

The Skipper Butterflies (Hesperiidae) of Trinidad Part 8, Genera group E (second section)

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Introduction

This is the eighth in a continuing series on the identification and biology of the Trinidad Hesperidae. It continues directly from part 7 (Cock 1991).

I would like to reiterate my thanks to the following for their assistance: Dr C Dennis Adams, Mrs Yasmin Comeau, Bhorai Kalloo and Winston Johnson of the National Herbarium, identified the plants from which I reared Hesperidae in Trinidad. The following have very kindly assisted in providing access to the collections in their care: Dr George McGavin of the Hope Department, Oxford University Museum (HD), Dr Phillip Ackery of The Natural History Museum (NHM) (formerly British Museum -Natural History), Dr Mark Shaw of the Royal Scottish Museum (RSM), Mr Scott Alston-Smith, his private collection (SAS), Professor Julian Kenny and Dr Gene Pollard of the University of the West Indies, St. Augustine (UWI).

I would particularly like to thank Scott Alston-Smith for reading and commenting on this paper, and also for providing additional records and observations which have not previously been published (indicated as SAS in text). Dr Andrew Polaszek (International Institute of Entomology) kindly identified the *Prosierola* sp., Mr Steve Steinhauser (Research Associate, Allyn Museum of Entomology) very promptly answered my enquiries about W. J. Kaye's material in the Allyn Museum of Entomology, throwing light on two thorny taxonomic problems.

92. E31/7 *Bolla cupreiceps* Mabille 1891

Plates 1-2

This species is found from Mexico to South Brazil (TL Honduras). There are good series from Mexico, Colombia and Peru in the NHM (Evans 1953), but few from elsewhere, and few females from any area. Kaye (1940) first recorded this species in Trinidad from captures by himself and Sir N. Lamont.

The male is one of only two Trinidad species to have the dorsal surface of the head coloured orange; the other is the



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Plates 1-2

much smaller *Staphylus kayei* sp. nov. which is treated next. UPS dark brown, with an indistinct, diffusely macular submarginal brown band; UPH also has an irregular, macular discal band; no hyaline spots. UNS brown with similar, but paler, markings to the UPS. Dark orange on dorsal surfaces of palpi, head, and anterior margin of thorax (collar); rest of body dark brown; head brown beneath. Illustration in Lewis (1973, Plate 81, No. 9, ♂. Costal fold filled with pale scales; F ♂ 17 mm.

The female is quite similar to the male but lacks the orange colouring on the head, is larger, brown rather than dark brown, and has small white hyaline apical spots in spaces 6-8; wing markings UPS and UNS similar to male, but more distinct, and UNH tornal area broadly pale. The female resembles the females of *Nisoniades* spp. in several aspects, but as pointed out in Cock (1991), *B. cupreiceps* lacks the dark discal bands UPF and UNF of *Nisoniades* spp.; UNH, *Nisoniades* spp. have discal bands, whereas *B. cupreiceps* has submarginal bands which are of pale spots on a dark background, rather

than vice versa as in *Nisoniades* spp. F ♀ 19 mm.

This is an uncommon and local species found principally in restricted areas in the South. Kaye (1940) records a specimen from Port of Spain (23.ii.1926), and I took a male in the Upper Guanapo Valley (23.i.1988). Captures in the South include those by Sir N. Lamont at Palmiste (Kaye 1940) and Morne Diable (♂ 22.v.1916, UWI; 2♂ 7.x.1918, UWI; ♂ 5.iv.1922, RSM). I have specimens from Parrylands (♀ 2.ii.1980; ♂ 13.ii.1980) which were taken in a sunlit clearing in the forest. SAS has several specimens from the Quinam area where at times it is not rare. Adults will occasionally come to flowers such as *Bidens pilosa* (SAS observation). Life history and food plants unknown, but *Bolla brennus brennus* Godman & Salvin has been recorded as feeding on tomato, *Lycopersicon esculentum* (Solanaceae) in El Salvador (Scott 1986).

