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DESCRIPTIONS OF NEW NEOTROPICAL HESPERIIDAE

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Throughout the past 20 years, I have by collecting, trade and limited purchase, acquired a number of specimens of neotropical Hesperiidae which I believe are unnamed. A new subspecies of the Pyrrhopyginae was described previously (Nicolay & Small, 1969); eight species of the Pyrginae and Hesperiinae are herein described as new.

The descriptions utilize the English system of numbered veins and interspace identification found in Evans' works. Wing measurements are from base to apex. Unless of specific importance, generic characters are omitted from the descriptions of new species. Lengthy descriptions of the male genitalia are omitted, for each is shown in lateral view with the left valva removed, the aedeagus in place and the inner surface of the right valva figured. Notable differences from other species in the genus are discussed where appropriate and helpful. All line drawings were made by the author.

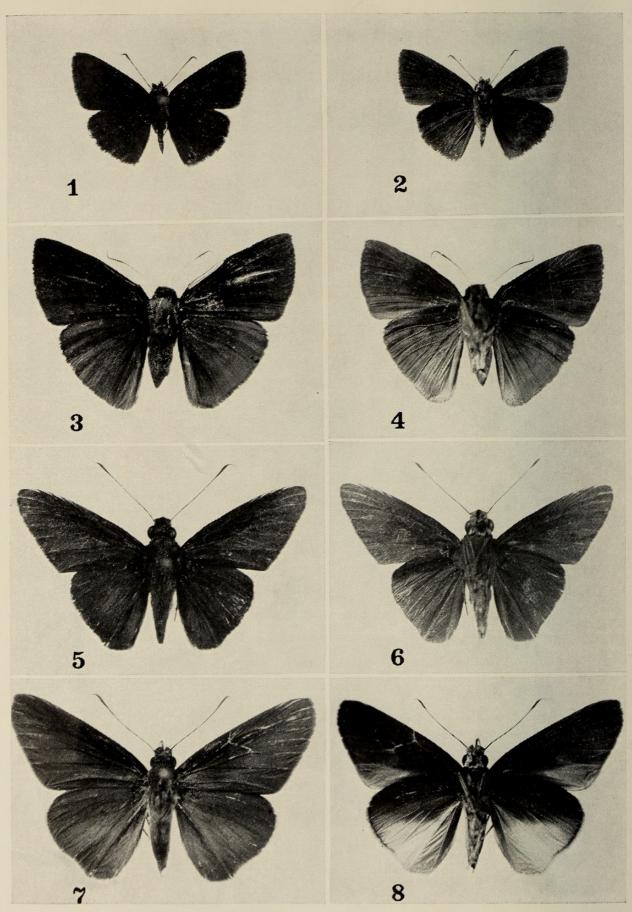
Ouleus dilla baru Nicolay, new subspecies

Figs. 1, 2, 9, 9a

Male: Length of forewing, 15 mm. Upperside: both wings very dark brown, with faint, vague post discal band on forewing; a post basal and post discal band on the hindwing. Underside: dark brown; faint bands of upperside repeated on both wings. Female: Unknown.

Holotype male, Potrerillos, 1100 m., Chiriqui Province, Republic of Panama, 14 February 1970, S. S. Nicolay, collector. Holotype will be deposited in the American Museum of Natural History, New York, New York.

O. dilla was recently named by Evans (1953) from two specimens collected in Ecuador in 1896. The subspecies baru differs from the nominate form in having a completely dark brown hindwing beneath; dilla is white on the dorsal half of this wing. O. d. baru looks almost exactly like O. fridericus salvina and some dark specimens of O. f.



Figs. 1-8. New Neotropical Hesperiidae (Pyrginae and Hesperiinae): (1, 2) Ouleus dilla baru Nicolay, upper and underside, holotype male, Potrerillos, Chiriqui Province, Panama, 1100 m., 14 February 1970; (3, 4) Tosta sapasoa Nicolay, upper and underside, holotype male, Sapasoa, Rio Huallaga, 500 m., San Martin,

4

fridericus and the very dark, unmarked O. calavius. The male genitalia of all are quite distinct, yet it is only with the most careful scrutiny that adults may be separated. Field collecting provides additional challenges, for many of the species of Ouleus look exactly like species of the genus Staphylus that occupy the same habitats, and fly in much the same manner.

