

### Hesperiidae of Vietnam 3

## A new species of *Celaenorrhinus* HÜBNER, 1819 from Vietnam, with revisional notes on the *C. aurivittata* (MOORE, 1879) group

(Lepidoptera: Hesperiidae)

by

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### Summary

*Celaenorrhinus vietnamicus* spec. nov., from North Vietnam, is described and figured. The new species is similar to *C. aurivittata* (MOORE, 1879) being different in the shape and colour of the forewing band and male/female genitalia. *C. aurivittata cameroni* (DISTANT, 1882) is raised to species rank due to differences in the genitalia and its sympatry with the nominate subspecies in Thailand.

Recent lepidopterological investigations in North Vietnam have discovered a new species of yellow-banded *Celaenorrhinus* belonging to a compact group of taxa characterized by the absence of a hair-pencil on the hind tibiae of the males. The new species is closely allied to *C. aurivittata* (MOORE, 1879).

### *Celaenorrhinus vietnamicus* spec. nov.

(colour plate, figs. 1, 2)

Holotype ♂: North Vietnam, Ha Tay Province, Ba Vi, 19.VIII.1993 (leg. A. BARANOV).

Paratypes: 1 ♂, same label as holotype, 9.VI.1996 (leg. A. MONASTYRSKII); 1 ♂, North Vietnam, Vinh Phu Province, Tam Dao, 3.XII.1995; 1 ♀, same label, 13.V.1995; 3 ♂♂, 4 ♀♀, Bac Can Province, Ba Be National Park: 1 ♂, 9.IV.1996; 1 ♂, 1 ♀, 5.XI.1996; 1 ♀, 8.IV.1997; 1 ♀, 4.VI.1997; 1 ♀, 5.VI.1997 (all leg. A. MONASTYRSKII); 1 ♂, 7.XI.1996 (leg. FRONTIER); 1 ♂, Nghe An Province, Pu Mat, XII.1994 (leg. FRONTIER).

### Description

External characters (colour plate, figs. 1, 2). Very similar to *C. aurivittata*. Upperside brownish-black slightly suffused with scarce yellowish scales. Forewing length: male 16–20.5 mm (holotype 18.5 mm); female 18–22.5 mm.; an oblique gold-yellow band from costa to tornus (leaving the tornal margin dark), generally edged outwards in space 3 and constricted at vein 2; the median portion of the band (from radius to vein 2) hyaline, those above radius and below vein 2 opaque; both outer and inner edges of the band vary from being almost regular to almost irregular; its maximum width (at vein 3) ranges from 2.5–4 mm; three pale yellow apical spots in spaces 6–8, arranged in a very characteristic pattern, the spot in space 7 being the smallest and that in space 6 detached. Hindwing unmarked. Cilia of both wings brown.

Underside: ground colour slightly paler than on the upperside, forewing bearing the same markings; hindwing unmarked except for a faint and diffuse yellow mark at the end of the cell; basal part suffused with yellowish scales.

Sexes similar.

### Variation

The species greatly varies in size as well as in width and shape of the forewing yellow band; there seems to be no seasonal pattern in both with respect to variation.

♂-genitalia (figs. 1A–C). Uncus short and blunt-ended (in ventral view). Distal part of gnathos represented by an oval structure constricted at base. Clasp relatively short; cuiller long, curved and

