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"EAST INDIAN" BUTTERFLIES: NOTES AND DESCRIPTIONS
1. Satyridae and Danaidae

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Over the course of the years the Allyn Museum collection has been enriched by the receipt of several individual lots of specimens from the island of New Guinea, the Moluccas in general, the Solomons and Borneo. These specimens have come from a variety of sources and each has included some intriguing material not duplicated by any other collection that has come to the museum. Accordingly, notes are presented herein on these specimens in what is projected to be a series of papers on butterflies from these areas.

Probably the most significant of the collections we have received from the "East Indies" was a large proportion of the specimens taken by Robert G. and Clo M. Wind on their Papuan expedition of 1938-1940. We did not receive *all* of the material from this expedition, but several thousand specimens from the trip did finally come here. The Winds collected material in northern Australia, New Guinea (especially Irian-Jaya), the Arus, Keys (Kai), Bachan (Batjan), Obi, Halmahera and Sulawesi (Celebes), as well as limited lots at other small islands along the route. Of these collections, as can be imagined, the most significant came from Irian-Jaya, the Arus and the Tondano region of Sulawesi. Strangely, this expedition produced material for only one other paper (Wind and Clench, 1947), and that only on part of the Lycaenidae. As will be seen, there was much more to be written about on the material that the Winds took.

About the turn of this decade the Allyn Museum obtained the collection of Mr. Raymond Jae of Denver, Colorado. It was a worldwide collection and included some material collected by some of Mr. Jae's correspondents in various parts of Papua-New Guinea, as well as a smattering of specimens from other islands in the area. Perhaps most notable of these correspondents was Mr. M. Campbell who lived in the interior of Papua at Woitape and also collected at nearby Kosipe. Some of the specimens he took were of extreme interest, such as various *Delias* as well as the satyrids and danaids recorded below.

At about the same time we received a small, but significant collection of butterflies from Mr. Raymond Straatman which included specimens from Papua-New Guinea and southern Sulawesi. This paper is based in part on material received from Mr. Straatman.

During the early 1960's Mr. and Mrs. Stephen R. Steinhauser were stationed in Burma as part of Mr. Steinhauser's work with the United Nations. During this time

they vacationed in British North Borneo (Sabah) and Papua-New Guinea, and at each place they collected specimens of new butterflies.

The above collections are the most significant sources of material for this paper, but a few specimens from other collectors (now unknown because the collectors' names were not preserved on the labels) are also included herein.

To all of these collectors, named and unnamed, go our thanks for making this paper possible. Thanks are further given to various members of the Entomology Department of the British Museum (Natural History), especially Messrs. R. I. Vane-Wright and P. R. Ackery, for patiently comparing some of our material with the vast collections at their disposal and for answering many questions and critiquing part of the manuscript.

The sheer bulk of material worth noting in our collection has forced abandoning the original idea of presenting all of the observations in a single paper. Accordingly, we shall present papers on these collections by families as the data become available. For the present, then, we are presenting notes and descriptions of only the Satyridae and Danaidae. Subsequent papers will present information on the other families.

SATYRIDAE

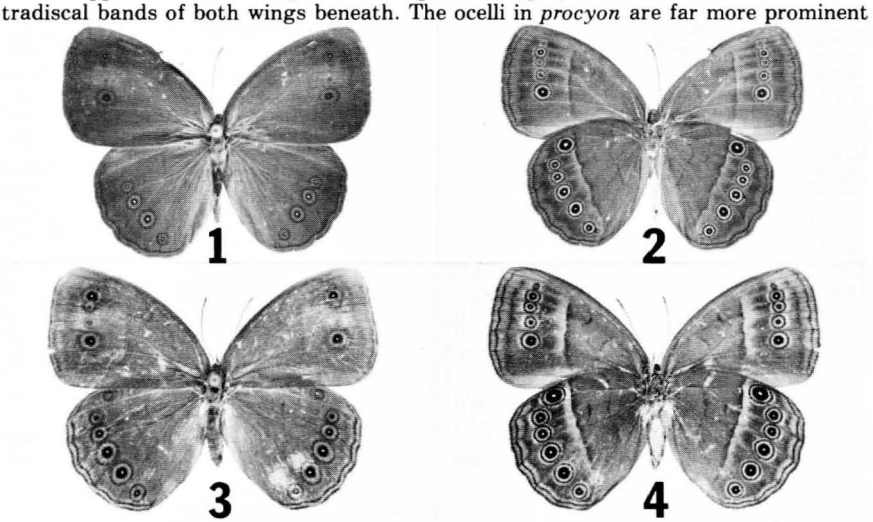
PARARGINAE

Mycalesini

Mycalesis sirius procyon, new subspecies

Figures 1, 2 (♂), 3, 4, (♀), 55 (♂ genitalia)

Male/Female: This subspecies differs from Australian *M. s. sirius* (Fabricius) by its redder upper surface and by the more prevalent gray irroration distad of the extradiscal bands of both wings beneath. The ocelli in *procyon* are far more prominent



Figures 1 - 4: *Mycalesis sirius procyon*, new subspecies. 1 - 2, Holotype ♂, upper (1) and under (2) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-1/2). 3 - 4, Paratype ♀, upper (3) and under (4) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-3/4). All illustrated specimens in Allyn Museum of Entomology collection.

than are those of *M. s. antecanis* Fruhstorfer and are not so distinctly ringed with rust as are those of *M. s. manipa* Boisduval.

Length of forewing of Holotype ♂ 21.9 mm, that of the ♂ Paratype 22.6 mm, and those of the ♀ Paratypes 24.0 and 24.2 mm. This subspecies exceeds all other *sirius* subspecies before us in size except a few female *antecanis*.

♀ genitalia as illustrated, varying but little from those of other *sirius* subspecies.

Described from four specimens, two males and two females, from the Aru Islands, Indonesia.

HOLOTYPE ♂: ARU ISLANDS: Dobo, 7.iii.1939 (R. and C. Wind); ♀ genitalia slide M-3815 (Jacqueline Y. Miller).

PARATYPES: same locality and collectors as Holotype, v.1939; 1♂ 2♀.

Disposition of type-series: Entire type series is in the collection of the Allyn Museum of Entomology.

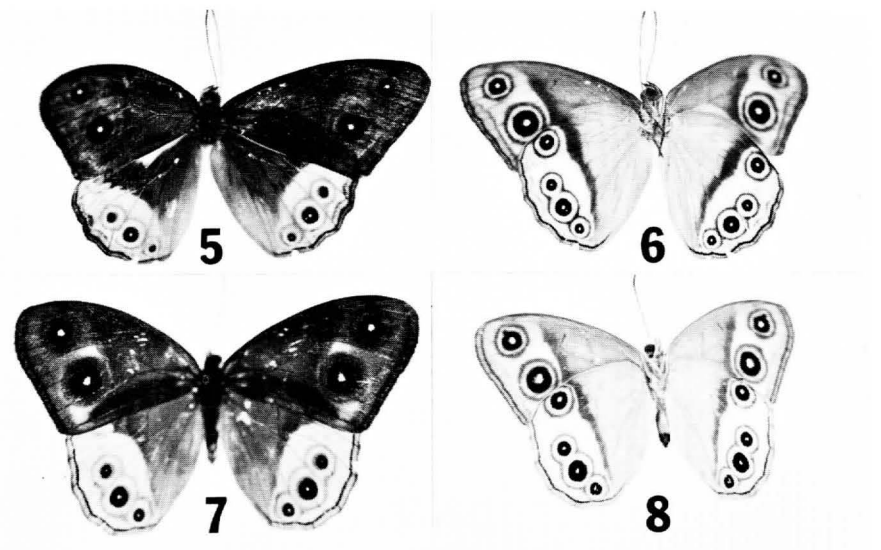
The name of this subspecies indicates its affinities to nominate *sirius*. Procyon is the lead star in the constellation Canis Minor, whereas Sirius is the brightest star in Canis Major.

M. s. procyon extends the known range of the species into a not unexpected area, there being other populations of *sirius* known from Ambon, Serang, New Guinea and Australia. The characters cited in the description will serve to separate the present subspecies from other populations on these other islands.

Mycalesis duponcheli allynorum, new subspecies

Figures 5, 6 (♂), 7, 8 (♀), 56 (♂ genitalia)

Male: Bears some resemblance to *M. d. kapaura* Fruhstorfer and *M. d. duponcheli* (Guérin-Ménéville), but the forewing above has very restricted orange in the ocellar region. In the present subspecies this orange is usually restricted to a few scales behind the posterior ocellus. Ocelli larger and more prominent on both upper forewing and



Figures 5 - 8: *Mycalesis duponcheli allynorum*, new subspecies. 5 - 6, Holotype ♂, upper (5) and under (6) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-5/6). 7 - 8, Paratype ♀, upper (7) and Under (8) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-7/8).

hindwing, but only three ocelli present on hindwing from M_3-Cu_1 to Cu_2-2A, never a complete set as in *d. duponcheli.* the orange marginal area broader than that of either closely related subspecies; its inner margin is convex, rather than straight.

