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DESCRIPTIONS OF NEW SPECIES AND NOTES ON OTHER HESPERIIDAE OF AFRICA

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Over the past several years I have been compiling information on the HesperIIDae of Africa, and in the six years since my last paper on these butterflies from that continent much information has come to light. Accordingly, the following notes and descriptions are offered to update Evans' (1937) *Catalogue* on the skippers of this fascinating region. The order in which the species are presented is that of Evans, and various comparisons are made with regard to his keys.

I wish to acknowledge the help of many people in the preparation of this paper and for making material available to me for description and comparison. Father Th. Maessen, a missionary in the Volta region of Ghana, has for many years sent me HesperIIDae and has been most helpful in regard to the many questions I have asked him about the area and the butterflies. I am grateful to Carnegie Museum, and especially Mr. Harry K. Clench, for the loan of material, and the British Museum (Natural History) has placed many specimens at my disposal, as well as photographs of types and notes on other specimens, without which this work would have been impossible. At the latter institution I would like to particularly thank Dr. R. I. Vane-Wright and Mr. T. G. Howarth. Mr. A. C. Allyn photographed the specimens illustrated herein, and my wife, Jacqueline, read and commented on the manuscript.

Eagris hereus (H. Druce)

Figures 1-8

Evans (1937:33) listed *Ceratrachia quaterna* Mabille as a synonym of the present species and considered material from the entire range of the species as belonging to a single form. He had males from no further south than Cameroun (presumably from the northern or eastern part of the country) and females from Ghana to Angola, one from the latter country being the type specimen of *hereus*. A typical female of *E. hereus* is figured by Aurivillius (1925: pl. 761), and a male from the western population is figured as *E. quaterna* by the same author on pl. 76h.

Material from the Carnegie Museum collection from southwestern Cameroun is very different from the material of *quaterna* that Evans considered to be *hereus*. Since the Cameroun females are closer to Druce's type of *hereus* than are those from further north and west, I must conclude that *E. h. hereus* is the subspecies from southwestern Cameroun, probably Gabon and certainly Angola, whereas material from the remainder of the range to the north and

west must be denoted *E. h. quaterna* (Mabille). Typical *E. h. hereus* is figured in Figs. 1, 2 (♂), 3, 4 (♀), and *E. h. quaterna* is represented by Figs. 5, 6 (♂) 7, 8 (♀). The male of *E. h. hereus* is distinguished by the prominent hyaline forewing spots in R-R₂, two in the cell, M₃-Cu₁ and Cu₁-Cu₂ and by the well developed hindwing extraradial spots both above and below. The major distinguishing characteristic of the female of nominate *hereus* is the paler costa of the hindwing below, as well as the more distinct markings of the upper surface. The male genitalia of the two entities are virtually indistinguishable.

***Celaenorrhinus illustroides*, new species**

Figures 9, 10 (♂), 59 (♂ genitalia)

Male: Above very much like *C. i. illustris* (Mabille), but darker with median forewing band less well developed and basal and discal tawny forewing spots in Cu₂-2A not fused, but with a square fuscous intervening patch wider than either tawny member; basal tawny spot subrectangular, not rounded. Below differing from *C. i. illustris* as does upper surface. Length of forewing of Holotype ♂ 20.5 mm. Male genitalia similar to those of *C. illustris*, but differing in minor respects as shown in figure: uncus stronger and lower prong of valva less finely drawn.

Female: Unknown.

Described from a single male specimen.

Holotype ♂: FRENCH CONGO: Etoumbi, no date (ex collection E. LeMoult); ♂ genitalia slide no. M-2184 (Lee D. Miller). This specimen will be deposited in the Allyn Museum of Entomology.

Some of the specimens listed by Evans (1937: 23) in the collection of the British Museum (Natural History) as *illustris* may be referable to the present species, but I have not examined this material. The present species is distinct both superficially and genitally, and I am inclined to believe that the same will be found true of *C. illustris* ab. "abbreviata" Aurivillius, a name that is unavailable by the nature of its description as an infrasubspecific form.

***Celaenorrhinus beni jacquelinae*, new subspecies**

Figures 11, 12 (♂), 60 (♂ genitalia)

Male: Resembles the male of *C. b. beni* Bethune Baker, especially on the forewing, but differing in the following particulars: ochreous spots in forewing spaces M₂-M₃, M₃-Cu₁ and Cu₂-2A larger; tawny markings of hindwing above more extensive, including a well developed extraradial spot in M₁-M₃ in addition to the usual submarginal series; and a well developed set of hindwing submarginal tawny spots below, as well as a large one in the cell. Length of forewing of Holotype ♂ 21.0 mm. The male genitalia are at least similar to those of *C. b. beni*, but I have not had an opportunity to examine that entity and have had to rely entirely on Evans' (1937: pl. 9) figure. The present skipper may actually be specifically distinct.

Female: Unknown.

Described from a single male specimen.

Holotype ♂: FRENCH CONGO: Etoumbi, no date (ex collection E. LeMoult); ♂ genitalia slide no. 2185 (Lee D. Miller). This specimen will be placed in the collection of the Allyn Museum of Entomology.

I take great pleasure in naming this pretty skipper for my wife and co-worker at the Allyn Museum, Mrs. Jacqueline Y. Miller.

This subspecies, if that is its correct status, is abundantly distinct superficially from *C. b. beni*, as may be seen by a comparison of my figures with Evans' (1937: pl. 1, fig. 7). The type-localities of the two entities are about a thousand miles apart: both seem to be rather rare and local insects.

***Abantis lucretia lucretia* H. H. Druce**

Figures 13, 14 (♂)

Father Th. Maessen has taken a number of specimens of this beautiful skipper at Likpe and Lolobi, Ghana, and has presented the Allyn Museum with a single male (Lolobi, 14.xii.1967). Evans (1937: 54) recorded three specimens from Sierra Leone and Cameroun, demonstrating the rarity of the butterfly, and the Maessen records are apparently the first from Ghana. Evidently this species is rare, but consistent, in the Likpe area during at least December and January.

A badly rubbed specimen in material from the LeMoult collection taken at Etoumbi in the former French Congo is referable to *lucretia*, but represents a subspecies separate from either the nominate subspecies or *A. lucretia lofu* Neave from Northern Rhodesia. I hereby describe this subspecies:

***Abantis lucretia etoumbiensis*, new subspecies**

Figures 15, 16 (♂), 61 (♂ genitalia)

Male: Though the specimen is badly rubbed, it differs from the male of *A. l. lucretia* in the larger hyaline spots in the forewing cell and spaces M_2 - Cu_1 and Cu_1 - Cu_2 and by the considerably broader hindwing blackish-brown distal area, particularly toward tornus, with smaller submarginal white spots from Cu_1 - Cu_2 to 2A-3A. The present subspecies is considerably smaller than the nominate subspecies: length of forewing of Holotype ♂ 16 mm. (length of forewing of the male of *A. l. lucretia* before me is 19 mm.). The male genitalia are as figured and like those of nominate *lucretia*.

Female: Unknown.

Described from a single male specimen.

Holotype ♂: FRENCH CONGO: Etoumbi, no date (ex collection LeMoult); ♂ genitalia slide no. 2169 (Lee D. Miller). This specimen will be placed in the Allyn Museum of Entomology collection.

