

The Skipper Butterflies (Hesperiidae) of Trinidad

Part 3 Pyrginae (first section)

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THIS is the third of a series of contributions on the Hesperidae of Trinidad. The first (Cock 1981b) covers the subfamily Pyrrhopyginae, and the second (Cock 1982) is a checklist of the entire family, including records for Tobago. Here part of the second subfamily, Pyrginae, corresponding to Evans's genera group B (Evans 1952) is covered.

Evans (1952) defines the subfamily Pyrginae as having vein 5 of the forewing generally nearer to vein 6 than to vein 4, as shown in Fig 1-3. (The nomenclature of veins, interspaces etc. used here, as in previous parts, follows that of Evans as described in Cock (1981b)). Evans divides the subfamily into two sections as follows:

Section 1. Palpi erect; second segment held against the head, third segment not protruding in front of the second (Fig. 4-6). Forewing cell generally long, equal to two-thirds of the length of the costa and equal to, or longer than, the dorsum (Fig. 1-3).

Section 2. Palpi may be entirely forward pointing (porrect), and the third segment always protrudes in front of the second. Forewing cell generally short, less than two-thirds of the length of the costa and shorter than the dorsum.

If the figures of the palpi (Fig. 4-6) are examined, it can be seen that the third segments of the palpi do protrude beyond the second, although not to the extent that is found in section II of the Pyrginae. This reflects the difficulties that exist in the classification of the Hesperidae into sections or genera groups. Doubtless the classification of Evans used here will be improved on, but since this is the standard reference for the family it is followed here. Evans divides section I into the following genera groups:

Group B. Third segments of palpi divergent (Fig. 5-6). Wings erect in repose.

Group C. Third segments of palpi parallel. Forewing veins 6 and 7 approximate at their origins (i.e. close together or from a common base). Wings erect in repose.

Group D. Third segments of palpi parallel. Forewing veins 7 and 8 approximate at their origins. Wings flat in repose.

Evans's classification by the position of the wings in repose is erroneous. All the species with which I am familiar in group B rest beneath leaves with their wings held flat. There are certainly exceptions to the generalization about group C, and probably for group D.

The divergent third segments of the palpi are perhaps the best guide for the recognition of group B, but in the Trinidad fauna even this character is indistinct in the genus *Phocides* (Fig. 5). All the Trinidad species of group B except *Entheus priassus* L. have a coastal fold in the male. This is an elongate narrow fold on the costa of the forewing which contains the male

scent (androconia) scales. Another general feature of the group is the presence of two spots, or a double spot, in the forewing cell. For most purposes this group can be most readily recognised by examination of the plate of set specimens. The detail of the plate together with the color descriptions below should facilitate the identification of all Trinidad species of group B known to date.

The Pyrginae, like the Pyrrhopyginae but unlike the Hesperinae, feed (with one exception) on dicotyledonous rather than monocotyledonous plants. The larvae of Pyrginae are usually hairless, unlike those of the Pyrrhopyginae, and the head is large and round or cordiform (heart-shaped), often with brightly coloured eye spots. The head is wider than the body, while the front part of the body is narrower than the rest, and this gives rise to the somewhat grotesque but typical, hesperiid "loose-head" larval form. The larvae spend their lives in a series of leaf shelters. These seem to be of a constant form for each species and would repay further documentation, perhaps throwing light on the classification of the family.

Phocides

This genus contains large robust species comparable to those of the genus *Pyrrhopyge* (Cock 1981b). They also resemble species of the Pyrrhopyginae in colouring and markings. Although there are no Trinidad species of Pyrrhopyginae comparable to *Phocides polybius* F., the species *P. pigmalion* Cram and *P. distans* H.S. resemble *Elbella etna* Evans of the Pyrrhopyginae recorded as new to Trinidad elsewhere in this issue. The possibility of other species of either form being found in Trinidad should not be ignored. What advantage these resemblances have in evolutionary terms is difficult to say.