Tosta sapasoa Nicolay, new species

Figs. 3, 4, 10, 10a

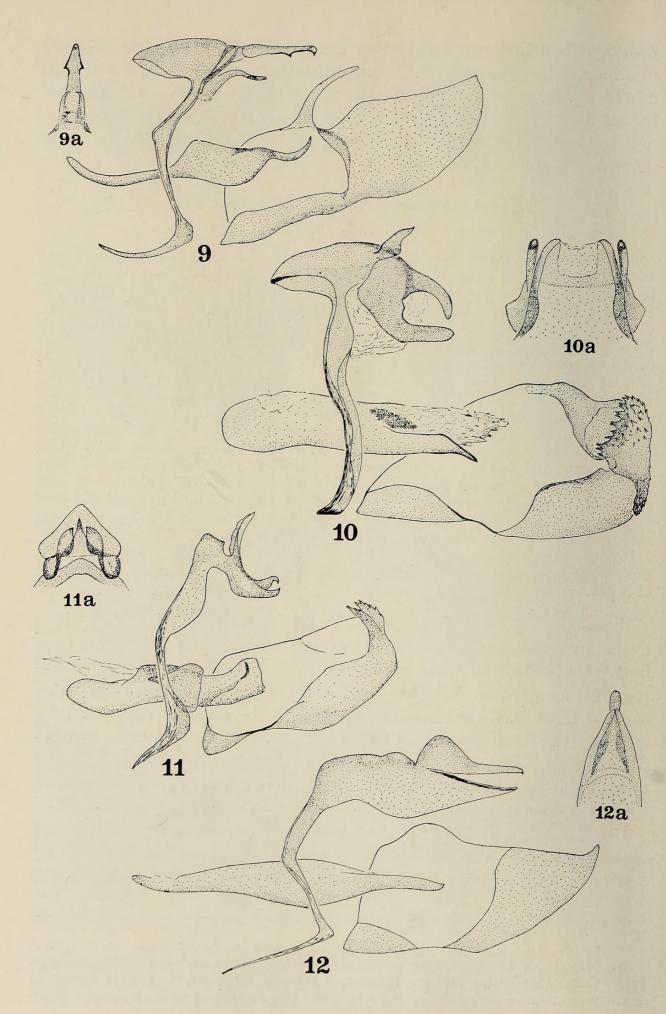
Male: Length of forewing, 20 mm. Upperside: forewing brown, shaded and vaguely formed into areas of different intensity; basal two-thirds dark chocolate brown, outer third a paler brown; with a pronounced white-centered costal fold. Hindwing lighter brown, base darkened by heavy concentration of dark brown hairs; vague, narrow, brown discal and central bands, fading into ground color at tornus. All wings with a very faint purple cast; fringes brown. Underside: forewing base dark brown from costal margin to interspace 1b, the color formed by a heavy concentration of dense, short hairs; remainder of wing paler brown; fringes brown. Hindwing fulvous-brown, base darker; irregular discal and central bands of upper surface repeated, appearing more obvious due to lighter ground color; basal half of interspace 1c and adjoining cell area densely covered by long, grey hairs; interspace 1 and 1b heavily scaled in a mixture of light brown and grey scales, paler along inner margin and tornus; a light submarginal line of grey scaling continued from tornus along outer margin through interspace 3; fringes brown. Palpi below with a mixture of grey and brown hairs; above head and palpi black, thorax and abdomen dark brown; below abdomen light grey, with a single ventral black stripe. Antennae uniformly shining black above and below; nudum 21. Female: Unknown.

Holotype male, Sapasoa, 500 m., Rio Huallaga, San Martin, Peru, May 1954, Felix Wytkowski, collector. The holotype will be deposited in the American Museum of Natural History, New York, New York.

Evans (1953) erected the genus *Tosta* for a group of species allied to the genera *Anastrus* and *Achlyodes*, yet with marked differences from both. Certainly, the male genitalia of *T. sapasoa* bear a superficial resemblance to some *Achlyodes* and *Anastrus* species. Unlike the latter, *sapasoa* has a well developed costal fold in the male; it does not have a hair tuft on the hind tibia, nor the associated thoracic pouch. In wing pattern *sapasoa* resembles some species of *Anastrus*, yet the wide, heavy thorax, short, stout abdomen and very short forewing cell, place this species in the genus *Tosta*.

Based on the very brief description of Evans' T. taurus (1953), sapasoa closely resembles this species but is somewhat larger and is obviously separated by the genitalic differences. The male genitalia in sapasoa

Peru, May 1954; (5, 6) Damas immacula Nicolay, upper and underside, holotype male, Colon (Sta. Rita) 300 m., Panama, 4 January 1969; (7, 8) Damas immacula Nicolay, upper and underside, allotype female, same locality as male, 1 January 1969.



form a very densely chitinous organ, replete with an extraordinarily wide, "horned" uncus and heavily spined cuillar. Both species are currently known only from single male types.