Length of forewing of Holotype ♂ 27.3 mm, those of the ♂ Paratypes at hand 26.0, 26.2 and 27.3 mm.

♂ genitalia as illustrated and typical of *duponcheli.*

Female: Intermediate between females of the *duponcheli-kapaura* morph and those of the *eminens* Staudinger-*obscurata* Fruhstorfer form. The forewing yellow between the ocelli of the upper surface more restricted than that of the *kapaura* form, this coloration being wanting entirely in the Papuan subspecies. The yellow marginal patch of the hindwing above is more extensive in the present subspecies than in other *duponcheli,* and its inner margin is more uniformly convex. The three ocelli on the hindwing from M_3-Cu_1 to Cu_2-2A are very prominent.

Lengths of forewings of the ♀ Paratypes at hand are 28.0 and 31.3 mm.

Described from nine specimens, six males and three females, from the Aru Islands, Indonesia.

Holotype ♂: ARU ISLANDS: Dobo, 8.v.1939 (R. and C. Wind).

PARATYPES: all Aru Islands: 3♂ 2♀, same locality as Holotype, v-vi.1939 (R. and C. Wind); 2♂ 1♀, "Aru Islands", no further data.

Disposition of type-series: Holotype ♂, three ♂ and one ♀ Paratypes in collection of the Allyn Museum of Entomology; two ♂ and one ♀ Paratypes in the collection of the British Museum (Natural History).

This insect is named for Mr. and Mrs. A. C. Allyn in recognition of their service and devotion to lepidopterology.

M. d. allynorum long sat under a never-validated manuscript name in the British Museum (Natural History) collection. Its intermediate character immediately sets it apart from other named *duponcheli* subspecies, and the extension of the species' range into the Arus is interesting, but by no means unexpected. We have the impression that the Aru Islands harbor a great many undescribed taxa, and almost inevitably these will be related to Papuan forms. These islands have remained poorly worked: the Winds' visit there (all too brief) was one of the few that were at all significant since the *Novara* expedition, about which the Felders wrote over a century ago.

Mycalesis mucia aruana, new subspecies

Figures 9, 10 (♂), 11, 12 (♀), 57 (♂ genitalia)

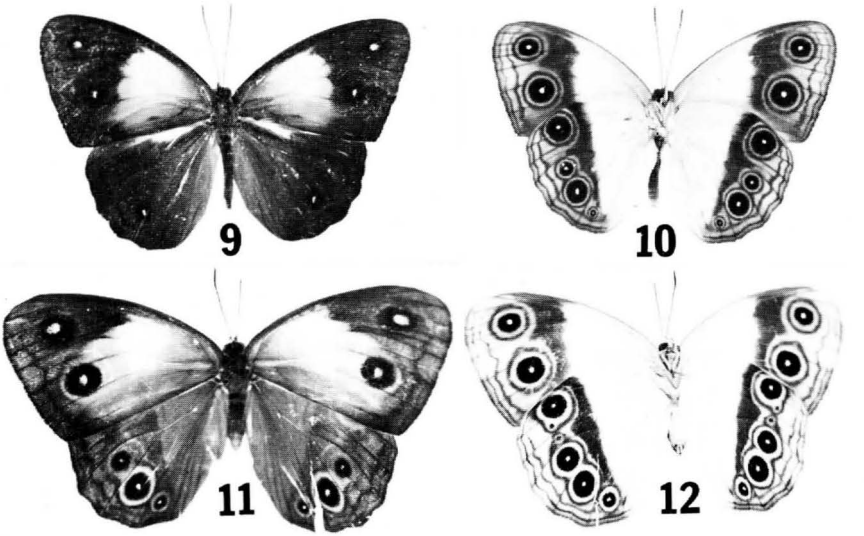
Male: Most closely related to *M. m. mucia* Hewitson, but differing in the following particulars: forewing ocelli much more prominently pupilled with blue; basal tawny area of forewing above not so red as that of *m. mucia* and unevenly defined distad, not cut off smoothly as in the nominate race; hindwing above only slightly tinged with tawny basad; hindwing ocellus in Cu_1-Cu_2 above larger and more noticeably pupilled with bluish-white; basal area of hindwing beneath paler; distal shading of both wings beneath tan, rather than violet; rings around ocelli on under surface ochreous, rather than fulvous.

Length of forewing of Holotype ♂ 27.6 mm, those of the ♂ Paratypes range from 28.0 to 30.2 mm, averaging 29.0 mm.

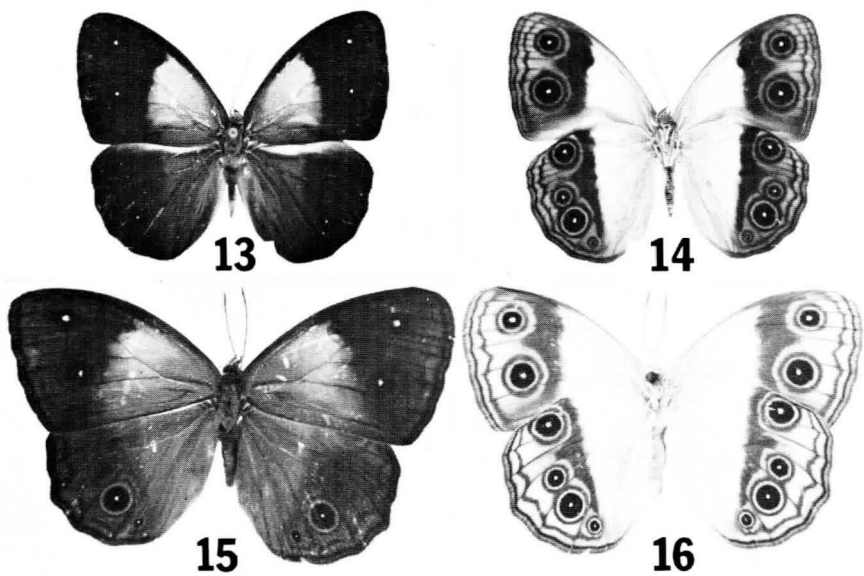
♂ genitalia as illustrated and similar to those of other *mucia* subspecies.

Female: Differs from the female of *m. mucia* by the ocelli being larger and more heavily pupilled with blue; the expanded tawny (not strongly reddened) basal area of the upper forewing, this area enclosing the ocellus in Cu_1-Cu_2: the more diffusely shaded hindwing upper surface, this color being tawny, rather than strongly shaded red; the tawny, not fulvous, rings around the upper hindwing ocelli; the generally paler under surfaces of both wings.

Lengths of forewings of ♀ Paratypes 31.3 and 32.1 mm.



Figures 9 - 12: *Mycalesis mucia aruana*, new subspecies. 9 - 10, Holotype ♂, upper (9) and under (10) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-9/10). 11 - 12, Paratype ♀, upper (11) and under (12) surfaces; ARU ISLANDS: Dobo (Allyn Museum photos 032778-11/12).



Figures 13 - 16: *Mycalesis mucia mucia* Hewitson. 13 - 14, ♂ upper (13) and under (14) surfaces; NETH. NEW GUINEA: Wasian (Allyn Museum photos 032778-13/14). 15 - 16, ♀ upper (15) and under (16) surfaces; NETH. NEW GUINEA: Wasian (Allyn Museum photos 032778-15/16).

Described from seven specimens, five males and two females, from near Dobo, Aru Islands, Indonesia.

HOLOTYPE ♂: ARU ISLANDS: Dobo, 3.vi.1939 (R. and C. Wind); ♂ genitalia slide M-3819 (Jacqueline Y. Miller).

PARATYPES: same locality and collectors as Holotype, v-vi.1939; 4♂ 2♀.

Disposition of type-series: Holotype ♂, three ♂ and two ♀ Paratypes in Allyn Museum of Entomology; one ♂ Paratype will be placed in British Museum (Natural History).

The name of this subspecies is derived from the name of the islands it inhabits.

D'Abrera (1971: 259) suggests that *M. m. mucia* might occur in the Arus. He might be correct, but certainly, as detailed in the description above, the present subspecies replaces nominate *mucia* in at least the Dobo area. We must again reiterate the desirability of additional well-documented material from these fascinating islands. Much yet remains to be discovered there.

Specimens of *M. m. mucia* from Irian-Jaya (West Irian: Dutch New Guinea), Indonesia are figured here (Figures **13-16**) to aid in the discrimination of the new subspecies.

Mycalesis splendens Mathew

Figure 58 (♂ genitalia)

Mycalesis sara Mathew

Figure 59 (♂ genitalia)

D'Abrera (1971: 260) lists these two names as subspecies (*splendens* having priority), but he does so very reluctantly. He restricts *sara* to Roviana and records *splendens* from Bougainville, Treasury and Santa Isabel. The Allyn Museum collection contains specimens referable to *splendens* from Bougainville, Malaita and San Cristobal, the records from the latter two islands being the first to our knowledge. Our material also contains typical *sara* from Bougainville and Guadalcanal, also both new records.