Although, as pointed out above, the palpi of this genus are not absolutely typical for group B, *Phocides* can usually be recognised by its distinctive venation (Fig. 2). The vein between the origins of veins 4 and 5 (i.e. the discocellular vein) is "arched and very long, twice as long as the distance between the origins of veins 3 to 4 and of 5 to 6; also veins 7 and 8 run contiguously for a third of their length from the cell" (Evans 1952 p. 5). The former character, however, does not hold true for *P. polybius* (Fig. 1). Although Evans (1952) points out that the genitalia are uniform within the genus, comparison of Fig. 1 with Fig. 2 suggests that *P. polybius* may not be congeneric with *P. pigmalion* (or *P. distans* whose venation resembles that of *P. pigmalion*).

8. Phocides polybius polybius Fabricius 1793 (Plate 1 ♀)

This is the species recorded in the Trinidad literature as *Dysenius spurius* Mabille. *Spurius* is a synonym of *phanias* Burmeister, a subspecies of *polybius* from south of the Amazon; *polybius* itself occurs from the Guyanas to Panama, while a third subspecies, *lilea* Reakirt, is found in Central America.

The ground colour of this species is a deep dark blue; the upper-surface of the forewing is rayed with green to about two-thirds on the costa and one-third on the dorsum, a prominent red spot at mid costa, from the cell to the costa, is entirely distinctive for this species in Trinidad; forewing cilia white. Hindwing cilia white at termen, orange-brown at tornus and matching the ground colour on the dorsum, wing narrowly white along margin at mid termen and orange-brown at tornus. Underside similar to upperside, but green rays much reduced on forewing; hindwing has some green scaling at base and white marginal area

