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## STUDIES IN THE GENERA OF AMERICAN HAIRSTREAKS. 6.

### A Review of the Hubnerian Genus *Olynthus* (Lycaenidae: Eumaeini)

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20	Berein, Coitus	20
	Olynthen, Olynthi	
	Urgroblaten	

Die Flügel unten vom Rumpfe aus blüthroth; die Senfen latvenublich bezeichnet.  
807 *Olynthus Inachus* Cram. 36. D.  
808 *O. narbal* Stoll 38. 6. 6. F.

With the above fragmented description of two very dissimilar species, Hubner established the genus *Olynthus* in his Verz. bekannt Schmett. [1819]. Scudder (1875) briefly and without elaboration or reason stated that "Narbal may be taken as the type". Hemming (1967) confirmed the selection of *Papilio narbal* Stoll as the generic type.

The purpose of this work is to provide a more complete and detailed description of the genus *Olynthus* and to separate and define those species belonging to this genus from the all-inclusive, ubiquitous *Thecla*.

In spite of having been a valid generic name for over 150 years, the genus *Olynthus* has not been used by any past authors or workers in the neotropical Lycaenidae. *Olynthus* as presently conceived contains eleven species. All are uncommon in collections and one species is extraordinarily uncommon, being represented in all the major collections I have studied by a total of five males; no females have been described. Draudt, *in* Seitz (1922) carries these eleven species in a total of four different species groupings without reference to *Olynthus*. Comstock and Huntington (1958), Hemming (1967) and Eliot (1973) merely list *Olynthus* as a valid name among many other neotropical lycaenid genera.

The most disappointing aspect of this study has been the lack of available study material—it obviously just does not exist; added to this is the fact that much of the material available had sketchy, inadequate and, I feel certain, not altogether reliable collecting data. As already stated, most of the species in *Olynthus* are uncommon, some exceptionally so. With a basic lack of study material, it became impossible in a genus of obviously very closely related taxa, to include a satisfactory and detailed analysis of species groups. I am not completely satisfied with the treatment of the *punctum-nitor* complex, but, given the material at hand, I feel it is acceptable. The relationship between *narbal* and *ophelia* needs further study. Ecological and life-history work will, I am sure provide a much clearer understanding of these relationships.

In spite of the above, I am confident that *Olynthus* is a valid genus and that this study has included most of the taxa that belong to it; in essence that is the purpose of this work.

*Olynthus* is neotropical, occurring from Panama in the north to Paraguay in the south with the greatest number of species found within the vast area encompassed within the Upper and Lower Amazon Basin drainage.

The following abbreviations are used to indicate the collections from which specimens have been examined and data recorded in the course of this study: (BM) British Museum (Natural History), London, England; (AME) Allyn Museum of Entomology, Sarasota, Florida; (AM) The American Museum of Natural History, New York, N.Y.; (USNM) Smithsonian Institution (National Museum of Natural History), Washington, D.C.; (CM) Carnegie Museum of Natural History, Pittsburgh, Pa.; (MCZ) Museum of Comparative Zoology, Harvard University, Cambridge, Mass; (MN) Museu Nacional, Rio de Janeiro, Brasil; (GBS) Gordon B. Small collection, Balboa, Canal Zone; (RR) Robert Robbins collection, Tufts University, Medford, Mass.; (N) the author's collection.

#### Genus *Olynthus* Hubner, 1819

Type species: *Papilio narbal* Stoll, 1790.

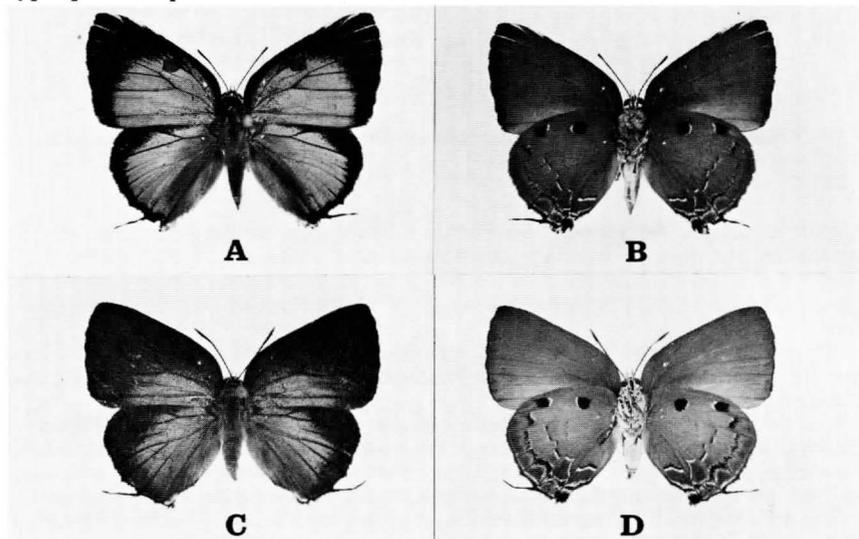


Figure 1. (A) *Olynthus narbal* (Stoll) ♂ La Pita, Canal Zone, 10 June 1963 (G. B. Small); (B) underside of (A); (C) *Olynthus narbal* ♀ Farfan, Canal Zone, 13 Dec. 1967 (S.S. Nicolay); (D) underside of (C).

Hindwing with two tails, a rudimentary projection at the end of vein  $Cu_1$ , a longer tail at the end of  $Cu_2$ ; anal angle lobed. Male forewing with a round or oblong scent pad bisecting the anterior portion of the discocellular (cell-end). Underside of the hindwing with or without a round or linear post-basal spot below the costal margin. Abdomen pale yellow or cream colored below, dark brown with blue scaling above. Palpi short, porrect, the terminal segment in the male half the length of the second segment; in the female the terminal and second segments sub-equal. Eyes densely covered with short, pale bristles. Antennae less than half the length of the forewing costa, the club gradually thickened to somewhat less than twice the diameter of the stalk.

Male genitalia stout, heavily chitinous with a short, broad heavy saccus; the vinculum very broad, without lateral or anterior extensions, connecting to a broad, heavily chitinous uncus. The falces long, slender. The valvae separate, long, evenly tapered with a short, complex cup-like lateral process at the base. Aedeagus long and stout, somewhat longer than the complete genital ring, curved dorsally in an even sweeping arc and without cornuti.

Female bursa copulatrix with two long, heavily sclerotized spines on the dorsal plate, the ventral plate thinly chitinous, somewhat membranous. The ductus bursae a stout, chitinous, funnel-like tube, slightly curved dorsally, narrowed at the entry into the cervix bursae. The cervix bursae modified only slightly, the ductus seminalis enters dorsad. The corpus bursae large, equal to or longer than the remainder of the complete ductus bursae, and with two simple relatively large thorn-like signa.

On the upperside, male and female species of *Olynthus* and *Parrhasius* look very much alike; the same very dark, brilliant blue with dark outer wing margins of varying width and the essentially round or ovate scent pad on the forewing of the male. The primary differences are to be found on the underside of both fore and hindwings. *Olynthus* species have generally very sparse, if any, markings on the forewing and on some species on the hindwing as well; only one species has linear or macular post-discal markings approximating those in *Michaelus*. The primary markings on the hindwing in *Olynthus* are not discal but post-discal or pre-marginal with no cell-end streaks. The hindwing markings are similar to those of the genus *Michaelus*, although the basic color of the upperside is quite different. Generally, both fore and hindwing outer margins are more rounded and curved in *Olynthus*, the apex of both wings less acutely angled, giving the appearance of a rounder, less angular wing. The blue color on the upperside is also very slightly lighter in color in *Olynthus* than in *Parrhasius*; it is a paler steel-blue in *Michaelus* than in either *Parrhasius* or *Olynthus*. The latter characters are rather subtle and, unless compared directly, are difficult to assess.

The genitalia of both sexes reveal substantial and consistent differences. Particularly notable is the form of the male valvae which in *Olynthus* are long and stout with a lateral recessed area or pouch-like cavity near the base of the structure and the long, stout and fully curved aedeagus. The male genitalia of most species in *Olynthus* are very similar and it would be difficult to distinguish species based solely on differences in the male genitalia. In addition to less noticeable features in the ductus, female genitalia of *Olynthus* have a single stout, sharply pointed, long spine at each side of the dorsal plate as contrasted with the smooth, oval or round, unadorned dorsal plate in both *Parrhasius* and *Michaelus*. As in the males, the female genitalia in most species are very similar but generally more diagnostic than the male genitalia.

#### Key to the Species of *Olynthus*

1. Underside of hindwing with a red cubital spot between veins  $Cu_1$  and  $Cu_2$  . . . . . 5
- Underside of hindwing without a red cubital spot between veins  $Cu_1$  and  $Cu_2$  . . . . . 2
2. Underside of hindwing with two large patches of white scaling, one at the apex and a larger patch near the wing base. . . . . *porphyreticus*
- Underside of hindwing without two large patches of white scaling . . . . . 3
3. Underside of hindwing with two round black spots below the costal margin, one near the apex, the other near the wing base. . . . . *narbal*
- Underside of hindwing without black spots near the costal margin . . . . . 4

4. Underside of hindwing with a large patch of red scaling at the wing base; upperside forewing dark apical and outer wing margins narrow and of even width ..... *hypsea*  
 Underside of hindwing with a small, narrow red spot at wing base; upperside forewing dark apical and outer wing margins very wide, triangular ..... *ophelia*
5. Underside of hindwing with stark white postbasal and postmedian bands; outer half with dense white overscaling ..... *avocea*  
 Underside without white bands and white overscaling ..... 6
6. Underside of hindwing without a post-basal spot; cubital red spot broadly red, partially bridged or connected to a red anal spot ..... *essus*  
 Underside of hindwing usually with a small post-basal spot; cubital spot small .... 7
7. Upperside of forewing dark apical and outer wing margins evenly narrow ..... 8  
 Upperside forewing dark margins wide. .... 9
8. Underside of wings, particularly hindwings with a dark purplish sheen; postmedian line or band not well developed ..... *nitor*  
 Underside of wing brown, postmedian band well developed, with or without a small post-basal spot below costa ..... *punctum*
9. Upperside of forewing dark apical and outer margins wide, triangular; underside with a definite purplish cast ..... *ostia*  
 Upperside forewing and hindwing dark apical and outer margins evenly wide; underside ground color, warm yellowish-brown ..... *fancia*

*Olynthus narbal* (Stoll)

Figs. 1A, 1B, 1C, 1D, 2, 3, 32.

*Papilio narbal* Stoll, 1790, p 168, pl 38, figs 6, 6F. Hubner, 1819: 80. Comstock & Huntington, 1961, 69:191.

*Polyommatus narbal*, Godart, 1824:627.

*Thecla narbal*, Lucas, 1835 :86, pl 44 fig 2. Westwood, 1852:484.