The apparent sympatry of the two morphs on Bougainville strongly suggests that assignment of the two taxa as conspecific is incorrect. They must either be separate species or forms of the same species. Accordingly, genitalic analyses were done on specimens from Buin, Bougainville, in order to determine whether or not the specimens from the same place were the same or different taxa. As may be seen from the genitalic figures given here, these structures show relationship, but not identity, and it seems better to class both *sara* and *splendens* as separate, though unquestionably closely related, species.

Mycalesis evara evara Fruhstorfer

A single specimen that is perhaps referable to this subspecies was taken by the Winds on Prince of Wales Island, 20.ii.1939. The subspecies *evara* is considered by D'Abrera (1971: 261) to be a rarity and restricted to Papua. The present record extends the known range of this taxon into the Torres Strait Islands of Australia.

The specimen is slightly aberrant in that the ground color above is paler, and below the hindwing ocellus in M_2-M_3 is somewhat shifted basad. This single specimen is not enough to base a description on, but it does indicate that a thorough search of Prince of Wales Island might uncover an undescribed subspecies.

Mycalesis drusillodes (Oberthür)

Vane-Wright (1971) showed conclusively that this species is nothing but a highly modified *Mycalesis*, related to *M. durga* Grose Smith and Kirby, even though

drusillodes has gone under three separate generic names since its description in 1894. Vane-Wright further summarized all of the data on specimens that had come to his attention, and since it is obviously a rare beast, we feel that recording the following specimens may be important, even though they are from an area previously known to be inhabited by the insect.

The Winds encountered *M. drusillodes* at Fak-Fak, Irian-Jaya, during July and August of 1939. During that time they took two males and three females, and these specimens are now in the collection of the Allyn Museum of Entomology.

RAGADIINAE

Acrophtalmia artemis windorum, new subspecies

Figures 17, 18 (♂), 19, 20 (♀), 60 (♂ genitalia)

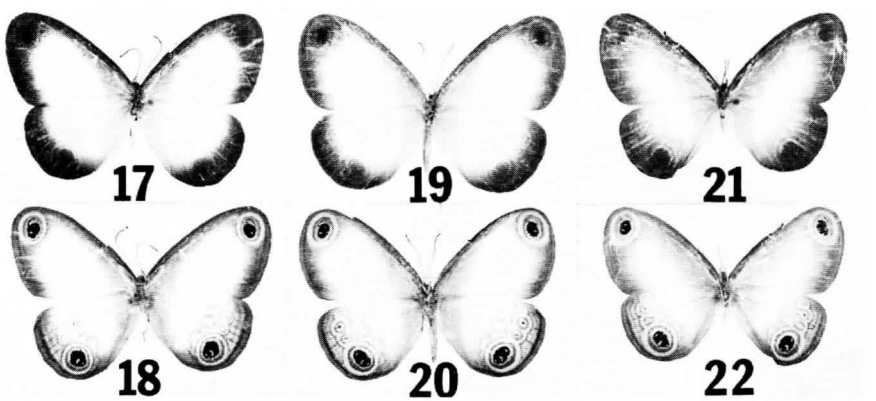
This subspecies is the palest race of *A. artemis* known, exceeding even the nominate subspecies in the amount of white on both surfaces of all wings in both sexes. The white on the under hindwing completely incloses the ocelli, and the forewing white patch reaches at least the proximal parts of the ring around the apical ocellus.

The other northern Celebean subspecies, *leuce* C. and R. Felder (Figures **21, 22** (♂)), is a very different insect, as shown: much darker in general appearance, though the marginal brown markings are dull, rather than sharply defined blackish-brown, and the white central areas, especially in the ♂, tend to be sullied with brown scales, particularly on the upper forewing.

Length of forewing of Holotype ♂ 18.6 mm, those of the ♂ Paratypes range from 17.8 to 20.2 mm, averaging 18.8 mm; those of the ♀ Paratypes range from 18.2 to 19.8 mm, averaging 19.0 mm.

♂ genitalia as figured and similar to those of other *artemis* populations.

Described from 34 specimens, 24 males and ten females, from northern Sulawesi



Figures 17 - 22: *Acrophtalmia artemis* subspecies from Celebes (Sulawesi). 17 - 18, *A. a. windorum*, new subspecies, Holotype ♂ upper (17) and under (18) surfaces; CELEBES ISLAND: Lake Dano (Allyn Museum photos 032878-1/2). 19 - 20, same subspecies, Paratype ♀ upper (19) and under (20) surfaces; CELEBES ISLAND: Lake Dano (Allyn Museum photos 032878-3/4). 21 - 22, *A. a. leuce* C. and R. Felder, ♂ upper (21) and under (22) surfaces; CELEBES ISLAND: Tondano (Allyn Museum photos 032878-5/6).

(Celebes) Island, Indonesia.

HOLOTYPE ♂: CELEBES ISLAND: Lake Dano, 6.vi.1940 (R. and C. Wind); ♂ genitalia slide M-3795 (Lee D. Miller).

PARATYPES: all same locality and collectors as Holotype, vi.1940, 23 ♂ 10 ♀.

Disposition of type-series: Holotype ♂, 21 ♂ and nine ♀ Paratypes in the collection of the Allyn Museum of Entomology; two ♂ and one ♀ Paratypes will be deposited in the British Museum (Natural History).

We take great pleasure in naming this insect for Robert G. and Clo M. Wind who collected the type-series and recognized it as a new entity over thirty years ago. The material that they took on the Papuan-Australian Expedition of 1938-1940 has proved to be some of the most significant to have come out of these areas during this century.

An additional five specimens have been excluded from the type-series. Three males were taken by the Winds at Gorapy in northern Sulawesi during July of 1940; these seem comparable in all respects to the Lake Dano series. Two other males from Kombi, Sulawesi, taken in April, 1940, show tendencies toward the common lowland *A. a. leuce* in that the dark margins of the forewing above are somewhat more expanded than in Lake Dano specimens, but not to the extent shown in typical *leuce*.

Robert Wind's notes on *A. artemis* suggest that the present subspecies is a higher altitude race. He states that he never encountered it below 3,000 feet (910 m), but he further states that it is abundant in the jungles surrounding the lake. The length of the type-series, all collected within a week of one another, attests to the common status of the insect.

The differences cited in the description will serve to separate *windorum* from *leuce*, as will the illustrations. These two subspecies are not far separated geographically, but they are altitudinally and apparently ecologically.

SATYRINAE

Hypocystini

Pieridopsis ducis Jordan

Figures 23, 24 (♂)

Jordan (1930: 279-280; fig. 1) described this species and figured its genitalia from the west side of the Herzog Mountains of eastern New Guinea. The type-series consisted of two males which apparently had remained the only two known: the female is still unknown. D'Abrera (1971:268) stated that he did not know this insect, hence it was

Figures 23 - 24, *Pieridopsis ducis* Jordan, ♂ upper (23) and under (24) surfaces; PAPUA-NEW GUINEA: Kosipe, Woitape (Allyn Museum photos 032778-17/18).

not figured either by him or in the original paper. Jordan did, however, conclusively show the differences in the male genitalia between this species and the closely related *P. virgo* Rothschild and Jordan.

When the Allyn Museum received the Jae collection there were two males of *P. ducis* included and mixed into the series of the relatively common *P. virgo*. They were taken at Kosipe, near Woitape, Papua, by Mr. Jae's correspondent, M. Campbell. One was taken on 29.iv.1971 and the other on 4.xi.1971. One of these males is here figured to facilitate identification of other specimens that possibly might be intermingled with series of *P. virgo*.

Platypthima ornata Rothschild and Jordan

Figures 25, 26 (♀)

This species is discussed and figured by D'Abrera (1971:269) who mentions that the female is unknown. The material that Campbell took at Kosipe, Woitape, Papua, contained a number of specimens of this insect, one of which is apparently the first known female. It is this specimen, collected on 17.ii.1971, that is here figured and forms the basis of the description of the female that follows:

Female: Upper surface of wings similar to that of ♂, but the bluish-gray areas are somewhat reduced, especially on the forewing. Forewing beneath somewhat washed out in distal third, rather than heavily brownish-black as in ♂, with a submarginal, buff, zigzag line extending from the apex to Cu_1-Cu_2; inner margin even paler gray than in ♂. Under surface of hindwing also comparable to that of ♂, but ground color paler, the yellow extradiscal patch from inner margin to end of cell expanded and the red-brown line outside this patch thickened and continued narrowly to the costa.

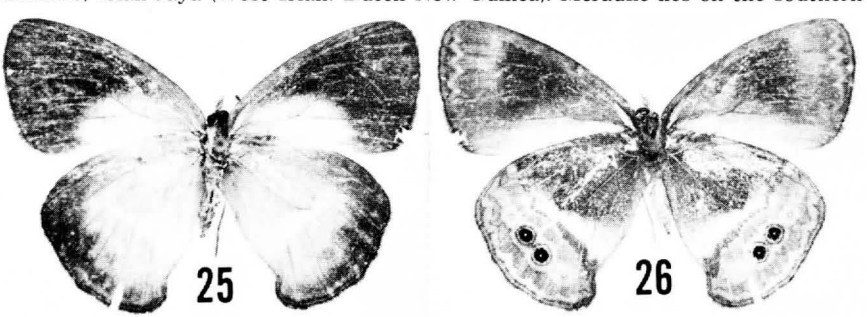
Length of forewing of this ♀ 20.0 mm, the ♂ specimens at hand being slightly smaller.