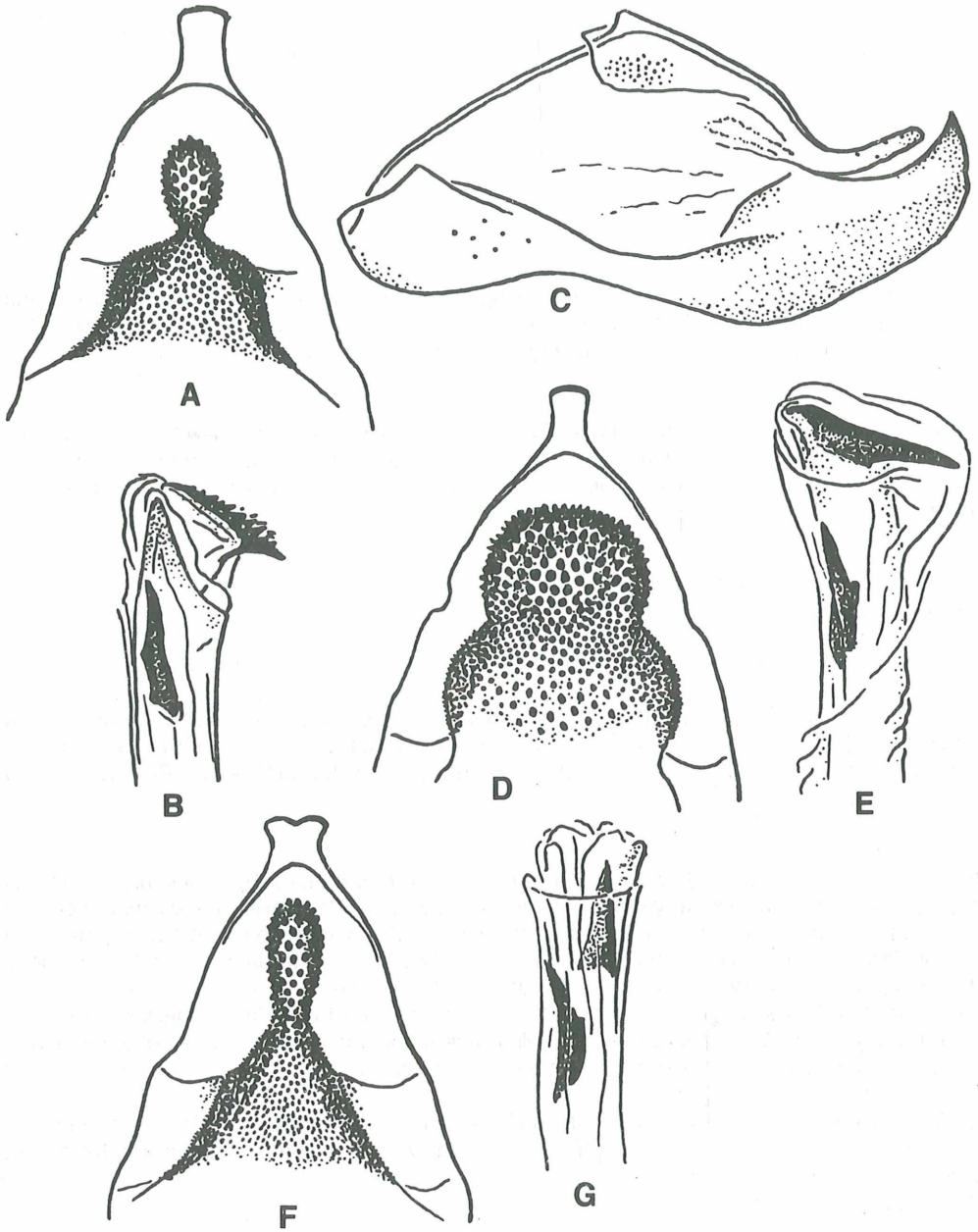


Fig. 1: male genitalia. A-C: *Celaenorrhinus vietnamicus* spec. nov., A - uncus and gnathos (ventral view), B - distal part of aedeagus, C - left clasp (from inside). D, E: *Celaenorrhinus cameroni* (DISTANT, 1882), D - uncus and gnathos (ventral view), E - distal part of aedeagus. F, G: *Celaenorrhinus aurivittata* (MOORE, 1879), F - uncus and gnathos (ventral view), G - distal part of aedeagus.