Staphylus

This genus contains a large number of very similar, often uncommon species (at least in collections). I can name only three species from Trinidad, one of which is restricted to Chacachacare Island. I have a fourth species so far represented only by female specimens, which is treated as *Staphylus* sp. indet. below. No members of this genus are recorded from Tobago.

The male genitalia show clear differences between the three species. In addition to the diagrammatic figures of Evans (1953), there are good published illustrations for *S. kayei* and *S. lenis*, and I include here drawings of the genitalia of *S. tyro* (Figures 1-3). I have not examined the female genitalia systematically to demonstrate specific differences, but anticipate this could be a rewarding area of study. Superficially I have observed substantial differences between species in the tergites around the female genitalia.

The recorded food plants of the genus outside Trinidad include *Chenopodium* (*Chenopodiaceae*), *Alternanthera*,

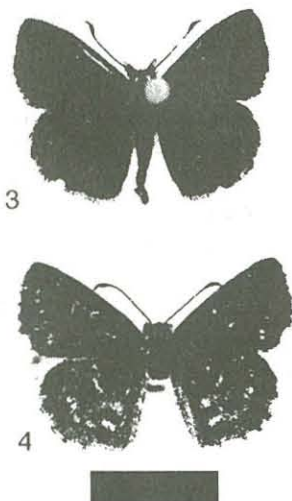
Amaranthus, *Achyranthes* and *Celosia* (Amaranthaceae) (Scott 1986).

93. E32/6 *Staphylus kayei* sp. nov.

= *Staphylus sinepunctis* Kaye sensu Steinhauser 1989, nec Kaye 1904

= *Staphylus vulgata sinepunctis* Kaye sensu Williams & Bell 1940, Evans 1953, Cock 1982c, nec Kaye 1904

Plates 3-4



Plates 3-4

Kaye (1904) described *Staphylus sinepunctis* from Trinidad on the basis of a male he took "at the end of June 1901 at St. Ann's Valley." Williams & Bell (1940), Evans (1953) and hence Cock (1982c) treated *sinepunctis* as a subspecies of *S. vulgata* Moschler. Steinhauser (1989) recently revised the status of *sinepunctis* in this sense to that of a valid species. In addition to Trinidad material, Evans (1953) lists a male from Margarita Is, Venezuela, and Steinhauser (1989) records another male from Ecuador.

Kaye's (1904) original description is as follows: "Fore-wing without any apical spots, brown with the markings black-brown. Across the centre of the wing is a broad V-shaped mark the basal half of which is the broadest and the marginal half is duplicated for half its length from costa, the double bands uniting at near vein 3; beyond the V is a sinuate dark line on a paler ground-colour reaching down to about vein 4 and then merging into the outer half of the V-mark. Tornus with a large round patch of a somewhat dull golden colour but very inconspicuous. Hind-wing with a broad dark central fascia much curved and followed by a

lighter edging. Under-side of fore-wing almost unicolorous shining very dark brown slightly lighter at tornus. Under-side of hind-wing with a large dull fawn coloured patch at anal angle extending over about half the wing area. Exp. 28 mm."

Compare this with the illustration and the colour notes below. Remarkably, Kaye's description does not mention the single most characteristic feature of the species treated here: the orange UPS of the head! Add to this fact (1) the type cannot be located, (2) in Lamont's collection in UWI (Cock 1982c) and RSM the material over the *Staphylus sinepunctis* label is nearly all *Ouleus fridericus* Geyer, and (3) specimens in these series, and one of Kaye's own specimens of *O. fridericus* in the Allyn Museum (S.R. Steinhauser pers. comm.) have *S. sinepunctis* labels in Kaye's writing, and it becomes clear that Kaye's *sinepunctis* has been misinterpreted.

