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NEW SPECIES AND SUBSPECIES OF NEOTROPICAL HESPERIIDAE (LEPIDOPTERA, RHOPALOCERA)

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The specimens from which the following descriptions are made are all contained in the collection of the American Museum of Natural History.

Where reference is made to the venation of the wings by number, it follows the English system of numbering the veins of each wing from the lowest vein upward.

The measurements of wing expanse are twice the distance from the center of the thorax to the apex of one primary wing.

Pyrrhopyge evansi, new species

MALE

The upper side of both wings is bluish or greenish black, the under side black with a bluish or greenish sheen. The secondaries have a white basal band of variable width but usually narrow. The fringes of both wings are white on both sides, those of the primaries darkened at and just before the apex, those of the secondaries darkened at the outer angle.

The head, collar, palpi, and anal tuft are red. There is a round black spot in the center of the front of the head and a short black stripe in front of each antenna. The pectus is blue black. The antennae are black.

EXPANSE: 54 to 60 mm.

TYPE MATERIAL: The holotype male is from Muzo, Colombia. Paratypes: eight males, three of which are from Colombia, four from the Canal Zone, Panama, one each from Corozal, Fort Sherman, Ancon and Gatun Lake, and one from French Guiana.

This species is named for Brigadier William H. Evans of the British Museum who has done so much valuable work with the Hesperiidae.

It is this species that was long considered to be *Pyrrhopyge phidias* Linnaeus until Evans (1940, p. 405) proved that the species of Linnaeus is another insect without the white basal band on the under side of the secondaries.

Pyrrhopyge sergius bolius, new subspecies

MALE AND FEMALE

This subspecies differs from *Pyrrhopyge sergius sergius* Hopffer from Peru in the entire absence of the bluish white marginal band on the underside of the secondaries.

EXPANSE: Male, 54 mm.; female, 64 mm.

TYPE MATERIAL: The holotype male bears the label "R. Chimato, Boliv. Apr. 12 26, 1900 f.," and the allotype female bears the label "Buenavista, Dept. of Santa Cruz, Bolivia, 400 meters." Paratypes: two males with the same locality data as the holotype.

The male genitalia are the same as those of *Pyrrhopyge sergius sergius* Hopffer. Inasmuch as several species of *Pyrrhopyge* appear in superficially identical, or nearly identical, forms, so that it is impossible to formulate external characters that will always accurately separate them, recourse will have to be made to an examination of the male genitalia to identify them.

Pyrrhopyge sergius ganus, new subspecies

MALE

This subspecies differs from *Pyrrhopyge sergius sergius* Hopffer in the extreme reduction of the bluish white marginal band on the under side of the secondaries. In typical *sergius* from Peru the marginal band is several millimeters wide in the