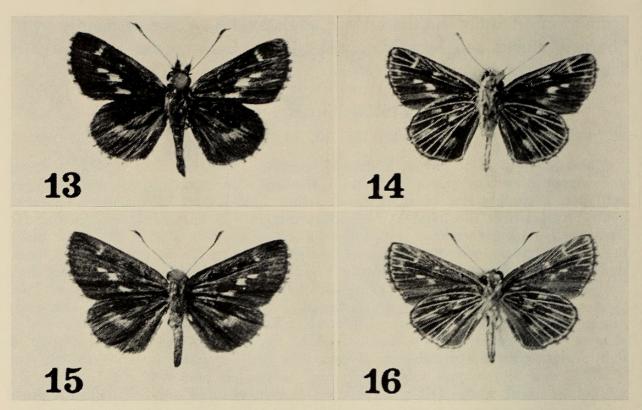
Virga paraiba Nicolay, new species Figs. 12, 12a, 13, 14, 15, 16, 29

Male: Length of forewing, 9 mm. Upperside: forewing dark brown; a discal yellow spot in each of spaces 1b, 2 and 3, the largest in space 2; a tiny yellow upper cell spot, a straight line of three small yellow apical spots in spaces 6-8; sparse yellow scaling over the basal half of costal margin, the base of spaces 1a and 1b. Two small, dark brands over and under the origin of vein 2 (Fig. 29) their outer margins coincident with the inner edge of spot in space 2. Fringes sordid yellow, darkened at each vein end producing a faint checkered pattern. Hindwing dark brown; a discal row of fused yellow elongated spots in spaces 2-5; a few long yellow hairs over base of each wing; fringes light yellow with darkened vein ends producing a checkered pattern. Underside: forewing black; vein 12 and veins at apex yellow-scaled; also the medium veinlet from base to cell-end; a scattering of light scales across the discal area of spaces 1a and 1b with discal yellow spots in spaces 2 and 3; two pale violet spots near termen in spaces 4 and 5; a straight row of 3 apical spots; cell spot yellow. A yellow-scaled sub-terminal line from vein 1 to apex; a narrow post-terminal black line adjoins the wider dark brown base of grey fringes, darkened at each vein end. Hindwing dark brown, almost obscured by large areas of light violet spots and yellow-scaled veins; at the base of each wing, an arc of light violet conjoined spots from space 1b through cell and space 7; a broad irregular light violet discal band from space 1b through 7, most obvious in spaces 1c, 4, 5, and 7. All veins yellow and a yellow sub-terminal line; a heavy post-terminal dark line formed by the dark bases of yellow fringes, themselves darkened at each vein end. Head, palpi and thorax with mixed yellow and black scales; abdomen dark brown dorsally, yellow striped at the side, cream colored below with 2 dark ventro-lateral stripes. Antennae yellow below, lightly scaled with black at each joint, the color pattern reversed on the upper side. Female: Length of forewing, 8 mm. All wing maculation above and below, and body coloring repeated as in the male.

Holotype male, Joao Pessoa, Paraiba, Brazil, 31 March 1954, Jorg Kesselring, collector. **Allotype female**, same locality and collector, 8 February 1953. **Paratypes:** 15 male and 12 female paratypes, same locality and collector with dates recorded in the months of December, January, February, March, April and May in the years 1953 and 1954. The holotype will be deposited in the American Museum of Natural History, New York, New York. Paratypes will be deposited as follows: U.S. National Museum, Washington, D.C.; Carnegie Museum, Pittsburgh, Pennsylvania; Allyn Museum of Entomology, Sarasota, Florida; British Museum of Natural History, London, England and with Olaf H. H. Mielke, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brazil.

4

Figs. 9–12. Male genitalia of new Neotropical Hesperiidae (Pyrginae and Hesperiinae): (9, 9a) Ouleus dilla baru Nicolay, lateral view of genitalia and ventral view of gnathos and uncus (9a); (10, 10a) Tosta sapasoa Nicolay, lateral view of genitalia and ventral view of genita



Figs. 13–16. Virga paraiba Nicolay: (13, 14) holotype male, upper and underside, Joao Pessoa, Paraiba, Brazil, 30 May 1953; (15, 16) allotype female, upper and underside, same locality as male, 8 February 1953. (Approximately $2 \times$ life size)

Evans (1955) writes that the species *virginius* Möschler is variable and could possibly be divided into subspecies with more material. Wing markings on both surfaces of *paraiba* are similar in many respects to those of Möschler's species, but the male genitalia are very different. In *paraiba* the uncus and gnathos are of equal length, the uncus with a distinct high crown; the gnathos of *virginius* is much shorter (almost non-existent) than the uncus and the uncus has no high crown. The valvae of *paraiba* are tapered evenly to a single curved point throughout their length; those of *virginius* are broad and sharply compressed to a point only at the very end.