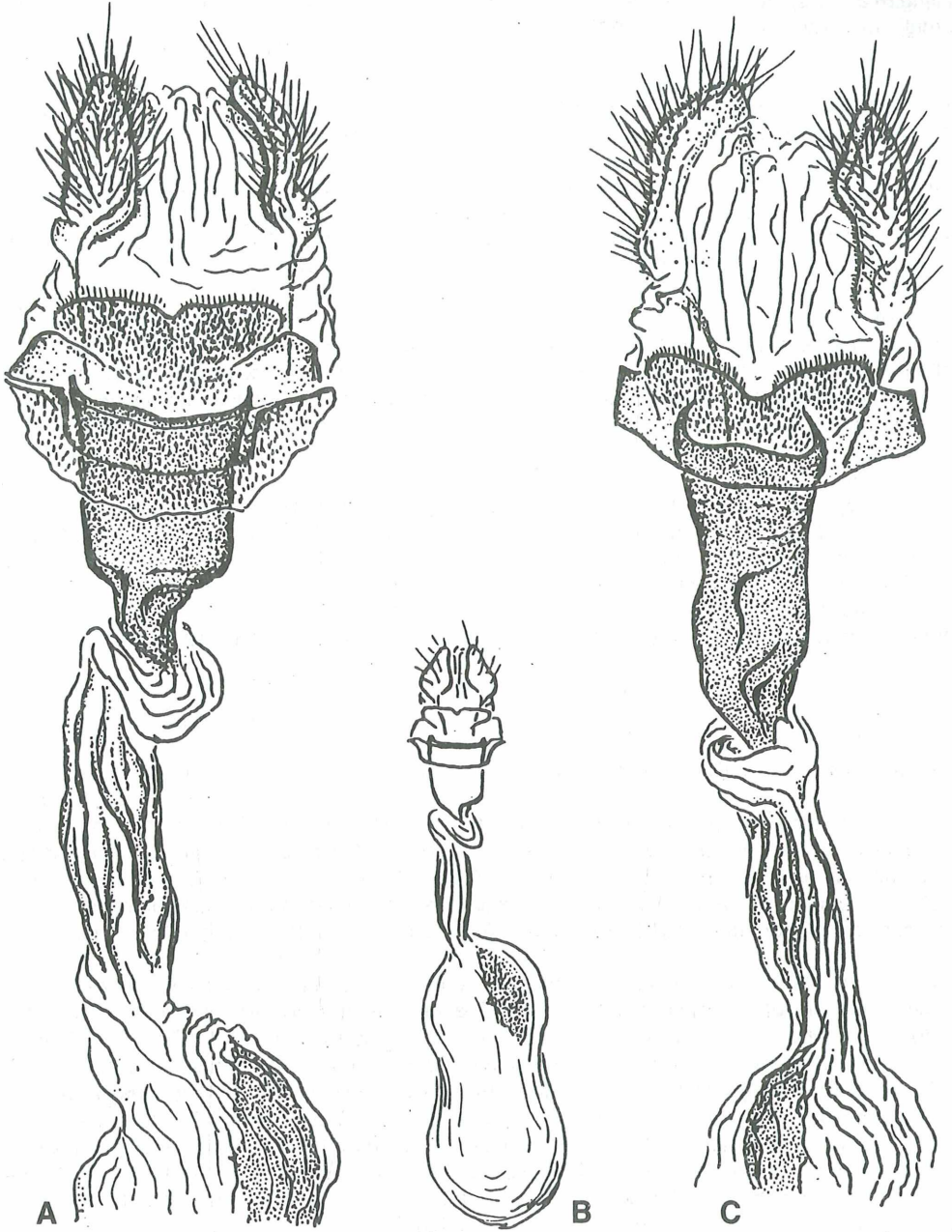


Fig. 2: female genitalia. A - *Caelanorhinus vietnamicus* spec. nov. (without bursa copulatrix), B - *ibid.*, general view of the genitalia. C - *Caelanorhinus aurivittata* (MOORE, 1879) (without bursa copulatrix).

pointed; costal process (style) about 2/3 length of cuiller. Sacculus long (equal to tegumen + uncus in length) and slightly curved. Aedeagus long, about 1.5x the length of the clasp, curved; two strong cornuti, the distal one is roughly serrate.