Hence the taxon known as *Ouleus fridericus trina* Evans (Evans 1953, Cock 1982c) is *Ouleus fridericus sinepunctis* Kaye comb. nov. and the species identified as *Staphylus sinepunctis* (Williams & Bell 1940, Evans 1949, Cock 1982c, Steinhauser 1989) is un-named. I therefore name this species *Staphylus kayei* sp. nov.

Holotype. ♂ In NHM: Trinidad, St George's, xii.1891 (C.W. Ellacombe)

Paratypes. 10♂ 2♀, in NHM: ♂ Trinidad, St George's, xii.1891 (C.W. Ellacombe); ♂ Trinidad, in coll. MJWC: ♂ Brasso, 11.x.1993 (MJW Cock); ♀ Curepe, iii.1980 (MJW Cock) Plate 4; ♂♀, Rio Claro-Guayaguayare Road, milestone 4.5-5.5 (MJW Cock); ♂ Spanish Farm, Las Lomas, 17.xii.1980 (MJW Cock) Plate 3, in coll. IIBC: ♂ Curepe, v-vi.1979 (MJW Cock); ♂ Las Lomas, Spanish Farm, 7.iii.1980 (MJW Cock); ♂ Nr. Moruga Bouffe, 23.v.1982 (MJW Cock), in RSM: ♂ Moreau, 28.xii.1937 (Sir N Lamont); ♂ Palmiste, 29.ii.1932 (Sir N Lamont).

The male of *S. kayei* resembles a small male of *B. cupreiceps*. In common with that species, and no other Trinidad ones, the dorsal surfaces of the palpi, head and anterior margin of the thorax are orange, although less strongly so than in *B. cupreiceps*. UPS dark brown, almost black, with indistinct, pale submarginal

bands, but no spots. UNS brown, with submarginal bands and tornal area of UNH pale. Williams & Bell (1940) illustrate the male genitalia. Costal fold; F ♂ 12 mm.

Female UPS brown, with UPF a macular, pale brown submarginal band, and a pale brown bar at end cell; apical hyaline white dots in spaces 7-8. UPF cilia brown, the ends of the veins darker, and space 1 white. UPH with a macular submarginal band and a bar at end cell as in UPF, but also with a diffuse pale discal bar across spaces 1C-3. UPH cilia brown, darker at the end of the veins, with longer white cilia most noticeably in spaces 1C, 2, 3 and 5. UNF brown; pale macular submarginal band; pale marginal spots in space 1 adjacent to white cilia. UNH brown, with tornal third grading to creamy white; submarginal band of pale spots in brown area and brown spots in white area; pale bar at end of cell. The white tornal area UNH distinguishes female *S. kayei* from other *Staphylus* spp. in Trinidad. F ♀ 13 mm.

Kaye (1904, No. 252; 1921, no. 375) records *Staphylus aurocapilla* Staudinger on the basis of a specimen taken by Lady Broome probably in the Botanic Gardens. *S. aurocapilla* is restricted to southern Brazil, Uruguay and Argentina, and since it too has the UPS of the head golden, most probably *S. kayei* was the species caught.

This species is widespread in lowland disturbed situations, but generally scarce. It does not seem to extend into the Northern Range to any great extent, and none of the records I have is from more than 150 m (500 ft.) altitude. Adults fly over low vegetation in partially shaded situations, settling on leaves, and feeding at flowers.

Kendall (1976) records that *S. vulgata* Moschler feeds on *Achyranthes aspersa* (Amaranthaceae) in Mexico, and notes that it feeds on related Amaranthaceae in South Texas. The closely related *S. kayei* is also likely to feed on species of Amaranthaceae.

94. E32/20 *Staphylus lenis* Steinhauser 1989-Plates 5-7

This species has recently been described from Trinidad (Steinhauser 1989), and is the species known as *Staphylus mazans ascalaphus* Staudinger in Kaye (1904, 1921, 1940), Evans



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Plates 5-7

(1953) and Cock (1982c), although it should be noted that *S. ascalaphus* and *S. mazans* Reakirt are now considered to be separate species anyway (Monroe & Miller 1967, Freeman 1969). Kaye first obtained this species from Trinidad in 1898 (Kaye 1904), and his specimens are now part of the type series along with specimens from St. Ann's Valley, Port of Spain, St. Clair, Palmiste, and a single male from Mexico.