Other species of *Platypthima* taken by Campbell at Kosipe include *P. homochroa homochroa* Rothschild and Jordan and *P. decolor* Rothschild and Jordan. The first of these was also taken in the Jimi Valley of New Guinea by Mr. and Mrs. Steinhauser along with a long series of *P. leucomelas* Rothschild, a species unrepresented in the Kosipe collections.

Ypthimini

Ypthima arctous papuana Fruhstorfer

The Winds captured three males of this subspecies in the swamp forest around Merauke, Irian-Jaya (West Irian: Dutch New Guinea). Merauke lies on the southern



Figures 25 - 26, *Platypthima ornata* Rothschild and Jordan, ♀ upper (25) and under (26) surfaces; PAPUA-NEW GUINEA: Kosipe, Woitape (Allyn Museum photos 032978-1/2).

coast of Irian-Jaya, not over fifty miles west of the frontier with Papua, so the occurrence of this insect there is not surprising. Nevertheless, we have been unable to find previous records from there and presume these three specimens to be the first recorded from the western half of the island.

Ypthima arctous arctous (Fabricius)

The Winds also collected three pairs of what may be this subspecies at Dobo in the Aru Islands, Indonesia, during May and June of 1939. The specimens are somewhat atypical of *a. arctous*, especially as regards the larger anal ocellus on the hindwing, but in the absence of more comparative material from Australia showing the full range of variation, it seems more prudent to refrain from describing a new subspecies from the Arus at this time.

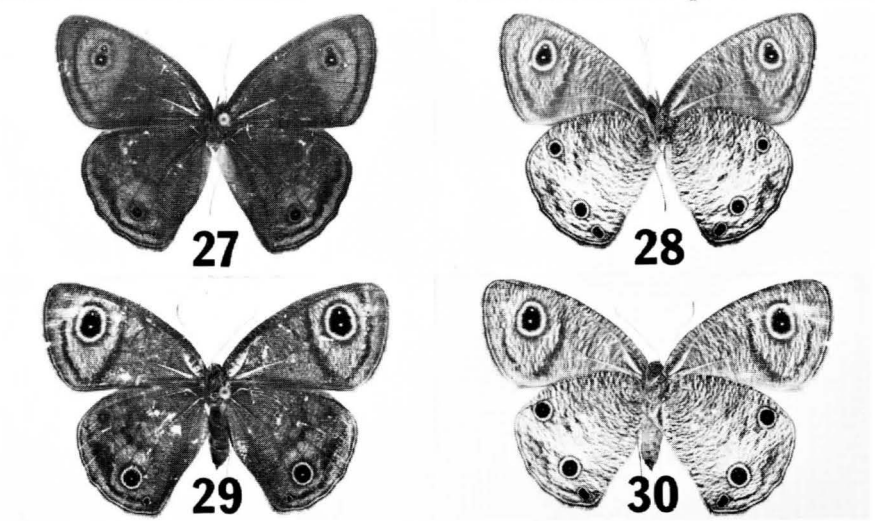
Ypthima pusilla Fruhstorfer

A single male of this species was captured by the Winds at Redlynch, Queensland, Australia, on 9.viii.1939. This is the first Australian record for this little species which easily can be confused with the common *Y. a. arctous* (see above), but the gray ground color of the hindwing below (not tan as in *arctous*) is distinctive, as is the second anal ocellus of the hindwing in the present species. Perhaps this specimens was an accidental introduction into the Cairns area, but notice of it here should suggest that other collectors be on the lookout for it. The specimen is identical in all respects to a series of males taken by the Winds on Ambon (Amboina), Indonesia.

Ypthima pandocus microocellata, new subspecies

Figures 27, 28 (♂), 29, 30 (♀), 61 (♂ valva)

Male: Differs from other *pandocus* populations chiefly in the reduction of the ocelli on both surfaces. The amount of whitish irroration of the hindwing beneath is even



Figures 27 - 30, *Ypthima pandocus microocellata*, new subspecies. 27 - 28, Holotype ♂ upper (27) and under (28) surfaces; BATJAN ISLAND (Allyn Museum photos 032878-15/16). 29 - 30, Paratype ♀ upper (29) and under (30) surfaces; BATJAN ISLAND (Allyn Museum photos 032878-17/18).

greater than in the more western *Y. p. tahanensis* Pendlebury and far greater than is shown by any eastern subspecies.

Length of forewing of Holotype ♂ 24.1 mm.

♂ genitalia as in other *pandocus* subspecies: the valva of the Holotype only is illustrated here.

Female: Generally paler than ♀ of either *tahanensis* or the Celebean *macrianus* Fruhstorfer with apical ocellus of forewing somewhat smaller than that of the latter and more elongate than that of the former.

Length of forwing of Paratype ♀ 25.3 mm.

Described from two specimens, a male and a female, from the island of Bachan (Batjan; Batchian), Indonesia.

HOLOTYPE ♂: BATJAN ISLAND: 24.i.1939 (R. and C. Wind); ♂ genitalia slide M-3799 (Lee D. Miller).

PARATYPE: same data as Holotype, 1 ♀.

Disposition of type-series: Type-series is in Allyn Museum of Entomology.

The name refers to the reduced ocelli that characterize this subspecies.

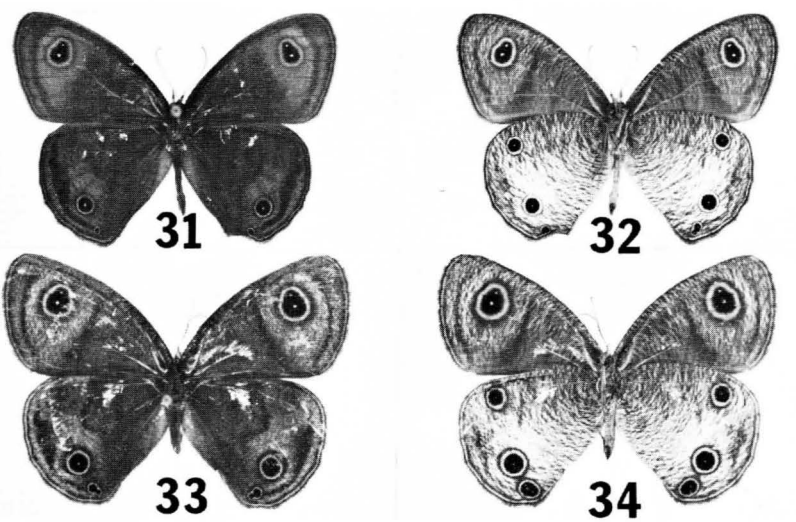
Y. pandocus microocellata is the most eastern representative of the species, the only one to have crossed Weber's Line into the Papuan Subregion. We should have liked to have seen additional material but feel confident enough to describe the subspecies here and call attention to the presence of *pandocus* in the "Australian Region" of D'Abrera (1971).

For comparison we are figuring a pair of *Y. p. macrianus* Fruhstorfer (Figures **31-34**) along with the genitalia of that subspecies (Figure **62**). These figures will serve as points of reference for the discussion of *microocellata*, as well as the species that follows.

Ypthima pandocoides, new species

Figures 35, 36 (♂), 37, 38 (♀), 63 (♂ genitalia)

Male: Upper surface immediately distinguishable from that of *Y. pandocus macrianus*, the only *Ypthima* on northern Sulawesi of equivalent size, by the three hind-



Figures 31 - 34, *Ypthima pandocus macrianus* Fruhstorfer. 31 - 32, ♂ upper (31) and under (32) surfaces; CELEBES ISLAND: vic. Tondano, 2500' (Allyn Museum photos 032878-11/12). 33 - 34, ♀ upper (33) and under (34) surfaces; CELEBES ISLAND: Lake Dano (Allyn Museum photos 032878-13/14).

wing ocelli in spaces M_3-Cu_1, Cu_1-Cu_2 and Cu_2-2A; *macrianus* lacks the ocellus in M_3-Cu_1 and the one in Cu_1-Cu_2 is relatively much larger than the corresponding one in *pandocoides*. The ground color of the upper surface of *pandocoides* is somewhat darker than that of *macrianus*, but the submarginal dark shade is not so broad nor as well defined in the present species.

Ground color of under surface darker than in *macrianus* and not so sullied with grayish-white throughout. The pale area of the hindwing more or less restricted to a grayish-white patch from the middle of the inner margin to the top of the cell and thence outward to about the level of the ocelli or slightly beyond. The apical hindwing ocellus is somewhat better developed in the present species than in *macrianus*, and the three anal ocelli are larger and more prominent with ochreous, rather than yellow, rings.

Length of forewing of Holotype ♂ 23.3 mm, those of the ♂ Paratypes range from 21.2 to 24.6 mm, averaging 22.9 mm.

♂ genitalia as illustrated, differing from those of *macrianus* (Figure **62**) chiefly in the narrower, more tapering valvae and by the unhooked dorsal apodemes of the vinculum.