The small size and the differences in maculation cited in the description will characterize the present insect.

the *Abantis venosa* complex

Evans (1937: 54-55) considers all of the *Abantis* combining the characteristics of prominent black forewing veins, a plain hindwing cell below and with no white around the hindwing tornus to represent a single species with an array of "forms" and "subspecies". The male genitalia of some of these entities, while similar and showing definite affinities to one another, are subtly different, and a variety of rather different patterns are shown by the various "forms". These genitalic differences, like those in the *Melphina tarace* group cited by Lindsey and Miller (1965: 131-134), were not discernable by Evans' rather gross genitalic methods. I have been unable to examine all of the entities cited by Evans, but those I have seen (*venosa* Trimen, *vidua* Weymer, *elegantula* [Mabille], *contigua* Evans and an apparent new species) show some definite patterns. *A. venosa* (Figures 17, 18 ♂, 62 ♂ genitalia) is more or less restricted to the area from the Congo southward and eastward and apparently encompasses the forms *umvalensis* (Sharpe), *flava* Evans and *fulva* Evans. *A. vidua* (Figures 19, 20 ♂, 63 ♂ genitalia), a species lacking any traces of hyaline spots on the forewing, is found from Angola through the southern Congo to Rhodesia. More or less typical *venosa* occur with *vidua* at Kafakumba, Katanga, Congo, and both species apparently fly together there in the same months. A third species, *A. elegantula* (Figures 21, 22 ♂, 64 ♂ genitalia), is rare and restricted to Occidental Africa, evidently occurring no further east than Nigeria. Finally there are a number of species related to *elegantula*, but differing genitally and superficially, especially by the ochreous-brown median hindwing band of the upper surface, including *A. contigua* and the new species described below.

***Abantis maesseni*, new species**

Figures 23, 24 (♂), 65 (♂ genitalia)

Male-female: Upper surface similar to that of *A. elegantula*, but differing as follows: forewing cell spots larger, occasionally contiguous; hindwing dark border much broader and median pale area restricted (distal part of pale median area just outside cell), this area pale buff to ochreous-brown, rather than pure white, as in *elegantula*. Under surface differs from that of *elegantula* in the configuration of the forewing cell spot, as mentioned for upper side, and in the expanded black margins of the hindwing (the median area is white on this surface). In addition to the figure given here, a colored figure is given by Mabille and Vuillot (1891: pl. 3, fig. 5) of *elegantula*. The male genitalia differ from those of other members of the *venosa* complex in the rather finely drawn valvae with the long fine dorsal projection curved strongly ventrad — that of *elegantula* is straighter — and the penis is more strongly curved. Length of forewing of Holotype ♂ 17 mm., those of the 14 male Paratypes ranging from 16 to 18 mm., averaging 17.3 mm.; length of forewing of the single female Paratype 21 mm.

Described from sixteen specimens, 15 males and one female, from Ghana.

Holotype ♂: GHANA: Likpe, 14.ii.1970 (Th. Maessen); ♂ genitalia slide no. 2170 (Lee D. Miller).

Paratypes: all GHANA: same locality and collector as Holotype: 1♂ 14.xi.1968, 1♂ 15.ii.1969, 2♂ 1.iv.1969, 2♂ 25.iv.1969, 1♂ 30.iv.1969, 1♂ 26.ix.1969, 1♂ 20.i.1970, 1♂ 20.ii.1970, 1♂ 21.ii.1970; Kpandu: 1♂ 21.iv.1970, 1♂ 2.vi.1970; Hohoe, 1♂ 13.ix.1967, 1♀ 15.ii.1968 (all Th. Maessen).

The Holotype, six male and one female Paratypes will be deposited in the Allyn Museum of Entomology collection. One male Paratype will be placed in Carnegie Museum. Seven male Paratypes will be returned to Father Maessen.

It is with great pleasure that I name this species for Father Th. Maessen in recognition of his long-term work on the Lepidoptera of Ghana.

A. maesseni is by far the most abundant member of the genus in the Volta Region, and it is sympatric and synchronic with *A. elegantula* (Hohoe, September). The genitalic differences between the two species, while rather minor, are in line with those shown by other members of the *venosa* complex.

A series of twelve males from southwestern Cameroun (Efulen, Metet, Lolodorf) from the collection of Carnegie Museum is also referable to *A. maesseni* and differs from the type-series in only very minor respects. The overlapping of characteristics between the two populations makes division into separate subspecies inadvisable, but the presence of two long series from rather widely spread localities in West Africa indicates that the present species is widespread and common throughout the area.

Ceratrachia phocion camerona, new subspecies

Figures 25, 26 (♂), 27, 28 (♀)

Male: Differs from the male of nominate *phocion* on forewing above by presence of a white dot outside cell in M₁-M₂ in virtually all specimens — this spot is absent in *C. p. phocion*. Hindwing above deeper, more orange-tinged yellow than in nominate subspecies. Forewing below with much more extensive costal and marginal yellow overscaling and somewhat more prominent apical, costal and cell silvered spots. The under surface of hindwing with more prominent discal, cell and basal brown spotting, these spots being more definitely silvered than in nominate subspecies. Length of forewing of Holotype ♂ 13.5 mm., those of some representative male Paratypes ranging from 12 to 14.5 mm., most in the 13-14 mm. class. The male genitalia are as in nominate *phocion* (Lindsey and Miller, 1965: p. 89, fig. 53).

Female: Above quite like female of *C. p. phocion*, but generally with more prominent white discal spots on forewing and with yellow of hindwing more orange-tinged. Under surface of present subspecies has more prominent forewing yellow overscaling, hindwing with more definite brown silver-centered dots, but hindwing costa not suffused with brown as in *C. p. phocion*, in which entire area of under side of hindwing anterior of cell strongly tinged with brown. Lengths of forewings of some representative female Paratypes range from 13.5 to 15 mm.

Described from 232 specimens, 191 males and 41 females, from southwestern Cameroun.

Holotype ♂: CAMEROUN: Lolodorf, Nov. 3, 1922 (A. I. Good); ♂ genitalia slide no. 1988 (Lee D. Miller).

Paratypes: 190 ♂ and 41 ♀ from various localities (Lolodorf, Batanga, Efulen, Elat, Nyabizimbi, Deng, Alam, Zingi, "Bule country"), various dates and collectors (chiefly A. C. and A. I. Good and H. L. Weber).

The Holotype, 186 male and 37 female Paratypes are in the collection of Carnegie Museum. Four male and four female paratypes will be deposited in the collection of the Allyn Museum of Entomology.

While the type-series is restricted to material from Cameroun, long series of identical specimens are in Carnegie Museum from Rio Muni and Gabon. This material differs from specimens from further west (Liberia, Ghana, etc.) in the characteristics cited in the description; the overall impression being one of a brighter, more strongly marked butterfly in *camerona* than in the nominate subspecies.

T. G. Howarth (*in litt.*) described the Fabrician type of *phocion*, or what is remaining of it (one fore- and one hindwing), and stated that this specimen was from Sierra Leone. It agreed in the important features with material from the westernmost part of the range and was definitely not the same as the Cameroun-Gabon subspecies, thereby tending to confirm the conclusion

that it indeed came from Sierra Leone. The other name available for *phocion*, *phocaeus* Westwood, is unavailable for the Cameroun population, since it was proposed as a replacement name for *phocion* (wrongly thought to be pre-occupied) and therefore must refer to the nominate subspecies.

Ceratrichia maesseni, new species

Figures 29, 30 (♂), 31, 32 (♀), 66 (♂ genitalia)

Male: Head, thorax, abdomen and appendages as in *C. argyrosticta* (Plötz), but hairs clothing body clearer yellow, not ochreous. Forewing above rather like that of *C. argyrosticta*, but all light markings more restricted and the ochreyellow scaling basad in *argyrosticta* is clearer yellow in the present species. Hindwing above as in *C. mabirensis* Riley, but ground color of disc clearer yellow, space Cu₂-2A dark only basad, dark margin continued intermittently to tornus and fringes clear yellow, not orange. Forewing below as in *C. argyrosticta* with clear yellow (not ochreous) overscaling somewhat reduced. Under surface of hindwing also as in *C. argyrosticta*, but ground color clear yellow with reduced black margin and rings around extradiscal spots. Length of forewing of Holotype ♂ 14.5 mm., those of the nine male Paratypes ranging from 14 to 15 mm. averaging 14.3 mm. The male genitalia somewhat resemble those of *C. argyrosticta* (Figure 67), but uncus more finely drawn, gnathos well developed and dorsal distal process of valva rounded, but with a stiff terminal spine.