The male is similar to the male of *S. kayei*, but lacks the orange colouring on the head (fresh specimens have a few orange-yellow scales, especially on the palpi), and has white hyaline dots in space 2 (below origin of vein 3), spaces 7-8, and cell; the UNS of the palpi and head are light grey-brown, the cheeks white. Steinhauser (1989) illustrates the adult male (Figures 47,48) and the male genitalia (Figure 91). Lewis (1973, Plate

87, No. 13) illustrates the male of *S. mazans*, which on external characters is almost indistinguishable from *S. lenis*. F ♂ 12 mm.

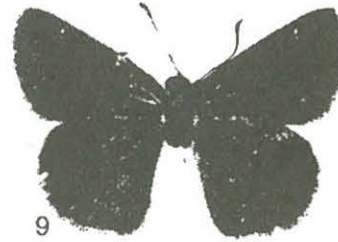
The female is quite variable, which can lead to confusion. UPS brown, with dark brown discal, submarginal and marginal bands. Cilia brown, darker at ends of veins. White hyaline dots in spaces 2 (below origin of vein 3), 7-8 and cell (distal margin of discal band); additional spots may also be present in spaces 1 B (2, one above the other, adjacent to origin of vein 2; 2, one above the other, on basal margin of submarginal line), 3 (at base), 6 and cell (2 on basal margin of discal band, one above the other). The submarginal spots when present in space 1 are displaced outwards from the spot in space 2, whereas in *Staphylus* sp. indet. they are immediately below the spot in space 2. UNS brown with bands as UPS; tornal area UNH paler, but not whitish as *S. kayei*. Steinhauser (1989) did not know the female. F ♀ 12 mm.

This is a fairly common species, widespread in disturbed and open situations such as roadsides in lowland areas and extending to about 250 m (800 ft.; e.g. Brigand Hill, iv.1982). It often flies together with *S. kayei*. It is perhaps commoner in the dry season, and feeds freely at flowers such as *Bidens pilosa*.

I have found a fifth instar larva of *S. lenis* on *Alternanthera tenella*, a common roadside herb of the Amaranthaceae (Brasso, 1.x.1994). The larva was in a shelter made from an entire leaf rolled upwards along the mid-rib. The mature larva measured about 15 mm. Head chordate in shape, rounded; black, covered with long pale erect setae; the basal 'neck' very narrow. Body translucent, dull dark green; a clear dorsal line owing to the absence of subcutaneous fat bodies; a narrow white sub-dorsal line; a white lateral line owing to the trachea connecting the spiracles visible through the cuticle. Spiracles pale, inconspicuous; legs and prolegs concolorous. The pupa was formed in a shelter constructed from a single leaf by folding the tip upwards to the base. The male pupa which measured 14 mm is rounded with no frontal spike; it is covered with white waxy powder (although the inside of the shelter is not) apart from the T1 spiracle which is brown and conspicuous.



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Plates 8-9

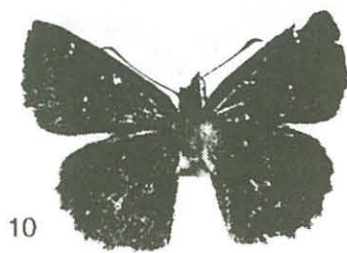
**95. E32/21 *Staphylus tyro* Mabille 1878
Plates 8-9, Figures 1-3.**

In Cock (1982b, c) I treated this species as *Staphylus azteca tyro* Mabille, following Evans (1953). However, here I follow Steinhauser (1975, 1989) in treating *S. azteca* Scudder and *S. tyro* as separate species. Venezuela (TL) and Colombia are the principal range of *S. tyro*, while *S. azteca* occurs from Mexico to Costa Rica. Cock (1982b) recorded this species from Chacachacare Is, adding it to the Trinidad list.

