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Notes on South East Asiatic Coeliadinae (Lepidoptera: Hesperiidae)

by

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Abstract: Based on recent collections from the Philippines the geographic variation in two species of the Coeliadinae (Lepidoptera: Hesperiidae) is re-examined. As a consequence four new subspecies are described from the Philippines: *Bibasis harisa* ***pala***, *Bibasis harisa* ***grandis***, *Choaspes plateni* ***negrosa*** and *Choaspes plateni* ***boreus***; *Bibasis harisa aphrodite* (FRUHSTORFER 1905) from Sulawesi and Sula Mangoli is reinstated as a separate species (**stat. rev.**).

Anmerkungen zu südostasiatischen Coeliadinen (Lepidoptera: Hesperiidae)

Zusammenfassung: Neuere Ausbeuten aus den Philippinen veranlaßten eine Revision der geographischen Variation zweier Arten der Coeliadinae (Lepidoptera: Hesperiidae). Demzufolge werden vier neue Unterarten von den Philippinen beschrieben: *Bibasis harisa* ***pala***, *Bibasis harisa* ***grandis***, *Choaspes plateni* ***negrosa*** und *Choaspes plateni* ***boreus***; *Bibasis harisa aphrodite* (FRUHSTORFER 1905) wird rehabilitiert als eigene Art (**stat. rev.** als Art).

Introduction

The Philippines cannot be considered a poorly known area as far as butterflies are concerned. Nevertheless, new island records, new subspecies and new species pop up more or less regularly, and even large species may suddenly turn out to have a much wider distribution throughout the islands than supposed previously. The Coeliadinae are among the larger species of Hesperiidae and some species are beautifully coloured. In the present paper we not only show two species of this subfamily to be much more widely distributed than known before,

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but also to exhibit an interesting geographic variation, prompting us to describe four new subspecies. As a side effect we had to reinstate a Sulawesi taxon as a separate species.

Bibasis harisa (MOORE [1866])

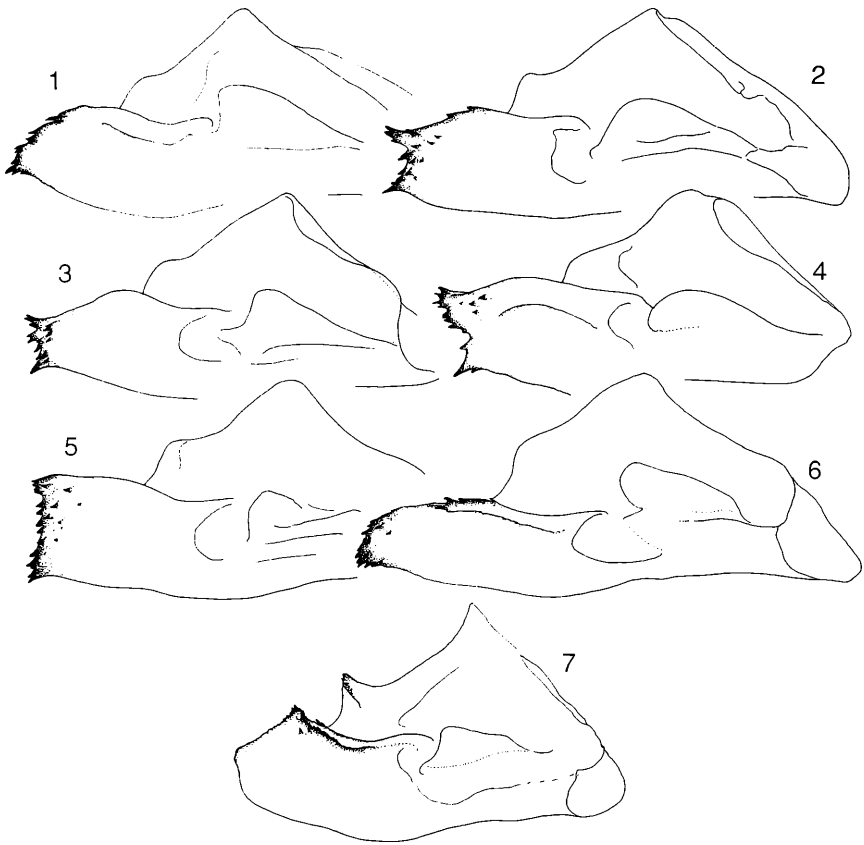
Bibasis harisa (MOORE [1866]) is a widespread species occurring from Sikkim to Vietnam and Hainan, and south through Sundaland to Sulawesi and the Sula Islands (EVANS 1949). Generally four subspecies are recognized, which differ in external characters as well as in the valva of the male genitalia. Recent collections made in the Philippines has shown this species to occur there as well, in no less than three geographic forms. One of the forms, collected in Sibutu Island (Tawitawi group in the west of the Sulu Archipelago) is identical to ssp. *consobrina* (PLÖTZ 1884), which is the Sundaland form, while the other two forms, from Palawan and from Dinagat and Samar, are apparently undescribed. They are described here as new subspecies. To be sure the material is limited, but since the specimens so obviously fall outside the range of variation of the other subspecies, we feel confident about the justification of describing them as new subspecies. To place the new subspecies in the context of the whole geographic variation of the species, a short description of the other subspecies is given as well. For synonyms, see EVANS (1949).