Female: Head, thorax, abdomen and appendages as in male, but with yellow overscaling more restricted. Upper surface as in female of *C. argyrosticta*, but base of forewing with no yellow or ochreous overscaling, all forewing hyaline spots smaller, hindwing discal patch yellow (rather than ochreous) and larger, and the fringes yellow, not orange. Under surface differs from that of *C. argyrosticta* in same particulars as does that of male. Lengths of forewings of the eight female Paratypes range from 13 to 16 mm., averaging 14.6 mm.

Described from 20 specimens, 12 males and 8 females, from the Ashanti Forest Reserve, Ghana.

Holotype ♂: GHANA: Konongo (Ashanti Forest Reserve), 7.i.1970 (Th. Maessen), ♂ genitalia slide no. 2178 (Lee D. Miller).

Paratypes: same locality and collector as Holotype: 3♂ 1♀ 5.i.1970, 3♂ 1♀ 6.i.1970, 1♂ 7.i.1970, 2♀ 8.i.1970, 2♂ 4♀ 9.i.1970, 2♂ 18.viii.1970.

The Holotype, nine male and six female Paratypes will be deposited in the Allyn Museum of Entomology. Two male and two female Paratypes will be returned to Father Maessen.

This lovely skipper is named for Father Th. Maessen who collected the type series.

The characteristics of the present species are noted in the description. It seems to be quite local, no specimens having been seen from outside the Ashanti, whereas the other species in the group occurring in West Africa, *C. argyrosticta*, is rather widespread. In any event, *C. maesseni* appears to be more closely related to the Central African *C. mabirensis* (see Evans, 1937: pl. 4, fig. 55; pl. 19) than to *argyrosticta*.

Osmodes adon (Mabille)

In my revision of the genus *Osmodes* (Miller, 1964: 289) I stated that I did not know *O. adon noda* Evans (1951: 1272), but that it was either a distinct species or simply an individual variant. I had the opportunity to examine the unique type of *noda* and its genitalia when I was in London during 1964 after the submission of the *Osmodes* paper. The genitalia of the type agree in all respects with those of typical *adon*, and *noda* is simply an aberration. My original synonymization of *noda* is therefore confirmed.

Osmodes banghaasi Holland

Figure 68 (♂ genitalia)

This species was unknown to me until I had the opportunity to examine and dissect a specimen at the British Museum (Natural History) in 1964. As I surmised, *O. banghaasi* is nearest *O. costatus* Aurivillius, but differs genitally by the somewhat depressed uncus and the expanded proximal part of the valva. The position of *banghaasi* in my phylogenetic chart (Miller, 1964: 288; fig. 20) is substantially correct.

Osmodes adonides, new species

Figures 33, 34 (♂), 69 (♂ genitalia)

Male: Superficially varies from all other members of its complex (*O. adon* Mabille, *adonia* Evans and *maesseni*, n. sp.) by the restriction of the tawny central patch of the forewing, not reaching the base of the anal cell, no tawny but faint overscaling at the base of the forewing (in all other species a distinct basal patch, often connected to the central one) and by a longer, narrower black androconial patch along Cu₂ of the hindwing. Beneath this species rather like *O. adonia*, but tawny of forewing reduced and ochreous shading of hindwing even less extensive. Present species large for group: length of forewing of Holotype ♂ 14 mm., that of Paratype ♂ 13.5 mm. (lengths of forewings of other three species seldom exceed 12.5 mm.). The male genitalia, as shown, somewhat intermediate between those of *O. adon* and *adonia* (Miller, 1964: figs. 9 and 10, respectively), showing the distal expansion of valva of *adonia* and restricted dorsal valval toothings of *adon*: uncus relatively shorter than in either species.

Female: Unknown.

Described from two males from Gabon.

Holotype ♂: GABON: Kangwé, Ogové R., no date (A. C. Good); ex Holland collection; ♂ genitalia slide no. 1970 (Lee D. Miller).

Paratype ♂: GABON: Ogové River, no further data, ex Holland collection.

Holotype and Paratype are in collection of Carnegie Museum.

The large size and the characters enumerated in the description serve to distinguish the present species within the *adon-adonia* group.

Osmodes maesseni, new species

Figures 35, 36 (♂), 37, 38 (♀), 70 (♂ genitalia)

Male: Head, thorax, abdomen and appendages as in other members of the group. Upper surface of forewing rather like that of *O. adon*, but tawny central patch brighter, subbasal patch smaller (more like that of *O. adonia*) and dark margin not produced basad in Cu₂-2A. Hindwing above as in *adon*, but androconial patch is deep reddish-brown, not black as in other members of group. Beneath as in *adon*, but with extensive forewing costal and apical ochreous shading, larger yellow extradiscal hindwing patch and larger white hindwing discal spots. Length of forewing of Holotype ♂ 12 mm., those of the five male Paratypes ranging from 11 to 12.5 mm., averaging 11.8 mm. Male genitalia are characterized in the *adon* complex by the straight ventral margin of the valva; the dorsal toothings of valva somewhat variable.

Female: Differs chiefly from the female of *O. adon* by the broader extradiscal shading of the hindwing below. Length of forewing of the one female Paratype is 13 mm.

Described from seven specimens, six males and a single female, from Likpe, Ghana.

Holotype ♂: GHANA: Likpe, 3.xii.1969 (Th. Maessen).

Paratypes: same locality and collector as Holotype: 1 ♂ 21.i.1968, 1 ♂ 1.xii.1968, 1 ♂ 13.iii.1969, 1 ♂ 31.iii.1969, 1 ♂ 17.ix.1969, 1 ♀ 8.viii.1970.

The Holotype and three male Paratypes will be placed in the Allyn Museum of Entomology. Two male and the female Paratypes will be returned to Father Maessen.

It is with great pleasure that I name this beautiful skipper for Father Th. Maessen who collected the type series and whose work has resulted in so much information about the Hesperidae of Ghana coming to light.

O. maesseni is distinctive genitally, and the male can be immediately identified by the deep reddish-brown, not black, androconial patch on the hindwing above.

Osmodes lindseyi occidentalis, new subspecies

Figures 39, 40 (♂) 41, 42 (♀)

Male: Differs from the nominate subspecies on the upper side in the somewhat darker forewing costa, the larger tawny forewing apical patch (often contiguous with the central patch) and concomitantly narrower black bar delimiting the apical patch posteriad, as well as a blunter indentation of hindwing marginal band along Cu₂ in most specimens. Under surface as in *O. l. lindseyi* Miller, differing chiefly in the larger pale forewing subapical patch and the somewhat more extensive ochreous shading of the hindwing. Length of forewing of Holotype ♂ 12.5 mm., those of the sixteen male Paratypes ranging from 11 to 13.5 mm., averaging 12.4 mm. The male genitalia are identical to those of nominate *lindseyi* (Miller, 1965: fig. 13).

Female: Differs from the female of *O. l. lindseyi* in the larger forewing apical tawny patch (usually encompassing three, occasionally four, cells from R₃-R₄ to M₁-M₂), somewhat larger forewing tawny central patch above and more extensive tawny overscaling on under surface of hindwing. Lengths of forewings of the 15 female Paratypes ranging from 12.4 to 14.5 mm., averaging 13.3 mm.

Described from 37 specimens, 21 males and 16 females, from Ghana and Liberia.

Holotype ♂: GHANA: Likpe, 22.vii.1969 (Th. Maessen).