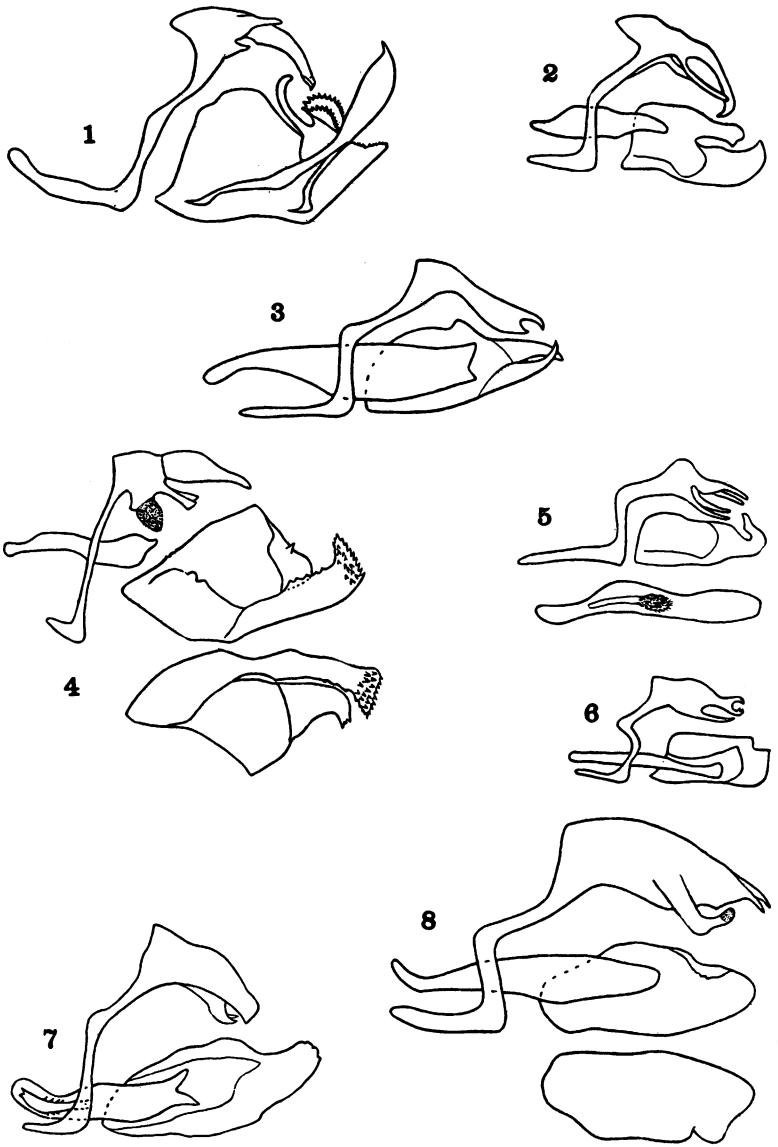

Fig. 1. Male genitalia, *Pyrrhopyge excelsus.*
Fig. 2. Idem, *Quadrus eboneus.*
Fig 3. Idem, *Mnestheus lotus.*
Fig. 4. Idem, *Eracon zita.*
Fig. 5. Idem, *Euroto campo.*
Fig. 6. Idem, *Artines montes.*
Fig. 7. Idem, *Eutocus bocus.*
Fig 8. Idem, *Perichares zikani.*

widest part, and in the specimen from British Guiana here described it is barely 1 mm. wide.

EXPANSE: 58 mm.

TYPE MATERIAL: The holotype male is labeled "British Guiana."

The male genitalia are the same as those of *Pyrrhopyge sergius sergius* Hopffer except that there is a noticeable swelling in the basal half of the long rod-like flanges that project forward from the base of the uncus.

Pyrrhopyge amythaon peron, new subspecies

This subspecies differs from *Pyrrhopyge amythaon amythaon* Bell in having a white basal band on the under side of the secondaries. The white band is usually moderately broad and regular in formation but in one specimen (the Bolivian paratype) it starts with a small spot above vein 8 and is less broad and a little irregular.

EXPANSE: Male, 54 to 62 mm.; female, 64 mm.

TYPE MATERIAL: The holotype male and allotype female are from Iquitos, Peru. Paratypes: five males, one each from Iquitos, Peru, northeastern Peru, and Yumbatos, Peru, one from Colombia, and one from "R. Chimato, Bolivia, April 12 26, 1900 f."

The only specimen of *Pyrrhopyge amythaon amythaon* Bell we have seen is the holotype male from Pernambuco, Brazil, which has the under side of the secondaries entirely lacking the white band. Pernambuco, Brazil, is located on the eastern side of South America, and all of our specimens of the subspecies *peron* are from the western side of the continent. The male genitalia of *amythaon peron* are the same as those of *amythaon amythaon*.

Pyrrhopyge rileyi orientis, new subspecies

MALE AND FEMALE

This subspecies differs from *Pyrrhopyge rileyi rileyi* Bell in having a broad, bluish white marginal area on the upper side of the secondaries and a very broad basal area of the same color on the under side of these wings and in having a black collar. Typical *rileyi* has no white area on either side of the secondaries, and the collar is carmine.

The bluish white areas of the secondaries of *orientis* are of the same form as that found in the insect Hübner described as *Pyrrhopyge hyperici*.

EXPANSE: Both sexes, 54 mm.

TYPE MATERIAL: The holotype male and the allotype female are from Pará, Brazil.

The male genitalia are the same as those of *Pyrrhopyge rileyi rileyi* Bell.

Pyrrhopyge draudti lina, new subspecies

MALE AND FEMALE

This subspecies differs from *Pyrrhopyge draudti draudti* Bell in having a bluish white marginal area on the upper side of the secondaries and a very broad basal area of the same color on the under side of these wings. These bluish white areas are of the same general form as those found in the insect which was described by Hübner as *Pyrrhopyge hyperici*.

EXPANSE: Male, 44 mm.; female, 54 mm.

TYPE MATERIAL: The holotype male and the allotype female are from Pará, Brazil.