Female: Differs from the ♀ of *macrianus* in much the same way as does the ♂. The ♀ is paler throughout than is the ♂ and in general has slightly more grayish overscaling overall.

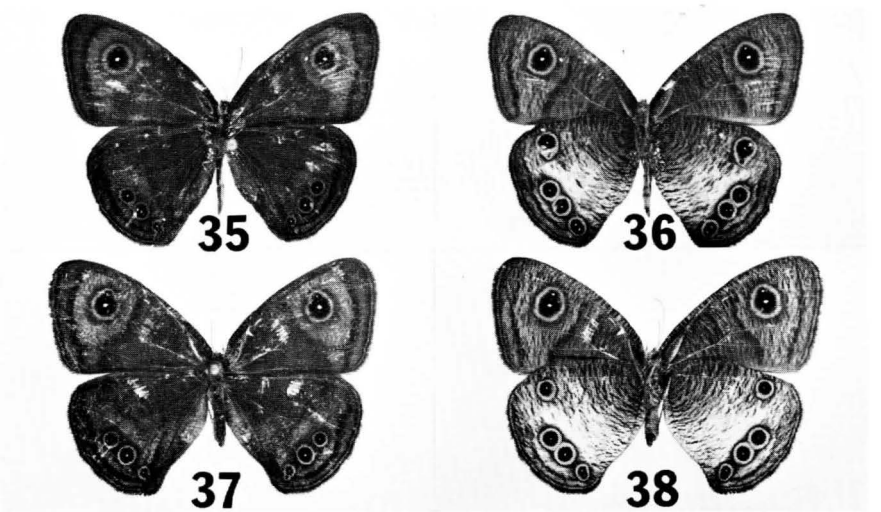
Lengths of forewings of ♀ Paratypes range from 23.3 to 25.3 mm, averaging 24.4 mm.

Described from 64 specimens, 52 males and 12 females, from the northern arm of Sulawesi (Celebes) Island, Indonesia.

HOLOTYPE ♂: CELEBES ISLAND: Lake Dano, 17.vi.1940 (R. and C. Wind); ♂ genitalia slide M-3816 (Jacqueline Y. Miller).

PARATYPES: all North CELEBES ISLAND: 32 ♂ 6 ♀, same locality and collectors as Holotype, vi.1940; 9 ♂ 2 ♀, Tondano, vii.1940; 9 ♂ 3 ♀, "Modycls" (spelling?), vi.1940 (all R. and C. Wind); 1 ♂ 1 ♀, Pedamaran, 1200 m, iv.1966 (R. Straatman).

Disposition of type-series: Holotype ♂, 49 ♂ and 11 ♀ Paratypes in the collection of the Allyn Museum of Entomology; two ♂ and one ♀ Paratypes will be deposited in



Figures 35 - 38, *Ypthima pandocoides*, new species. 35 - 36, Holotype ♂ upper (35) and under (36) surfaces; CELEBES ISLAND: Lake Dano (Allyn Museum photos 032878-7/8). 37 - 38, Paratype ♀ upper (37) and under (38) surfaces; CELEBES ISLAND: Lake Dano (Allyn Museum photos 032878-9/10).

the British Museum (Natural History).

The name refers to the similarity of the present species to *Y. pandocus* Moore, especially the Celebean subspecies *macrianus* Fruhstorfer.

This species may be distinguished immediately from *macrianus* by the presence of an extra hindwing ocellus in M_3-Cu_1. In this character it resembles the continental *Y. savara* Grose Smith, but the latter species has a second hindwing subapical ocellus that is wanting in *pandocoides*.

Robert Wind's notes indicate that he first recognized *pandocoides* as something different from *macrianus* when he collected them flying together at Lake Dano. Indeed, the two species do fly there with *pandocoides* being by far the commoner insect. The same situation apparently prevails over the entire northern arm of the island. We cannot, however, determine the exact range of the present species because we have seen no large *Ypthima* in any of our material from central and southern Sulawesi.

Wind further observed that *pandocoides* and *macrianus* were among the very few butterflies that could be seen and taken in numbers during even the rainiest of days.

DANAIDAE

Perhaps the danaids are most abundant and reach their greatest taxonomic diversity in the Celebean and Papuan subregions. New entities are continually being discovered, and the distributions of older, established names still need to be clarified. The few examples cited here are among those that offer possible additional information contained in the collections at hand. Other taxonomic inferences may be drawn from the Allyn Museum specimens, but actual nomenclatorial changes in many cases must await longer well-documented series.

DANAINAE

Ideopsis gaura (Horsfield), subspecies?

Talbot (1940 gave a synopsis of what had been known to that time about the genus *Ideopsis*, determining finally that *gaura* and *daos* (Boisduval) were conspecific, rather than two separate species as suggested by Fruhstorfer, 1910 [1908-1927]: 216.

The Allyn Museum collection contains two males and a female of this species bearing data of "Minhassa, Celebes; 1910?" from the Jae collection. These specimens vary somewhat from other *gaura* in the collection, resembling rather closely individuals of the Niaas subspecies *g. costalis* Moore, except for the more heavily darkened forewing costa. The Celebean specimens are not representative of the form *itamputi* Talbot, an insect described from the doubtful locality of "Kirwini, Trobriand Islands"; that insect has the anterior three spots of the hindwing postdiscal spotband coalesced, a situation not hinted at by the present series.

Though no other described entity seems to fit these specimens we are reluctant to describe them as new, especially because of the equivocating nature of the data. The only well-documented *gaura* are from west of Sulawesi (assuming that one discounts the single type of *itamputi*), thus reinforcing our reticence.

Danaus chrysippus petilia (Stoll)

D'Abrera (1971: 170) records this subspecies from Australia through the island of New Guinea, and states that it is replaced in the Moluccas by *D. c. cratippus* (C. and R. Felder). This may not be entirely true. The Allyn Museum collection contains a single male taken by R. Straatman on Mt. Sahuwul at 400 m on the Huamaul peninsula of West Serang (Ceram) on 1.viii.1969. Whether this specimen represents a stray or a breeding resident we cannot say, but the implication from the Serang specimen is that *petilia* may be more widespread than previously thought.

Danaus philene bonguensis (Fruhstorfer)

Figures 39, 40 (♂), 41, 42 (♀)

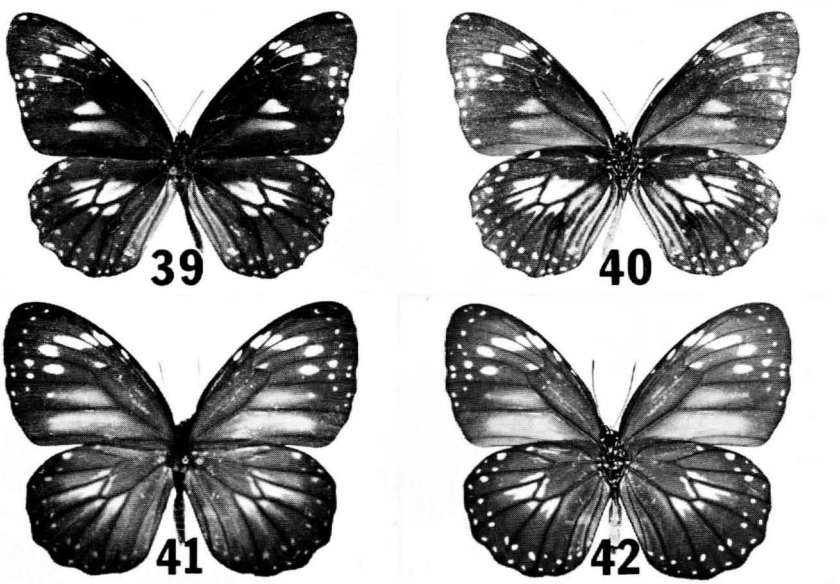
This rare subspecies is represented in the Allyn Museum collection by two specimens: a male from Bisianumu, Papua, 800 m, 15.vii.1969 (R. Straatman) and a female from Kairuru, New Guinea, vii.1963 (F. Swift). Neither of these is as extreme as the one figured by Fruhstorfer (1910 [1908-1927]: pl. 77c). The male is somewhat aberrant in that the white hindwing patches invade the discal cell, but the female is more typical with these patches lying entirely outside the cell.

There seems little doubt that the pair represents this taxon, and it is an entirely different butterfly than the next subspecies, though both are conspecific. Mr. P. R. Ackery (personal communication) suggests that since *D. philene* and *affinis* (Fabricius) have indistinguishable genitalia, they are probably the same species with *affinis* having priority. He may well be correct, but since the two taxa are so different superficially and show little, if any, intergradation, we are content to retain the separation between *affinis* and *philene* while recognizing the possibility (likelihood?) that they are the same. It will remain for the proposed revisionary studies by the British Museum (Natural History) staff members to finally elucidate the relationships in this difficult section of the genus.

