerto Rico, July 14–17, 1914 (author); allotype, female, Aibonito, Puerto Rico, July 14–17, 1914 (author). Paratypes, twenty-two males and eleven females from the following localities in Puerto Rico. Males: one, San Juan, July 9–12, 1914 (author); one, Manatí, March 5, 1914 (Lutz); one, Arecibo, July 30–Aug. 1, 1914 (author); five, Mayagüez, July 24–29, 1914 (author); two, Adjuntas, June 8–13, and 26, 1915 (Lutz and Mutchler); one,
Barros, June 4, 1915 (Lutz and Mutchler); ten, Aibonito, July 14–17, 1914 (author); one, Cayey, May 30–31, 1915 (Lutz and Mutchler). Females: one, San Juan, July 9–12, 1914 (author); one, Arecibo, July 30–Aug. 1, 1914 (author); Adjuntas, two, June 8–13, and one, June 26, 1915 (Lutz and Mutchler); five, Aibonito, July 14–17, 1914 (author); one, Aibonito, June 1–3, 1915 (Lutz and Mutchler).

Types in the collection of The American Museum of Natural History. I take pleasure in dedicating this subspecies to Mr. A. J. Mutchler of this Museum, who collected many Lepidoptera in Puerto Rico.

HABITAT.—Puerto Rico, Mona and Desecheo Islands; St. Thomas and St. Croix, Virgin Islands; Hispaniola.

SPECIMENS COLLECTED.—In addition to the types, listed above, there are ninety-seven specimens from Puerto Rico and two from the Virgin Islands, males and females, that owing to their condition are not included in the type series. Puerto Rico: San Juan, Cantaño, Manatí, Arecibo, Mayagüez, Maricao, Adjuntas, Barros, Tallaboa, Coamo Springs, Aibonito, Cayey, Caguas, Naguabo, Luquillo National Forest, Mona Island and Desecheo Island, collected by Lutz, Mutchler, Crampton and author between dates of Feb. 11 and 26, March 1 and 9, July 9 and Aug. 1, Dec. 26–29, 1914; May 28 and June 29, 1915; Aug. 13 and 22, 1919; Feb. 17 and 20, 1925. Virgin Islands: one, Charlotte Amalie, St. Thomas, June 2, 1911 (Crampton); one, St. Croix, March 2, 1925 (Lutz).

RECORDS.—Charlotte Amalie, St. Thomas, Virgin Islands, March 14, 1929 (Brown, Huntington), and April 13, 1929 (Huntington).

REMARKS.—Williams and Bell, 1934, Trans. Amer. Ent. Soc., LX, p. 279, show that Wallengrenia Berg has priority over Catia Godman.

A series of specimens in the Museum collection from Hispaniola agree very closely with those from Puerto Rico and the Virgin Islands. I refer them to the race described above as new.

Skinner and Williams, 1924, Trans. Amer. Ent. Soc., L, p. 156, state that drury (Latreille) is from the Antilles. I am unable to find any reference to the Antilles in Latreille’s original description but he states: "Cette espèce est très-voisine de l’H. Thaumas, & habite les mème contrées." The species referred to, thaumas (Fabricius) [= cernes (Boisduval and Le Conte)], is a common species of the eastern United States and Canada. Riley, 1926, Trans. Ent. Soc. London, LXXIV, p. 239, in his paper ‘On The Identity of Certain Hesperiidae Described by Latreille,’ considers otho (Smith and Abbot) and drury (Latreille) as synonymous. Godman, 1900, ‘Biol. Centr.-Amer.,’ Rhopal., II, p.
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482 considers *drury* (Latreille), *pustula* (Geyer), *otho* (Boisduval and Le Conte) (not Smith and Abbot) and *aetna* (Scudder) as synonymous, and also includes *egeremet* (Scudder). We have specimens in the Museum collection from Georgia that agree very well with Latreille’s description, and with the figures of Geyer, and Boisduval and Le Conte. I do not believe, however, that such intermediate specimens are worthy of a separate name. The synonymy of the nymotypical *otho* is given below.


**DISTRIBUTION.**—Southern and Gulf States to Mexico, Central America to Brazil. Specimens from the northeastern United States and southern Canada, and west to the Rocky Mountains, may be referred to the race *egeremet* (Scudder). The synonymy is:


The darkest race of *otho* is *misera* (Lucas), with only mere traces of fulvous on the wings. It occurs in Cuba, Isle of Pines and Bahamas. The synonymy is:


The smallest and brightest of the *otho* races is *vesuria* (Plötz), from Jamaica. It is very distinct, but it has been erroneously referred to Cuba and Hispaniola. The original reference is:


It seems quite remarkable that the species *otho*, with its extremely wide distribution, should apparently be replaced in the Lesser Antilles by the very distinct and beautiful species *ophites* Mabille [= *ravola* (Godman and Salvin)]. The Museum collection contains specimens from St. Kitts, Dominica, Martinique and St. Lucia.