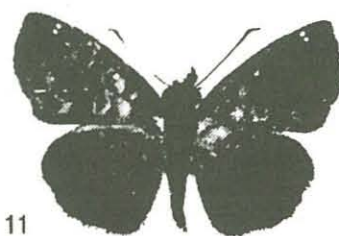
Male plain brown UPS and UNS; indistinct traces of apical spots in spaces 7-8; indistinct traces of darker discal bands; UNS head light whitish brown, except third segment of labial palpus dark. The male lacks the discal spots of *S. lenis*, and the genitalia (Figures 1-3) are distinct. Costal fold; F ♂ 12 mm.

Female similar to male but UPS with faint discal and marginal brown bands, and tiny hyaline white apical dots in spaces 6-8, of which that in space 8 is larger. The reduced F spotting distinguish the female from that of *S. lenis*, while the uniform UNH will distinguish the female of *S. tyro* from that of *S. kayei* which is pale at the tornus UNH. F ♀ 13 mm.

So far this species is known only from Chacachacare Is. and not from the island of Trinidad. In January 1980, I took a male at Rust's Bay and a female on the track to the lighthouse (Cock 1982b).



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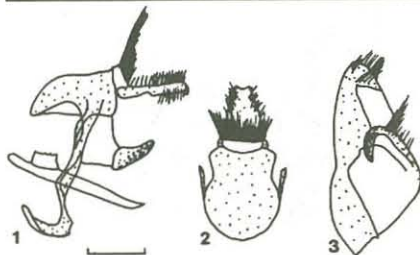


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Plates 10



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Figures 1-3 Male genitalia of *Staphylus tyro* (Chacachacare Island, 15.i.1980); scale bar 1 mm. 1, genitalia with valves removed, lateral view; 2, uncus and gnathos dorsal view; 3, left valve, internal view

Kendall (1976) records the larval food plant of *S. azteca* as *Celosia nitida* (Amaranthaceae) in Mexico. It therefore seems most likely that *S. tyro* will also be found to feed on one of the Amaranthaceae.

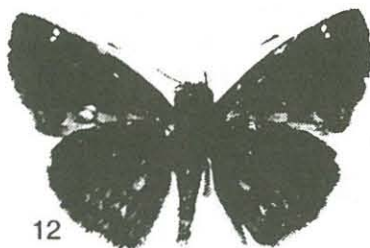
95a. E32/?*Staphylus* sp. indet.

Plate 10

I have two females of this fourth species of *Staphylus*: one from Parrylands (13.ii.1980) and the other reared from Inniss Field (2.x.1994). A possible third specimen from Curepe lacks an abdomen. I cannot name these without an associated male.

The females are brown, with scattered pale scales forming indistinct narrow bands; F white hyaline spots in space 1B (double discal, just below vein 2), 2 (just above spot in space 1B), 3 (a trace only, outwardly displaced from those in 1B and 2), 6-8; UNH tornal third of wing pale (but not as pale as in *S. kayeri*); F ♀ 13.5 mm.

The larva from Inniss Field was collected on what I believe was a member of the Acanthaceae, but unfortunately the food plant material which I collected for identification was lost. With hindsight, this could have been a member of the



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Plates 11-12

Amaranthaceae. The food plant was growing along a forest path, in an area where *Ouleus fridericus sinepunctis* also flew; adults of the two species might well be confused in such a situation, but *Staphylus* sp. has tiny white hyaline spots on the fore wing, as indicated above.

The larval shelter was an irregular flap folded over upwards and hinged along its long axis. The larva head was rounded, slightly chordate in shape; the posterior margin of the head was very strongly constricted; dull and rugose; covered with long pale setae. Body dull translucent green; dorsal line slightly darker; lateral line apparent due to trachea visible through cuticle; legs concolorous; spiracles inconspicuous. The pupa measured 12 mm; rounded in contour; brown, covered with white waxy powder; spiracle T1 free of wax, brown and conspicuous.