This survey shows that the Sulawesi form (*aphrodite* FRUHSTORFER 1905) is so different that its relationship with the other subspecies is uncertain. Therefore, it is justified to raise it to species rank (or rather to give it back its species rank). The exact relationship between *B. harisa* and *B. aphrodite* remains to be established.

Bibasis harisa harisa (Moore [1866])

Type-locality: Darjeeling.
Distribution: Sikkim, Assam, Burma, Thailand, Tonkin, Hainan, Andamans.

Length of forewing 24.5–25.2 mm. Antennae ochreous on upperside of shaft and club. Below, more strongly striped than in the next subspecies. Dorsal edge of cucullus apically serrate and sloping down to ventral edge (Fig. 1).



Figs. 1–7. Inside of left valva of *Bibasis harisa* (1–6) and *B. aphrodite*. **Fig. 1:** *B. h. harisa*, Sikkim. **Fig. 2:** *B. h. consobrina*, West Borneo. **Fig. 3:** *B. h. consobrina*, West Java. **Fig. 4:** *B. h. niasana*, Nias. **Fig. 5:** *B. h. pala*, Palawan (holotype). **Fig. 6:** *B. h. grandis*, Dinagat (paratype). **Fig. 7:** *B. aphrodite*, Central Sulawesi.

Bibasis harisa consobrina (Plötz 1884)

Type-locality: Java.
Distribution: W. Malaysia, Sumatra, Banka, Java, Borneo, Sibutu Island and Sanga Sanga Island (both Tawitawi group of the Sulu Archipelago). MARUYAMA (1991) errorneously listed this subspecies as occurring on Palawan.

Length of forewing 23–25 mm. Antennae as in ssp. *harisa*. More uniform and duller above. Cucullus apically narrower than centrally, distal edge strongly and irregularly serrate (Figs. 2–3).

Bibasis harisa niasana (Swinhoe 1912)

Type-locality: Nias.
Distribution: Nias.

Length of forewing 24.5–26 mm. Antennae as in ssp. *harisa*. Pale, with broad markings below. Valva as in ssp. *consobrina* (Fig. 4).

Bibasis harisa ***pala*** **ssp. nov.**

Holotype, ♂, Palawan, Irawan, 1500 ft, 21. v. 1975.
Paratypes: 4 ♂♂, Palawan, Languan, 17. iii. 1979, 23. iii. 1982, 17. iv. 1983, 20. iv. 1992; 3 ♂♂, Palawan, Irawan, 13. iii. 1983, 25. vi. 1983, viii. 1987; 2 ♂♂, Palawan, Olanguan, 6. vii. 1988; 1 ♂, Palawan, 26. vii. 1979.
Holotype and four paratypes in Nationaal Natuurhistorisch Museum, Leiden; six paratypes in coll. TREADAWAY.

MARUYAMA (1991) apparently mistook this new subspecies for *Bibasis harisa consobrina*.

Only males known so far. Antennae as in ssp. *harisa*. Length of forewing 23.6–25.6 mm. Darker than other subspecies above and below. Forewing upperside dark brown without traces of discal spots; dark orange scales between radial vein and vein 12; cilia greyish. Hindwing upperside very dark brown, cream-coloured in space 6 and from vein 7 to costa, no lighter coloration in spaces 2–4; cilia dark orange. Underside as in ssp. *consobrina*, but much darker; discal band on hindwing faintly indicated by a broadening of the orange stripes between the veins. Cucullus rectangular, not narrowing distally, distal edge straight and rather regularly serrate (Fig. 5).

Bibasis harisa ***grandis*** **ssp. nov.**

Holotype, ♂, C. Samar, Hinabangan, 600 ft, 30. iv. 1992.

Paratypes: 1 ♂, Dinagat, Loreto, Mt. Cambinlin, iv. 1990; 1 ♀, N. Samar, Mt. Capotoan, 29. ix. 1990.
Holotype and one paratype (♀) in coll. TREADAWAY; one paratype (♂) in Nationaal Natuurhistorisch Museum, Leiden.

Large; length of forewing, male 25.7–28 mm, female 29.1 mm. Antennae black, no ochreous scaling. Wings as in ssp. *consobrina*. Cucullus remarkably elongate, dorsal edge weakly serrate, sloping to serrate apex, reminding of ssp. harisa, but much more elongate (Fig. 6).