This subspecies is named for Miss Lina Sordillo of the American Museum of Natural History.

The male genitalia are the same as those of *Pyrrhopyge draudti draudti* Bell.

Evans (1941, p. 21) has noted that several species of *Pyrrhopyge* occur in the *hyperici* form of maculation in the Pará region of Brazil.

Pyrrhopyge excelsus, new species

Figure 1

MALE

The upper side of both wings is shining greenish black. The fringes of the primaries are white. At the anal angle of the secondaries the fringes are red, and there is a narrow border of this color on the wings themselves, as far as vein 2; above this point the fringes are white.

On the under side the wings are the same color as above; the inner margin of the primaries is a little paler. At the anal angle of the secondaries the narrow red border of the wings is of a paler shade.

The thorax and the abdomen are greenish black on both sides. The anal tuft is brown. The head is black with white spots before and behind the eyes. The collar is black with a thin white line. The patagia and the tegulae are greenish black. On the under side the palpi are brown at the base, becoming darker at the apex and with a slight bluish reflection. The pectus is greenish black. The antennae are black. The legs are dark brown with a bluish reflection.

EXPANSE: 58 mm.

TYPE MATERIAL: The holotype male is from Londrina, State of Paraná, Brazil.

In superficial appearance *excelsus* resembles *Pyrrhopyge agenoria* Hewitson and *styx* Möschler but differs from both of these species in lacking any red on the head or anterior part of the body, in having more extensive red fringes at the anal angle of the secondaries, and less red on the wings themselves.

The form of the male genitalia is very different from that usually found in the group of *Pyrrhopyge* to which *excelsus* seems to belong on the superficial characters. The uncus is long and tapering, with a short, rounded flange from the base on each side. The claspers are symmetrical, and they are sharply slanted upward a little beyond the outer half of the ventral edge and terminate in a pointed apex. On the dorsal edge from the apex to a short distance behind it there are numerous short serrations, and then there rises a broad lobe with larger serrations; immediately behind this lobe rises a long, slender arm, curved forward. On the inner side of the claspers is a long arm which extends upward far above the dorsal edge, passing it at a point between the apex of the claspers and the serrated lobe behind it. From its base this arm rapidly narrows in width to about the dorsal edge of the claspers and then widens again, and at the apex terminates in a short, sharply pointed hook.

Eracon zita, new species

Figure 4

MALE

The upper side of both wings is brown; the fringes are concolorous. The primaries have a large dark brown spot near the end of the cell and a small one immediately beneath it, a discal band of irregular dark brown spots from the costal margin, curving around the end of the cell, to the inner margin, and a submarginal band of smaller dark brown spots. The two bands nearly merge opposite the end of the cell. There is a scattered overscaling of sordid whitish.

The secondaries have submarginal, discal, and subbasal bands of dark brown spots and two other spots of the same color, one basal and the other below the end of the cell where it nearly connects the discal and subbasal bands.

On the under side the wings are a little paler brown than above. The inner margin of the primaries is paler than the rest of the wings; the bands of the upper side are repeated but somewhat less defined.

The secondaries have the dark bands of the upper side repeated but they are narrower and paler, the basal spot is absent, and the discal and subbasal bands are not nearly connected below the cell. From vein 7, widening downward, there is an overscaling of bluish white, heaviest at the anal angle, and in the end of the cell where they accumulate to form a bar. The abdominal fold has long bluish white hairs.

On the upper side the head is brown with a few whitish scales intermixed in the front; the thorax and abdomen are brown. On the under side the thorax and abdomen are bluish gray; the palpi have white, bluish, and brown scales intermixed; the legs are brown with some bluish hairs. The antennae are black on the upper side and are paler on the under side, with the club yellowish brown and the apiculus reddish at the side.

There is no costal fold on the primaries, no hair tuft on the base of the secondaries, and no hair tuft on the hind tibiae.

EXPANSE: 38 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo

Bello, State of Rio de Janeiro, Brazil (J. F. Zikan).

In superficial appearance *zita* resembles *Eracon duidae* Bell, but it is slightly larger and has the bluish white overscaling on the under side of the secondaries which *duidae* lacks. The form of the male genitalia is very similar in the two species but the details differ sufficiently to separate them. As is the case with *duidae* it is not certain that *zita* is strictly congeneric with the type of *Eracon*.

Quadrus eboneus, new species

Figure 2

MALE

The upper side of both wings is black and the fringes are concolorous.