Evans (1955) gives as a generic character, " δ upf with a small, black, rounded brand over the origin of vein 2." In V. paraiba, without bleaching and removal of all but the brand scales, this indeed is what appears under the microscope; the actual brand-scales (Fig. 29) are covered rather effectively by a layer of other specialized, larger, black scales. Hayward (1951) figures this brand as one of three examples included in the genus Callimormus Scudder where he placed the Virga species austrinus. His key to the Callimormus species contains a brand (estigma) description for austrinus which is the same as that figured for paraiba. Critical examination of other Virga species may well determine this brand form to be the correct generic character.

The upper cell spot on the forewing appears to be a variable feature and is present in 9 of 16 males and in 8 of 13 females examined.

All specimens in the type series were taken by Mr. and Mrs. Jorge Kesselring at the type locality near their home. I have seen no specimens of *paraiba* from other localities.

Pamba boyaca Nicolay, new species

Figs. 11, 11a, 17, 18, 31

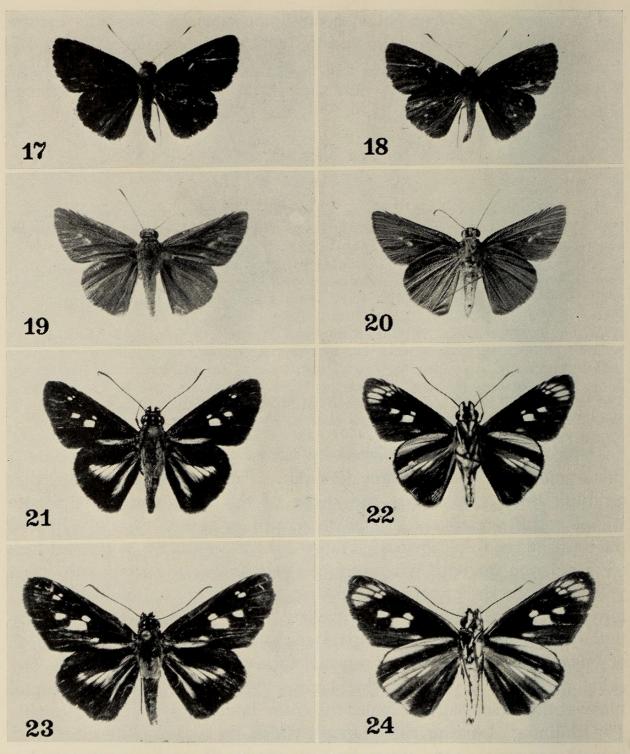
Male: Length of forewing, 14 mm. *Upperside*: unmarked dark chocolate brown with sparse green hairs and scales on the collar and thorax. Forewing with a narrow, almost invisible tri-partite stigma from base of vein 3 along cubitus nearly to base of vein 2, thence directly in two short segments to middle of vein 1 (Fig. 31). *Underside*: forewing unmarked dark brown with heavier black scaling at base; hindwing dark chocolate brown with faint small cream colored postmedian spots in spaces 3 and 6; mixed green and brown hairs clothing thorax and base of legs; palpi thickly covered with intermixed grey and brown scales; antennae black, sparse yellow scaling under club; nudum 11. **Female:** Unknown.

Holotype male, Arcabuco, 2200 m., Department of Boyaca, Colombia, 31 January 1971, S. S. Nicolay, collector. **Paratype:** One male, same data as the holotype. The holotype will be placed in the American Museum of Natural History, New York, New York. The single male paratype remains in the author's collection.

The genus *Pamba* was erected by Evans (1955) to accommodate a single unnamed species from Ecuador. The generic characters that establish this grouping are the shape of the long, narrow tri-partite stigma and the relatively long antenna with an obtuse apiculus. Boyaca differs from the sole previously known species pamba by its general lack of maculation on both wing surfaces; pamba has a narrow sub-tornal vellow area on the upperside hindwing, small silvery apical spots on the forewing underside and a pale yellow discal band on the hindwing underside. The valvae of the male genitalia are similar, but the uncus of boyaca is one of the most unusual forms I have encountered in any skipper. A dorsal plate or shield rises vertically from the horizontal plane of the uncus and dominates the entire lateral aspect of the genitalia. The chitinous sleeve or ring through which the aedeagus is articulated is neither mentioned nor shown by Evans in his illustration or description of pamba; it is however, a very obvious part of the male genitalia of boyaca (Fig. 11).