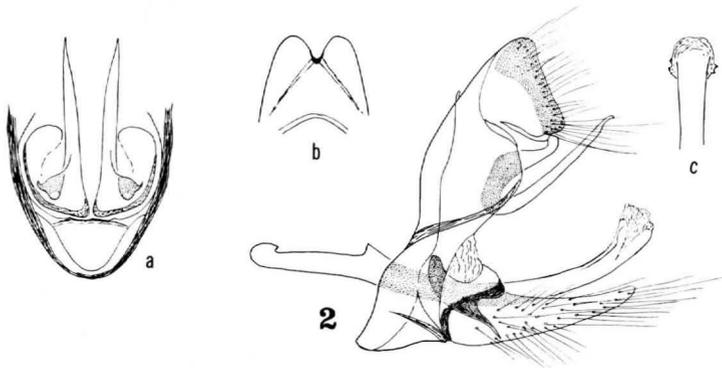


Figure 2. Male genitalia of *O. narbal* (Stoll), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

Lucas, 1857:600. Hewitson, 1867: 91. Herrich-Schäffer, 1868:176. *ibid*, 1870:25. Kirby, 1871:387. Scudder, 1875:232. Draudt *in* Seitz, 1922, V:764. Lathy, 1926:42. Huntington, 1932:210. Comstock & Huntington, 1943:59.

*Thecla fessa* Moschler, 1883:310 p1 17 fig 4. Druce, 1907:569. Comstock & Huntington, 1960, 68:108. Draudt *in* Seitz, 1922, V:765.

*Thecla amplus* Druce, 1907:582-583 p1 33 Fig. 13. Draudt *in* Seitz, 1922, V:764 p1 150k. Comstock & Huntington, 1959, 67:69.

The original description, duplicated in German and French, would serve no useful purpose quoted here. Draudt *in* Seitz (1922) states "*Th. narbal* Stoll is unknown to me in nature." The Druce (1907) description correctly compares the insect with *Thecla ophelia* Hewitson. Lathy (1926) considered *amplus* the same thing as *narbal*, or at best, a local race, and *fessa* as nothing more than a female of *narbal*. I agree with Lathy's opinion and have placed both *amplus* and *fessa* as synonyms.

*Narbal* is not uncommon in the Republic of Panama. A substantial series of both sexes reveals a modest variation in the width of the dark apical and outer wing margins on the upperside of the fore and hindwings. Particularly variable is the size and shape and extent of the two large, dark spots near the base and the apex on the underside of the hindwing. However, these variations occur within any given population, are well within the parameters to be expected of a single species and are not considered defineable as a local race or subspecies.

The single non-variable by which *narbal* may be distinguished from other species in the genus with which it may be confused is the complete lack of a red or orange cubital spot between veins  $Cu_1$  and  $Cu_2$ —the area of the cubital spot is concolorous light brown;

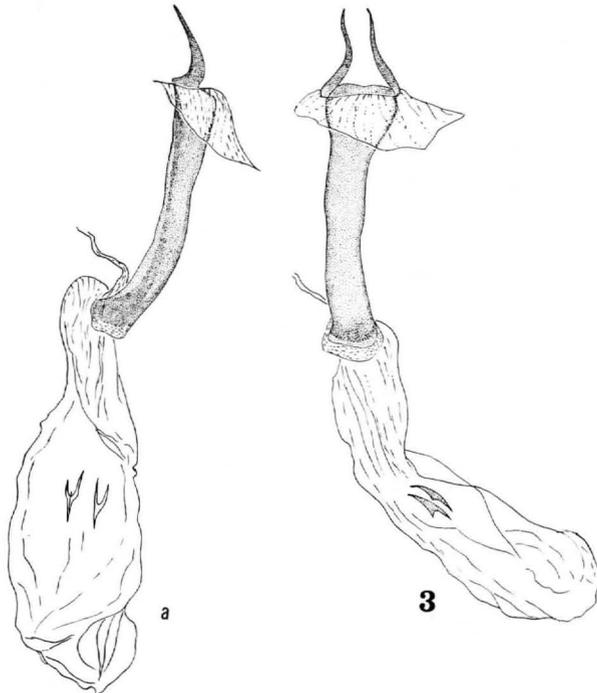


Figure 3. Female genitalia of *O. narbal* (Stoll), ventral view; (a) lateral view.

the space adjacent to the anal lobe is heavily dusted in pale bluish-white and the anal lobe spot is black. The red scaling at the extreme base of both wings on the underside, somewhat exaggerated in the Seitz (1922) figure, is in reality, very narrow and inconspicuous. The Seitz (1922) figure is also somewhat inaccurate in that it does not indicate the presence of the dark spot at the apex of the hindwing and the postdiscal line is but faintly marked. All specimens I have studied have had at least a noticeable spot at the apex and the postdiscal line is generally more prominent. Druce's figure of *amplus* indicates this pattern clearly as does the type specimen.

The type locality of *narbal* and *fessa* is Surinam, that of *amplus*, Venezuela. We have found *narbal* relatively common at times in the Canal Zone and I have taken it in the Amazon drainage of Eastern Colombia. It appears that *narbal* is found throughout Panama, the northern tier of South American countries as far south as the Amazon River basin and westward to Ecuador and Peru.

Specimens examined: No data 1 ♀ (USNM), 1 ♂ (BM). PANAMÁ: 2 ♀ (AM), *Chiriqui-Cerro Galera de Chorchá*; *Panamá-Cerro Campana, El Llano*; *Canal Zone-Gatun, Summit, Madden Forest, La Pita, Farfan* 62 ♂ 43 ♀ GBS, N); *Canal Zone-Madden Forest, Madden Dam, Cocli* 8 ♂, 4 ♀ (AME); *Barro Colorado Isl.* 2 ♀ (AM). COLOMBIA: 1 ♂ (AM); *Casabe* 1 ♂ (AME); *Caquetá-Montañita* 1 ♂ (N). ECUADOR: *Naranajpata* 1 ♀ (CM); *Bolívar-Balzapamba* 3 ♀ (BM), 1 ♀ (AM). PERU: *San Martín- Juanjui* 3 ♂ (AM), *Tarapoto* 2 ♂ (BM). VENEZUELA: 1 ♂ (*amplus* type-BM). SURINAM: 2 ♂ (BM). FRENCH GUIANA: 3 ♂ 1 ♀ (BM), *Cayanne* 1 ♀ (USNM), 1 ♀ (CM). BRAZIL: *Pará*-1 ♀ (BM), *Igarapé Acú* 2 ♂ 3 ♀ (AM); *Maranhão* 1 ♂ (BM); *Amazonas-Tonantins* 1 ♂ (BM).

#### *Olyntus ophelia* (Hewitson)

Figs. 4A, 4B, 4C, 4D 5, 6, 32

*Thecla ophelia* Hewitson, 1876:110 p1 46 figs 209, 210. Herrich-Schäffer, 1869:57. *ibid.*, 1870:26. Kirby, 1871:391. Draudt in Seitz, 1922, V:764 p1 150k. Comstock & Huntington, 1962, 70:40.

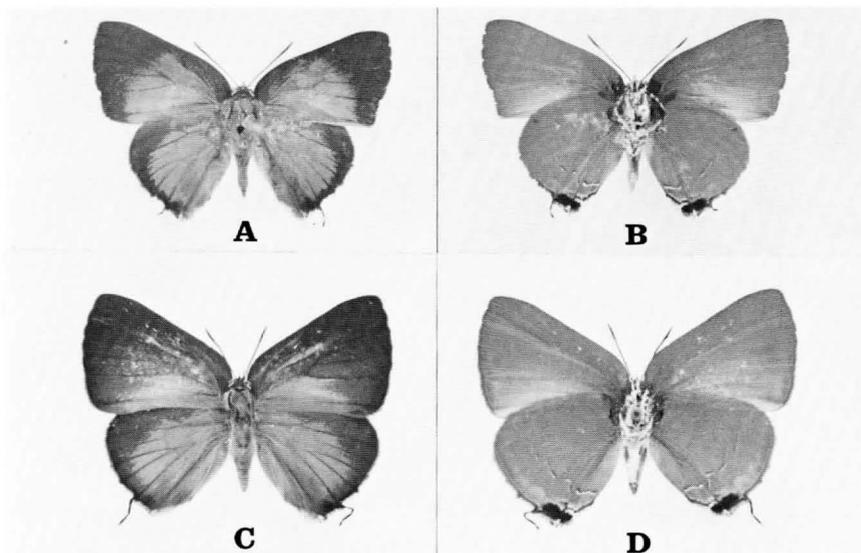


Figure 4. (A) *Olyntus ophelia* (Hewitson) ♂ Type, Amazonas; (B) underside of (A); (C) *Olyntus ophelia* ♀ French Guiana; (D) underside of (C).

**Original description:**

“Upperside. Male.—Brilliant glossy blue. Anterior wing with the costal margin and apical half dark brown: the discal spot small, round, rufous. Posterior wing with one tail: the costal and outer margin brown, rather broad.

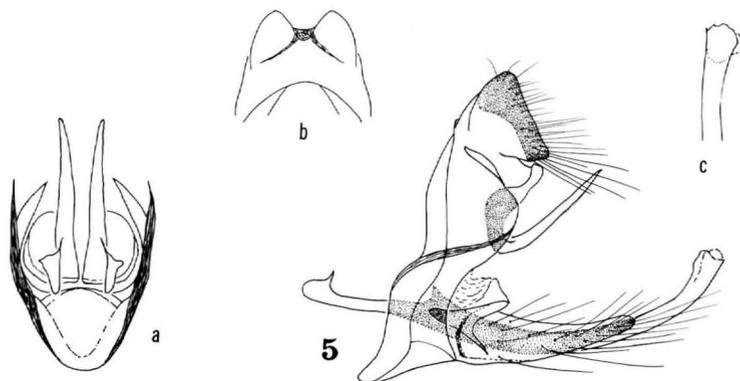


Figure 5. Male genitalia of *O. ophelia* (Hewitson), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

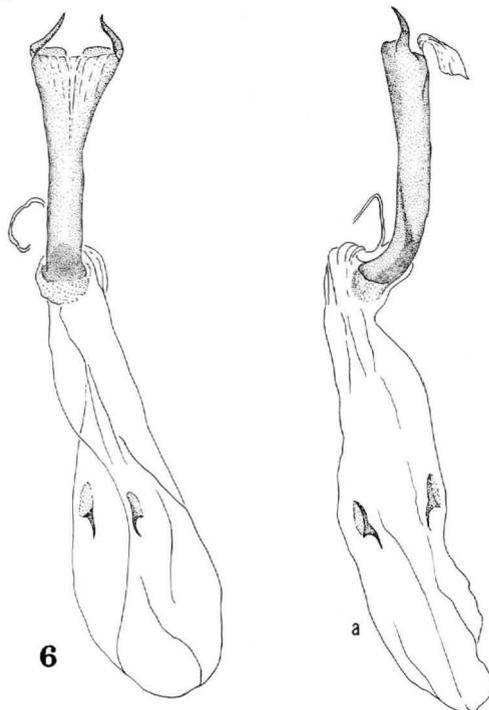


Figure 6. Female genitalia of *O. ophelia* (Hewitson), ventral view; (a) lateral view.

Underside rufous, spotless, except near the anal angle of the posterior wing, where it is crossed by two short bands of white spots bordered with brown: the lobe, the space between it and the tail black.

Exp. 1 3/10 inch.

In the Collection of H.W. Bates, from the Amazon.

Probably only a variety of *T. punctum*, with a very slight trace of the transverse bands of white spots, and no trace of the spots at the anal angle. In this species there is a black spot between the lobe and the tail, which does not occur in *T. punctum*."

The Hewitson description, although brief, nevertheless points up the main features of this species. But rather than being a possible variety of *punctum*, I consider its relationship to *narbal* much closer, and indeed it may prove to be a subspecies of *narbal*, although the distribution of the two overlap to such an extent as to make this arrangement unlikely.