The under side of the wings is dark brown and paler toward the outer margin. The primaries have an indication of a subapical spot in interspace 8. The secondaries have a pale bar across the end of the cell. The fringes of both wings are black.

The upper side of the head, thorax, and abdomen is black. There is a narrow yellow line before the palpi. The under side of the thorax and abdomen is dark brown; the palpi are brown with sordid yellowish scales intermixed. The antennae are black on both sides; the club is yellow brown beneath. The legs are brown, the hind tibiae with a hair tuft and presumably two pairs of spurs, but only one of the upper pair is visible and that one is small.

EXPANSE: 38 mm.

TYPE MATERIAL: The holotype male is from Ojo de Agua, Vera Cruz, Mexico, June 12, 1941 (F. M. Brown).

This entirely dark-colored species will not likely be confused with any of the present members of the genus. The form of the male genitalia is very similar to that of *Quadrus zera* Butler, but in superficial appearance the two species have nothing in common.

Euroto campo, new species

Figure 5

MALE

The upper side of both wings is brown. The primaries have a discal band of three spots and one minute subapical spot. The discal band is composed of a very small, pale yellow spot a little beyond the center of vein 1; a white hyaline, quadrate spot a little excavate on the outer side, in interspace 2; a smaller white hyaline, quadrate spot in interspace 3. The fringes are brown, slightly paler at the tips. The stigma is a short triangular patch in the base of interspace 2 and an inconspicuous, short, horizontal bar beneath it below vein 2.

The secondaries have a faint trace of a discal band of small spots. The fringes are as on the primaries.

The under side of both wings is brown, paler than on the upper side. The primaries have the apical and upper half of the outer marginal areas suffused with pale violet. The veins crossing the violet area are very pale. The subapical spot and discal spots are repeated.

The under side of the secondaries, except the abdominal fold, are entirely suffused with pale violet and the veins are still paler. There is a discal band of four small, ill-defined, white spots in interspaces 2 to 4 and 6, the two lower spots the larger, the two upper spots barely visible.

The upper side of the head, thorax, and abdomen is brown with some fulvous hairs intermixed on the head and the top of the palpi. There is a reddish spot at the side of the eyes. On the under side the palpi are gray and brown intermixed, the pectus and thorax are grayish white, the abdomen is gray with some brown intermixed and with a brown central line. The antennae are black on both sides; the club on the under side is paler at the base.

FEMALE

Similar to the male. On the upper side of the primaries there is no subapical spot visible; the spots of the discal band are a little larger than in the male, that in interspace 2 inwardly angled. The secondaries have the lower two spots of the discal band a little plainer than in the male.

On the under side of the primaries the violet suffusion is a little more extensive, and the veins in the apical area are pale brownish. On the secondaries the veins are sordid white and strongly contrast with

the violet suffusion. The discal band consists of six white spots in interspaces 1 to 6, those in interspaces 1 and 5 being very minute; the other four spots are a little larger than those of the male.

EXPANSE: Male, 34 mm.; female, 38 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo Bello, State of Rio de Janeiro, Brazil, and the allotype female is from the same locality (J. F. Zikan).

The hyaline spots of the primaries are much larger than those of *Euroto compta* Butler or *micythus* Godman and more quadrate than those of *sylvia* Kaye. In the male genitalia the termination of the claspers is quite different from that found in other closely allied species of the genus.

Eutocus bocus, new species

Figure 7

MALE

The upper side of both wings is brown, the fringes are slightly paler. The primaries have a conspicuous sagittate stigma in the base of interspace 2.

The under side of the primaries is rufous brown; there is an outer marginal band of small dark dots between the veins and a submarginal band of similar dots as far down as just below vein 3. There is reddish fulvous scaling on the costal margin and on the outer margin down to vein 5.

The under side of the secondaries is rufous brown. There is an irregular, paler central spot which extends from the abdominal fold to vein 8, an irregular subbasal dark area, the base itself pale; outwardly from the pale central spot is a curved band of broad dark spots with paler centers extending from the abdominal fold to vein 8 and each spot as wide as the interspace in which it lies; this band is followed outwardly by another pale area and a marginal band of dark dots.

The upper side of the head, thorax, and abdomen is brown. On the under side the palpi, pectus, and thorax are brown intermixed with fulvous; the abdomen is brown intermixed with paler hairs. The antennae are black on both sides, lightly spotted with paler color on the under side; the club, and just below it, is yellow brown.