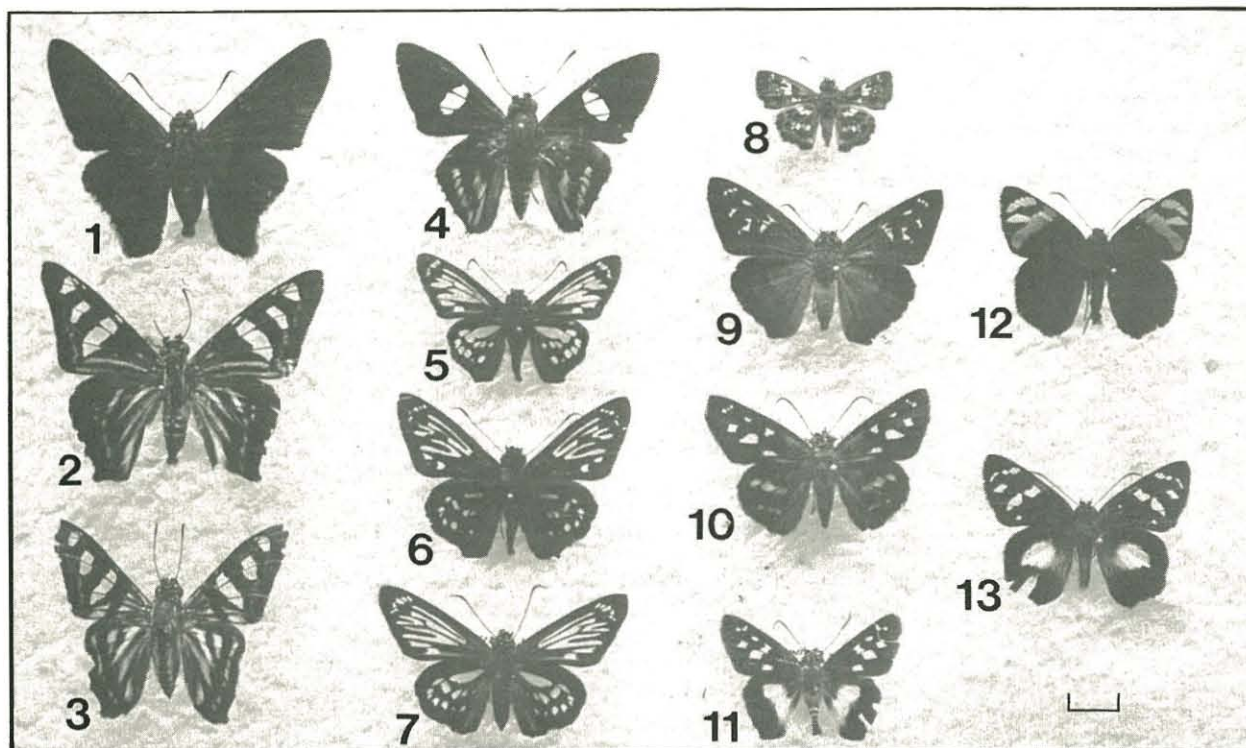


Plate 1-13. Pyrginae (group B) of Trinidad; 1, *Phocides polybius* ♀, Curepe, 24. VII. 1978, MJWC; 2, *P. pigmalion* ♀, Sangre Grande, FC Ulrich; 3, *P. distans* ♂, Cats Hill, S. Alston-Smith; 4, *Tarsoctenus praecia* ♂, 88.022, Trinidad, ex JJ Joicey coll, specimen in BMNH), 5, *Phanus vitreus* ♂, Andrews Trace, 19. IV. 1982, MJWC; 6, *P. obscurior* ♂, Parrylands, 12. II. 1980, MJWC; 7, *P. marshallii* ♀, San Miguel Valley, 800 ft., 29. VII. 1978, MJWC; 8, *Udranomia orcinus* ♀, French Guyana (specimen in BMNH); 9, *Augiades criniscus* ♀, Parrylands, 2. IX. 1980, MJWC; 10, *Drephalys oriander* ♀, St. Benedicts, 5. IX. 1980, DJ Hunt; 11, *D. alcmon* ♀, Las Lomas, Spanish Farm, 28. V. 1982, MJWC; 12, *Entheus priassus* ♂, Arima-Blanchisseuse Road, milestone 9¼, 9. X. 1980, MJWC; 13, *E. priassus* ♀, Las Lappas Trace, 11. IX. 1979, MJWC. Bar = 1 cm.

is slightly more extensive. Head with palpi and collar red, throat with two pairs of longitudinal green stripes. Male with short costal fold; forewing length ♂ 25 mm; ♀ 30 mm.

This species is widespread in Trinidad and usually to be found in association with its host plant, the guava (*Psidium guajava* L.). Although ova and larvae are readily found on suitable isolated and/or young plants the adults are not often seen. They are most often to be found feeding on flowers, but on one or two occasions I have seen this species resting under leaves with its wings spread flat. The ova are laid on the upper-surface of guava leaves, usually singly; they measure 1.6 mm in diameter and are hemispherical, 1.2 mm in height with 18-19 thickened ribs rising from near the base to alternately join, and stop just short of, a thickening ring around the top of the ovum; the colour owing to that of the developing larva, is dull red. The first instar larva is dark reddish brown with a shiny brown head; subsequent instars are similar but with a yellow band around the front of each of segments 4 to 11. The final, fifth instar is completely different, the body being white with small, faint black speckles, the prolegs pink and the head with two large yellow eye spots in a darker ventral area. The early instars construct a leaf-shelter by making a half circle or three quarter circle cut in the leaf lamina, and folding the resultant flap up and over until it can be attached to the leaf lamina with silk, forming a little pocket. These flaps are quite conspicuous and the small larvae seem subject to extensive predation by wasps and spiders. The fourth and fifth instar larvae spin two or three leaves together to form a larger shelter, and the green stubby pupa is formed in the last of these.

9. *Phocides distans distans* Herrich-Schäffer 1869 (Plate 2, ♂)

Although Kaye (1921) records one capture of this species by G.E. Tryhane in St. Ann's Valley, I have never caught it and there are no specimens from Trinidad in the British Museum (Natural History) (BMNH). Scot Alston-Smith, however, has

taken this species in the Cats Hill area and it is one of his specimens that is shown in the plate.