Paratypes: same locality and collector as Holotype: 1♂ 14.iv.1969, 1♂ 16.iv.1969, 1♂ 19.iv.1969, 1♀ 25.iv.1969, 1♂ 8.vii.1969, 1♂ 22.vii.1969, 1♀ 29.ix.1969, 1♀ 2.x.1969, 1♀ 4.x.1969, 1♂ 29.x.1969, 1♂ 21.xi.1969, 1♂ 12.x.1970, 3♂ 22.x.1970, 1♀ 31.x.1970; GHANA: Boti Falls: 5♂ 3♀ 19.ii.1968, 1♂ 19.i.1969, 1♂ 19.iii.1969 (all Th. Maessen); Ewli Falls: 2♀ 8.i.1969, 1♀ 29.xii.1969 (Th. Maessen); Hohoe: 1♂ 6.ii.1968 (Th. Maessen); Lolobi: 1♀ 28.xi.1967 (Th. Maessen); Koforidua: 1♀ 12.i.1967 (Th. Maessen); Kuburautumi: 1♀ 16.xi.1969 (Th. Maessen); Konongo (Ashanti Forest Reserve): 1♂ 16.iii.1970 (Th. Maessen); LIBERIA: Wanau Forest Reserve: 1♂ 16.iii.1958 (R. M. Fox); "Liberia": 1♀, no further data (Good).

The Holotype, 14 male and 11 female Paratypes will be placed in the Allyn Museum of Entomology. Two male and two female Paratypes are to be placed in Carnegie Museum. Four male and three female Paratypes will be returned to Father Maessen.

The long Maessen series from Ghana ties in with a pair of specimens from Liberia that were not originally included in the type series of *O. l. lindseyi* and were mentioned as being aberrant (Miller, 1964: 292; Lindsey and Miller, 1965: 99). These, as suspected, represented an unnamed Occidental African subspecies, and the series from Ghana has made naming it practicable.

Meza cybeutes volta, new subspecies

Figures 43, 44 (♂), 45, 46 (♀)

Male-female: On upper side resembles closely the nominate subspecies, but with forewing cell spots much larger and approximate to contiguous, forewing hyaline spot in M_3-Cu_1 and especially shining white spot in Cu_2-2A much larger and spots in hindwing cell and spaces M_3-Cu_1 and Cu_1-Cu_2 likewise enlarged. Forewing below differing from that of *M. c. cybeutes* (Holland) in sizes of pale spots as above and by costa not being strongly laved with olive. Hindwing below with more prominent white and hyaline markings and less strongly overscaled with olive than in nominate subspecies. Length of forewing of Holotype ♂ 16 mm., those of the two male Paratypes 15 and 15.5 mm., those of the female Paratypes range from 16 to 18 mm. Male genitalia as in nominate *cybeutes*.

Described from seven specimens, three males and four females, from Ghana.

Holotype ♂: GHANA: Likpe, 4.xii.1969 (Th. Maessen).

Paratypes: same locality and collector as Holotype: 1♂ 13.ii.1969, 1♀ 1.iv.1969, 1♀ 7.iv.1969, 1♀ 25.iv.1969, 1♀ 5.iii.1970; Hohoe: 1♂ 1.ii.1968 (Th. Maessen).

The Holotype, one male and three female Paratypes will be placed in the Allyn Museum of Entomology. One male and one female Paratypes will be returned to Father Maessen.

M. cybeutes volta, herein described from the Volta region of Ghana, is characterized by the greater extent of the hyaline and white markings on both surfaces, especially as regards those in forewing space Cu_2-2A and the hindwing cell spot. Though I have not seen the specimens, it is entirely possible that the four Sierra Leone specimens that Evans (1937: 127) cites may refer to the present subspecies; if so, *volta* would be the Occidental African insect with the nominate subspecies restricted to Cameroun, Gabon and the northern Congo, from whence I have seen specimens (Lindsey and Miller, 1965: 109), and the subspecies *pallida* (Holland) to eastern Congo and Uganda. I figure the nominate subspecies in Figures 47 and 48 (♂) 71 (♂ genitalia) for comparison.

Gretna balenge zowa Lindsey and Miller

This recently described subspecies (Lindsey and Miller, 1965: 119-121) was considered a rarity, but Father Maessen has sent several pairs of this large skipper to us and states that it is not uncommon around the town of Anfoega. They are indistinguishable from Liberian material, but definitely different from Nigerian and Cameroun material I have seen. This supports the supposition made in the original description that the specimen from Ivory Coast mentioned by Berger (1962: 458) belongs to *zowa*.

Caenides stoehri (Karsch)

Figures 49, 50 (♂), 72 (♂ genitalia)

The figured male of this species is the only specimen taken by Father Maessen in his many years in Ghana (Likpe, 15.xi.1969). It comes from only a short distance from the type-locality (Karsch, 1893). This specimen agrees in the main with Karsch's figure (1893: pl. 6, fig. 6) which Holland (1896: 88-89) said was a damaged specimen. The chief differences between the present specimen and the figure of the type are a ferruginous shade at the base of the forewing costa above and a yellow shade at the base of the forewing costa below, in both instances agreeing with *C. volta* (Evans, 1937: 156; pl. 6, fig. 92), described from a single Ghanaian female. Evans' type, however, has the antennae ochreous above and below (they are white in the present specimen) and more extensive basal yellow markings on the under surface of the hindwing: were it not for these rather fundamental differences (and Father Maessen's assurances that *volta* is a very different insect!), I should be tempted to synonymize *C. volta* to the present skipper. Evans' (1937: 154) key characteristic separating *C. stoehri* and *volta*, the relative position of hindwing spots in M_1 - M_3 , is not reliable if one considers the figure of the type and the agreeing Maessen specimen. The genitalic figures in Evans (1937: pl. 26) and Lindsey and Miller (1965: 130; fig. 108) are comparable to one another and quite different from the true *stoehri* figured here. It appears, then, that what has masqueraded in collections as "*stoehri*" is not that, but *C. meloui* Riley, the type of which came from Ivory Coast. The description of "*stoehri*" in Evans refers to and agrees entirely with Riley's (1926: 50) *meloui* — in fact, insofar as I can ascertain all specimens in Carnegie and the British Museum (Natural History) are *meloui*, not *stoehri*.

Regrettably, the photographs and the genitalic slide are all that remain of the Maessen specimen: it was almost totally destroyed in transit by small ants getting into the box while it was at the post office.

Caenides allyni, new species

Figures 51, 52 (♂), 73 (♂ genitalia)

Male: Head clothed above with ferruginous hairs; palpi ferruginous above, only slightly paler below. Thorax, abdomen and appendages as in *C. stoehri*. Forewing above rather like that of *stoehri*, but costa bright ferruginous to level of cell spots; outer half of these spots divided, rather than fused; three subapical spots, of which the one in Rs - M_1 is twice length of other two; tawny hyaline spot in M_3 - Cu_1 is larger and brand is shorter and less curved along Cu_1 . Hindwing above differs from that of *stoehri* in the long tawny extradiscal spot in M_1 - M_2 set marginad of a series of smaller ones from M_2 - M_3 to Cu_2 -2A and in the brighter orange fringes. Under side of forewing differs from that of *stoehri* in that the costa is ferruginous throughout its length, the brighter yellow marginal markings from apex to Cu_1 - Cu_2 , the larger diffuse ochre median patch in Cu_2 -2A and in the macular characters cited for upper surface. Hindwing below differs from that of *stoehri* by the more vivid yellow markings, the more diffuse basal marking, the uneven extradiscal series, produced at M_1 - M_2 , and by the submarginal spots being set well in from margin from M_3 - Cu_1 to Cu_2 -2A. A considerably larger species, length of forewing of Holotype ♂ 24.5 mm., as compared to 19-20 mm. for specimens of *stoehri* males. The male genitalia are rather more like those of *meloui* (see Lindsey and Miller, 1965: 130; fig. 108, as *stoehri*) than those of the latter species figured in this paper (Fig. 70), differing from those of *stoehri* in the more elongate spiny gnathos and the longer, free dorsal distal process of the valva.

Female: Unknown.

Described from a single specimen from Katanga.

Holotype ♂: BELGIAN CONGO: KATANGA: Kafakumba, ii. 1931 (ex collection E. LeMoult); ♂ genitalia slide no. 2186 (Lee D. Miller). This specimen will be placed in the collection of the Allyn Museum of Entomology.