EXPANSE: Male, 38 mm.; female, 40 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo Bello, State of Rio de Janeiro, Brazil, and the allotype female is from the same locality. Paratype: one female from the same locality as the type and allotype (J. F. Zikan).

The larger size of this species distinguishes it from the other present members of the genus.

Artines montes, new species

Figure 6

MALE

The upper side of the primaries is dark brown; the costal margin except at the apex, the base of the wings, and the inner marginal half are fulvous. There are four fulvous subapical spots, that in interspace 8 very small, that in interspace 7 a little larger, that in interspace 6 the largest, that in interspace 5 very small. There is a discal band of four fulvous spots, that in interspace 1 a long narrow streak, that in interspace 2 semihyaline, elongate, and angled to a point inwardly, that in interspace 3 semihyaline, an elongate triangle, that in interspace 4 a narrow streak. The fringes are brown and whitish at the tips. There is a sagittate stigma filling all of the base of interspace 2 to the spot of the discal band.

The secondaries are dark brown. There is a broad fulvous discal area cut into four spots by the black veins. There are long fulvous hairs at the base of the wings and along the abdominal fold. The fringes are fulvous at the anal angle and above there are brown with paler tips. There is a long black hair tuft in the abdominal fold.

On the under side the primaries are fulvous in the upper part of the cell, on the costal margin, and in the apical area; the rest of the wings is black. The two larger subapical spots are repeated, and there is an indication of the one in interspace 5. The discal spots in interspaces 2 to 4 are repeated, and in the paratype there is a small fulvous streak in the cell just behind the spot in interspace 2.

The under side of the secondaries is pale fulvous brownish. There is a yellow central area corresponding to the fulvous discal area of the upper side, but it is not divided into spots by the veins. Just outside the end of the cell is a small black spot and in some individuals indications of another one in the end of the cell. There is a submarginal band of from four to five small dots which are either black or dark fulvous brown; they are ill defined and sometimes tend to be elongated outwardly toward the margin of the wings. The abdominal fold is blackish brown.

The top of the head, thorax, and abdomen is fulvous and fulvous brown intermixed. On the under side the palpi are fulvous and fulvous brown intermixed, the thorax is fulvous, the abdomen is fulvous with a dark central line. The antennae are black on both sides, spotted with fulvous brown on the under side.

FEMALE

Similar to the male but with less fulvous on the primaries.

EXPANSE: Male, 26 to 28 mm.; female, 26 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo Bello, State of Rio de Janeiro, Brazil, and the allotype female is from the same locality. Paratype: one male from the same locality as the type and allotype (J. F. Zikan).

This species is most nearly related to *Artines perpulcher* Hayward and *Apaustus argynnis* Plötz and has the same form of stigma on the primaries and hair tuft on the secondaries as they have, but it is readily distinguished by the details of the maculation. Other species having a somewhat similar superficial appearance to *montes* are *Artines fastus* Hayward, *Padraona argus* Draudt, and *Apaustus odilia* Plötz, but these three species lack the hair tuft on the secondaries. It is probable that *montes* is not strictly congeneric with the type of *Artines*, but for the time being it is placed in that genus where some of the other species mentioned above have been placed by previous authors.

Mnestheus lotus, new species

Figure 3

MALE

The primaries on the upper side are dark brown at the apex and have a broad outer marginal band, a stripe in the cell which widens from the base outward, a dash below the cell in interspaces 4 and 5 and reaching the marginal band in interspace 5 but not in 4, a stripe below the cell in interspace 1 extending to the rise of vein 2 where it is divided into two short arms, the upper arm extending into interspace 2, all of which are dark brown. The rest of the wings are fulvous, and this color cuts a small notch into the dark brown stripe in the cell just behind the base of interspace 3. The fringes are dark brown with fulvous at the tips. There is no visible stigma.

The secondaries have a broad, irregular, fulvous discal band which extends to the base of the wings in a narrow stripe, and there is another fulvous stripe along the edge of the abdominal fold. There may be two small black dashes in the fulvous discal band, or these may be absent. The costal and outer margins and the abdominal fold are dark brown. The fringes are as on the primaries.