Papias trimacula Nicolay, new species Figs. 19, 20, 25, 25a

Male: Length of forewing, 15 mm. *Upperside*: both wings pale brown, the forewing with three small pale yellow discal spots in interspaces 1b, 2 and 3, the largest in interspace 2. *Underside*: both wings brown with pale fulvous overscaling along costal area of forewing and on all of hindwing; yellow spots in interspaces 2 and 3 on forewing; base and disc dark brown. *Palpi* missing; pale yellow scaling



Figs. 17–24. New species of Neotropical Hesperiidae (Hesperiinae): (17, 18) Pamba boyaca Nicolay, upper and underside, holotype male, Arcabuco, 2200 m., Dept. of Boyaca, Colombia, 31 January 1971. (19, 20) Papias trimacula Nicolay, upper and underside, holotype male, Ft. Clayton, Canal Zone, 21 September 1963; (21, 22) Vettius chagres Nicolay, upper and underside, holotype male, Colon (Santa Rita), 300 m., Panama, 29 January 1972; (23, 24) Vettius chagres Nicolay, upper and underside, allotype female, Colon, Piña, Panama, 200 m., 24 November 1972.

VOLUME 27, NUMBER 4

around eyes and collar; *head*, *thorax* and *abdomen* brown above, paler below with abdomen pale yellow, almost white. *Antennae* with a faint checkered pattern above, more pronounced below, yellow under club, nudum red-brown, 3/10. Female: Unknown.

Holotype male, Ft. Clayton, Panama Canal Zone, 21 September 1963, G. B. Small, collector. The holotype will be deposited in the American Museum of Natural History, New York, New York.

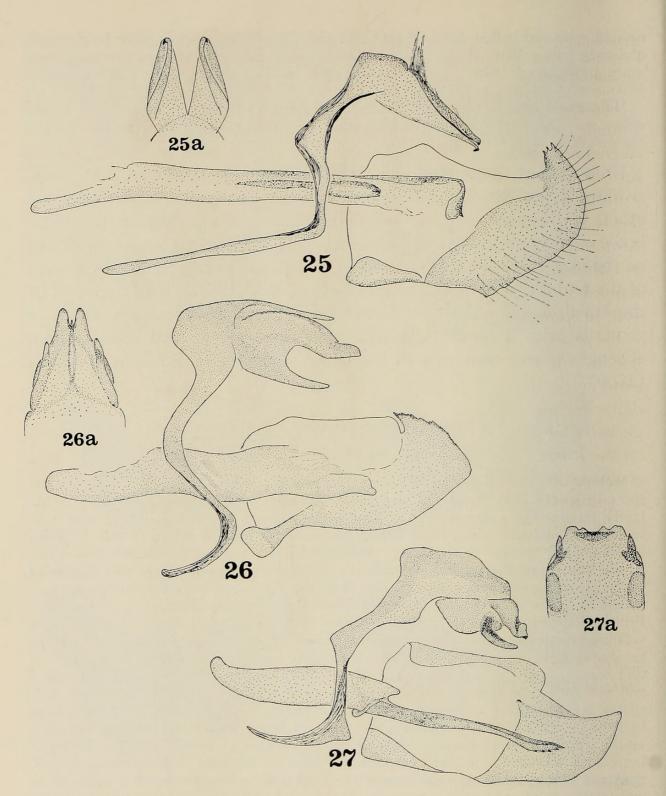
Trimacula is undoubtedly the lightest colored species in the genus, rivaling Evans' smaller species quigua from Venezuela. Although some others of the genus are marked with spots on the underside, trimacula is the only species with obvious, albeit pale and inconspicuous, markings on the upper surface. In this respect as well as the single added segment of the nudum on the apiculus (10 instead of 9), this species does not fit the exact generic criteria set forth by Evans (1955). However, the male genitalia with a quadrifid uncus, very long saccus and equally long aedeagus places trimacula in the genus Papias as defined by Godman (1900).

Vettius chagres Nicolay, new species

Figs. 21, 22, 23, 24, 27, 27a, 32

Male: Length of forewing, 17 mm. Upperside: forewing black, white hyaline spots in spaces 2, 3 lower cell and small sub-apical spots in spaces 6 and 7, the larger in space 6; a dense layer of blue-white hairs from the base along vein 1 in space 1a to midwing; short black brands above and below the origin of vein 2. Sides of collar and tegulae dark orange. Hindwing black with a prominent blue-white streak from base the length of space 1b, completely separate from the triangular white discal band running from spaces 2-5, the white spots hyaline in spaces 3-5, widest in space 2 consisting of long white hairs, all spots divided by dark veins. Fringes narrowly white at tornus. Underside: forewing dull black; a wide, short yellow pre-apical band cut by dark veins in interspaces 4 thru 8; hyaline white spots as above, with added small semi-hyaline white spot in 1b. Hindwing, space 1a dull orange; space 1b and distal half of 1c black; basal half of spaces 1c through 4 and cell orange; a tapered discal band of white semi-opaque spots in spaces 3-5, spaces 3 and 4 yellow from end of spots to termen; spaces 5 and 6 black from base to termen; spaces 7 and 8 clear yellow except bases and costal margin narrowly black; fringes paler at tornus. Sides of thorax at base of wings, orange. Female: Length of forewing, 19 mm. Upperside: same as in male, but forewing longer, narrower with a white spot mid space 1b; hindwing wider. Underside: same as in male.