On the upperside, both sexes of the two species, *narbal* and *ophelia* are very difficult to separate and are almost identical in the color and intensity of the discal bright blue and the wide black apical and outer wing margins. The underside wing pattern is that of a faintly marked *hypsea*, although there is no black spot in the interspace adjacent to the anal lobe in *hypsea*. The Seitz (1922) figure of *ophelia* is a reasonable facsimile of the male but the basal red blotches on the underside of the wings are overdone.

*Ophelia* is very uncommon in collections; the only specimens I have seen are in the British Museum (Natural History) collection. Distribution of these few specimens is very wide, but is confined to the length of the immediate Amazon River from Peru to French Guiana.

Specimens examined: PERU: *San Martin*- Moyobamba 1 ♀. BRASIL: *Pará*- Lower Amazon 3 ♂. FRENCH GUIANA: 1 ♀.

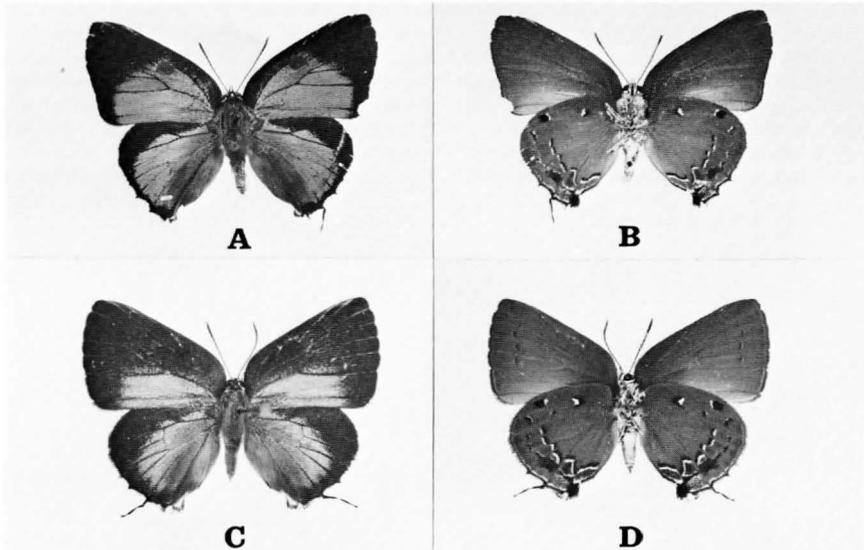


Figure 7. (A) *Olynthus stigmatos* (Druce) ♂ Madden Dam, Canal Zone, 3 May 1967 (G.B. Small); (B) underside of (A); (C) *Olynthus stigmatos* ♀ Colon, Panama, 25 Jan. 1969 (G.B. Small); (D) underside of (C).

**Olynthus stigmatos (Druce)**

Figs. 7A, 7B, 7C, 7D, 8, 9, 32

*Thecla stigmatos* Druce, 1890: 152. *ibid.* 1907: 584, p1 34 fig 2.Draudt *in* Seitz, 1922, V: 767, p1 152b. Comstock & Huntington, 1963, 71:262.

## Original description:

"Allied to *T. punctum* Herr-Schäff. Primaries below unspotted, with the base bright red (which red extends some distance along the costa). Secondaries without the red spot

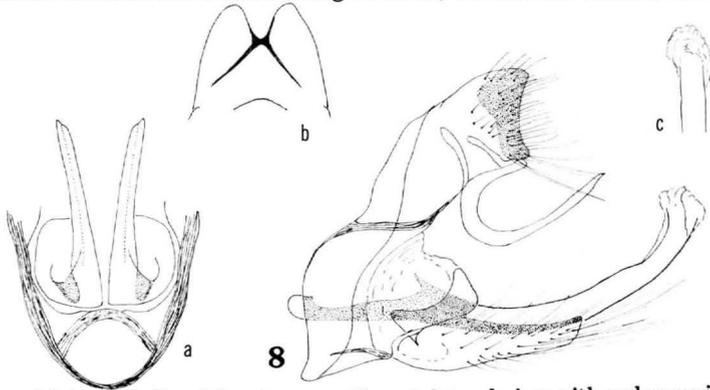


Figure 8. Male genitalia of *O. stigmatos* (Druce), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

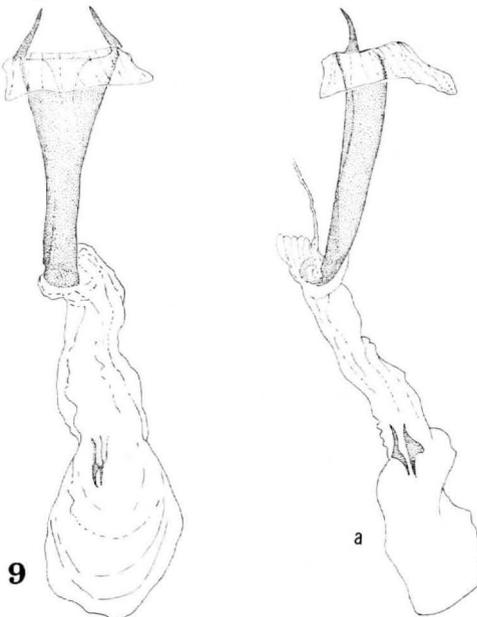


Figure 9. Female genitalia of *O. stigmatos* (Druce), ventral view; (a) lateral view.

at the anal angle, and with the two spots on the costal margin very much larger.

Hab.: Interior of Colombia. Mus. Druce."

To amplify the very brief description above, it is best to compare *stigmatos* with *narbal* with which it is almost identical in size, basic brilliant blue color and pattern of the black costal, apical and outer wing margins of the upperside. In the male, the costal margin begins to curve across the wing disc just beyond and clear of the round, brown scent pad, leaving it isolated in the blue color. The male forewings are unmarked on the underside, but the female may or may not have a postmedian line of small dark spots outwardly margined in white. The ground color of both wings is a rich warm brown, somewhat darker than in *narbal*. On the hindwing, the two costal markings are smaller than in *narbal*, but the postmedian line is closer to the margin and more heavily marked. In addition to the red scaling at the base of both wings, there is a red cubital patch (centered at the base with a black spot); the anal lobe spot is black, the space in between dusted in bluish-white scales.

One of the more uncommon species in the genus, *stigmatos* has a range similar to that of *narbal* except that, in addition to the Isthmus of Panamá and the northern tier of states in South America, its range in the Amazon area appears to be confined to the Lower Amazon Basin.

Specimens examined: PANAMA: Canal Zone-Madden Dam 2 ♂ (GBS); Panamá Prov.- Colon 2 ♀ (GBS). COLOMBIA: 1 ♂ (Type, BM). FRENCH GUIANA: St. Jean Maroni 1 ♂ (USNM). BRAZIL: Pará-Obidos 1 ♂ (AME); Km 166, Cuiaba-Santarem Hwy 1 ♀ (N); Igarapi-Acú 1 ♀ (AM).

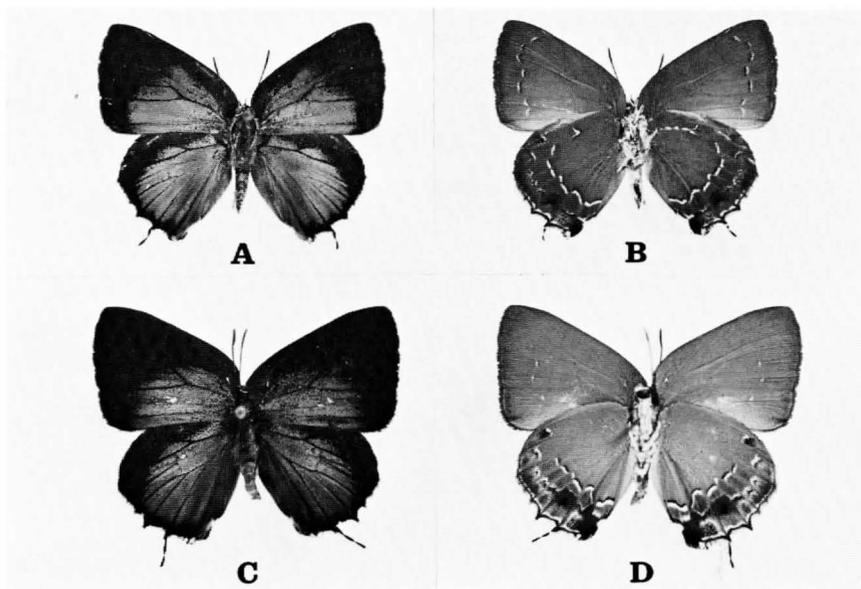


Figure 10. (A) *Olynthus ostia* (Hewitson) ♂ Santa Cruz, ES, Brasil, 16 Nov. 1972 (C.J. Callaghan); (B) underside of (A); (C) *Olynthus ostia* ♀ Santa Cruz, ES, Brasil, 8-9 March 1973 (C.J. Callaghan); (D) underside of (C).

**Olynthus ostia** (Hewitson)

Figs. 10A, 10B, 10C, 10D, 11, 12, 33

*Thecla ostia* Hewitson, 1867: 110, pl 40, figs 130, 131. Herrich-Schäffer, 1869: 57. *ibid.* 1870: 26. Kirby, 1871: 391. *ibid.* 1879: Draudt *in* Seitz, 1922, V: 767, pl 152d. Comstock & Huntington, 1962, 70: 45.

## Original description:

"Upperside. Male. — Green-blue. Anterior wing with the costal margin and outer half dark brown: the discal spot small, round, rufous. Posterior wing with one tail: the apex and outer margin dark brown.

Underside dark rufous and grey. Anterior wing crossed near the outer margin by a linear band of five white spots bordered inwardly with brown. Posterior wing with a white line before the middle: crossed beyond the middle by two bands of linear white spots bordered with brown: anal angle with the lobe and a spot near it brick-red marked below with black, the space between them irrorated with grey: a submarginal white line.

Exp.  $1\frac{1}{2}$  inch.

In the Collection of W.C. Hewitson, from Rio de Janeiro.

This is nearly allied to *T. punctum*, but of different form; the white spots on the underside of the posterior wing are differently placed, and the male has the white spot below the base which is only the female of *T. punctum*."

Although Hewitson's description of the male could apply to many species in this genus (and to those in other genera as well), to it I would add the following amplifying points. The wide dark costal margin touches the dorsal edge of but then curves just beyond the round, pale brown scent pad, arching across the discal area toward the inner margin, leaving the scent pad narrowly edged in blue scaling toward the apex. The basic greenish-blue color of the upperside of both wings is particularly brilliant and shining.