On the under side the primaries are fulvous with the costal, outer margin narrowly, and the lower half of the extreme base, dark brown. There is a submarginal band of elongate spots in each interspace from 1 to 8, two contiguous stripes outward from the end of the cell, four short stripes above the end of the cell, two small stripes about the lower center of the cell, a long, slightly downward-curved stripe in interspace 1 from the base, and a small spot in interspace 2 near the base, all of which are dark brown. The fringes are as on the upper side but crossed by dark brown at the end of the veins.

The secondaries are dark brown on the under side. All of the veins are broadly margined with fulvous which cuts the dark brown ground color into three series of elongate spots, forming submarginal, discal, and basal bands. Two of these dark brown spots are extremely long, one above

vein 8 extends from the base of the wings almost to the outer margin, the other one from near the base of the wings entirely through the cell and most of interspace 5 where it is but narrowly separated from the submarginal band. The fulvous area between the submarginal and discal bands of dark brown spots appears as an angled band of fulvous spots extending from the abdominal fold to vein 8, behind which there is a small fulvous spot near the end of the cell. The costal and outer margins are narrowly dark brown. The abdominal fold is dark brown sprinkled with fulvous scales. The fringes are as on the upper side.

On the upper side the head, thorax, and abdomen are fulvous, the abdomen ringed with dark brown. The third joint of the palpi is erect, very long, slender, and sharply pointed. On the under side the palpi, pectus, thorax, and abdomen are fulvous. The antennae are black on both sides, the under side spotted with fulvous, the club fulvous.

EXPANSE: 22 to 24 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo Bello, State of Rio de Janeiro, Brazil. Paratypes: three males from the same locality (J. F. Zikan).

Although *lotus* lacks the usual stigma found on the primaries of other members of the genus *Mnestheus*, it seems to be closely allied to them.

Perichares zikani, new species

Figure 8

MALE

The upper side of the primaries is brown, and the base of the wings below the cell is covered with long metallic blue hairs. There are five semihyaline yellow spots; one in the apex of the cell is comma-shaped with the tail of the comma directed inwardly; the other four form a discal band of which two spots are in interspace 1, one of them is triangular and lies on vein 1 and the other one is a narrow stripe outwardly above it slanting downward from vein 2; the third spot is large and irregular in shape and extends across interspace 2; the fourth spot is in interspace 3 and is taller than wide. There is also a very small yellow spot between the cell spot and the costal margin. The fringes are concolorous. There is no stigma.

The secondaries are brown and have long metallic blue hairs on the base of the wings and along the abdominal fold. The fringes are yellowish white.

The under side of both wings is brown. The primaries are paler in the apical area and along the inner margin. The spots of the upper side are repeated, the spot on vein 1 is larger, and the spot above the cell spot fills all of the space to the costal margin. The secondaries have bluish hairs in the basal area and a narrow yellow marginal band from the outer angle almost to vein 1, widest at the outer angle and narrowing downward.

The top of the head, thorax, and abdomen is brown, the head with a faint bluish tinge and the tegulae with a more pronounced bluish tinge according to the angle of light in which it is seen, and there is some bluish hairing at the base of the abdomen. On the under side the palpi and pectus are gray brown, the thorax is brown with a bluish or greenish reflection, the abdomen is brown. The antennae are black on both sides, the club is fulvous beneath.

FEMALE

The wings are of a little darker brown ground color. The primaries have the same number of spots as the male, a little paler yellow and smaller except the spot in the upper part of interspace 1 which is a little larger; the cell spot is more U-shaped with the two arms pointing inwardly. In this sex the spots of the primaries form a band which appears to run from the costal margin toward the inner angle, whereas in the male the band appears to run from vein 1 toward the apex of the wings.

On the under side the apical area of the primaries is covered with small lilacine scales except on the outer margin. On the secondaries the outer marginal yellow band reaches to just below vein 1. Otherwise similar to the male.

EXPANSE: Male and female, 46 mm.

TYPE MATERIAL: The holotype male is from the Itatiaya Mountains, Campo Bello, State of Rio de Janeiro, Brazil, and the allotype female is from Londrina, State of Paraná, Brazil. Paratype: one female from Londrina, State of Paraná, Brazil (J. F. Zikan).

This handsome species is named for Prof. J. F. Zikan of Campo Bello, State of Rio de Janeiro, Brazil.

In superficial appearance *zikani* somewhat resembles *Perichares triplaga* Schaus, but the male of that species has only three semihyaline yellow spots in the band of the primaries and they are of a different shape, the fringes of these wings are yellow from just above vein 2 to the inner angle, and there is a stigma, and the under side of both wings is of a different color.

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