I take great pleasure in naming this beautiful skipper for Mr. A. C. Allyn in recognition of his contributions to lepidopterology.

C. allyni is characterized in the description and is a member of a constellation of species, none of which is common. Apparently the group is basically West African, but the present species is found south of the normal range for the group and *C. halma* (Evans), which may be a subspecies of *meloui*, is the eastern representative. A reworking of that part of Evans' (1937: 154) key

dealing with "*C. stoehri*" and "*C. volta*" to conform with the ideas expressed above is as follows:

- (a¹) Forewing above with 4 subapical spots *halma*
- (b¹) Forewing above with 2 - 3 subapical spots.
 - (a²) Hindwing below with yellow discal spots in spaces 4 - 5 in line with others.
 - (a³) Antennae white above *stoehri*
 - (b³) Antennae ochreous above *volta*
 - (b²) Hindwing below with yellow discal spots irregular, those in spaces 4 - 5 produced marginad.
 - (a³) Three forewing subapical spots, valval process long and free *allyni*
 - (b³) Two or three forewing subapical spots, valval process not free, only as high as dorsal margin of valva. *meloui*

Fresna maesseni, new species

Figures 53, 54 (♂), 55, 56 (♀), 74 (♂ genitalia)

Male: Head, thorax, abdomen and appendages as in *F. netopha* (Hewitson), but pale ventral hairs not tinged with yellow in present species and tegulae and patagia duller fulvous. Forewing longer than that of *netopha* and differing above in presence of three subapical dots, larger and coalesced cell spots and a subquadrate (not triangular) median spot in Cu₂-2A which is pure white, not yellowed. Hindwing above with two extradiscal white spots in M₂-Cu₁ and Cu₁-Cu₂ (latter more than twice size of former; these spots subequal in *netopha*) and a more pronounced median pale shade from Cu₂-2A to near inner margin than in *netopha*. Forewing below much as in *netopha*, but costal and apical shading more restricted and grayish-yellow (not pure yellow), cell spots approximate and median spot in Cu₂-2A larger, but more diffuse. Hindwing below cream-colored (clear yellow in *netopha*) with basal black dots well developed in Sc+R₁-Rs (totally absent in *netopha*), Rs-M₁, base of cell and Cu₂-2A and no black spot at end of cell (very prominent in *netopha* and all other described *Fresna*); extradiscal area strongly overlaid with black scaling with extradiscal spots from Rs-M₁ through Cu₂-2A (latter spot largest in present species, anterior one largest in *netopha*), spotband not diverted basad anteriorly as in *netopha*, and all black spots connected to outer margin by thick interneural gray-black bars; tornus more strongly gray than in *netopha*. Length of forewing of Holotype ♂ 16 mm., that of the one male Paratype 15.5 mm. Male genitalia near those of *netopha*, but valva more strongly toothed distad and on inner face and juxta spinier distad.

Female: Differs from that of *netopha* in same particulars as does male. All pale markings of upper side larger than in male, so that forewing cell spots contiguous, a condition never noted in *netopha*. Markings of under surface as in male, but forewing cell spots again contiguous. Length of forewing of the female Paratype 18 mm.

Described from three specimens, two males and a female, from Likpe, Ghana.

Holotype ♂: GHANA: Likpe, 2.iv.1970 (Th. Maessen); ♂ genitalia slide no. 2164 (Lee D. Miller).

Paratypes: same locality and collector as Holotype: 1♀ 17.i.1969, 1♂ 1.iv.1970.

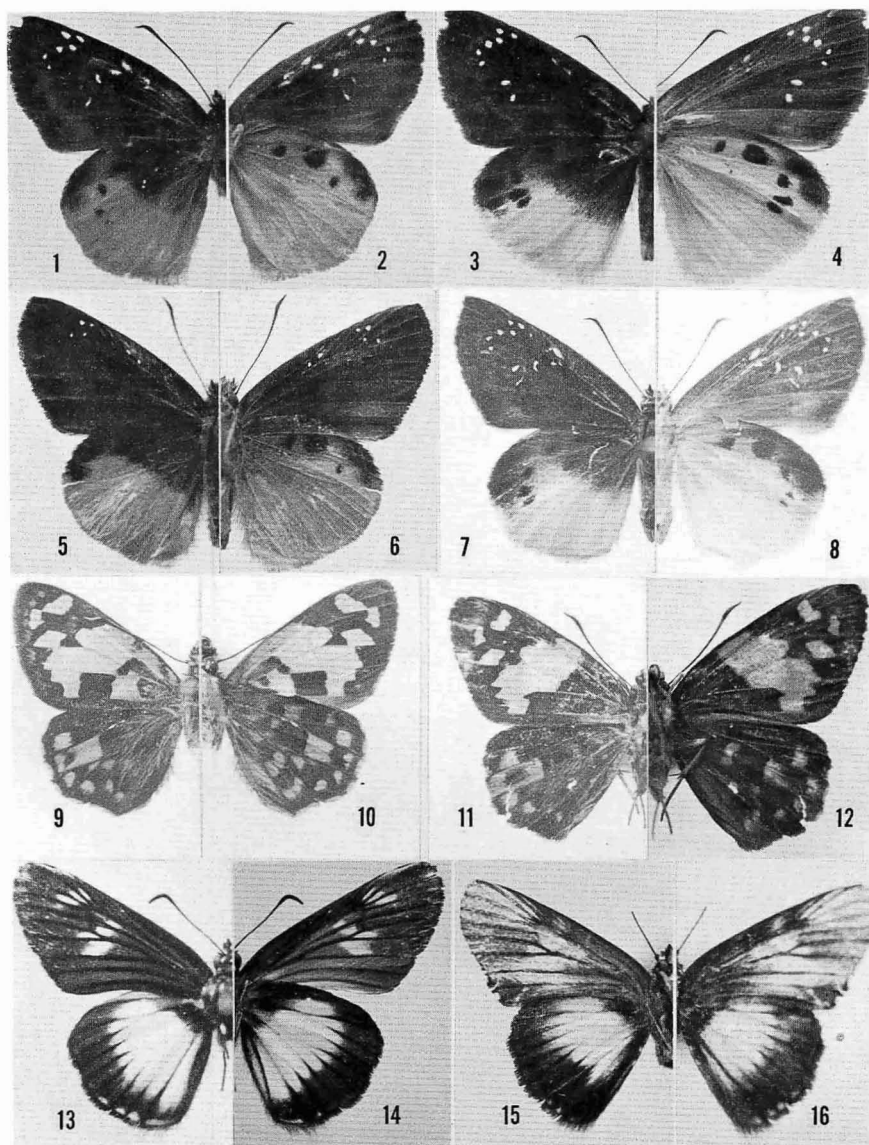
The Holotype will be deposited in the Allyn Museum of Entomology collection. Both Paratypes will be returned to Father Maessen.

This skipper is also named for Father Th. Maessen who discovered it in his collecting of the Volta region.