Danaus philene jimiensis, new subspecies

Figures 43, 44, (♂), 45, 46 (♀), 64 (♂ genitalia)

Male/Female: This subspecies may be distinguished from all other *philene* (in fact, all other Papuan *Danaus!*) by the strong lilac sheen overlaying the basic brown coloration of the upper surface, especially on the forewing. In only one ♂ before us is this



Figures 39 - 42, *Danaus philene bonguensis* Fruhstorfer. 39 - 40, ♂ upper (39) and under (40) surfaces; PAPUA-NEW GUINEA: Bisianumu (Allyn Museum photos 032978-3/4). 41 - 42, ♀ upper (41) and under (42) surfaces; NEW GUINEA: Kairuru (Allyn Museum photos 032978-5/6).

sheen obscured on the forewing, but in it the sheen is very prominent on the hindwing. The under surface is quite plain, the hindwing displaying no white extradiscal spotting such as is prominent in *bonguensis, etc.* The characteristic lilacine sheen of the dorsal surface of the present insect resembles that of some *Euploea,* such as *E. nemertes swierstrae* Snellen and *E. stephensi salpinxoides* Fruhstorfer, both of which were taken with *jimiensis* in the Jimi Valley.

Length of forewing of Holotype ♂ 35.9 mm, those of the ♂ Paratypes range from 32.3 to 39.6 mm, averaging 36.6 mm; those of the ♀ Paratypes measure 36.8 and 37.5 mm.

♂ genitalia as illustrated and typical of *philene* (as well as of *affinis*; see discussion above).

Described from nine specimens, seven males and two females, from the Jimi Valley of Papua-New Guinea.

HOLOTYPE ♂: NEW GUINEA: Jimi Valley, 4000 ft. (1212 m), 30.vi.1964 (S. and L. Steinhauser); ♂ genitalia slide M-3822 (Lee D. Miller).

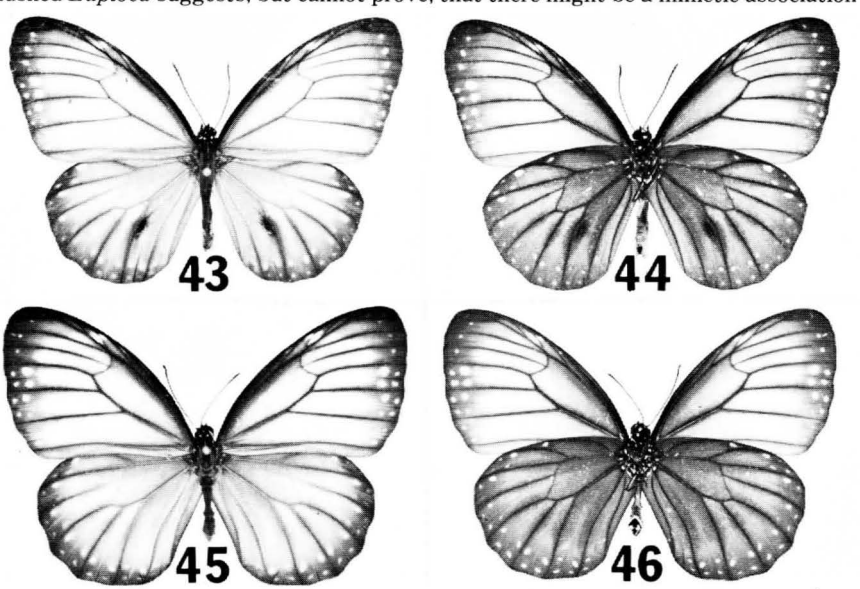
PARATYPES: 6♂ 2♀, same locality and collectors as Holotype, 28-30.vi.1964.

Disposition of type-series: Holotype ♂, five ♂ and one ♀ Paratypes in Allyn Museum of Entomology; one ♂ and one ♀ Paratypes will be placed in the collection of the British Museum (Natural History).

This subspecies is named for its type locality, thus far the only place from whence it has been received.

The affinities of the present subspecies and *bonguensis* are clear, but the dramatic lilac flush of the upper surface in the present butterfly is unique among *Danaus.* It is impossible to ascertain the exact range of this subspecies, but it may well be found in other valleys of similar character north of Mount Hagen in the relatively unexplored hinterlands of Papua-New Guinea.

As mentioned earlier, the fact that *jimiensis* is found in the company of some lilac-flushed *Euploea* suggests, but cannot prove, that there might be a mimetic association



Figures 43 - 46, *Danaus philene jimiensis,* new subspecies. 43 - 44, Holotype ♂ upper (43) and under (44) surfaces; PAPUA-NEW GUINEA: Jimi Valley, 4000' (Allyn Museum photos 032978-7/8). 45 - 46, Paratype ♀ upper (45) and under (46) surfaces; PAPUA-NEW GUINEA: Jimi Valley, 4000' (Allyn Museum photos 032978-9/10).

involving the present insect, the *Euploea* and perhaps other insects in at least the Jimi Valley. The bionomics of such an association must be studied to shed some light on the nature of this association of similar animals. One must know whether the Asclepiadaceae on which *jimiensis* feeds is one of the toxic species or not, just to ascertain whether the association is a Batesian or a Müllerian one. Anything that might be said in this regard at this time would be of a purely speculative nature.

Danaus garamantis dilatata (Joicey and Talbot)

This rare danaid is recorded in the nominate subspecies only from Guadalcanal in the Solomons by D'Abrera (1971: 174). He apparently was unaware of the description of the present subspecies, as were we when it was brought to our attention by P. R. Ackery (personal communication). *D. g. dilatata* was described from Bougainville, and there are further specimens in the British Museum (Natural History) from Arawa on that island. A short series of four males in the Allyn Museum collection is from Mutahi, 700 m, northeastern Bougainville, taken in March, 1968 by R. Straatman.

Danaus melusine melusine (Grose Smith)

During June of 1964 the Steinhausers collected four males and a female of this rare species at Tapini, 3000 ft. (910 m) and in the Jimi Valley at 4000 ft. (1212 m). Previously (D'Abrera, 1971: 174) the nominate subspecies had been reported only from the Sattelberg Mountains.

Danaus albata dabrerai, new subspecies

Figures 47, 48 (♂), 49, 50 (♀), 65 (♂ genitalia)

Male: Most closely resembles the ♂ of *a. sulewattan* (Fruhstorfer) in the slightly greenish-white basal areas of both wings (the northern Celebean subspecies *kuekenthali* (Pagenstecher) [Figures **51-52,** ♂] is strongly shaded with golden yellow in these areas); the subapical spots of the forewing are less well developed than are those of *sulewattan* and form a series of elongate macules, rather than a distinct patch; the pale marginal spots are reduced in the present subspecies.

Length of forewing of Holotype ♂ 39.0 mm, that of the ♂ Paratype is 38.8 mm.

♂ genitalia as figured and typical for the species.

Female: Varies from the ♀ of *sulewattan* in the same respects as does the ♂; all markings somewhat more expanded than in the ♂, especially the marginal ones of both wings.

Length of forewing of ♀ Paratype 40.6 mm.

Described from three specimens, two males and a female, from the central highlands of Sulawesi (Celebes), Indonesia.

HOLOTYPE ♂: CELEBES ISLAND: Bulu-Bulu, 600 m, 30 km NW of Pantipao, 11.v.1966 (R. Straatman); ♂ genitalia slide M-3823 (Lee D. Miller).

PARATYPES: 1 ♂ 1 ♀, same data as Holotype.

Disposition of type-series: Entire type-series is in the collection of the Allyn Museum of Entomology.

This subspecies is named for Mr. Bernard D'Abrera in recognition of his work on the Indo-Australian butterflies, especially those from the Australian region, *sensu stricto.*

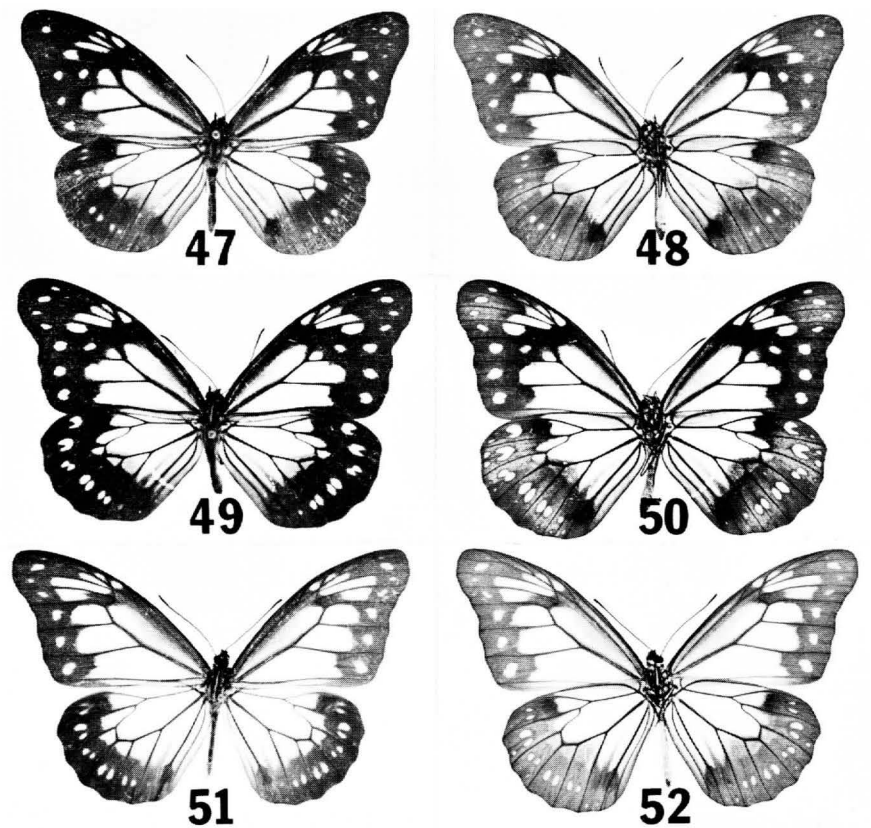
D. a. dabrerai bears very little phenotypic resemblance to the northern Celebean subspecies *D. a. kuekenthali* and seems rather to have been derived from Bornean populations. This is not surprising: the water gap between easternmost Borneo and the Bulu-Bulu area is not appreciably greater than that between northern and central Celebean populations of *albata* (the Borneo-Bulu-Bulu gap is shorter than is the all-land