Female *ostia* differs from many others in the genus in the more extensive blue of the forewing; the dark costal and apical margins are not much wider than those of the male, leaving a relatively large expanse of discal blue on both wings, rather than on just the hindwing. The underside of the wings in both sexes has a strong lavender cast particularly in the male. In the male, the underside of the forewing has a complete submarginal row of linear dark spots, outwardly edged in white; in the female, the spots are

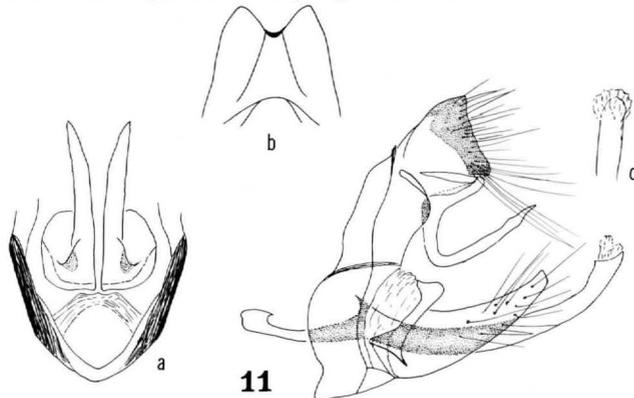


Figure 11. Male genitalia of *O. ostia* (Hewitson), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

almost obsolete, appearing vaguely as a series of faint white dashes. In the male hindwing, the spotting and linear markings are complete; a brilliant red cubital spot with a black spot centered basally, and a red and white capped black anal lobe spot are boldly marked. The dark-margined white dash just below the mid-costal margin of the hindwing in the male is, in the female, obsolete, with the apical dark spot somewhat more prominent in the female, as is the red cap over the anal lobe spot. Both sexes, contrary to the 'one tail' original description, have a rudimentary white-tipped tail at the end of  $Cu_1$ , in addition to the obvious much longer tail at the end of  $Cu_2$ .

*Ostia* is uncommon in collections. In addition to the type locality of Rio de Janeiro, it is found north and south along the coastal mountains of Esperito Santo and Rio Grande do Sul as well as localities in the mid and lower Amazon Basin and French Guiana. I think it is valid to assume that *ostia* is also found in specific habitats located in the vast expanse of territory between the above isolated localities.

Specimens examined: FRENCH GUIANA: St. Jeanne, Maroni 1 ♂ 1 ♀ (USNM), Cayenne 1 ♀ (BM). BRAZIL: 1 ♂ (BM); Para'- 1 ♂ (BM), Belem 1 ♂ (MN), Igarape Acú 1 ♂ 1 ♀ (AM); Amazonas - Manicoré 1 ♂ (AME); Esperito Santo - ; ♂ (BM), Linhares 1 ♂ (AME), Santa Cruz 2 ♂ 1 ♀ (N); Guanabara - Rio de Janeiro 1 ♂ (type, BM); Rio Grande do Sul - Pelotas 1 ♂ (MCZ).

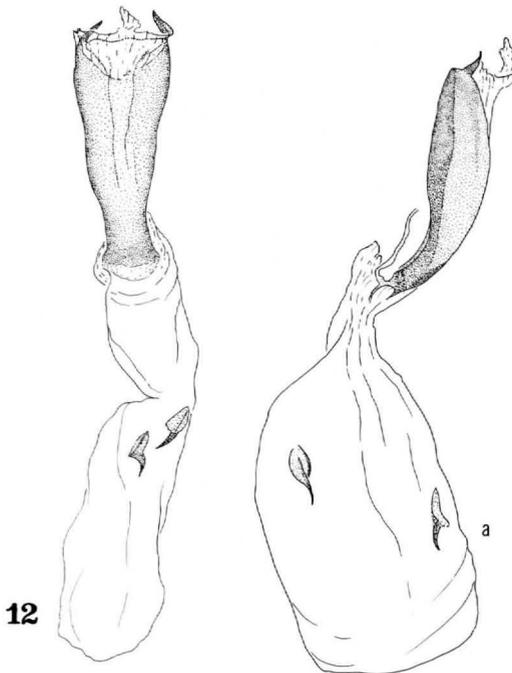


Figure 12. Female genitalia of *O. ostia* (Hewitson), ventral view; (a) lateral view.

***Olynthus essus* (Herrich-Schäffer)**

Figs. 13A, 13B, 13C, 13D, 14, 15, 33

*Thecla essus* Herrich-Schäffer 1853 p1 14 figs 59, 60. *ibid*, 1858:55. Hewitson, 1867:109. Herrich-Schäffer, 1869:58. *ibid*, 1870:27. Kirby, 1871:391. Moschler, 1876:301. Kirby, 1879:156. Weeks, 1911: xiv. Lathy, 1926:43. Comstock & Huntington, 1960, 78:59.

**Male:** Length of forewing, 18 mm. Upperside: forewing dark shining blue with a round, light brown scent pad, the upper half enveloped by the wide black costal margin that curves across the inner margin creating a very broad, dark apical and outer wing margin. Hindwing dark shining blue, the costal margin broadly black, narrowing gradually below the apex. Underside: forewing unmarked pale, lustrous brown. The hindwing the same lustrous pale brown with a round dark brown spot, inwardly edged in white at the apex below which is a postdiscal, narrow macular line of dark brown spots outwardly edged in white. Two large, conjoined brick-red patches of submarginal scaling from the black anal lobe spot to the cubital space opposite the short tail at  $M_2$ ; from here to the apex are a few dark submarginal spots.

**Female:** Length of forewing, 17 mm. Upperside: forewing dark shining blue as in the male with very broad black costal, apical and outer wing margins. Hindwing the same as in the male. Underside: fore and hindwings the same lustrous pale brown as the male, the forewing unmarked, the hindwing marked as in the male.

As with many of the Herrich-Schäffer species, the original description consisted only of an illustration without a verbal description; his figures of *essus* (1853) are singularly accurate for their time. As noted in the figures, the upperside of both sexes is very similar to *narbal*, but the hindwing underside is without the dark costal marginal spot near the base, and is instead heavily marked with patches of bright red scaling near the cubital space, the red scaling bridged to the large red patch above the anal lobe spot in

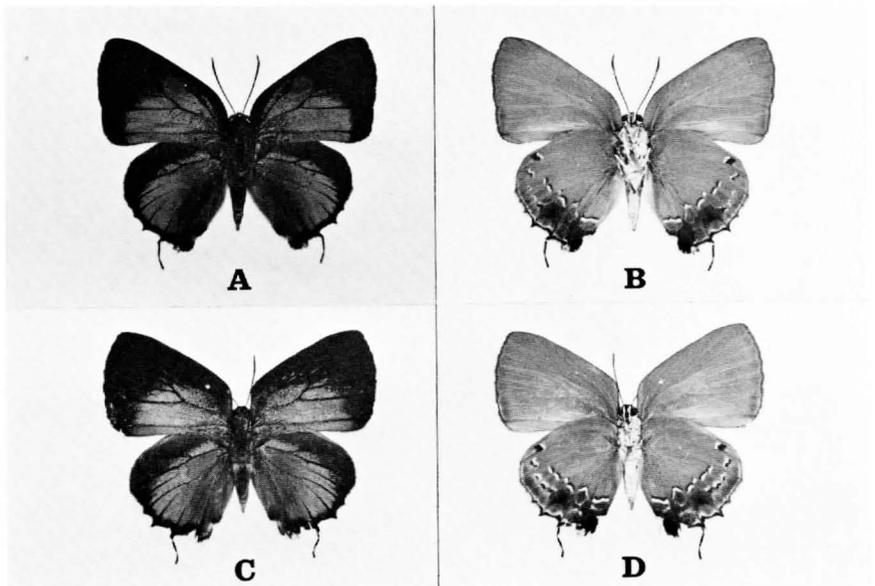


Figure 13. (A) *Olynthus essus* (Herrich-Schäffer) ♂ Iquitos, Peru, 6 Nov. 1931. (B) underside of (A); (C) *Olynthus essus* ♀ Iquitos, Peru, 9 July 1931; (D) underside of (C).

most specimens. *Narbal* is without any of these red markings.

Because, as Lathy (1926) remarked, Draudt made no mention of *essus* in Seitz (1922), the species is not well known in recent literature. It is not particularly uncommon in comparison to other species in the genus and is rather wide spread. The type locality is Surinam, but it is found in the Guianas, adjacent areas in Venezuela and in the upper and lower Amazon Basin.

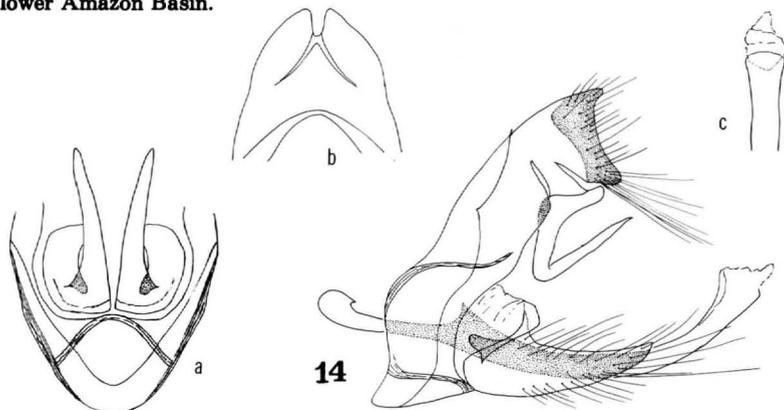


Figure 14. Male genitalia of *O. essus* (Herrich-Schäffer), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

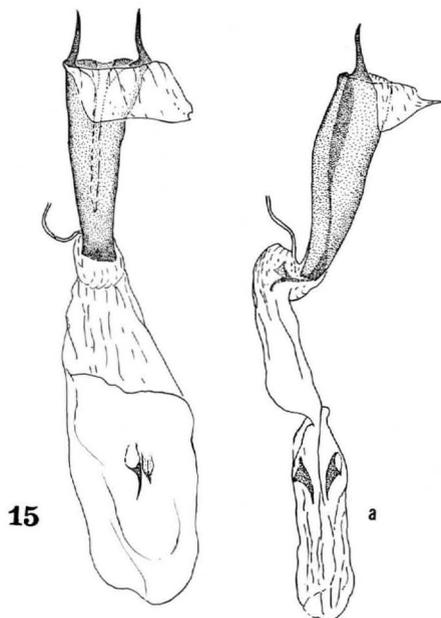


Figure 15. Female genitalia of *O. essus* (Herrich-Schäffer), ventral view; (a) lateral view

Specimens examined: "SA" 1 ♂ (BM), No data 1 ♂ (MCZ), 4 ♂ (BM) VENEZUELA: Suapure 4 ♂ (MCZ), 2 ♂ 1 ♀ (BM). SURINAM: ♂ (BM). FRENCH GUIANA: 2 ♂ (BM), St. Laurent, Maroni River 1 ♂ (BM), Crique Sparouine 1 ♂ (AME), Cayenne 6 ♂ 1 ♀ (BM). BRITISH GUIANA: Bartica 1 ♂ (AME). BRASIL: 3 ♂ (BM); *Pará*: 2 ♂ (BM), Santarém 3 ♂ (BM), Km1666, Cuiaba-Santarem Hwy 1 ♀ (N), Braganca 1 ♂ (BM), Tapajos 1 ♂ (BM), Obidos 2 ♂ (BM), 4 ♂ (AME); *Amazonas*: 1 ♂ (BM), Rio Madeira 1 ♂ (BM), San Joas, R. Solimoes 1 ♂ (BM), Uypiranga 1 ♂ (AME), Manaus 1 ♂ (AME), Florida, Rio Putumayo 1 ♂ (BM). PERU: *Loreto*- Iquitos 1 ♂ 1 ♀ (AM), 1 ♂ (BM).

***Olynythus punctum* (Herrich-Schäffer)**

Figs. 16A, 16B, 16C, 16D, 17, 18, 34

*Thecla punctum* Herrich-Schäffer, 1858:55 pl 14 figs 57, 58. *ibid*, 1869:57. *ibid*, 1870:26. Hewitson, 1867:109 pl 40 figs 132,133. Kirby, 1871:391. Hewitson, 1874:183 pl 72 figs 555, 556. Kirby, 1877:775. *ibid*, 1879:775. Moschler, 1883:308. Draudt in Seitz, 1922. V:767 pl 152d. Comstock & Huntington, 1963, 21:46.