The ground colour of this species is black; the forewing has white hyaline bands and bright blue markings; the hindwing has a submarginal band of a similar blue, and basal stripes of a paler blue; the underside is similar. *Phocides distans* can be distinguished from the very similar *P. pigmalion* by the interrupted blue bands in forewing spaces 1A and 1B, which are continuous in *P. pigmalion*, and by the pale blue markings on the abdomen which form longitudinal stripes, while those of *P. pigmalion* form bands around the abdomen. The Pyrrhopyginae species *Elbella etna* also has interrupted blue bands but is larger and can be recognised by the antennae which are reflected at the beginning of the club and by the central hyaline band of the forewing which is confined to space 3 and does not extend into space 4 as it does in *P. distans* and *P. pigmalion*. Forewing length ♂ 25 mm.

10. *Phocides pigmalion pigmalion* Cramer 1779 (Plate 3, ♀)

First recorded from Trinidad by Kaye in 1940, this is another rare species. There are six subspecies of *P. pigmalion* which occur from Florida and the Greater Antilles to Paraguay. The nominate subspecies occurs from Guatemala to Trinidad.

This species is similar in colour and markings to *Elbella etna* and *P. distans*; the differences are described under the latter species above.

This is a widespread but rare species. I have caught one male in the Northern Range (Piedra Blanca, near rest house, 1700 ft. Oct. 1982) flying in a sunlit clearing and settling beneath a leaf with its wings spread flat. I have also seen specimens from St. Ann's Valley (coll. BMNH), Sangre Grande (ex coll. F.C. Ulrich, specimen shown in plate), Irois and Calvary (coll. Sir N. Lamont.)

The life history in Trinidad is unknown. In Florida the sub-

species *okeechobee* Worthington is recorded as having a white larva with an orange spotted brown head, and feeding on Red Mangrove (*Rhizophora mangle* L., Rhizophoraceae). Since I have examined and collected around mangroves in Nariva, Caroni and South Oropouche swamps without encountering this species, I believe a different host plant is used in Trinidad. The fact that Rhizophoraceae and Myrtaceae (e.g. guava the host plant of *P. polybius*) are closely related suggests that these and the related Melastomataceae may be the host plants of the genus *Phocides*.

11. *Tarsoctenus praecia rufibasis* Boullet 1910 (Plate 4, ♂)

This subspecies is recorded from Trinidad and the Guyanas, a further four subspecies range from the Amazons to Bolivia.

The subspecies *rufibasis* has a dark blue ground colour, hyaline spots on the forewing, blue bands on the hindwing and a red thorax and wing bases.

There is a single male specimen of this species from Trinidad in the BMNH and this is the one shown in the plate. It is labelled "88.002 Trinidad/ex J.J. Joicey coll." This label is not comparable with those of any other Trinidad specimens which I have examined in the BMNH. Possibly it is a copy of one of W.E. Broadway's labels as he seemed to use a "year:reference number" system e.g. one specimen of *Phanus obscurior* Kaye is labelled "Trinidad/Broadway 91.40." I know of no other records from Trinidad. In view of its distribution in Guyana this species may be found in the south of Trinidad, but until further captures are made could be regarded as an unconfirmed record.

Moss (1949) records the foodplant of the congeneric *T. corytus* Cramer as *Jacaranda copaia* D. Don (Bignoniaceae); the genus *Jacaranda* does not occur naturally in Trinidad.

12. *Phanus vitreus* Stoll 1781 (Plate 5, ♂)

This species occurs as the single subspecies from Mexico to Paraguay. In Trinidad it occurs in forests of both the north and south (19 specimens seen) but is not very common, especially in the north. The specimens in the Angostura-Barcant collection over this name are a mixture of *P. obscurior* and *P. marshallii* Kirby. This species can be found along forest trails or in small clearings and settles below leaves with its wings spread. Sometimes it is attracted to flowers (e.g. *Eupatorium* spp.).