Discussion of *Bibasis harisa*

The discovery of the species in the Philippines is not unexpected, since many Sundaland species occur there. It is interesting to see that the species apparently penetrated the Philippines by way of the two possible corridors, Palawan and the Sulu Archipelago. In view of the proximity of Borneo it is not surprising that ssp. *consobrina* occurs in Sibutu Island and Sanga Sanga Island in the Tawitawi group, the westernmost group of islands of the Sulu Archipelago, but the occurrence of another form in Palawan is remarkable, since this island was connected to Borneo only 10 000–20 000 years ago when the sea level dropped during the last glacial period. The occurrence of the species in the islands of Dinagat and Samar in a different form suggests an earlier invasion through the Sulu Archipelago, unless the species once had a much wider distribution in the Philippines and became extinct in most islands. It would be interesting to find the species in Mindanao.

Bibasis aphrodite (FRUHSTORFER 1905), **stat. rev.**

Type-locality: Toli-Toli.
Distribution: Sulawesi, Sula Mangoli.

Externally this species is like a small edition of *B. imperialis* (PLÖTZ 1886), an endemic species of Sulawesi and the Banggai Archipelago, and very different from *B. harisa*. The antennae are almost completely brown black. On the underside of the forewing the cream-coloured area at the inner margin extends to vein 4; cell, costal area and apical part of the wing are purple with blue scaling and a pale bluish spot in the apical part of the cell; indistinct median spots from vein 4 to vein 8. Underside hindwing purple with blue internervular stripes and a broad blue stripe in the cell. In the valva of the male the species is characterized by the sharply angled distal edge and the distally

rounded cucullus with angled and serrate dorsal edge (Fig. 7), very different from what is found in *B. harisa*.

The taxon was originally described by FRUHSTORFER (1905) as a separate species. Possibly EVANS (1949) synonymized it with *B. harisa* mainly because of allopatry of the two taxa.

Choaspes plateni (STAUDINGER 1888)

Choaspes plateni (STAUDINGER 1888) is a wide-spread species occurring from Sikkim and Assam to Hainan, and through Sundaland to the Philippines, Sulawesi and Lombok. It varies geographically in the extent and shade of the yellow tornal area on the hindwing, the black spots in this area, the shape of the tornus, and the colour of the upperside of the wings. EVANS (1949) recognized five subspecies, and DE JONG (1980) added a sixth. Here we add two more subspecies, both from the Philippines. As a consequence five subspecies are at present known to occur in the Philippines. They are described and compared below. The difference between a lobed tornus and a tailed tornus is gradual and can only be appreciated by comparison.

The eight subspecies of *C. plateni* can be grouped into two clusters:

a) *stigmata* EVANS 1932, *caudatus* EVANS 1932, and *extensa* EVANS 1932:
— on upperside, head, thorax and wing bases green, rest of wings brown; tornal area of hindwing yellow; from NE India throughout Sundaland;

b) *plateni* STAUDINGER 1888, *adhara* FRUHSTORFER 1911, *visaya* DE JONG 1980, *negrosa* ssp. nov., and *boreus* ssp. nov.
— on upperside, head, thorax and wing bases blue, rest of wing dark violet gloss; tornal area of hindwing orange; Philippines and Sulawesi.

Choaspes plateni caudatus EVANS 1932

Type-locality: Mergui (S. Burma).

Distribution: Sundaland except Java; north to S. Burma and Palawan.

Tornus of hindwing tailed. Head, thorax and wing bases on upperside green (blue in the next four subspecies); rest of wings brown (dark violet in next four subspecies), except for narrow yellow tornal area in hindwing (2 mm along vein 1B, extending along termen to vein 3 or 4, and filling distal half of space 1b). On underside of hindwing

tornal yellow area extending to vein 3, penetrated by a dark tongue in space 1b which reaches to and is fused with the double outer spots in space 1c; no spots in space 3.

To this subspecies also belongs the female of *"Choaspes benjaminii formosana* (FRUHSTORFER 1911)" recorded by EVANS (1949) from Palawan. *C. benjaminii* (GUERIN 1843) does not occur in the Philippines.

Choaspes plateni adhara (FRUHSTORFER 1911) (Figs. 8–9)

Type-locality: Mindanao.
Distribution: Mindanao.

Tornus of hindwing lobed. Orange tornal area on upperside of hindwing 4 (♂) to 5.5 (♀) mm wide along vein 1B, narrowing to vein 3; dark area extending almost to termen along vein 2; along both sides of vein 1B the dark area reaches about equally far. On the underside of the hindwing the orange area reaches vein 4, but does not extend beyond; outer double spots in space 1c conjoined and joined to the dark tongue in space 1b.