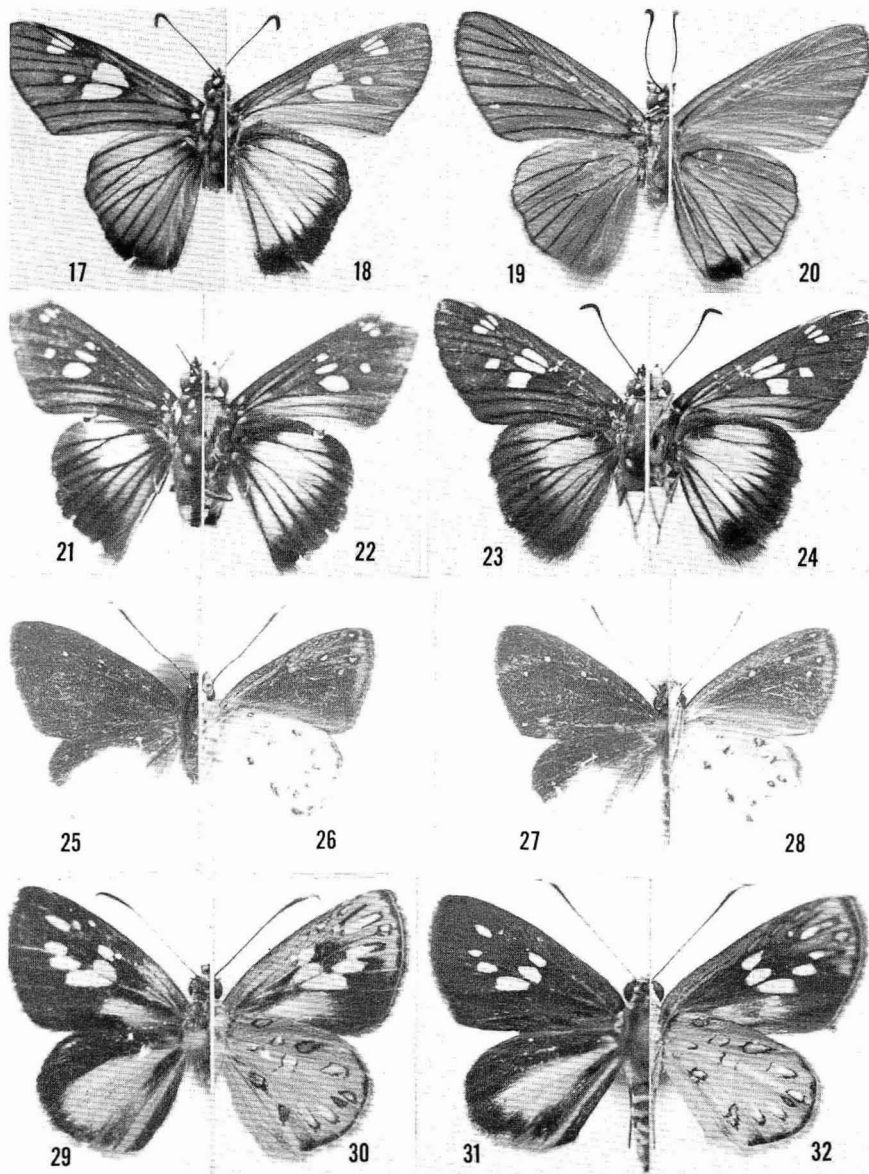
F. maesseni was reported by me to be an aberrant specimen of *F. netopha* when Father Maessen sent me the female for determination. Later, he told me that he had taken a couple of identical males, and when I had the opportunity to examine the genitalia it became apparent that this was a separate undescribed species. The characteristics separating it from *netopha*, its nearest relative, are detailed in the description. One that is immediately apparent is the difference in size: males of *netopha* have forewing lengths of less than 15 mm., and those of females are less than 17 mm. Thus far *F. maesseni* has been collected only near Likpe, Ghana, and even there it is much less common than is *netopha*. Comparative figures of *netopha* are given in Figures 57, 58 (♂) and 75 (♂ genitalia).

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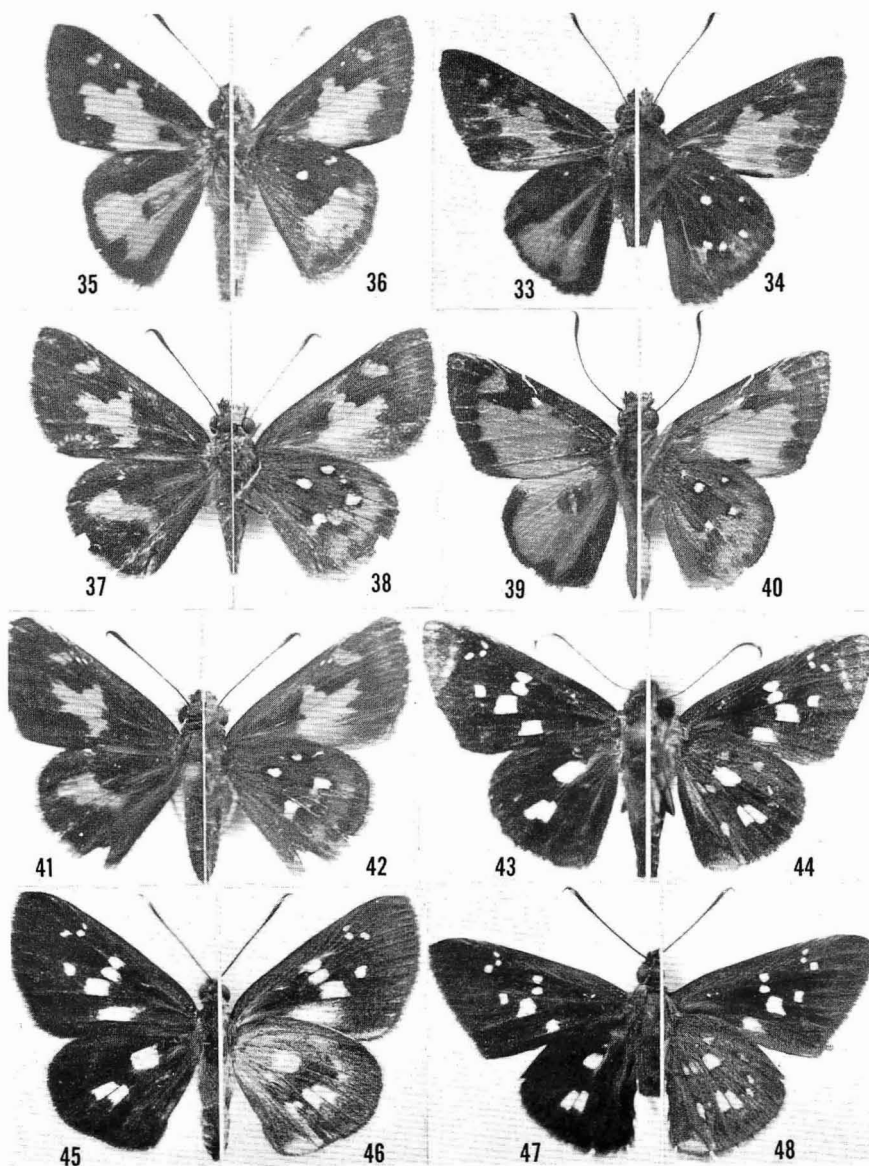
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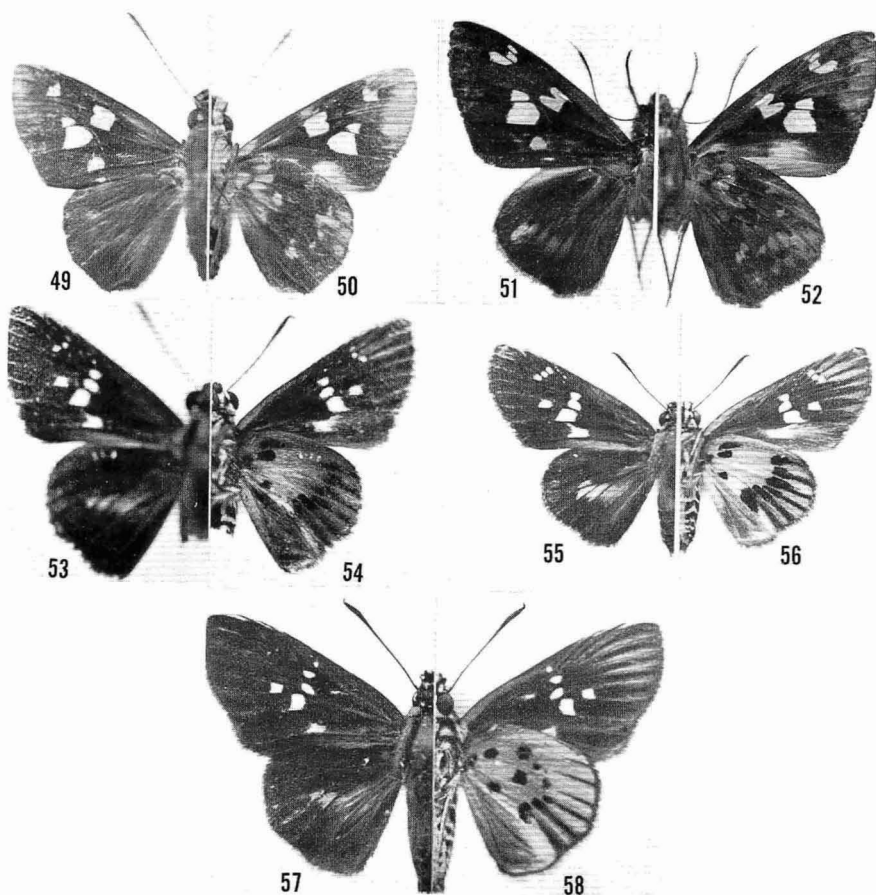
Figures 1-16, African HesperIIDae: *Eagris*, *Celaenorrhinus* and *Abantis*. Unless otherwise indicated, all specimens are from the Allyn collection. 1-2, *Eagris hereus hereus* (H. Druce), ♂ upper (1) and under (2) surfaces; CAMEROON: Batanga (Carnegie Museum). 3-4, *E. h. hereus*, ♀ upper (3) and under (4) surfaces; "Bule Country" (Carnegie Museum). 5-6, *E. hereus quaterna* (Mabille), ♂ upper (5) and under (6) surfaces; GHANA: Likpe. 7-8, *E. h. quaterna*, ♀ upper (7) and under (8) surfaces; GHANA: Likpe. 9-10, *Celaenorrhinus illustroides*, new species, Holotype ♂ upper (9) and under (10) surfaces; FRENCH CONGO: Etoumbi. 11-12, *C. beni jacquelinae*, new subspecies, Holotype ♂ upper (11) and under (12) surfaces; FRENCH CONGO: Etoumbi. 13-14, *Abantis lucretia lucretia*, ♂ upper (13) and under (14) surfaces; GHANA: Lolobi. 15-16, *A. l. etoumbiensis*, new subspecies, Holotype ♂ upper (15) and under (16) surfaces; FRENCH CONGO: Etoumbi.