*Bithys punctum*, Butler, 1877:138.

*Thecla obsoleta* Lathy, 1926:43.

The original description of *punctum*, comprised of a single colored plate showing the upper and underside of a female of the species, is without further written elaboration. The result has been considerable confusion. In 1867, the Hewitson plate XL figures 132 and 133 purport to show a male of *punctum* containing a notation "without the small white spot which marks the underside of the posterior wing of the female before the middle." Some seven years later in 1874, Hewitson's plate LXXII figures 555 and 556 again depict the male of Herrich-Schäffer's *punctum*, this time with a rather different insect—the black costal, apical and outer wing margins on the forewing are somewhat wider than those shown in his earlier illustrations. Furthermore, this later illustration

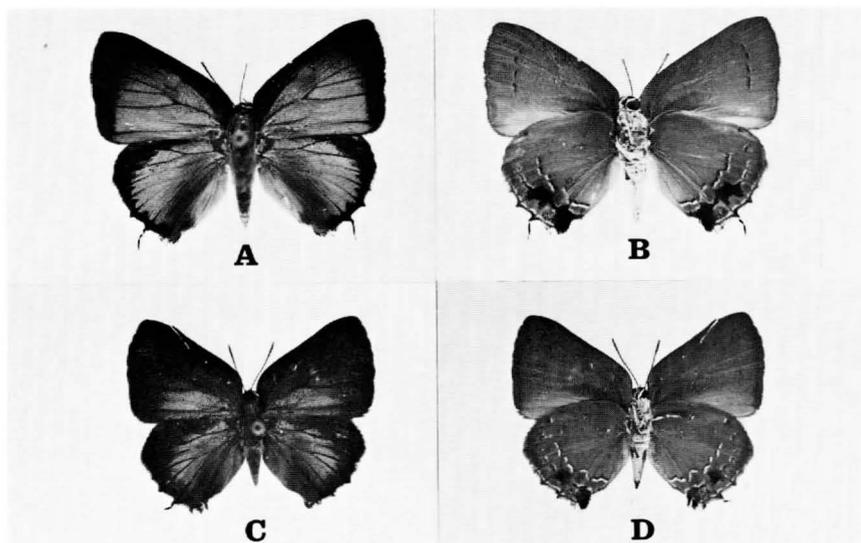


Figure 16. (A) *Olynythus punctum* (Herrich-Schäffer) ♂ Tefte (Ega), Rio Solimoes, Amazonas, Brasil; (B) underside of (A); (C) *Olynythus punctum* ♀ Conc. da Barra, ES, Brasil, June 1972 (P.C. Elias); (D) underside of (C).

clearly shows the subcostal mark on the underside of the hindwing. Hewitson, with the Latin word 'olim' apparently intended that his figures 555 and 556 were to replace the earlier (1867) figures 132 and 133.

The key feature appears to be the submarginal mark just below the costal margin on the underside of the hindwing. Lathy (1926) proposed a new name *obsoleta* for the species first illustrated by Hewitson in 1867, but a Neotype was not designated and there is no record of the specimen Hewitson used as a model for his illustration. After careful study of a relatively good series of specimens of this complex from a number of widely different localities, I have reached the conclusion that both of Hewitson's figures are of Herrich-Schäffer's *Thecla punctum*. The species is extremely variable—not so much on the upperside, although there is some slight variation in the width of the dark apical and outer wing margins—but primarily on the underside of

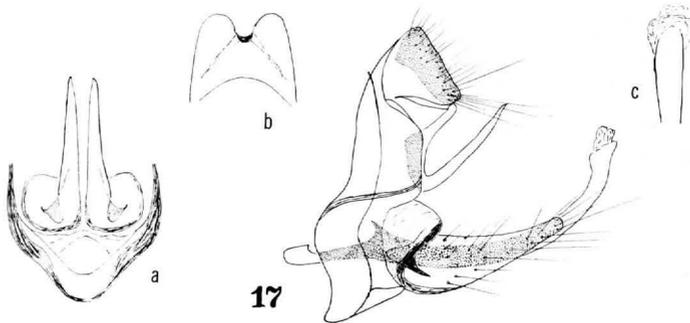


Figure 17. Male genitalia of *O. punctum* (Herrich-Schäffer), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

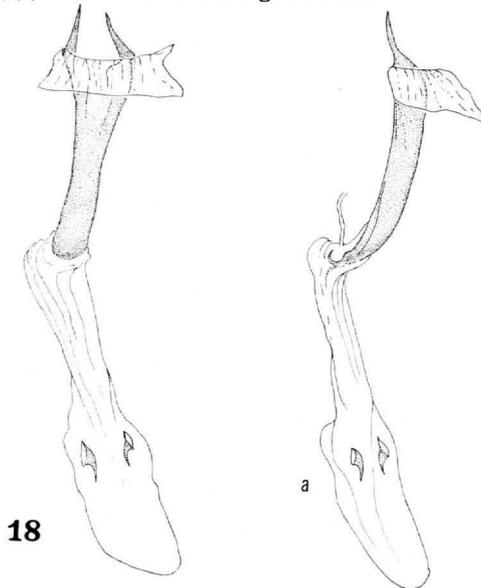


Figure 18. Female genitalia of *O. punctum* (Herrich-Schäffer), ventral view; (a) lateral view.

both fore and hindwings in both sexes. There are specimens with varying degrees of complete and/or incomplete linear markings on the forewing submargin, from a complete line to a total lack thereof. By the same token, there seems to be no correlation between these markings and the presence or absence of the spot below the middle of the costal margin on the hindwing; and the postmedian line of spots is very variable, even in small series of specimens taken at the same time in single isolated locality. The male and female genitalia show little or no variation. This is not surprising in a genus where the genitalic variation between obviously different species is rather small.

Additional work, particularly in the area of life history and food plant studies is obviously needed and may indeed provide ample justification for separating some of these different "forms" into valid species and/or subspecies. But at this time, I much prefer to follow Butler's (1877) reasoning... "Mr. Hewitson was doubtful whether or not it was a variety of Herrich-Schäffer's species, as the border of primaries above is narrower, and on the underside there is no white spot near the costa of secondaries; but in these characters it approaches the figures in the "Illustrations of Diurnal Lepidoptera," though it differs from the latter in having no white spots on the under surface of the primaries; I am therefore content, for the present, to consider it a variety of *B. punctum*. In these little things, of whose variability we know nothing certainly, it is safer not to establish species upon single examples." This reasoning I might add also applies to specimens without clear-cut, definitive characters and that lack specific, accurate and reliable locality data.

Specimens examined: No data 3♂ 1♀ (BM), 1♂ (MCZ). PANAMA: *Darien*-Cerro Pirre 1♂ (GBS). VENEZUELA: *Delta Amacuro*-Rio Acure 1♂ (AME). COLOMBIA: 'Bogota' 2♂ (BM). BRITISH GUIANA: Bartica Dist. 1♂ (USNM), Essequibo River, Aunai 1♂ (BM). SURINAM: 4♂ 1♀ (BM). FRENCH GUIANA: St. Laurent 1♀ (AM), Crique Sparouine 1♂ (AME), Cayenne 19♂ 3♀ (BM). BRAZIL: 1♂ 1♀ (BM); *Pará* 8♂ 2♀ (BM), Santarém 1♂ (BM), Rio Tapajos 1♂ (N), Belém 2♂ (N), Utinga 1♂ (AME), Obidos 3♂ (AME,N), 2♂ (BM); *Amazonas*-2♂ (BM), Teffe 2♂ (AME), 3♂ 1♀ (BM).

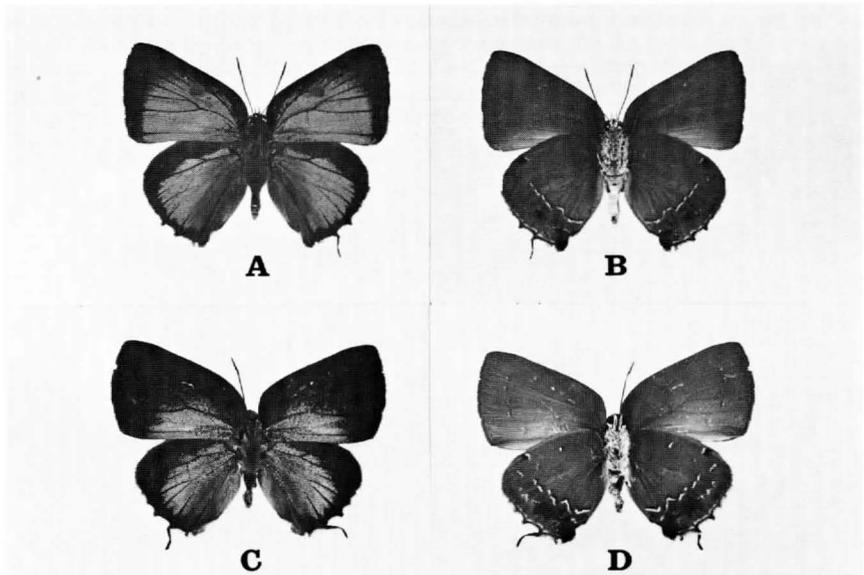


Figure 19. (A) *Olynthus nitor* (Druce) ♂ Iquitos, Peru, 7 Nov. 1931; (B) underside of (A); (C) *Olynthus nitor* ♀ Putumayo River, 'South America', 13 Nov. 1931; (D) underside of (C).

*Paraíba-João Pessoa* 1 ♂ (N); *Espirito Santo-Santa Cruz* 1 ♂ (N), *Linhares* 6 ♂ 1 ♀ (AME), *Conc. da Barra* 1 ♀ (AME); *Goiás-Serra Dourada* 1 ♂ (N); *Minas Gerais-Parque Rio Doce* 8 ♂ (N); *Rio de Janeiro* 2 ♂ (BM), 1 ♂ (MCZ). PERU: *Loreto*-5 ♂ 3 ♀ (AM).

Herrich-Schäffer's type of *punctum* comes from Surinam; no locality is given for any of the Hewitson figures. The range of *punctum* apparently centers on the lower Amazon Basin, radiating outward from there to the central and northeastern coastal areas of Brazil, the Guianas and westward to the Upper Amazon Basin. The fringe areas to the north extend just into the Republic of Panama in the Darien next to Colombia.

***Olythus nitor* (Druce)**

Figs. 19A, 19B, 19C, 19D, 20, 21, 34

*Thecla nitor* Druce, 1907:585 p1 34 fig 5. Draudt in Seitz, 1922, V:767 p1 152h. Comstock & Huntington, 1961, 69:196.

**Original description:**

"Male. Allied to *T. punctum* Herr.-Schäff\*, which it resembles on the upper side. On the underside the ground-colour is rich plumbaceous; there are no markings on the fore wing, and on the hind wing the inner white linear band is very prominent and less inclined to break up into spots; the submarginal row of spots is almost obsolete and the red patches are much reduced; the extreme base of the hind wing also is red.

Expanse 1½ inch.

Hab. Ega, Amazons (Bates)

Type, Mus. Godman.

This may prove to be but an aberration of *T. punctum*, but it is so different in appearance on the underside that I venture to name it."

\**Thecla punctum* Herr.-Schäff. Samml. aus. Schmett. Figs 57-58.