♀-genitalia (figs. 2A, 2B). Papillae anales more or less triangular in shape, with rounded angles. Apophyses posteriores short and slender, pointed. Postvaginal plate short and wide, its distal edge straight, with a shallow excavation in the middle. Ostium latitudinal, wide (about 2/3 the width of the postvaginal plate). Antrum as wide as ostium, sclerotized, its lateral sides more or less parallel, about 1.5x as long as wide, abruptly tapered in the proximal part. Ductus bursae long, membraneous with longitudinal stripes of sclerotization, strongly curved near antrum and straight in the rest of its length. Bursa copulatrix large, elongate, slightly constricted near the middle (somewhat peanut-shaped), with a large signum in the distal part.

#### Diagnosis

The new species is most closely related to *C. aurivittata aurivittata* (MOORE, 1879) and differs externally in darker ground colour, lighter yellow forewing band, without any trace of orange, and detached apical spot in space 6. Further details concerning the differences in the genitalia see in the revisional notes below.

#### Notes on the distribution

Found throughout North Vietnam. However, the photograph of a single female of *C. aurivittata* from Banmethuot (Buon Ma Thuot) in the paper of INOUE & KAWAZOE (1964), obviously showing *C. vietnamicus*, points to its distribution also in South Vietnam. Undoubtedly, this species could be confused with *C. aurivittata* in the past, so records from the northern part of the known distribution area of *C. aurivittata* (Assam, northern Burma) can be expected. Most probably it will be also found in South China (Yunnan, Guangxi), as its northernmost locality (Ba Be) is situated just near the Chinese border.

#### Revisional notes on the *C. aurivittata*-group

Continental South-East Asia has been known so far to be inhabited by only two taxa of the *C. aurivittata*-complex, i. e. ssp. *aurivittata*, distributed in Assam, S. W. China, N. Burma, N. Thailand and Andaman Islands, and ssp. *cameroni* (DISTANT, 1882), with its distribution in S. Burma, peninsular Thailand and the Malay Peninsula, the latter being well-distinguished from the nominate form by its smaller size and wider forewing band which is rather orange instead of dark yellow (colour plate, figs. 3–6).

While trying to identify the Vietnamese species, I examined the available material of both taxa as well as the illustrations of the genital armature of the *C. aurivittata*-group in literature. Comparison of the photographs of the new species with the type and reference specimens was kindly provided by Mr. P. R. ACKERY (The Natural History Museum, London). Both figures showing the genitalia of *C. aurivittata*, i. e. EVANS (1949) and CORBET & PENDLEBURY (1992), actually proved to represent ssp. *cameroni*, the latter because *cameroni* is the only taxon of this group inhabiting the Malay Peninsula. EVANS' figure is somewhat generalized, but it doesn't look as if he dissected any of the material except a male of *cameroni* from Perak, Malaysia (P. R. ACKERY, pers. comm.); the figure in CORBET & PENDLEBURY shows the lateral view, but in general both of them seem to correspond to the typical structure of *cameroni*, with the very wide gnathos (fig. 1D). The genitalia of the nominate *C. aurivittata* thus remained in fact not examined until now and, upon dissection, proved to be different from that of *cameroni* with regard to the uncus, which is wider and more deeply excavate at the end, and the gnathos, which is narrow and constricted in the basal part, seen ventrally (fig. 1F).

According to PINRATANA (1985), the nominate subspecies of *C. aurivittata* is distributed in the northern part of Thailand (Chaiyaphum, Nakhon Nayok, Chantaburi), while ssp. *cameroni* inhabits south-

ern peninsular regions (Nakhon Sri Thammarat, Trang, Ranong, Yala). I have seen males of both taxa labelled "Yala" (peninsular Thailand); if correct, these labels point to the sympatry of *aurivittata* and *cameroni* in S. Thailand. Taking into account this fact along with marked differences in external features and the genitalia, I consider it quite reasonable to regard the taxon *cameroni* as a separate species: *Celaenorrhinus cameroni* (DISTANT, 1882), **stat. rev.**