Gorgythion

This genus can be one of the most confusing in the Trinidad skipper fauna. However, if reliably identified reference material is available, accurate determinations can be made. Three of the six described species of the genus occur in Trinidad. The male genitalia of all three species are distinct (Evans 1953).

96. E36/1 *Gorgythion begga pyralina* Möschler 1876

Plates 11-13

Plates 11-13

The subspecies *pyralina* was described from Surinam and its range extends from Mexico to the Amazons and Bolivia. The nominate subspecies, described without locality, differs from *pyralina* in having a white tornal area UNH, and is found in the Andes, South Brazil to Argentina. Evans (1953) treated *plautia* as a subspecies of *begga*, but I follow Mielke (1973) who raised it to the status of a separate species, treated separately below. Kaye (1904) recorded *pyralina* as a distinct species from Trinidad.

The male UPS is very dark brown, with mottled markings all over the UPF and the UPH except the margin; white hyaline apical spots in spaces 7-8. UNS brown, with very obscure markings UNF, and coarse striations UNH, strongest in the tornal area. The female is similar to the male, but the overall impression of the UPS is mottled brown and dark brown, rather than the very dark brown of the male; in some specimens the mottled markings of the UPH extend to the margin, but become quite diffuse. Illustration in Lewis (1973, Plate 83, No. 6, UNS ssp. *begga* Pritwitz with white area UNH tornus). No costal fold; F ♂ 13-15 mm; F ♀ 13-14 mm.

The male can quite easily be separated from the other two members of the genus. The male of *G. beggina escalophoides* is a lighter brown, comparable to the female of *G. begga pyralina*, and the fore wings are more rounded, the termen angled at vein 3, rather than at vein 4 or 5 as in *G. begga pyralina*. *G. plautia* also is very dark brown and has pointed wings, but it is smaller, the UPS markings are reduced to the base of the wings, and the UNS tornal area is distinctly white.

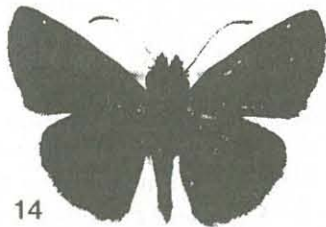
The females of the three species of *Gorgythion* are rather more difficult to distinguish. *G. plautia* is smaller than the

other two, and although the markings are similar, the UNS white tornal area should separate this species. The female of *G. begga pyralina*, and both sexes of *G. beggina escalophoides*, are confusingly alike. However, in material before me, *G. beggina escalophoides* has the UPH markings extending clearly to the margin, whereas in *G. begga pyralina*, they fade out or become obscure before the margin is reached.

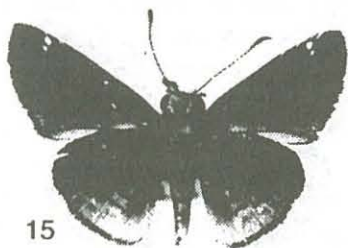
This species is to be found quite commonly in scrub and secondary forest, and along forest tracks throughout the island, but mostly at low altitudes. I have seen several specimens from Nariya Swamp (e.g. Cock 1982a). Two males captured in San Miguel Valley (behind St. Benedict's - also known as St. Michael Valley) were playing together in a shaft of sunlight in an old cacao estate (17.x.1979). Life history and food plants unknown.

96a. E36/1 *Gorgythion plautia* Moschler 1876

=*Sostrata pusilla manzanilla* Kaye 1904 syn. nov.