Brief as it is, the Druce description contains the essential differences between *nitor* and *punctum*. It is very doubtful that *nitor* is an aberration of *punctum*, but life history studies and more material from the middle and upper Amazon basin with accurate and specific locality data may well prove it to be a subspecies of *punctum*. The overlapping distribution pattern and the rather consistent pattern of the post-median and submarginal rows of linear spots have prompted me to retain its species status. In the

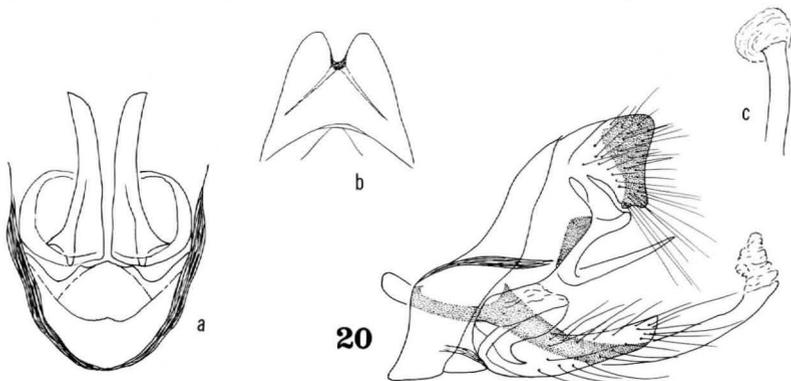


Figure 20. Male genitalia of *O. nitor* (Druce), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

rather limited series available for study, there remained the variability of the post-medial line on the underside of the forewing; the type is unmarked, but a series shows as many variables as there are specimens, even as in *punctum*.

Although there are some specimens carrying locality labels of the lower Amazon Basin, Surinam and French Guiana, specimens referable to *nitor* are generally found in the upper Amazon Basin of Brasil and Peru.

Specimens examined: BRASIL: *Amazonas* - Teffe 1 ♂ (BM), Ega 1 ♂ (type, BM), Manicoré 1 ♂ (BM), 1 ♂ (AME), 1 ♂ (N), S. Paulo (de Olivenca) 1 ♂ (BM); *Mato Grosso-Cuiaba* 1 ♂ (BM). PERU: Putumayo River 1 ♂ 1 ♀ (AM), Iquitos 2 ♂ (AM), 2 ♂ (BM). SURINAM: 1 ♂ (BM). FRENCH GUIANA: 1 ♀ (BM).

### *Olythus fanci* (Jones)

Figs. 22A, 22B, 22C, 22D, 23, 24, 32

*Thecla fanci* Jones, 1912:897 p1 97 fig 2. Draudt in Seitz, 1922, V:768 p1 152b. Comstock & Huntington, 1960, 68:106.

#### Original description:

"Allied to *T. punctum* H.-S.

Male. Upper side bright metallic blue with a greenish reflection on basal half of wings; costa of forewings narrowly, apex and termen broadly black; a brown circular brand on upper angle of cell; hindwings outwardly broadly black; tails tipped with white. Under side yellowish grey: fore wings, a postmedial band of indistinct brown lunular spots outwardly bordered with white from costa to vein 2; hind wings: postmedian band inwardly dark brown, outwardly white, angled on veins 1 and 2, inwardly oblique from 3 to 4, placed more distally from 4 to 6 and above 7; a small orange spot at tornus and a larger one between veins 2 and 3.

Expanse 30 mm.

Hab. Castro, Parana, Brazil."

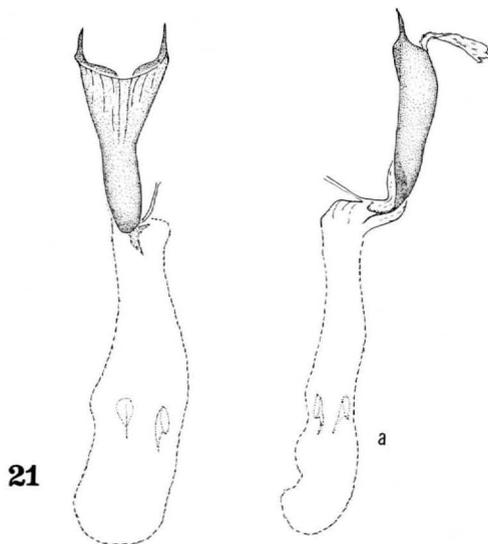


Figure 21. Female genitalia of *O. nitor* (Druce), ventral view; (a) lateral view.

There is little doubt of the close relationship of this species to *O. punctum*. The pattern of the underside on both fore and hindwings is typical of the genus. The postdiscal markings on the underside of both wings is always complete and rather pronounced. The ground color is a warm (yellowish) brown, the cubital spot small, orange-red and black-centered. On the upperside, the most consistent recognizable difference between *fancia* and other taxa in the genus is the wide, even black marginal borders of both wings which in this species do not vary greatly in width from apex to tornus; the margins at the anal angle of both fore and hindwings are wider proportionally than those of any other species.

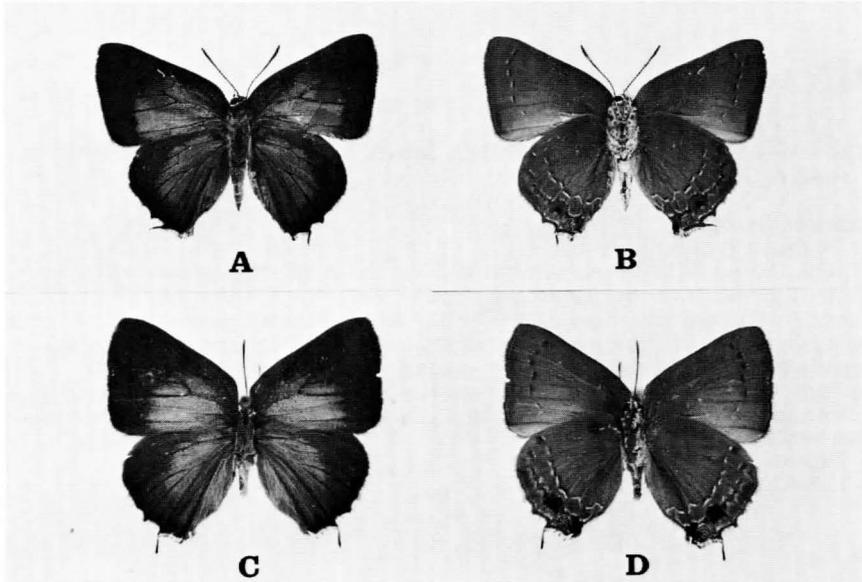


Figure 22. (A) *Olynythus fancia* (Jones) ♂ Pelotas, R.G. do Sul, 20 March 1963 (C.M. Biezanko); (B) underside of (A); (C) *Olynythus fancia* ♀ Rio de Janeiro, Petropolis, Brasil, 13 March 1971 (C.J. Callaghan); (D) underside of (C).

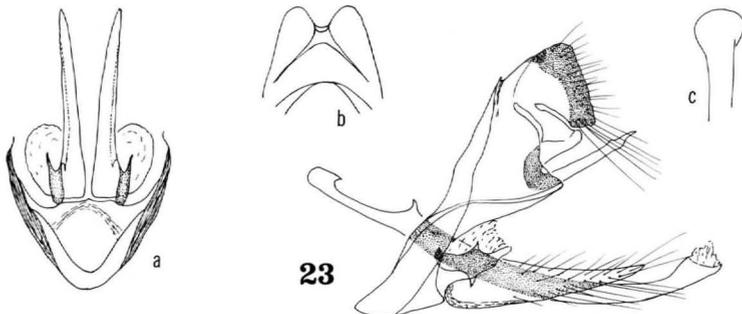


Figure 23. Male genitalia of *O. fancia* (Jones), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

There is very little material available for study in the major collections I have checked. The center of its population appears to be Paraguay and the south coastal states of Brasil, ranging from there north along the coastal mountains to Espiritu Santo.

Specimens examined: PARAGUAY: 1 ♀ (BM). BRASIL: *Rio Grande (do Sul)* - 1 ♂ (BM), Pelotas 1 ♂ (CM); *Parana'* - Castro 1 ♂ (type BM); *Rio de Janeiro* - Petropolis 1 ♀ (N); Espiritu Santo 1 ♂ (BM).

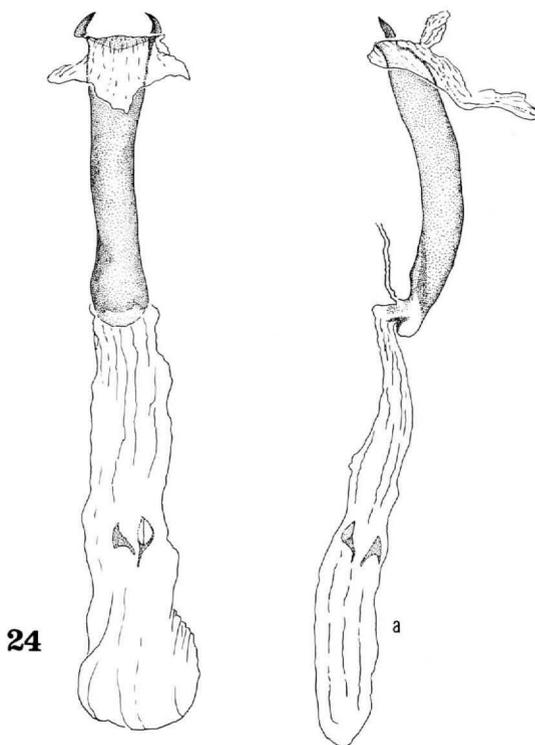


Figure 24. Female genitalia of *O. fanci* (Jones), ventral view; (a) lateral view.

*Olynthus hypsea* (Godman & Salvin)

Figs. 25A, 25B, 25C, 25D, 26, 27, 33

*Thecla hypsea* Godman & Salvin, 1887:38 pl 52 figs 20, 21. Draudt in Seitz, 1922, V:764 pl 150k. Comstock & Huntington, 1960, 68:186.

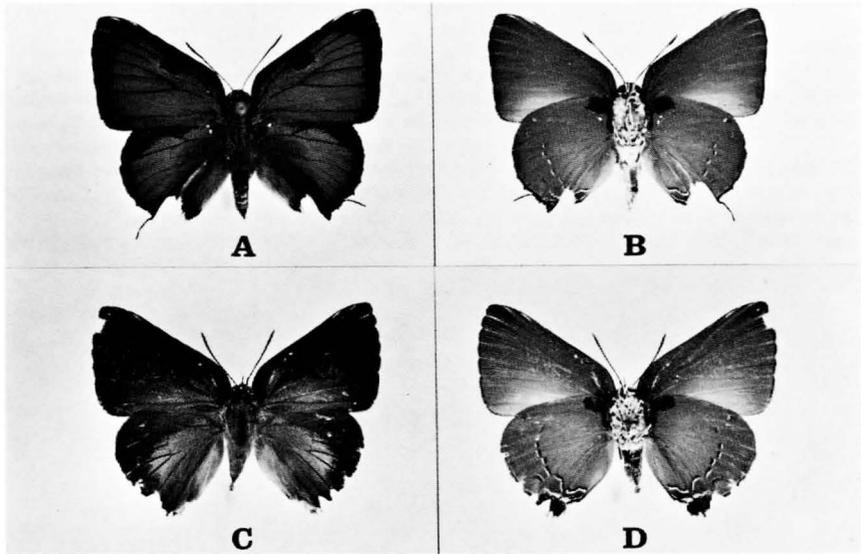


Figure 25. (A) *Olynthus hypsea* (Godman & Salvin) ♂ Quibdo, Choco, Colombia, 6 Aug. 1976 (G.B. Small); (B) underside of (A); (C) *Olynthus hypsea* ♀ Cerro Campana, Panama Prov., Panama, 8 Dec. 1963 (G. B. Small); (D) underside of (C).