Several names have been proposed for species from Central and South America, one or more of which may prove to be races of *otho*. 
Panoquina nero belli, new subspecies

MALE.—Ground color of all wings above dark brown, lightly overlaid basally with fulvous hairs. Primaries with the usual seven or eight hyaline spots. Fringes concolorous, lighter below Cu₄. Secondaries above, immaculate except for a barely perceptible trace of a narrow transverse band of diffuse scales, lighter than the ground color, and representing the band or stripe on the underside. Fringes whitish, basally light brown, concolorous at apex. Primaries below, the same as on the upper side but paler, blackish basally. Fringes concolorous, lighter below Cu₄. Secondaries below, brown, paler than on upper side, with a conspicuous post-discal white stripe, which commences before the apex and extends from Sc + R, to the fold below Cu₂. This stripe, consisting of contiguous quadrates white spots, shows a tendency to interruption at the veins, these being covered with pale yellow scales, at the stripe, and with white or whitish scales at Cu₂. Fringes whitish, basally fuscous, darker at apex.

FEMALE.—Above, nearly identical with male but having the ground color slightly darker. Below, nearly identical with male, but the ground color is rich brown, with a slight violet reflection, most noticeable at apex of primaries and outer margin of secondaries.

Head and thorax above greenish. Abdomen above dark brown, basally somewhat greenish. Palpi, second joint densely clothed with long pale yellowish, mixed with brownish scales, bright yellow before the eyes; third joint dark brown. Thorax below whitish. Abdomen below yellowish white with a ventral and lateral brown line. Legs fulvous above, whitish below. Antennae dark brown, their clubs below with basal half yellowish, this yellow scaling extending down the shaft; distal half of club and apiculus reddish.

Expanse of holotype male, 40.3 mm.; length of primary, 21.2 mm.
Expanse of allotype female, 44.4 mm.; length of primary, 24.4 mm.

TYPES.—Holotype, male, Aibonito, Puerto Rico, July 14–17, 1914 (author); allotype, female, Aibonito, Puerto Rico, July 14–17, 1914 (author). Paratypes, eight males and three females, from the following localities in Puerto Rico. Males: one, Adjuntas, June 8–13, 1915 (Lutz and Mutchler); one, Aibonito, July 14–17, 1914 (author); three, Naguabo, March 7–9, 1914 (Lutz); one, San Juan, Feb. 10, 1927 (Fraser); two, Dorado, March 26, 1930 (Forbes), collection Cornell University. Females: one, Ensenada, June 14–19, 1915 (Lutz and Mutchler); one, Tallaboa, June 23, 1914 (author); one, Dorado, March 26, 1930 (Forbes), collection Cornell University.

Types in the collection of The American Museum of Natural History except the three mentioned above in the collection of the Cornell University.

I take great pleasure in dedicating this subspecies to my friend Mr. E. L. Bell, and take this opportunity of expressing appreciation for his assistance.

HABITAT.—Puerto Rico.

RECORDS.—One, Adjuntas, P.R., June 9, 1915 (Gerould).
Remarks.—Butler, in his ‘Catalogue of Diurnal Lepidoptera Described by Fabricius,’ 1869, p. 275, lists under *Epargyreus nero* a specimen from Santo Domingo, which he considered to be the *nero* of Fabricius. He figures this specimen on Pl. ii, fig. 13. As Butler’s figure agrees quite well with the original description and with specimens from Haiti in the Museum collection, I follow Skinner and Williams in considering it as typical of *nero* (Fabricius). Should this species occur in St. Thomas, it may be that specimens from that island will agree better with the original description than do those from Hispaniola.

The Museum collection contains five specimens of the nymotypical race *nero* (Fabricius) from Haiti, which differ from the Porto Rican specimens, race *belli*, as follows. Ground color of upper side of all wings, a shade lighter brown, with a hint of gray in it. On the underside the ground color is gray-brown, distinctly grayer than in the Puerto Rican race. The stripe on the underside of the hind wings averages narrower than in race *belli*. In three individuals, this stripe agrees quite well with Butler’s figure, and in one of these it is distinctly interrupted, exactly agreeing with the Fabrician description, “striga interrupta alba.” The male genitalia of these two subspecies are nearly identical.