Holotype male, Colon (Santa Rita), Republic of Panama, 300 m., 29 January 1972, S. S. Nicolay, collector. Allotype female, Panama, Colon, Piña 200 m., 24 November 1972, H. L. King, collector. Paratypes: 1 male, same locality as holotype, 4 February 1970; 1 male, Gatun, Canal Zone, 10 January 1972, S. S. Nicolay, collector; 3 males, same locality as holotype, 5 January 1969, 7 February 1969; 4 males, Gatun, Canal Zone, 9 December 1969; 2 females, same locality, 26 June 1970, 2 December 1972, G. B. Small, collector; 1 male, same locality as holotype, 19 February 1969; 16 males and 3 females, Piña, Colon, Republic of Panama, 200 m., H. L. King, collector. The holotype will be placed in the American Museum of Natural History, New York, New York. Paratypes will be deposited as follows: U.S. National Museum, Washington, D.C.; Carnegie Museum, Pittsburgh, Pennsylvania; Allyn Museum of



Figs. 25–27. Male genitalia of new Neotropical Hesperiidae (Hesperiinae): (25, 25a) *Papias trimacula* Nicolay, lateral view of genitalia and ventral view of gnathos and uncus (25a); (26, 26a) *Damas immacula* Nicolay, lateral view of genitalia and ventral view of gnathos and uncus (26a); (27, 27a) *Vettius chagres* Nicolay, lateral view of genitalia and ventral view of gnathos and uncus (27a).

Entomology, Sarasota, Florida; and the British Museum of Natural History, London, England. The allotype and remaining paratypes will remain in the collections of the author and Mr. G. B. Small.

The male genitalia of *chagres* are almost identical to those of V. *phyllus* Cramer. Evans (1955) lists four subspecies for *phyllus* and I originally considered *chagres* to be a fifth taxon. But, with additional collecting and further careful study it became rather obvious that *chagres* and *phyllus* were two distinct, separate species. Both species have been collected in the forest-clothed hills and mountains on the Atlantic coast side of the Isthmus in the Gatun/Piña and Colon area. I have found no intergrades in either sex between the two species in a careful study of rather substantial series of both species, taken within a few miles of one another and, in some instances, in the same locality.

There are a number of consistent, distinct differences between the two species: on the upperside, *chagres* lacks the orange scaling on the forewing costa, the spot in space 1b on the forewing is missing or tiny, and the white discal band on the hindwing is triangular in shape, with a definite, long concave dorsal edge; *phyllus* has the basal half of the costa on the forewing, dull orange, the white spot in space 1b of the forewing is always present, and the white discal band on the hindwing is rectangular (almost ovoid), and about the same width throughout. The underside of the hindwing in *chagres* is strikingly different from typical *phyllus* or its subspecies; the large orange basal area and the appearance of the white discal spots of the upperside are the most notable differences. The obvious white streak mid space 1b in *phyllus* is missing in the *chagres* male, and marked by a few white scales in the female.

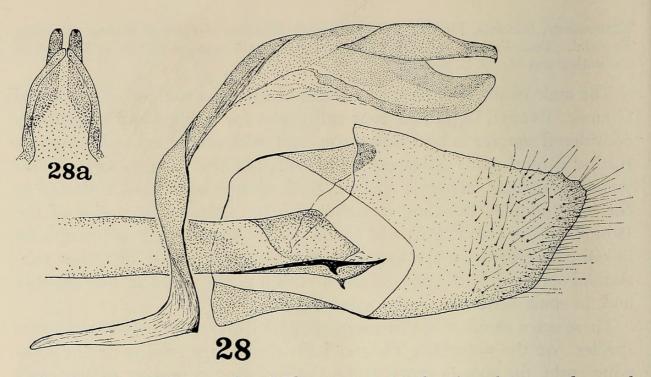
The known range of *chagres* thus far appears to be the forested hills on the Atlantic side of the Isthmus in the Canal Zone, and the adjoining areas of the Republic of Panama.