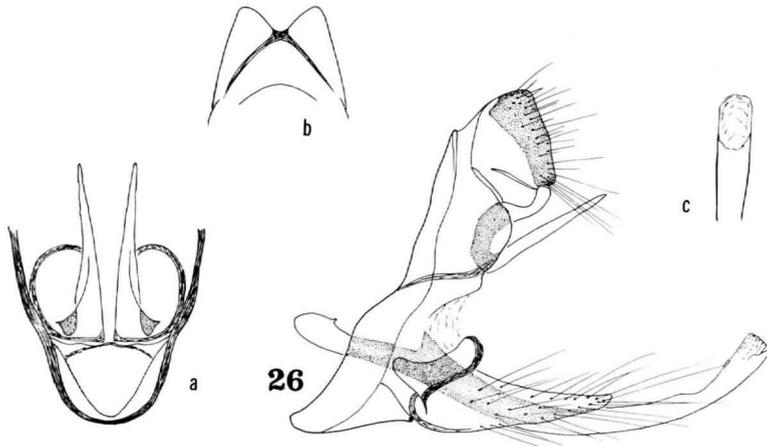


Figure 26. Male genitalia of *O. hypsea* (Godman & Salvin), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

*Thecla stiktos* Druce, 1890, 1:151. Druce, 1907:584 pl 34 fig. 1. Comstock & Huntington, 1963, 71:262.

*Thecla stictos*, Draudt in Seitz, 1922, V:764 (misspelling of *stiktos*). Comstock & Huntington, 1963, 71:262.

Male: Length of forewing, 17 mm. Upperside: Forewing and hindwing dark, glossy greenish-blue with the veins, particularly on the forewing narrowly black; the forewing with narrow, black costal, apical and outer wing margins, those of the hindwing rather wide at the costal margin and apex, narrow on the outer margin. The scent pad on the forewing is rather large, oblong and dark brown with a narrow but obvious patch of pale brown scales at the base. The underside of the forewing is unmarked pale brown (rufous) with a small patch of brick-red scales at the base of the costal margin. The hindwings are pale brown and have a single, narrow post-discal band of small white spots with inner margins narrowly black-scaled. There is a large patch of brick-red scaling at the base of the costal margin broadly connected to another at the upper portion of the wing base. The black spot between the tail and the anal lobe spot is dusted in light blue.

Female: Length of forewing, 18 mm. Upperside: Forewing dark brown with pale blue scaling confined to the inner discal area, along the inner margin to the base. Hindwing dark brown with pale blue scaling confined to the disc and wing base with very wide

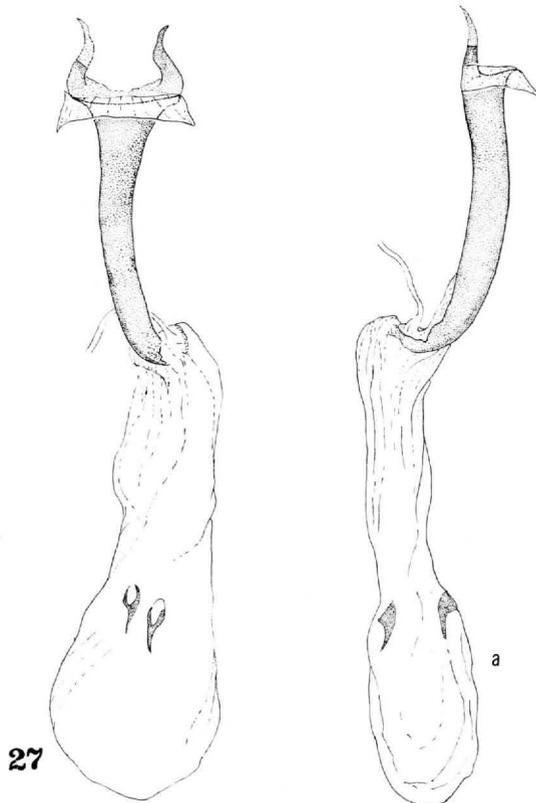


Figure 27. Female genitalia of *O. hypsea* (Godman & Salvin), ventral view; (a) lateral view.

dark costal, apical and outer wing margins. Underside as in the male with all markings somewhat heavier.

The type locality for *hypsea* is Chiriqui, Panama and for *stiktos*, the "interior" of Colombia. I can find no real differences in the two species, either in the written descriptions or the published figures. Both authors compared their specimens to *ophelia*. Druce does not mention *hypsea* and I am under the impression that he was not aware of the existence of the species; the authors had based their description on a specimen on loan from the Staudinger collection.

*Hypsea* is an extremely uncommon species and the known range is restricted to the two northern-most countries of South America, Venezuela and Colombia, and the Republic of Panama. I have found a total of eight specimens in all of the collections I have studied; 3 females and a single male in the G.B. Small collection (the male from Colombia, the females from Panama) and 2 males, the Druce type from Colombia and an additional male from Barinas, Venezuela, 7 March '65 with a surprising note "larva in flower of *couroupita ginannensis*" and an attached empty pupal case! In addition to the above, the following are located in the American Museum of Natural History: 1 ♂ Rio Suarez, Santander (900-1000m) Colombia and 1 ♂ Casabe, Rio Magdalena, Barancabermeja, Colombia.

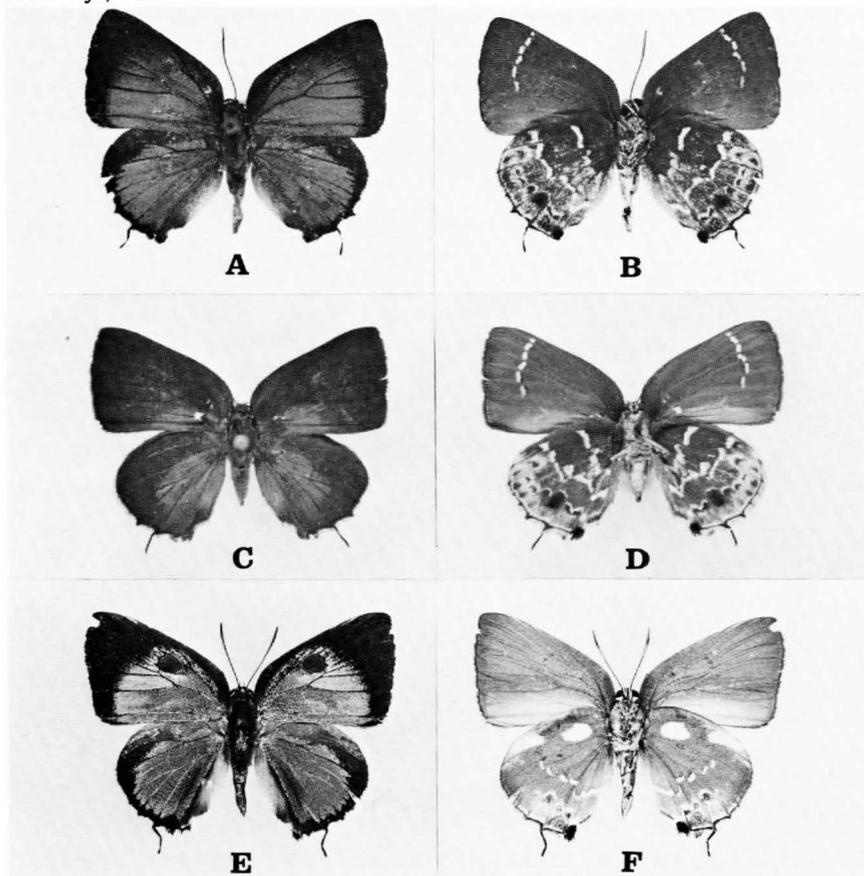


Figure 28. (A) *Olynthus avoca* (Hewitson) ♂ Rio Negro, Manaus, Amazonas, Brasil; (B) underside of (A); (C) *Olynthus avoca* ♀ Cayenne, French Guiana; (D) underside of (C); (E) *Olynthus porphyreticus* (Druce) ♂ Iquitos, Peru, Oct. 1931; (F) underside of (E).

**Olynythus avoca (Hewitson)**

Figs. 28A, 28B, 28C, 28D, 29, 30, 34

*Thecla avoca* Hewitson, 1867:96 pl 37 figs 94, 95. Herrich-Schäffer, 1869:57. *ibid*, 1870:26. Kirby, 1871:388, *ibid*, 1879:155. Draudt *in* Seitz, 1922, V:770-771 pl 154f. Comstock & Huntington, 1959, 67:87.

**Original description:**

"Upperside. Male. — Brilliant glossy blue, slightly tinted with green, with the margins dark brown. Anterior wing with the discoidal spot small and round, rufous. Posterior wing with two tails (one very short).

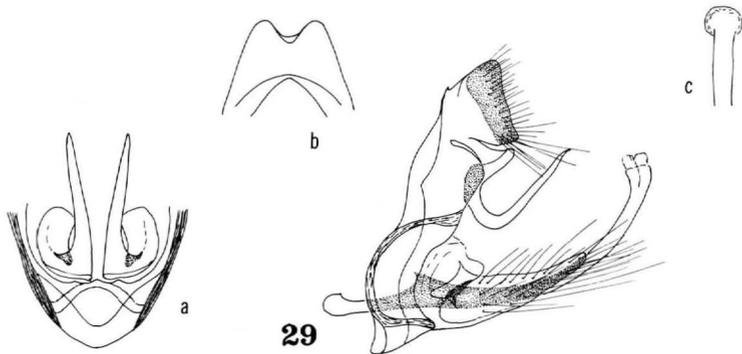


Figure 29. Male genitalia of *O. avoca* (Hewitson), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

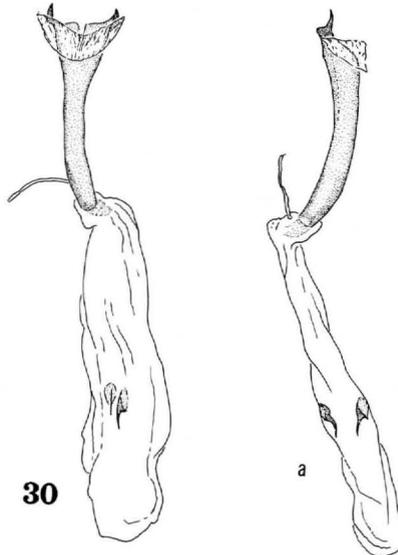


Figure 30. Female genitalia of *O. avoca* (Hewitson), ventral view; (a) lateral view.

Underside rufous-brown, tinted with lilac, darkest on the posterior wing. Anterior wing crossed beyond the middle by a linear band of white, and nearer the margin by a band irrorated with white. Posterior wing dark lilac-brown near the base crossed by a white line, a linear band of white at the middle broadly bordered on both sides with grey from the inner margin to the middle: the remainder of the wing white, with a sub-marginal band of brown spots, and an orange spot between the tails: the lobe black.

Exp.  $1\frac{1}{10}$  inch.

In the Collection of W.C. Hewitson, from the Amazon."