route between Bulu-Bulu and Tondano within Sulawesi). We suspect that the northern *kuekenthali* was probably derived from a *dabrera*-like insect, which in turn probably reached Sulawesi *via* Borneo but did not differentiate so dramatically in the central part of the island.

Danaus weiskei weiskei (Rothschild)

Figures 53, 54 (♀)

Mr. M. Campbell capture a remarkable series of 32 males and four females of this hitherto very rare insect in and around the village of Woitape, Papua during almost all months of 1969-1971. Previously published records indicated that *D. w. weiskei* was known from only a very few males and no females, though the subspecies *thalassina* (Joicey and Noakes) from Irian-Jaya was known in both sexes. P. R. Ackery (personal communication) tells us that Meek took specimens of both sexes of *w. weiskei*, but that



Figures 47 - 52, Celebean *Danaus albata* subspecies. 47 - 48, *D. a. dabrerai*, new subspecies, Holotype ♂ upper (47) and under (48) surfaces; CELEBES ISLAND: Bulu-Bulu, 600 m (Allyn Museum photos 032978-11/12). 49 - 50, same subspecies, Paratype ♀ upper (49) and under (50) surfaces; CELEBES ISLAND: Bulu-Bulu, 600 m (Allyn Museum photos 032978-13/14). 51 - 52, *D. a kuekenthali* (Pagenstecher), ♂ upper (51) and under (52) surfaces; CELEBES ISLAND: vic. Tondano, 2500' (Allyn Museum photos 032978-15/16).

these were not reported in the literature. Accordingly, the following differences may be noted between the two sexes: 1) the obvious lack of a scent patch near the hindwing tornus in the female; 2) the larger size of the females (average length of forewing 37.1 mm), whereas no male before us has a forewing length greater than 33.5 mm; 3) the green color of the forewing above is much less intense in the female and here it is more strongly laved with yellow; 4) the very prominent dark streak along the hindwing radial stem of the male is almost obliterated in the female; and 5) the pale submarginal dots on especially the hindwing are larger in the female, and in the figured specimen there is a second series of smaller spots marginad of the usual one.

A pair of *D. w. weiskei* has been deposited in the British Museum (Natural History).

EUPLOEINAE

Euploea crameri Moore, subspecies?

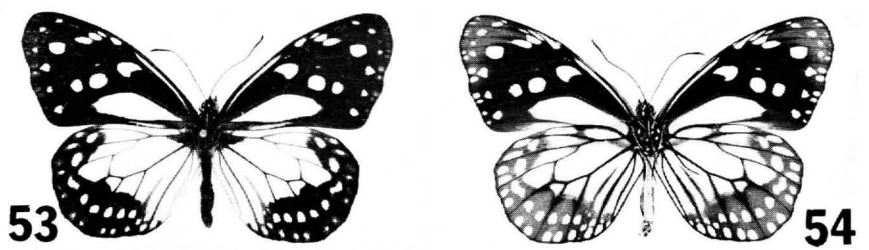
The Allyn Museum collection contains a single male of this species from the island of Bangka, just off the northern arm of Sulawesi. This species has not been recorded from Sulawesi, so its appearance on Bangka is surprising. The specimen is old and may be mislabelled, but it does not conform to any of the described *crameri* races. The maculation is somewhat better developed than is that of the Bornean *c. crameri*, especially as regards the subapical forewing spots and the hindwing submarginal markings.

Euploea core corinna (Macleay)

A single female, apparently referable to this subspecies, was taken by the Winds at Dobo, Aru Islands, Indonesia, 4.v.1939. The occurrence of *corinna* in the Arus is not surprising (though it apparently has not been recorded previously), since D'Abrera (1971: 181) suggests that it might be found on Timor, *etc.*, to the north of Dobo.

Euploea algea (Godart), subspecies?

Two specimens of this species in the Wind material seem to fit no described subspecies, a male from Merauke, Irian-Jaya, and a female from Fak-Fak, Irian-Jaya. The latter area has also yielded a long series of the expected *E. a. tenebrosa* Grose-Smith, so the status of this pair is very much in doubt. Unfortunately, the male lacks its abdomen, so genitalic comparisons are impossible. Superficially the pair is closest to *E. a. megaera* Butler from the Arus, but the maculation on especially the hindwing is even stronger. We doubt the avisability of describing a new subspecies in the middle of typical *tenebrosa* and simply wish to call attention to the possibility that there may be a new taxon near *megaera* in Irian-Jaya.



Figures 53 - 54, *Danaus weiskei weiskei* (Rothschild), ♀ upper (53) and under (54) surfaces; PAPUA-NEW GUINEA: Woitape (Allyn Museum photos 032978-17/18).

Euploea algea violetta Butler

This subspecies is not mentioned by D'Abrera (1971), perhaps because it was not included in Hale Carpenter's (1953) analysis of the genus. This latter author, however, (p. 2) states that, "New Guinea has many forms that are not represented in these islands [Micronesia, Melanesia, Polynesia — **LDM**], and they are not considered here."

Accordingly, *violetta*, placed by Fruhstorfer (1910) [1908-1927]: 242) as a subspecies of *guerini* (itself an *algea*) should be mentioned here since it is one of the most commonly received *Euploea* from Papua-New Guinea. Most dark *Euploea* from there with blue-violet subapical and submarginal forewing spots and a single androconial patch on the forewing will be *violetta*. It is well figured by Fruhstorfer (1910 [1908-1927]: pl. 81b).

Euploea sylvester doleschallii C. and R. Felder

D'Abrera (1971: 185) queries a record of this insect from the "Torres Straits (island?)" in his discussion. The Winds collected single males of *doleschallii* on Horn Island (2.iv.1939) and Prince of Wales Island (29.i.1939) that agree in all particulars with Papuan material. We must conclude, therefore, that the present subspecies will be found ultimately on many (most?) of these islands connecting Australia with New Guinea.

Euploea sylvester picina Butler

This rare subspecies was mentioned by Fruhstorfer (1910 [1908-1927]: 248), but it was not included by D'Abrera (1971). Its range is Halmahera and Bachan, Indonesia, and is represented in the Allyn Museum material by a single male collected on the latter island by the Winds on 24.xi.1939. It is a much darker insect than the following subspecies from further south in the Moluccas.

Euploea sylvester inaequalis Butler

Another taxon that was not included by D'Abrera (1971), presumably because it was not treated by Hale Carpenter (1953), *inaequalis* is found on Obi, Ambon and Serang, Indonesia (Fruhstorfer, 1910 [1908-1927]: 248). The washed out distal third of the dorsal hindwing with traces of a submarginal band immediately separates *inaequalis* from *picina*. The Allyn Museum series consists only of three males and a female from Serang collected by R. Straatman.

NOTE

It should be mentioned here that D'Abrera has released a second edition of his 1971 work. It is expanded beyond the previous edition, and we have been able only to scan it for the taxa included in this paper. This brief examination indicates that the material included herein does not duplicate that in the new edition of D'Abrera.