This is the smallest species of the genus in Trinidad, and has the most extensive hyaline patches on the wings. The ground colour is black-brown, sprinkled with golden brown in the basal half of the wings on the underside. Female similar, but brown more extensive on underside. Forewing length ♂ 20mm, ♀ 22mm. The three species of *Phanus* from Trinidad are readily distinguished by the shape of the marking in space 2 of the forewing. In *P. marshallii* this marking is deeply divided and the upper arm is as long as the lower one; in *P. obscurior* it is deeply divided and the upper arm is much shorter than the lower one, while in *P. vitreus* it is only divided to about half its width, and the upper arm is much shorter than the lower one.

The life histories of all three species of *Phanus* seem to be unrecorded.

13. *Phanus obscurior* Kaye 1924 (Plate 6, ♂)

William James Kaye the principal documentor of Trinidad's Lepidoptera, described this species from Trinidad in 1924. It also occurs, as one subspecies, from Nicaragua to Brazil.

My experience of this species is limited to the capture of two males in Parrylands beside a small stream (Feb. 1980), yet in the collection of the BMNH there are 20 specimens, all from the north of Trinidad, their dates of capture varying from 1881 to 1932, and the season from October to February. Since I have collected extensively in the north of Trinidad, I can only conclude that in recent years this species has become very much rarer or extinct in the north.

The ground colour of this species is brown rather than the

black of the other two members of the genus and the hyaline markings are much less extensive in the male. In the female the extent of the hyaline markings approaches that of *P. marshallii* discussed below. Forewing length ♂ 23 mm.

14. *Phanus marshallii* Kirby 1880 (Plate 7, ♀)

This species was also described from Trinidad. Again as a single subspecies it has been found from Mexico to Bolivia.

The colouring of this species is similar to that of the smaller *P. vitreus*. Forewing length ♂ 24mm, ♀ 24mm.

I have caught and seen *P. marshallii* only in the Northern Range of Trinidad. Similarly the 18 Trinidad specimens in the BMNH which have locality data are all from the north of Trinidad. Sheldon (1938) records one specimen from Speyside, Tobago; this specimen is now in the BMNH. This species is quite common along shady trails of the Northern Range, settling under leaves with its wings spread. Readily disturbed, it has a fast, erratic flight which is difficult to follow in the shade of the forest, but it often re-settles close to the place from which it is disturbed.

15. *Udranomia orcinus* Felder 1867 (Plate 8, ♀)

This species has been recorded as a single subspecies from Guatemala to Brasil. Kaye (1940) records the capture of this species: "1♂ Manzanilla, 22.III.1922 (Dr. F.W. Jackson)". Although some of Dr. Jackson's butterflies are in the BMNH, there are no Trinidad specimens of this species, and neither have I caught or seen any. The specimens in the Angostura-Barcant collection over this name are of *Clito littera littera* Mabille, which I recently recorded as new to Trinidad (Cock 1982). Interestingly, Kaye records Dr. Jackson's capture of the riodinid *Nymphidium pelope* Fabricius (mis-spelt *pelops* by Kaye (1940) and subsequently Barcant (1970)) "A very distinctive species of *Nymphidium* discovered at Manzanilla in the swamps 23. iii. 1922 (F.W. Jackson)" and the hesperiid *Chiomara asychis* Stoll "In 1915 and at Manzanilla in iii. 1922 both records made by Dr. F.W. Jackson" suggesting that all three species may have been caught on the same occasion. *Chiomara asychis* I have recorded as occurring quite commonly on the edge of the Nariva Swamp (Cock 1981a) and it also occurs on the edge of Caroni Swamp. While I have not caught *N. pelope*, Barcant (1970) records it from "a trace south of the airfield at Point Fortin." I have visited the airfield at Point Fortin and noted that the trace south-west from the airfield leads to a mangrove-bordered river. If this is the area where Barcant caught *N. pelope*, then this too would seem to be a species associated with swampy conditions. Accordingly Dr. Jackson's records of *N. pelope* and *C. asychis* seem to be reliable records of swamp butterflies and there seems little reason to doubt his record of *U. orcinus*. Somewhere in the swamps of east Trinidad this species probably awaits rediscovery.