Damas immacula Nicolay, new species

Figs. 5, 6, 7, 8, 26, 26a, 30

Male: Length of forewing, 23 mm. *Upperside*: all wings unmarked, dark, chocolate brown; forewing with a broad, grey bipartite stigma divided by vein 2. Hindwing fringes yellow from inner margin through tornus to vein 6. *Underside*: forewing unmarked dark brown; hindwing unmarked dark chocolate brown with a faint reddish tinge; fringes yellow-orange from inner margin through tornus to vein 6. **Female:** Length of forewing, 24 mm. *Upperside*: all wings unmarked dark chocolate brown. *Underside*: forewing brown, with a vague pale sub-apical band from the costal margin to mid-termen dividing wing into a vaguely darker apical area and lighter proximal area; space 1b paler with a wash of yellow overscaling; hindwing dark brown from the costal margin through cell and portion of space 3, ventral half clear yellow; a thin dark brown marginal line to vein 2; yellow fringes from inner margin through tornus to vein 6.

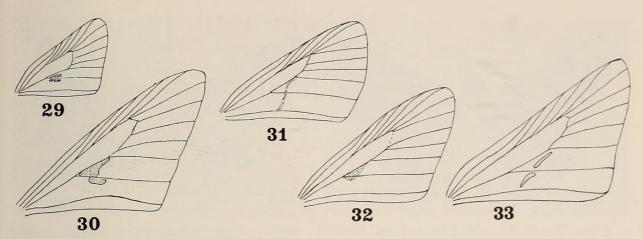
Holotype male, Colon (Santa Rita), 300 m., Republic of Panama, 4 January



Figs. 28–28a. Male genitalia of *Thespius inez* Nicolay, lateral view and ventral view of gnathos and uncus (28a).

1969, collector, S. S. Nicolay. Allotype female, same locality and collector, 1 January 1969. Paratypes: 2 males with the same data as the holotype; 2 males, same locality and collector, 1 January 1969; 1 female, same data as allotype; 1 female, same locality and collector, 5 January 1969; 2 females, same locality, 1 January 1969, 16 February 1969, collector, G. B. Small; 1 female, Farfan, Canal Zone, 2 February 1968, collector, S. S. Nicolay. The holotype will be deposited in the American Museum of Natural History, New York, New York. Paratypes will be deposited in the U.S. National Museum, Washington, D.C., and in the Allyn Museum of Entomology, Sarasota, Florida. The allotype and remaining paratypes will remain in the author's collection and that of Mr. G. B. Small.

Evans (1955) in his discussion of *Damas clavus* Herrich-Schaffer, the only species in this genus, refers to the rather wide variability in wing markings to be found in both sexes. It has become apparent to me, after an exhaustive search of the literature, and study of extensive material in the American Museum and Smithsonian collections, that this variability does not include the unmarked, spotless species herein described as *immacula*. In spite of the very close similarity in the male genitalia of the two, it would be difficult to place *immacula* in the category of a subspecies; I have taken both sexes of "typical" *clavus* in the same area and at the same time with *immacula*. This fact would also tend to negate the possibility that it might be only a seasonal form. Although Evans mentions 3 males and 1 female in the long series of *clavus* in the British Museum collection as being without spots on the forewings, none is from Panama. Of the two sexes, females of *immacula* offer the most compelling and obvious characters of a specific value. Yet, the yellow



Figs. 29–33. Forewing male stigmatal patterns: (29) Virga paraiba Nicolay; (30) Damas immacula Nicolay; (31) Pamba boyaca Nicolay; (32) Vettius chagres Nicolay; (33) Thespius inez Nicolay.

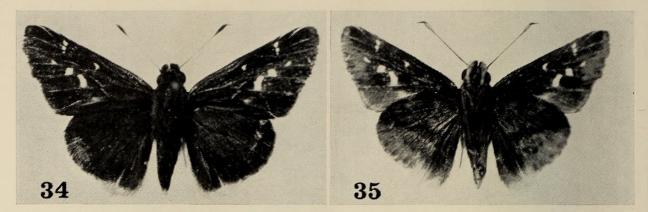
hindwing beneath is not mentioned in previous literature, nor does Evans discuss this feature in combination with his single spotless female. The wide yellow ventral half of the underside of the hindwing is a color pattern also found in other large skipper species found in this same region—*Tromba xanthura* Godman, *Astraptes anaphus annetta* Evans, and *Achlyodes busirus heros* Ehrmann.

D. immacula is found in the tropical forested hills on the Atlantic and Pacific sides of the Isthmus of Panama. Both sexes are particularly attracted to the large purple and white flower of a "morning glory" vine of the genus *Ipomaea* in the Family Convolvucidae that covered fallen timbers and areas laid waste by wood-cutters. Both sexes are very wary and powerful fliers. With extreme care, they could be netted while feeding on the flowers, but once missed, offered no second chance for capture.