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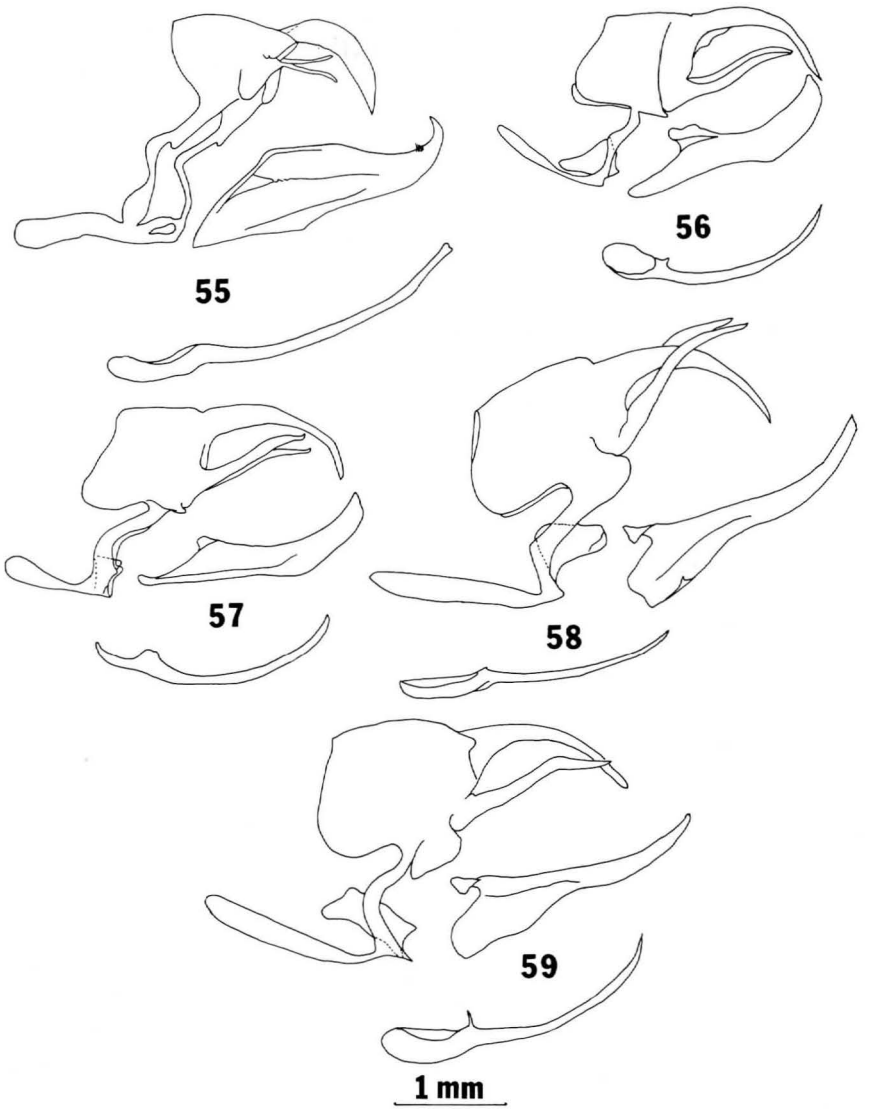
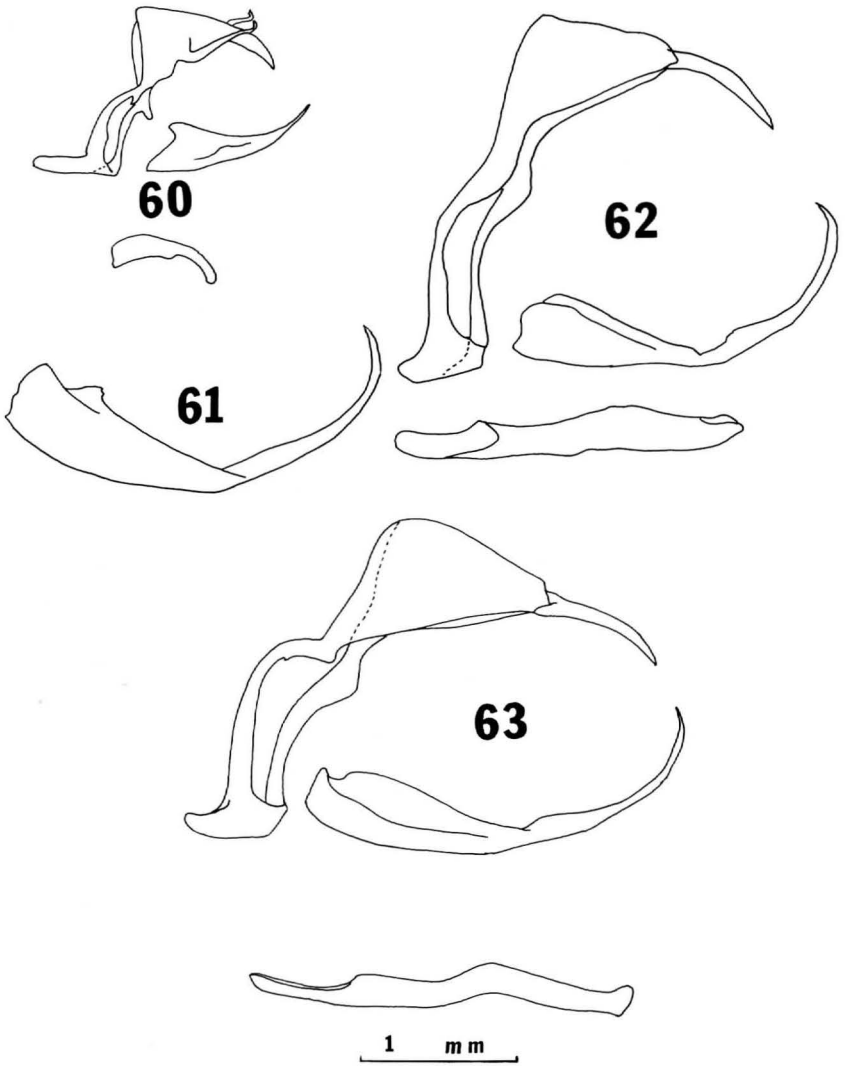
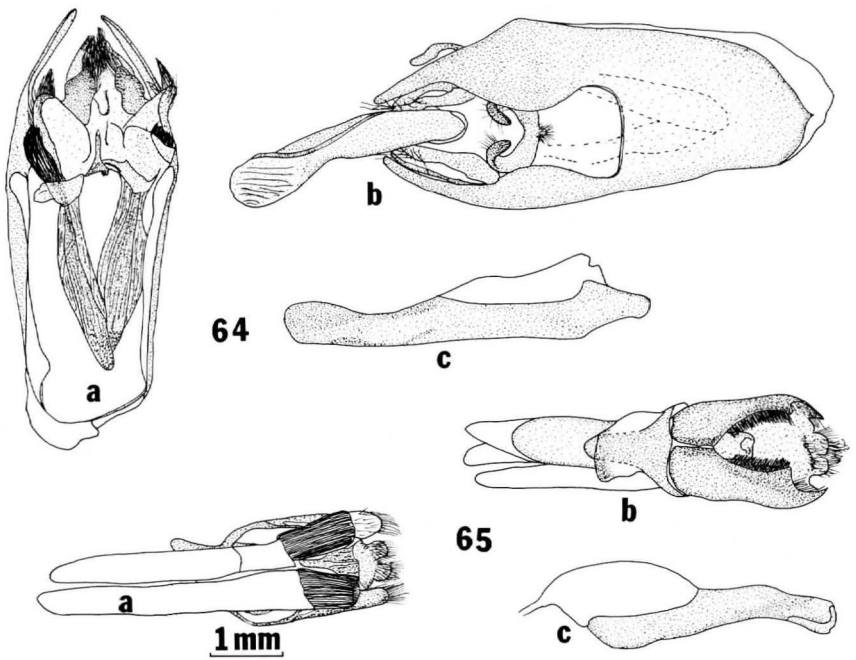


Figures 55 - 59, ♂ genitalia of *Mycalesis*. 55, *M. sirius procyon*, new subspecies, Holotype; ARU ISLANDS: Dobo; slide M-3815 (Jacqueline Y. Miller). 56, *M. duponcheli allynorum*, new subspecies, Paratype; ARU ISLANDS: Dobo; slide M-3800 (Lee D. Miller). 57, *M. mucia aruana*, new subspecies, Holotype; ARU ISLANDS: Dobo; slide M-3819 (Jacqueline Y. Miller). 58, *M. splendens* Mathew; S. BOUGAINVILLE ISLAND: Buin; slide M-3817 (Jacqueline Y. Miller). 59, *M. sara* Mathew; S. BOUGAINVILLE ISLAND: Buin; slide M-3821 (Jacqueline Y. Miller).



Figures 60 - 63, ♂ genitalia of Satyridae. 60, *Acrophtalmia artemis windorum*, new subspecies, Holotype; CELEBES ISLAND: Lake Dano; slide M-3795 (Lee D. Miller). 61, *Ypthima pandocus microocellata*, new subspecies (valva only), Holotype; BATJAN ISALND; slide M-3799 (Lee D. Miller). 62, *Ypthima pandocus macrianus* Fruhstorfer; CELEBES ISLAND: Lake Dano; slide M-3820 (Jacqueline Y. Miller). 63, *Ypthima pandocoides*, new species, Holotype; CELEBES ISLAND: Lake Dano; slide M-3816 (Jacqueline Y. Miller).



Figures 64 - 65, ♂ genitalia of new *Danaus*. 64, *D. philene jimiensis*, new subspecies, Holotype; PAPUA-NEW GUINEA: Jimi Valley; preparation M-3822 (Jacqueline Y. Miller). 65, *D albata dabrerai*, new subspecies, Holotype; CELEBES ISLAND; Bulu-Bulu; preparation M-3823 (Jacqueline Y. Miller). Note: each figure consists of a dorsal view (a) of the genitalic capsule including the abdominal brushes and the last abdominal sternite, a ventral view (b) of the same and a view of the penis (c).