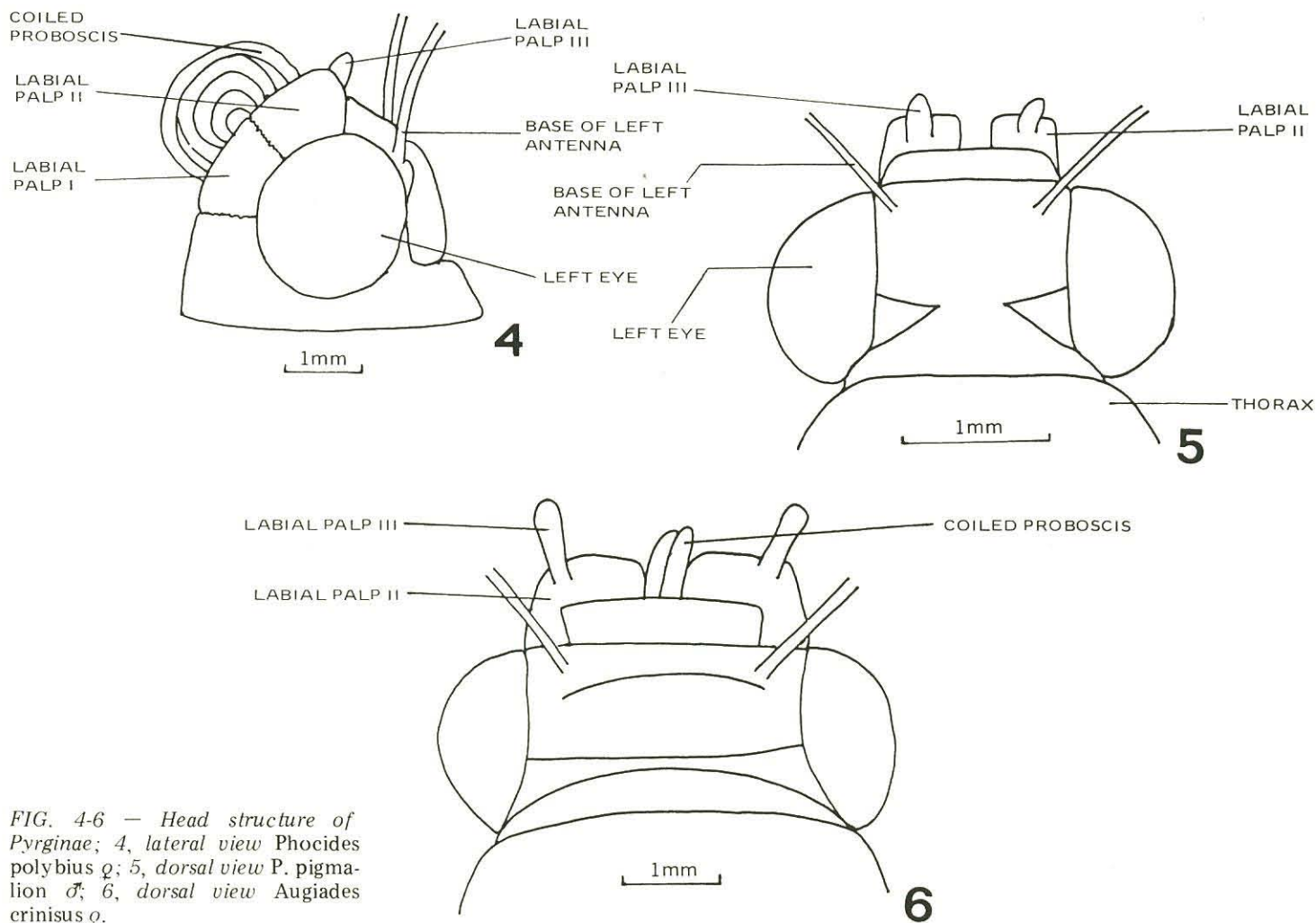
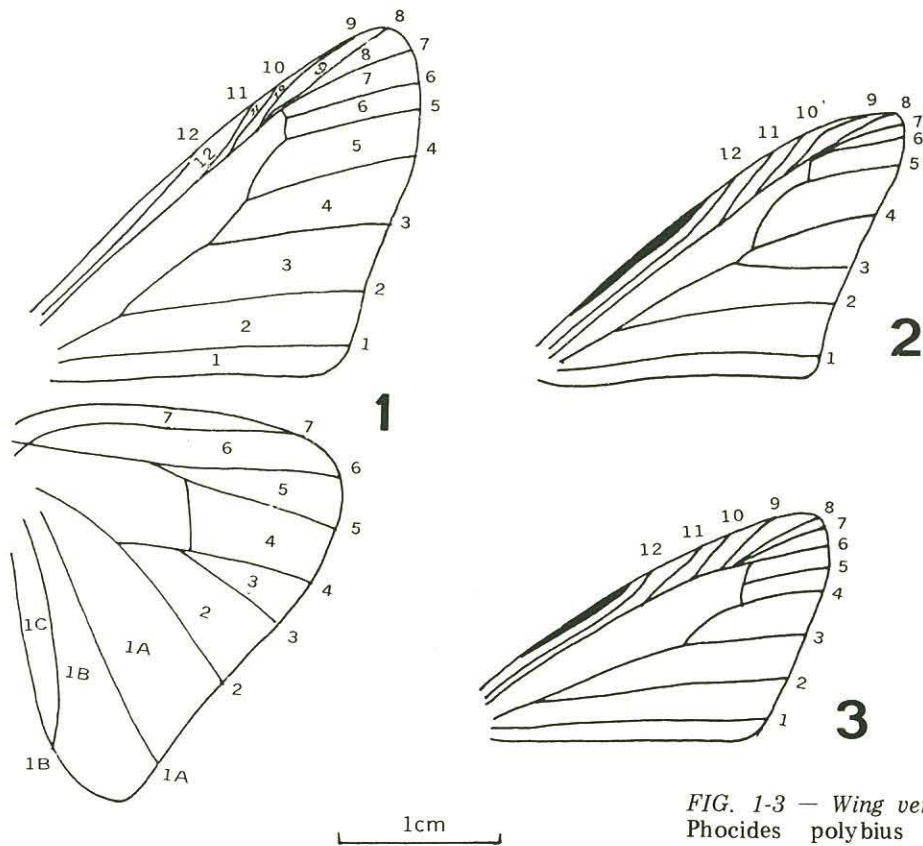
The specimen shown in the plate is from French Guyana (specimen in BMNH). It is a small brown butterfly with hyaline markings.