Type locality of *P. nero* (Fabricius).—West Indies.

Distribution of *P. nero nero* (Fabricius).—Hispaniola and ? St. Thomas, Virgin Islands. References to main land localities, it would seem, belong to other species.

A name appearing in the synonymy of West Indian *Panoguina* Hemming (*Prenes Scudder*) is *fufidia* (Hewitson). This was described from a specimen in the Staudinger collection, which probably came from a mainland locality. The Museum collections contain a single male from Mexico, which agrees closely with Draudt’s figure of *nero*, is “rufous-brown” beneath, and the white band on the underside of the secondaries begins with a “separate spot.” I tentatively place Draudt’s figure and the Mexican specimen as *fufidia* (Hewitson). The insect is more extensively overlaid with fulvous hairs on the upper side of the wings and the white band on the underside of the secondaries is subparallel with the outer margin, both of which characters are shown in Draudt’s figure, while in both races of *nero* it is transverse. The genitalia of the Mexican specimen are of the same type as those of *nero* but show good

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specific differences. I have no doubt as to its being a distinct species.

Godman,\(^1\) Pl. xcvi, fig. 7, figures a specimen from Chiriqui, as *Prenes nero* var. *corrupta* (Herrich-Schaeffer).\(^2\) The Cuban insect, *corrupta*, has a differently shaped transverse band and not one parallel with the outer margin as shown in the Godman figure. I believe this figure represents a distinct species but do not know what name may apply to it. Draudt, 1924, in Seitz’s ‘Macrolep.,’ V, Pl. clxxxiii, h, gives a good figure of *corrupta*. The latter hesperiid is so abundantly distinct from *nero* (Fabricius) that, even though their genitalia are very close, I have no hesitancy in considering them distinct species.

**Panoquina sylvicola woodruffi**, new subspecies

Males and females of the same size and shape as the Cuban *sylvicola* (Herrich-Schaeffer), and with the hyaline spots identical. Ground color of all wings of both sexes, above and below, distinctly lighter.

**MALE.**—Secondaries below with the spots whitish, rarely slightly tinted with blue, not distinctly greenish blue as in most Cuban specimens.

**FEMALE.**—Primaries below without the violaceous apical patch. Secondaries below with the spots whitish and lacking the greenish-violet area so distinct in *sylvicola*. An occasional female with the spots slightly bluish, and one specimen in our series with a very slight indication of the bluish area.

**TYPES.**—Holotype, male, Aibonito, Puerto Rico, July 14–17, 1914 (author); allotype, female, Naguabo, Puerto Rico, Jan. 19, 1914 (Crampton). Paratypes, eleven males and five females from the following localities in Puerto Rico and the Virgin Islands. Males: one, San Juan, Feb. 11–14, 1914 (Lutz) and three, July 9–12, 1914 (author); two, Coamo Springs, Dec. 26–29 (Crampton) and one, July 17–19, 1914 (author); one, Aibonito, July 14–17, 1914 (author); one, Barros, June 4, 1915 (Lutz and Mutchler); two, Charlotte Amalie, St. Thomas, Virgin Islands, Nov. 20, 1920 (Forbes), collection Cornell University. Females: two, San Juan, Feb. 11–14, 1914 (Lutz); one, Santurce, Jan. 8, 1914 (Crampton); one, Cayey, May 30–31, 1915 (Lutz and Mutchler); one, St. Thomas, Virgin Islands, Feb. 25, 1925 (Lutz).

Types in the collection of The American Museum of Natural History, with the exception of the two mentioned above in the collection of the Cornell University.

I take pleasure in dedicating this subspecies to Mr. L. B. Woodruff, who collected a number of Lepidoptera in Porto Rico.

**HABITAT.**—Puerto Rico; St. Thomas, St. John, Tortola, St. Croix, Virgin Islands; Hispaniola.


Specimens Collected.—In addition to the types, listed above, there are fifty-nine specimens from the following localities in Puerto Rico and the Virgin Islands, males and females, that owing to their condition are not included in the type series: San Juan, Cantaño, Santurce, Manatí, Arecibo, Mayagüez, Quebradillas, Guayanilla, Adjuntas, Coamo Springs, Cayey, Aibonito, Barros, Caguas, Luquillo National Forest; St. Thomas, St. John, Tortola, St. Croix, Virgin Islands. The dates of capture are from Jan. 1 to July 27 and Dec. 26–29. A very common species probably occurring everywhere on the island of Puerto Rico and flying throughout the year.