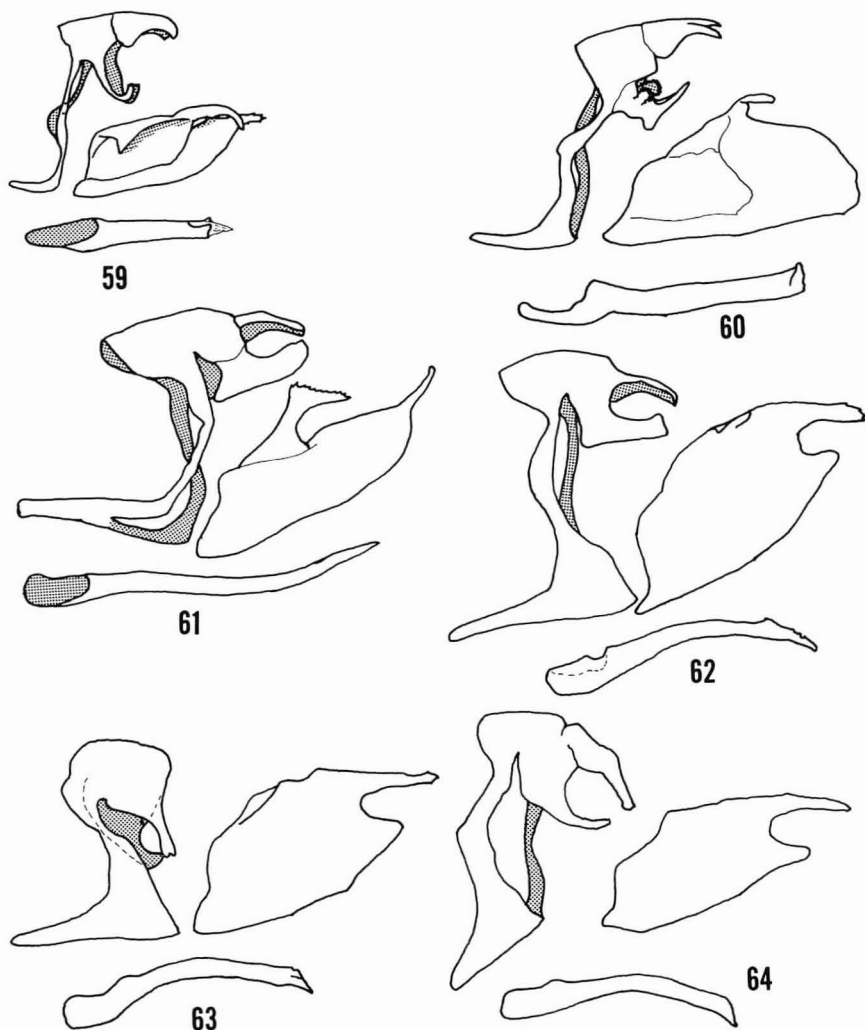
Figures 17-32, African Hesperiidæ: *Abantis* and *Ceratrichia*. Unless otherwise indicated, all specimens are from the Allyn collection. 17-18, *Abantis venosa* Trimen, ♂ upper (17) and under (18) surfaces; BELGIAN CONGO: KATANGA: Kafakumba. 19-20, *A. vidua* Weymer, ♂ upper (19) and under (20) surfaces; BELGIAN CONGO: KATANGA: Kafakumba. 21-22, *A. elegantula* (Mabille), ♂ upper (21) and under (22) surfaces; GHANA: Hohoe (Th. Maessen collection). 23-24, *A. maesseni*, new species, Holotype ♂ upper (23) and under (24) surfaces; GHANA: Likpe. 25-26, *Ceratrichia phocion cameronia*, new subspecies, Holotype ♂ upper (25) and under (26) surfaces; CAMEROUN: Lolodorf (Carnegie Museum). 27-28, *C. p. cameronia*, Paratype ♀ upper (27) and under (28) surfaces; CAMEROUN: Lolodorf. 29-30, *C. maesseni*, new species, Holotype ♂ upper (29) and under (30) surfaces; GHANA: Konongo, Ashanti Forest Reserve. 31-32, *C. maesseni*, Paratype ♀ upper (31) and under (32) surfaces; GHANA: Konongo, Ashanti Forest Reserve.