Moss (1949) records the foodplant of *U. orcinus* as *Gomphia subscandens* Planch. (Ochnaceae) but since this species does not occur in Trinidad and none of the Trinidad Ochnaceae is recorded from swamps, this does not throw much light on the Trinidad situation. Moss describes the larva as "yellow green with a big round head which is bifurcated at the crown."

16. *Drephalys oriander oriander* Hewitson 1867 (Plate 10, ♀)

Recently, I introduced this species to the Trinidad list (Cock 1982) and recorded two captures: my own from El Naranja at about 2000 ft. (March 1979) and Dr. David Hunt's from the Mt. St. Benedict's Pax Guest House (Sept. 1980). To date these remain the only captures.

On the upperside the ground colour is brown, the hindwing spots, the spots in spaces 1A and 1B of the forewing, the fore-



wing base and the hindwing dorsum are yellow-orange, while the remaining spots of the forewing are white. This combination of yellow and white spots is very distinctive. The underside of the forewing is similar, but tinged mauve apically. The hindwing underside ground colour is mauve with a metallic violet tint; the spots (as on the upper surface), spaces 1A, 1B and the edge of 1C are faun, except the marginal area of 1A and 1C which is black; a black area between the two rows of spots at the edge of space 1C. Sexes similar. Forewing length ♂ 22 mm; ♀ 22 mm.