Records.—Guanica, Puerto Rico (Gerould); Rio Piedras, P.R., Feb. 11, 1927 (Fraser); Toa Baja, P.R., Jan. 31, 1915 (Garb), collection Cornell University.

Remarks.—The nymotypical race *Panoquina sylvicola sylvicola* (Herrich-Schaeffer) was described from Cuba. Its synonymy is as follows:

1923. *Prenes sylvicola* Herrich-Schaeffer—Skinner and Williams, Trans. Amer. Ent. Soc., XLIX, p. 150, Fig. 41 (male genitalia).
1924. *Prenes nero sylvicola* Herrich-Schaeffer—Draudt, in Seitz's 'Macrolep.,' V, p. 948, Pl. clxxxi, i.

Hewitson described *fusina* from "Amazon (Santarem)." Specimens in the Museum collection from Brazil and other parts of the mainland seem very close to *sylvicola*. If it is desirable to have a mainland race *fusina* Hewitson would be available.

Jamaican specimens are much closer to those from Cuba than they are to those from Puerto Rico and the Virgin Islands but they are here placed as *sylvicola*.

Material from Hispaniola, if not identical with, is very close to that from Puerto Rico and is here placed as *woodruffi*.

The Museum collection also contains specimens from St. Kitts, Antigua, Guadeloupe and Dominica. These match quite closely those from Jamaica, and are here, at least for the present, considered together with specimens recorded from the other islands, listed below, as belonging to the race *sylvicola*.
Distribution of *P. s. sylvicola* (Herrich-Schaeffer).—Cuba, Isle of Pines, Grand Cayman, Jamaica, St. Kitts (Brown and Huntington), Antigua, Guadeloupe (Brown and Huntington), Dominica, Martinique, St. Vincent, Grenada; Florida, Mexico, Central and South America to Brazil.

This common neotropical hesperid is the *Prenes nero* of various authors. *P. nero fufidia* Draudt (not Hewitson), *op. cit.*, is apparently the same as the race occurring in Puerto Rico, to which I have applied the name *woodruffi*. His figure, Pl. cLxxxiii, i, agrees quite well with specimens from Puerto Rico, but the average specimen from the island has the spots on the hind wing below somewhat more punctiform.

The genitalia of *sylvicola* and *woodruffi* are identical.

**Rhinthon bushi**, new species

**Male.**—Upper side of all wings dark brown. Primaries with three pale yellow subapical spots, the upper being elongate and the second very small. The primaries have also four large more or less quadrate semi-hyaline yellowish-white spots situated as follows: a subquadrate spot extends nearly across the cell at about 3/4 from base to end of cell; a second quadrate spot, the smallest of the series, between veins M₁ and Cu₁; a third, subquadrate and the largest, between Cu₁ and Cu₂; the fourth spot lies on A₁ and is wider than high. Spots 2 to 4 form a postdiscal series. The primaries have an overlaying of dark fulvous hairs and scales in the basal area. Fringes dark brown, orange at anal angle. Secondaries, immaculate, with reddish-brown hairs in the basal area. Fringes as in primaries.

Underside of all wings a paler and warmer brown. Costal and costo-apical areas dark fulvous. Basal area blackish. Inner marginal area fuscous. A large apical patch of diffused greenish-yellow scales, those above the apex being whitish. The spots of the upper side repeated but the third post-discal spot on A₁ is white. The cell spot has above it 3 bright greenish-yellow streaks. A fourth subapical spot of bright greenish-yellow appears above the 3 mentioned followed by a small streak toward the apex and a second above it of the same color. Secondaries with 5 spots. A small nearly round orange spot at base of interspace Sc + R₁–R₂. A large irregular white spot in the cell more or less ringed with orange scales distal of which is a second small nearly round orange spot. Below this a silvery-white elliptical spot in the base of interspace Cu₁–A₁. A large nearly elliptical spot of silvery-white lies below the one just mentioned. These three large discal spots are contiguous and form a large irregular spot basad of the center of the wing.

Above, the palpi, head and patagia are bright green, shining, mixed with dark fulvous hairs. Tegulae, brown with some greenish hairs. Thorax denuded. Abdomen dark brown. Beneath, palpi bright dark orange with a few bright shining green scales. Thorax and base of abdomen bright green. Remainder of abdomen brown with some dark fulvous hairs. Legs dark fulvous, femurs with green hairs. Antennae, above, dark brown, clubs black with a few scattered dark fulvous scales at the base. Below, dark brown, club, orange.

Expanse, 34.4 mm.; length of primary, 18 mm.