The genitalia of the new species are different from the above taxa in the shape of the uncus (flat-ended, but wider than in *C. cameroni*) and gnathos (shorter than in *C. aurivittata* and more markedly constricted at base). However, the most characteristic difference is the shape of the distal cornutus of the aedeagus, which is strongly serrate (fig. 1B); in *C. aurivittata* and *C. cameroni* it is plain and pointed (figs. 1E, 1G). The shape of the clasp (fig. 1C) is very similar in all the three species (the cuiller generally being a little longer in *C. vietnamicus*), and subject to some variation. The female genitalia of *C. vietnamicus* differ from those of *C. aurivittata* mostly in shorter and wider ductus bursae as well as in the shape of the postvaginal plate, which is straight-cut and more shallowly excavate at the distal edge (figs. 2A-C). Ductus bursae and bursa copulatrix are of similar structure. Unfortunately, I have no *C. cameroni* females for comparison.

In view of the above rearrangements it would not be unexpected if some of the other subspecies of *C. aurivittata* (sensu EVANS, 1949) will prove to be separate species, too; in general, a full revision of the material on the *aurivittata*-group is needed to define the status and precise distribution of the taxa involved.

#### Acknowledgements

I would like to express my deepest gratitude to Dr. A. L. MONASTYRSKII (Russian-Vietnam Tropical Centre, Hanoi) for supplying me with inexhaustible material of Vietnamese skippers; to Mr. P. R. ACKERY (The Natural History Museum, London) for his kind help in comparing the new species with the material deposited in the British Museum; to Mr. J. HYATT (Kingsport, Tennessee, USA) for supplying me with material from Thailand.

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Explanation of the colour plate (p. 301):

Fig. 1: *Celaenorrhinus vietnamicus* spec. nov., holotype ♂, N. Vietnam, Ha Tay Province, Ba Vi, 19.VIII.1993, A. BARANOV leg., upperside.

Fig. 2: as fig. 1, underside.

Fig. 3: *Celaenorrhinus aurivittata* (MOORE, 1879) ♂, Thailand, Yala, 28.X.1980, J. HYATT leg. (?), upperside.

Fig. 4: as fig. 3, underside.

Fig. 5: *Celaenorrhinus cameroni* (DISTANT, 1882) ♂, Thailand, Chanthaburi, 13.III.1984, J. HYATT leg (?), upperside.

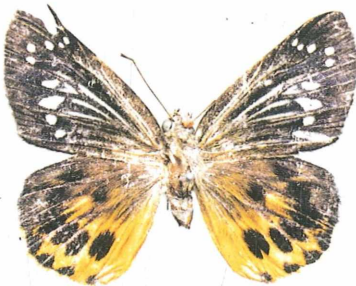
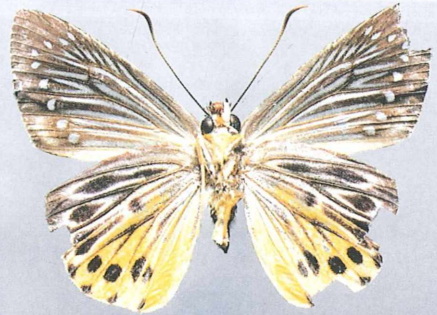
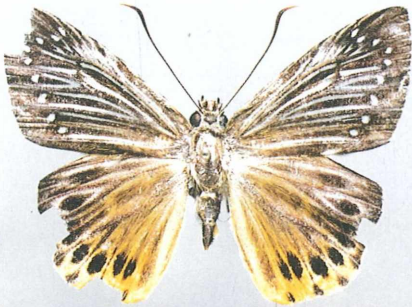
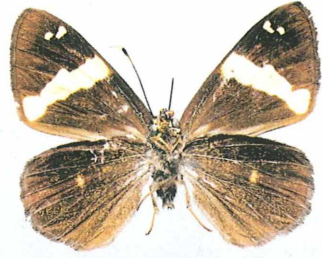
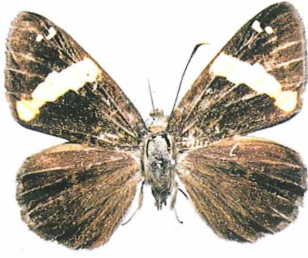
Fig. 6: as fig. 5, underside.

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