The brief description above is quite adequate for this very distinctive and very uncommon species. It is doubtful that it could be confused with any other, once the underside of the wings has been seen. The pattern and color of the underside does not fit that of any other species in *Olynthus*. However, the upperside color, pattern and location and shape of the male scent pad are identical to these features found in *O. punctum*. The genitalia, in addition to the color pattern of the wing upperside, most certainly place *avoca* in the genus *Olynthus*.

Specimens examined: No data 1 ♂ (AME). BRASIL: No data 1 ♀ (MN); Amazonas-Manaus, Rio Negro 2 ♂ (AME), Monte Christo 1 ♂ (BM), Manicoré 1 ♂ (N), Manacapuru 2 ♂ (CM), Ypiranga, Rio Purus 1 ♂ (AME), Sao Paulo de Olivenca 1 ♂ (AME); Maranhão - 1 ♂ (BM). FRENCH GUIANA: Cayenne 3 ♂ 1 ♀ (BM). SURINAM: 4 ♂ (BM).

#### *Olynthus porphyreticus* (Druce)

Figs. 28E, 28F, 31, 33

*Thecla porphyreticus* Druce, 1907:593 p1 35 fig 2. Draudt in Seitz, 1922, V:779 p1 155f. Comstock & Huntington, 1962, 70:118.

#### Original description:

"Male. Upperside: Brilliant shining ultramarine-blue; costa, apex and outer margins broadly and clearly black. A moderate-sized oval brand at the end of the cell of fore wing. Underside rich plumbeous brown, paler along inner margin of fore wing and anal margin of hind wing. Fore wing without markings but bright red at the extreme base of the costa. Hind wing with a large oval white spot below the costal margin placed about halfway between the base and a large white patch which is situated on the margin above the apex. The discular band composed of separated white spots and becoming linear and broader towards the anal margin. Whitish scales dusted over the anal area. Lobe black, small.

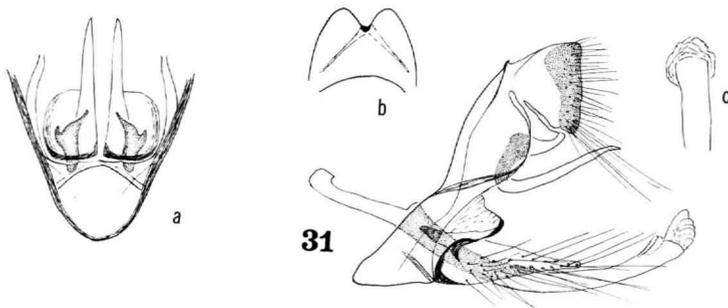


Figure 31. Male genitalia of *O. porphyreticus* (Druce), lateral view with aedeagus in place; (a) ventral view of vinculum and saccus with valvae in place; (b) dorsal view of uncus; (c) ventral view of aedeagus termen.

Expanse 1 $\frac{1}{2}$  inch.

Hab. Rio Napo, Peru (Whitely).

Type, Mus. Godman.

A very distinct insect, not nearly allied to any described form."

There are many "uncommon" neotropical hairstreaks, but *porphyreticus* is certainly one of the rarest. The original description points up the main diagnostic features on the underside of the hindwings which make it distinctly unlike any other species in this genus. The upperside is very much like *O. narbal* with the wide, black apical margin which begins narrowly along the costa, then slants obliquely across the wing just clear of the scent pad toward the mid-outer margin then curving broadly to the inner angle. The male scent pad is round and somewhat larger than in typical *narbal*.

The structures of the male genitalia, in addition to the characters of the wing upperside color and pattern, clearly place *porphyreticus* in the genus *Olynthus*. Unfortunately, the female is unknown.

All known specimens have been taken in the area of the upper Amazon Basin.

Specimens examined: COLOMBIA: 'Bogota' (?) 1 ♂ (BM). PERU: Rio Napo 1 ♂ (type BM), Iquitos 1 ♂ (BM), 2 ♂ (AM).

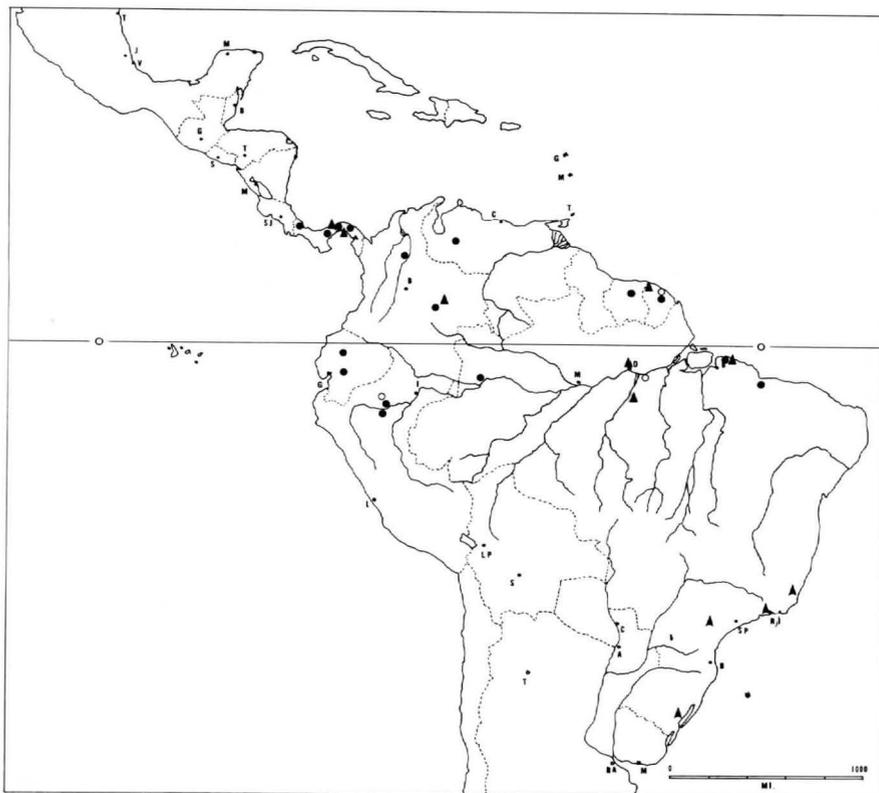


Figure 32. Distribution of *Olynthus narbal* (Stoll), solid circles; *Olynthus ophelia* (Hewitson), open circles; *Olynthus stigmatos* (Druce), solid triangles; *Olynthus fancja* (Jones), solid arrows.

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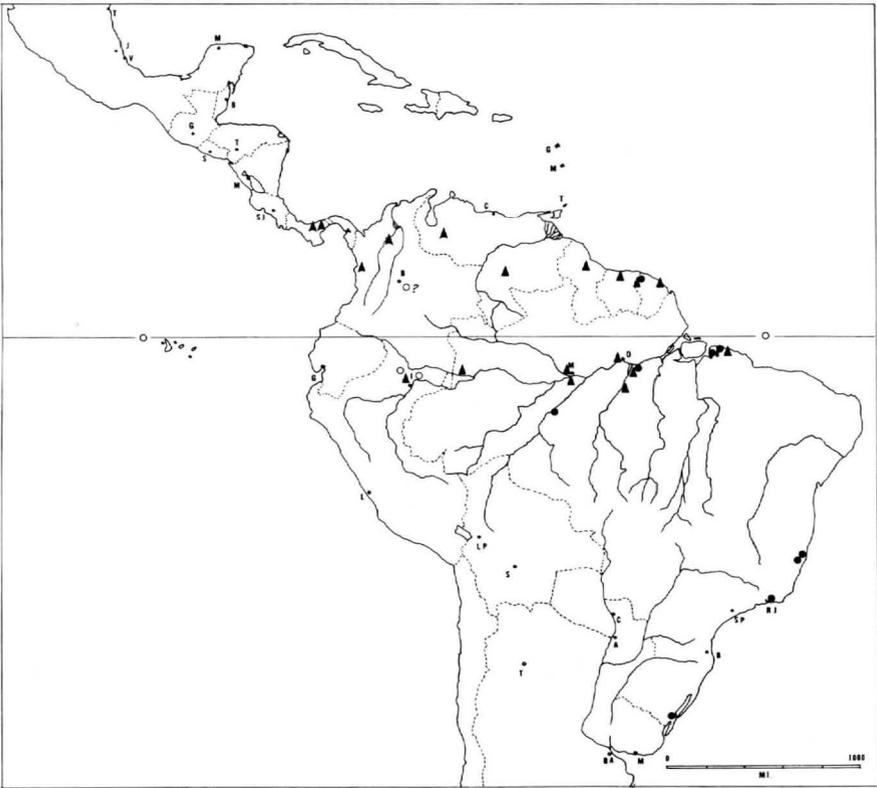


Figure 33. Distribution of *Olynthus ostia* (Hewitson), solid circles; *Olynthus essus* (Herrich-Schäffer), solid triangles; *Olynthus hypsea* (Godman & Salvin), solid arrows; *Olynthus porphyreticus* (Druce), open circles.

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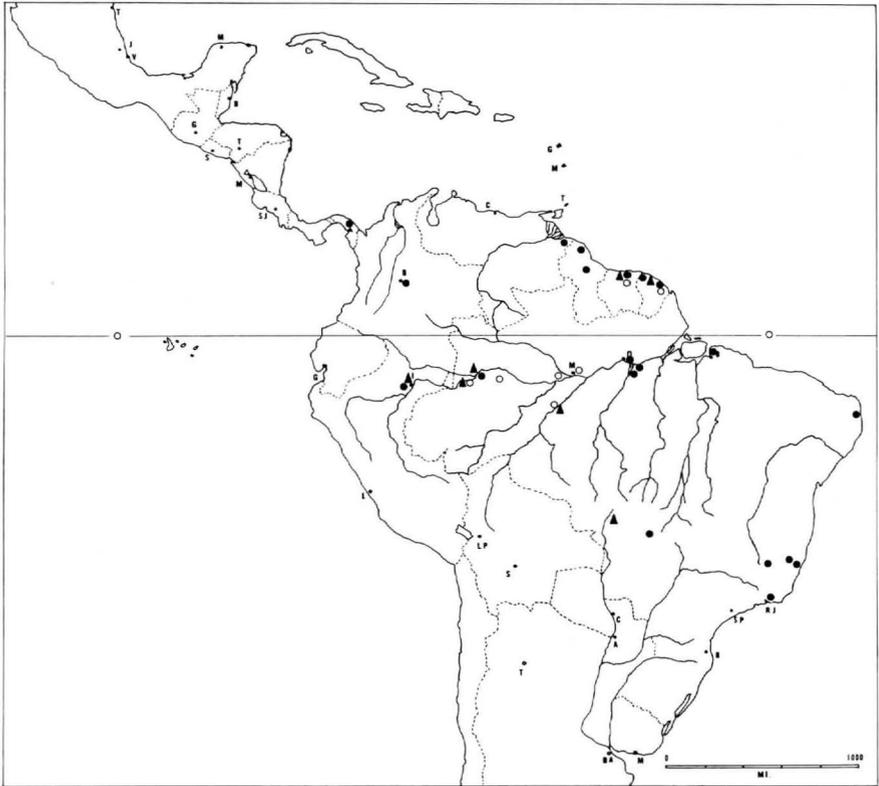


Figure 34. Distribution of *Olynthus punctum* (Herrich-Schäffer), solid circles; *Olynthus nitor* (Druce), solid triangles; *Olynthus avoca* (Hewitson), open circles.

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