17. *Drephalys alcmon* Cramer 1779 (Plate 11, ♀)

This is a rare species known from the Guyanas and Amazons. Kaye (1940) records one specimen captured "Port of Spain, ii, 1930 (A. Hall)". Since many of the Reverend Hall's specimens are in the BMNH and there are no Trinidad specimens of this species in the BMNH, I doubted this record until I caught a female at Spanish Farm, near Las Lomas (May 1982). Evidently this is a rare species in Trinidad.

This distinctive butterfly is black, marked with white on the upperside. On the underside the forewing costa is yellow-brown to two-thirds of its length; the hindwing white band extends to the wing base, while the marginal area is brown rather than black. Forewing length ♀ 17 mm.

The larva is black, with eleven white bands and ochreous head and anal plate (Moss 1949); it feeds on two undetermined species of Rosaceae.

18. *Augiades criniscus* Cramer 1780 (Plate 9, ♀)

This species occurs as one subspecies from Costa Rica to Bolivia. Although Kaye (1921) records the capture of a specimen from St. Ann's (Oct.-Dec. 1920, A. Hall) I have encountered this species in the south-west of Trinidad only. In the Parrylands oil-field it is to be found occasionally, both in forest where it rests beneath leaves, and in the open feeding on, for example *Chromolaena* (*Eupatorium*) *odorata* L. flowers. In both situations the wings are held flat.

The ground colour is a reddish brown, and there is some variation in the white hyaline markings, the forewing to about one-third and the hindwing to about two-thirds are flushed (strongly on hindwing) with orange. On the underside the forewing base is flushed with white instead of orange, and white spots in spaces 12 and costa extend the discal band to the costa. The underside hindwing markings consist of a broad orange discal band and a narrow submarginal one, spaces 1A and 1B are pale and the wing base is light brown. Forewing length ♂ 25 mm; ♀ 25 mm.

In Brasil the foodplant of this species is *Lecythis jarana* (Hübner) A.C. Smith (Lecythidaceae) (Moss 1949). This species does not occur in Trinidad where the family Lecythidaceae is represented by the cannon ball tree (*Coroupita guianensis* Aubl.) and *Eschweilera subglandulosa* (Steud) Miers, both of which are possible foodplants. Moss describes the larva as light yellow grey and very thin skinned, the head is very big, heart-shaped, light red and adorned in the middle by large black eye spots.

19. *Entheus priassus priassus* Linnaeus 1758 (Plate 12, ♂; 13, ♀)

This species was added, without comment, to the Trinidad list by Barcant (1970). There are three undated male specimens from Tabaquite in the BMNH, and I have captured a female on Las Lappas Trace (Sept. 1979) and a pair near the Arima-Blanchisseuse Road, milestone 9¾ (Oct. 1980). In addition, recently I saw what I believe to be a male of this species on Morne Catharine sitting under leaves at a height of 8-10 m in a

sunlit clearing, and Dr. Victor Quesnel has shown me a male he found in his greenhouses at Talparo. Hence, this is another rare but widely distributed species in Trinidad.

Entheus priassus shows perhaps the most striking sexual dimorphism of any hesperid in Trinidad. The male is black with markings in yellow and orange which are repeated on the underside. The female is dark brown marked in white, with a short orange streak at the base of the cell; the underside lacks this streak and the discal white spot of the hindwing extends to the dorsum and the base of the wing. Forewing length ♂ 20 mm; ♀ 20 mm.

Moss (1949) also records this species as feeding on Lecythidaceae (cf. *Augiades criniscus*), the species being *Gustavia ruizana* Berg and *Lecythis* sp. The same two plants suggested for *A. criniscus* may be used by *E. priassus* as foodplants. Moss describes the larva as dull whitish green; the head rather flat, heart-shaped, plain glossy red-brown without eye spots.

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