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Plates 14-16

Although Evans (1953) treated *plautia* as a subspecies of *Gorgythion begga*, it differs in markings, wing shape and genitalia and overlaps in range with *G. begga*. Hence, I fully agree with Mielke (1973) who separated it from *G. begga* as a distinct, valid species. Its range extends from Trinidad to the Guyanas (TL Surinam) and Brazil. Schaus (1902) described *beggoides* as a new species from Trinidad, but Evans (1953) lists it as a synonym of *plautia*. Kaye (1904) recorded *beggoides* from Trinidad as a subspecies of *begga* and comments that it is "a rather variable species in size and intensity of markings"; however, in view of my conclusions below he was probably referring to another species, or had confused two sexes of one of the *Gorgythion* spp.

Kaye (1940) described *Sostrata pusilla manzanilla* from a specimen he took at Manzanilla (12.ii.1926). Evans (1953) identified a male from Venezuela in the NHM as this subspecies but there are no other specimens attributed to it. Kaye's (1940) description is as follows: "A very dark local race without any blue scaling at base but instead a lighter brown area with dark blackish spots. The large marginal area very dark brownish-black."

The type was in Kaye's collection and ought to be in the Allyn Museum of Entomology. However, S.R. Steinhauser (pers. comm. 1992) has checked the specimen in the type collection, and finds it is a specimen of *Gorgythion plautia* taken at Manzanilla, 22.iii.1922 by F.W. Jackson, and labelled "*Sostrata pusilla manzanillae* (sic!) Kaye", in Kaye's writing, along with a museum Type Label. Having checked all the available material I conclude that the type of *manzanilla* is now lost, and Kaye labelled the Jackson specimen in his collection to match his species. Kaye's original description given above matches the male of *G. plautia* quite well. Hence *manzanilla* is almost certainly a junior synonym of *G. plautia*. Accordingly, in the absence of the original type, I accept the specimen in the Allyn Museum as representative of the taxon intended by Kaye.

Male UPS very dark brown, almost black; mottled markings vary in extent from basal third to basal half of UPF and UPH; hyaline white apical dot in space 8 and sometimes in 7; UNF brown, paler at dorsum; UNH brown, tornal third shad-

ing into white, several irregular brown discal striations. Female similar to male, except wings much more rounded, and mottled markings extend over the whole of the UPF. Differences from other members of the genus are discussed under *G. begga pyralina* above. No costal fold; F ♂ 13 mm; F ♀ 11.5-12.5 mm

This species is considerably scarcer than its putative conspecific *pyralina*, occurring principally on the lower ridges of the Northern Range (Morne Catharine to Guanapo Valley). However, I also have a female from the summit ridge of the Trinity Hills (29.xii.1981) and I have seen it at Inniss Field (2.x.1994). There is a female in the NHM from "Mora Forest" collected by S. A. Neave (16.i.1924), a male from Manzanilla in the Allyn Museum, and it has been taken at Brigand Hill (SAS). Although this species is generally found in forested situations, adults will come to forest margins to feed on flowers such as *Bidens pilosa*.

Moss (1949) includes no information on this species, although the NHM collection includes material that he reared from 'lucca creeper' or 'cabe'. His preserved material suggests that the larva has a light brown heart-shaped head, with the dorsal indentation darker and shiny; the ocelli are pale against a dark background and the whole head is covered with brown hairs. The differences between Moss's material and mine described below suggest there may be some confusion with the labelling of Moss's material.

SAS has reared *G. plautia* in Trinidad from *Hiraea reclinata* (Malphigiaceae). I have reared *G. plautia* from a fourth instar larva found on *Heteropteris nervosa* (also Malphigiaceae) on Morne Catharine (26.ii.1994). The early larval shelter is a triangular flap cut from the edge of a red-green flush leaf. Larger larvae shelter between two leaves, one on top of the other, the larva resting on the under surface of the upper leaf. The larva grows to about 22 mm, and the fourth and fifth instars are similar. The head is chordate; predominantly brown; posterior margin black; a broad, dark, dorsal bar across the antero-dorsal margin between the two apices; from each end of this bar, a short, broad, yellow line runs downwards and inwards, to about half way down the face; the area between these two lines is yellow with brown spots; lower part of face black-brown below this yellow area; lat-