Choaspes plateni visaya DE JONG 1980 (Figs. 10–11)

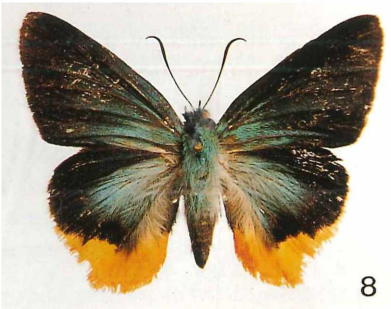
Type-locality: Leyte.
Distribution: Samar, Leyte, Biliran, Panaon, Bohol.

Tornus of hindwing lobed. On upperside of hindwing orange area darker than in other subspecies, restricted; dark area almost reaching termen in space 1b. On the underside of the hindwing the tornal orange reaches vein 4, but not beyond, the black tongue in space 1b is large and broadly fused with the fused double spots in space 1c.

Choaspes plateni ***negrosa*** **ssp. nov.** (Figs. 12–13)

Holotype, ♂, Negros, Mambucal, 10. v. 1990.
Paratypes: 4 ♂♂, Negros, Mt. Canlaon, 1. vii. 1986, 1. v. 1991, 2. vii. 1991, 17. vii. 1991.
Holotype and two paratypes in coll. TREADAWAY, two paratypes in the Nationaal Natuurhistorisch Museum, Leiden.

Very similar to ssp. *adhara*, but on the upperside of the hindwing the dark area in space 1b extends slightly further to termen than in space 1c; on the underside, the orange area extends into space 4, the outer double spots in space 1c are conjoined but not joined to the dark tongue in space 1b.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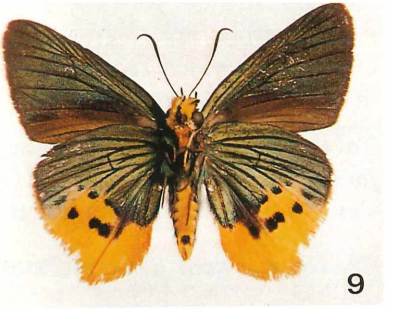
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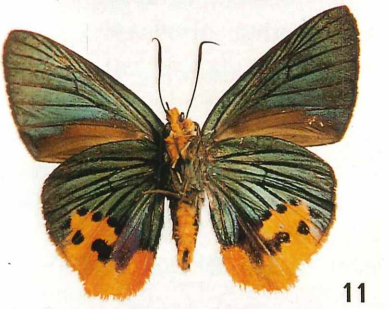
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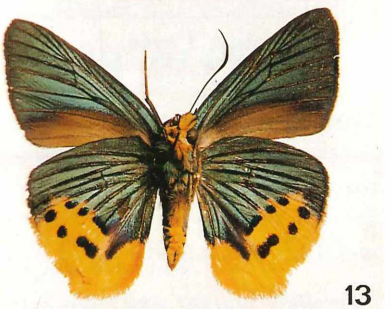
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Choaspes plateni **boreus ssp. nov.** (Figs. 14–15)

Holotype, ♂, Luzon, Ifugao Prov., Banaue, 5[000]–6000 ft, Aug. 1989, leg. J. NUYDA.
Paratypes: 1 ♀, Luzon, Ifugao Prov., Kinakin, 3500 ft., Aug. 1989.; 1 ♂, 1 ♀, Mindoro, Duragan, 1200 m, 28. vi. 1992, 30. iv. 1992; 1 ♀, Mindoro, Mt. Halcon, 3. vi. 1992.
Holotype ♂ in coll. TREADAWAY, two paratypes (1 ♂, 1 ♀, Mindoro) in coll. H. HYUGO, Manila, 1 ♀ paratype in coll. Treadaway, 1 ♀ paratype in coll. Nationaal Natuurhistorisch Museum, Leiden.

Tornus of hindwing lobed. On upperside of hindwing tornal orange area 6 (♂) to 9 (♀) mm wide along vein 1B, in male reaching vein 3, in female almost to vein 4, extending some distance towards wing base along veins 1B and 2 and in space 1c. On the underside the orange area reaches just beyond vein 4; outer double spots in space 1c separate and some distance from dark tongue in space 1b.

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Colour plate (opposite page):

Figs. 8–15. Philippine subspecies of *Choaspes plateni*. **Figs. 8–9:** *C. p. adhara*, ♀, Mindanao, Mt. Apolang, 1300 m, 25. viii. 1989. **Figs. 10–11:** *C. p. visaya*, ♂, C. Leyte, Mahaplag, Hilusig, Mt. Balocaue, 700 m, 28. vi. 1989. **Figs. 12–13:** *C. p. negrosa*, ♂, holotype, Negros, Mambucal, 10. v. 1990. **Figs. 14–15:** *C. p. boreus*, ♂, holotype, Luzon, Ifugao Prov., Banaue, 5[000]–6000 ft, Aug. 1989, leg. J. NUYDA.