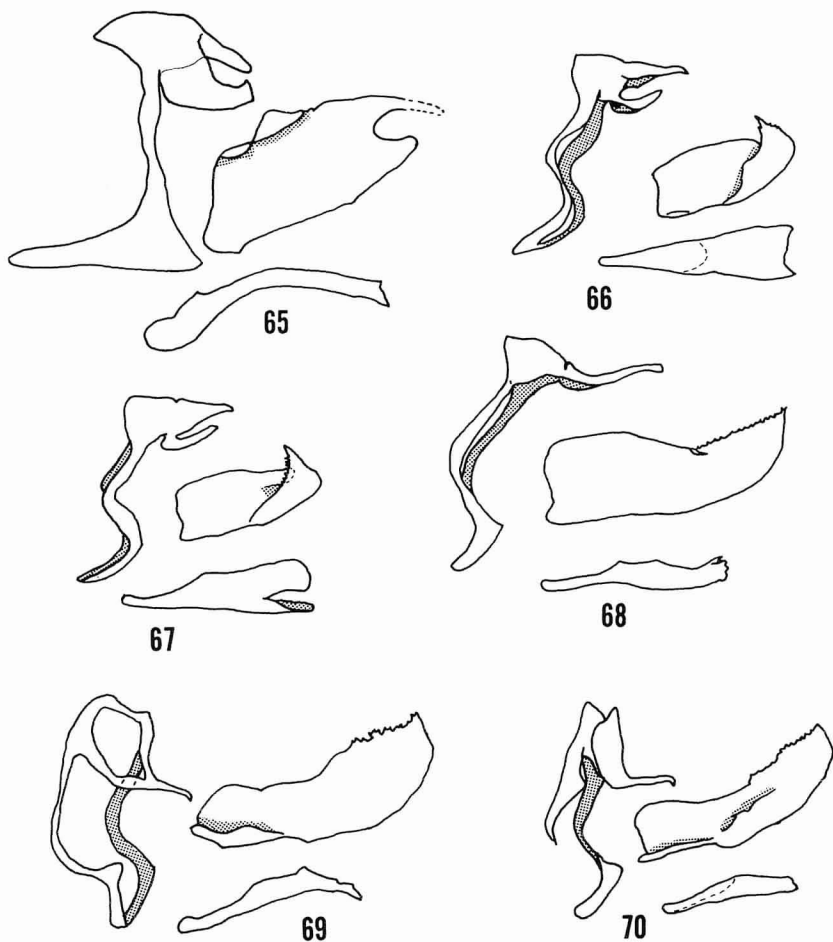
Figures 33-48, African Hesperiidæ: *Osmodes* and *Meza*. Unless otherwise indicated, all specimens are from the Allyn collection. 33-34, *Osmodes adonides*, new species, Holotype ♂ upper (33) and under (34) surfaces; GABON: Kangwé, Ogové R. (Carnegie Museum). 35-36, *O. maesseni*, new species, Holotype ♂ upper (35) and under (36) surfaces; GHANA: Likpe. 37-38, *O. maesseni*, Paratype ♀ upper (37) and under (38) surfaces; GHANA: Likpe (Th. Maessen collection). 39-40, *O. lindseyi occidentalis*, new subspecies, Holotype ♂ upper (39) and under (40) surfaces; GHANA: Likpe. 41-42, *O. l. occidentalis*, Paratype ♀ upper (41) and under (42) surfaces; GHANA: Boti Falls. 43-44, *Meza cybeutes volta*, new subspecies, Holotype ♂ upper (43) and under (44) surfaces; GHANA: Likpe. 45-46, *M. c. volta*, Paratype ♀ upper (45) and under (46) surfaces; GHANA: Likpe (Th. Maessen collection). 47-48, *M. c. cybeutes* (Holland), ♂ upper (47) and under (48) surfaces; "Bule Country" (Carnegie Museum).



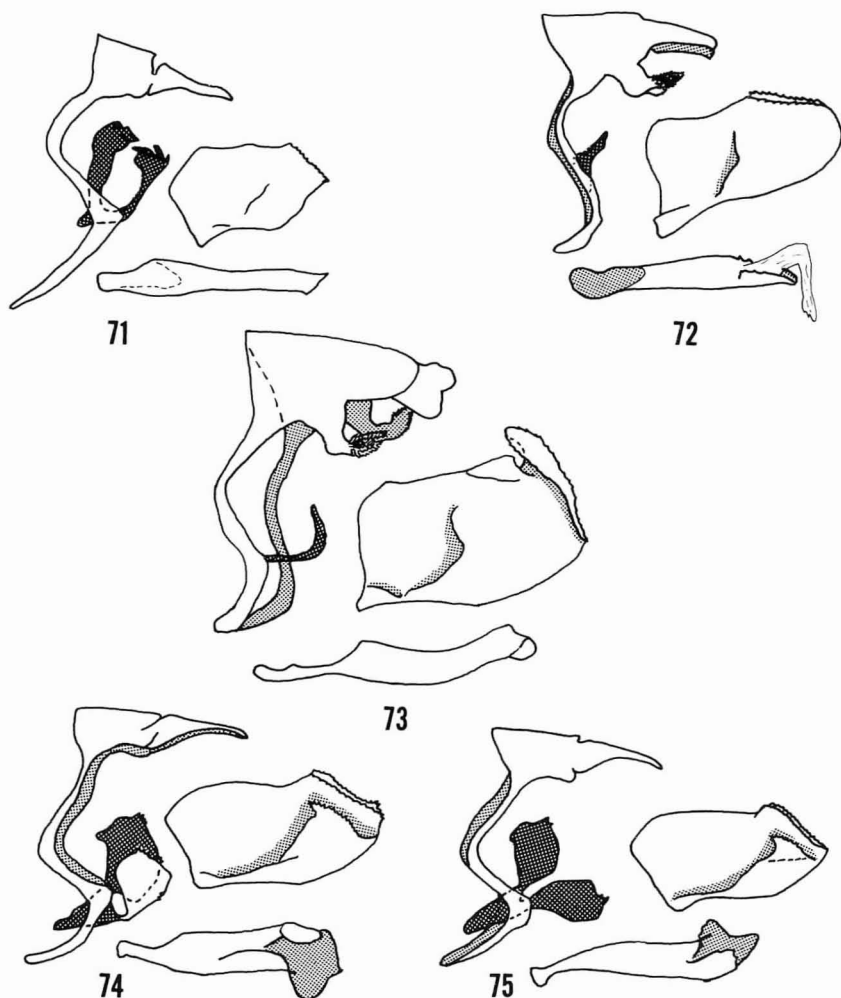
Figures 49-58, African Hesperiiidae: *Caenides* and *Fresna*. Unless otherwise indicated, all specimens are from the Allyn collection. 49-50, *Caenides stoehri* (Karsch), ♂ upper (49) and under (50) surfaces; GHANA: Likpe (Th. Maessen collection). 51-52, *C. allyni*, new species, Holotype ♂ upper (51) and under surfaces; BELGIAN CONGO: KATANGA: Kafakumba. 53-54, *Fresna maesseni*, new species, Holotype ♂ upper (53) and under (54) surfaces; GHANA: Likpe. 55-56, *F. maesseni*, Paratype ♀ upper (55) and under (56) surfaces; GHANA: Likpe (Th. Maessen collection). 57-58, *F. netopha* (Hewitson), ♂ upper (57) and under (58) surfaces; GHANA: Likpe.



Figures 59-64, ♂ genitalia of African Hesperidae. All slides are Lee D. Miller numbers, and unless otherwise indicated are contained in the Allyn collection. 59, *Celaenorrhinus illustroides*, new species, Holotype (Slide 2184). 60, *C. beni jacuelinae*, new subspecies, Holotype (Slide 2185). 61, *Abantis lucretia etoumbiensis*, new subspecies, Holotype (Slide 2169). 62, *A. venosa* Trimen (Slide 2167); S. RHODESIA: Umtali. 63, *A. vidua* Weymer (Slide 2168); BELG. CONGO: KATANGA: Kafakumba. 64, *A. elegantula* (Mabille) (Slide 1703); GHANA: Hohoe (Th. Maessen collection).



Figures 65-70, ♂ genitalia of African Hesperiidæ. All slides are Lee D. Miller numbers and unless otherwise indicated are contained in the Allyn collection. 65, *Abantis maesseni*, new species, Holotype (Slide 2170). 66, *Ceratrachia maesseni*, new species, Holotype (Slide 2178). 67, *C. argyrosticta* (Plötz) (Slide 2179); GHANA: Kuburuatumi. 68, *Osmodes banghaasi* Holland (Slide 553); UGANDA: L. Entebbe (British Museum). 69 *O. adonides*, new species, Holotype (Slide 1970, Carnegie Museum). 70, *O. maesseni*, new species, Holotype (Slide 2171).



Figures 71-75, ♂ genitalia of African Hesperiidæ. All slides are Lee D. Miller numbers and unless otherwise indicated are contained in the Allyn collection. 71, *Meza cybeutes cybeutes* (Holland) (Slide 1971); "Bule Country" (Carnegie Museum). 72, *Caenides stoehri* (Karsch) (Slide 1748); GHANA: Likpe (Th. Maessen collection). 73, *C. allyni*, new species, Holotype (Slide 2186). 74, *Fresna maesseni*, new species, Holotype (Slide 2164). 75, *Fresna netopha* (Hewitson) (Slide 1812); GHANA: Anfoega.