Named for my friend Mr. Wm. M. Bush who donated the single specimen captured to this Museum.

A beautiful species unlike any species of Rhinthon known to me, differing, among other characters, in having large silvery-white spots on the underside of the secondaries.

There is but one other species of Rhinthon from the West Indies, namely, R. thermae Kaye¹ from Jamaica. The species described above as new has an additional post-discal spot on the primaries, on A₂, and the large silvery-white spots on the underside of the secondaries not found in thermae.

Godmania² borincona, new species

FEMALE.—Upper side of all wings dark brown. Primaries with a yellow transverse discal fascia, divided by the veins into spots, extending from M₂ to A₂. The spot between Cu₂ and A₂ geminate, the one between Cu₁ and Cu₂ the largest and sub-quadrate. These spots are dusted over with ferruginous scales, giving the band an orange tint, the first and last spots being somewhat ferruginous. Some ferruginous scales at the base, in the cell, and along inner margin. Subapical streaks ferruginous, more or less obsolete. Fringes nearly concolorous with ground color of wing, paler below Cu₂.

Hind wings above, immaculate, overlaid with ferruginous hairs and scales, except for the costo-marginal area, and outer and inner margins. Fringes paler than ground color of wings, and with some pale fulvous scales.

Primaries below, similar to upper side, paler, darker at base. Discal band paler, larger, only narrowly cut by the veins. The band, here, stands almost vertical to the inner margin and its outer edge is subparallel with the outer margin. The last spot of the band, largest, not geminate, pale yellow; spots above dusted over with ferruginous, the two upper spots being somewhat ferruginous. Subapical streaks absent. Costal area to and around end of cell, and in distal end of cell, heavily overlaid with ferruginous scales. A dusting of these scales in the apical area. Fringes similar to those on upper side but with some ferruginous scales apically.

Secondaries below, unicolorous dull brown, paler than on upper side, dusted over with ferruginous scales, most pronounced and forming streaks in the interspaces Cu₁–A₂ and A₂–A₃. Fringes similar to those on upper side.

Head and thorax above, green; abdomen above, dark brown; palpi, green. Thorax below, pale greenish. Legs above, ferruginous; below, greenish white. Antenna, blackish; base of club, ferruginous; club below, yellow, this yellow scaling extending down the shaft.

Expanse, 30.7 mm.; length of primary, 16.5 mm.

Types.—Holotype, female, Adjuntas, Puerto Rico, June 11, 1915 (Lutz and Mutchler), apparently a fresh specimen when captured. Paratypes, two females, from the following localities in Puerto Rico. San Juan, Feb. 8, 1927 (Fraser) and Dorado, March 26, 1930 (Forbes), collection Cornell University.

The paratypes are larger than the holotype, especially the specimen from San Juan, which is quite robust and has an expanse of 40 mm.

Types in the collection of The American Museum of Natural History, with the exception of the one mentioned above in the collection of Cornell University.

Habitat.—Porto Rico.

Records.—Two females collected by Krug and recorded without definite locality by Dewitz, 1877, Ent. Zeit., XXXVIII, p. 243, Pl. 1, fig. 5.

Remarks.—This species is superficially close to G. silius (Latreille), (Hesperia), 1823, ‘Enc. Méth.,’ IX, p. 764. The Museum collection contains a male specimen from Brazil (Hy. Edwards collection), which agrees closely with the original description, and which I believe to be the silius of Latreille. It differs from the Porto Rican insect, besides minor details, in having the transverse band reddish, the head and thorax above brown, palpi and thorax below, fulvous. These parts are green in borincona. Although a smaller insect, the specimen from Brazil has longer antennae than the one from Porto Rico. Latreille described silius from a female from Brazil. Riley, 1926, p. 238, states, “Type missing.”

Dewitz, op. cit., rather doubtfully refers his two Porto Rican females to silius and mentions the redder bands on the front wings on his four male specimens from “Rio.”

Under Cymaenes silius (Latreille), Godman, 1901, p. 596, Pl. ciii, figs. 4–6, expresses doubt in referring his Central American insect to that species. He had specimens from Brazil which agreed with Latreille’s description. Riley, op. cit., refers the above figures to the Mexican form. These figures do not agree well with the original description of silius and seem to the author to represent a different species. They represent, at any rate, an insect quite different from the Brazilian specimen that I refer to silius Latreille.

The Porto Rican species, described here as new, is totally distinct from the small, dark Cuban malitiosa (Herrich-Schaeffer), of which species the Museum collection contains a series of both sexes.