Thespius inez Nicolay, new species

Figs. 28, 28a, 33, 34, 35

Male: Length of forewing, 24 mm. Upperside: forewing dark brown, base of interspaces 1b and 1 thinly clothed with long blue hairs; a faint white spot mid interspace 1b, a narrow rectangular spot in space 2, a small square spot in space 3, a small triangular spot in space 4; 3 small sub-apical square spots in-line from spaces 6–8; a very small crescent-shaped upper cell spot; all spots white and hyaline. A narrow, pale, broken stigma from base of vein 3 to vein 1 (Fig. 32). Fringes at tornus yellow to vein 2. Hindwing dark brown, base clothed in long blue hairs, with a pale yellow tornus 2 mm at the widest point centered at vein 1, extending to vein 2 and opposite through tornus to inner margin; tornal fringes yellow. Underside: forewing red-brown along costa with lilacine scaling on outer margin from apex widening to include spot in space 4, terminating at a point just inside space 2; dark brown in disc, hyaline spots as on upperside; spot in space 1b enlarged by white scaling. Hindwing red-brown with a wide bar of heavy lilacine scaling from vein 6 through end of cell to mid-point of vein 1; abdominal fold dark brown, remainder of wing with intermixed lilacine scaling, at some points



Figs. 34 & 35. Thespius inez Nicolay, upper and underside, holotype male, Arcabuco, 2200 m., Dept. of Boyaca, Colombia, 31 January 1971.

quite heavy; tornus pale yellow, 4 mm wide from vein 2 to inner margin; fringes yellow from vein 5 through tornus. *Head, thorax* and *tegumen* dark red-brown, mixed with long blue hairs on the thorax. *Abdomen* dark brown, anterior clothed with long blue hairs, posterior tip yellow. *Palpi* with mixed brown and light grey hairs and scaling. Below, *thorax* and *legs* clothed with red-brown hairs, abdomen with orange-yellow hairs; *Antennae* brick-red at bend of apiculus, yellow on the club beneath. **Female:** Unknown.

Holotype male, Arcabuco, 2200 m., Department of Boyacá, Colombia, 31 January 1971, S. S. Nicolay, collector. The holotype will be placed in the American Museum of Natural History, New York, New York.

This is a large hesperiid by any standard, and the largest of this genus I have yet seen. The reduced hyaline markings of the forewings, complete lack of markings on the hindwings above, and the yellow tornal marking on both hindwing surfaces make *inez* something other than a typical species of the genus *Thespius*. Wing maculation and the male genitalia relate it closely to *T. pinda* Evans, known only from the type which I have not seen, and the subspecies *ovallei* Bell of *T. tihoneta* Weeks. The illustration of *tihoneta* Weeks (1905) bears little resemblance to *inez*. My vivid impression of *inez* is that, like many of the genus, it is very wary and an incredibly fast and powerful flyer. It is also, like its closest relatives, rather rare; each of the three is currently known only from a single male in each species.

It is a pleasure to name this interesting species after Inez Schmidt-Mumm, the wife of Dr. Ernesto W. Schmidt-Mumm of Bogota, Colombia.

ACKNOWLEDGMENTS

I want to thank Mr. Gordon B. Small of the Canal Zone and Dr. Ernesto W. Schmidt-Mumm, Bogota, Colombia for their help with extensive field work, and invaluable logistic support for my own collecting efforts; their enthusiasm and assistance make such a study as this both a possibility and a pleasure. I very much appreciate the help of

Mr. and Mrs. H. L. King who collected an extensive series of the new species of *Vettius* for this study. Additionally my thanks to Gordon Small and Gerald Straley for helpful suggestions on the manuscript and to Dr. C. Don MacNeill of the Oakland Museum for his critical review of the final draft. To Dr. Ronald W. Hodges of the Smithsonian Institution, my thanks for help in solving a rather interesting and puzzling problem of subspeciation. Wm. D. Field, U.S. National Museum and Dr. F. H. Rindge, American Museum of Natural History provided the assistance and cooperation that allowed me to examine the material in the collections in their care.

Most of the photographs were made with the help of WO G. G. Williams, SSgt. Richard E. Banzal and Pfc. Robert Egner of the U.S. Marine Corps. Their technical help, capable assistance, and enthusiastic support are deeply appreciated. Photographs of the female of the new *Vettius* species were made by the Smithsonian Institution.

Determination of plant specimens was made by Dr. Robert Dressler of the Smithsonian Institution in the Canal Zone.

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