

Scientific Note

FIVE NEW RECORDS OF BUTTERFLIES (LEPIDOPTERA: LYCAENIDAE & HESPERIIDAE) FROM TROPICAL YUNNAN, CHINA

Shao-ji Hu¹⁺, Jian-qing Zhu²⁺ and Xin Zhang³

¹Laboratory of Biological Invasion and Transboundary Ecosafety, Yunnan University, Kunming, 650091, China

²Life and Environment Science College, Shanghai Normal University, Shanghai, 200234, China

³Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, 650223, China

+ Joint first authors

The tropical area of Yunnan, China is a hotspot of butterfly diversity. Since 1949, several Chinese lepidopterists have made surveys in this area and contributed new records to the butterfly fauna of Yunnan or even China (Lee, 1962; Huang and Xue, 2004; Hu, 2009; Hu and Zhang, 2010; Hu *et al.*, 2012). However, due to the remoteness, butterfly research at many localities is still in the early stages. During the past three years, the authors of the present study made several expeditions to the Yuanjiang (Red-River) Valley and southern Yunnan, and recorded for the first time from Yunnan, five species (one species of Lycaenidae and four species of HesperIIDae), which are briefly described.

Abbreviations: FW – forewing, HW – hindwing, LF – length of forewing, Up – upperside, Un – underside

LYCAENIDAE

Neocheritra fabronia (Hewitson, 1878) (Figure 1. a–b) *Myrina fabronia* Hewitson, 1878; Ill. diurn. Lep. Lycaenidae - 1 (Suppl.): 23, pl. (Suppl.) 3a, figs. 89-91; type locality: not stated. *Neocheritra fabronia*: Osada *et al.*, 1999: 179, pl. 125.

Description: Male: LF: 18 mm, body dark brown with grayish blue scales dorsally and white ventrally, antenna black, labial palpi black dorsally and white ventrally, legs white. FW: broad triangular, termen arched, the basal half of dorsum strongly convex; upperside sky-blue on the basal half and black on the outer half; underside white on the basal half and buff brown on the outer half with whitish postdiscal and subterminal fasciae. HW: double tailed, with the one at vein 1b very long; upperside brown on the upper 1/3 with a round black sexual brand circled in white near the costa, white on the lower 2/3 tinged with grayish blue on the basal portion, a black thin line

through termen and a black spot in space 3; the vein of long tail marked with black and blue scales; underside white with two subterminal buff brown fasciae and three segments of curved black line in the tornal area, three black spots irrigated with blue scales in spaces 1b, 2, and 3, and a black thin line through termen; the vein of long tail marked with black.

Distribution: From Assam to Indo-China and Malay Peninsula, only recorded from Guangxi in China by Yoshino (1995) as a subspecies (ssp. *xuwantashanus*).

Specimen examined: 1 ♂, CHINA: Manxieba, Pu'er, S. Yunnan, 2011-II-9, leg. S. J. Hu.

HESPERIIDAE

Bibasis harisa (Moore, [1866]) (Figure 1.c–d) *Ismene harisa* Moore, [1866]; Proc. zool. Soc. Lond., 34 (3): 782; type locality: Darjeeling [N. India].

*Corresponding author: shaojiu@hotmail.com Received:

01 October 2011 Accepted: 26 January 2012

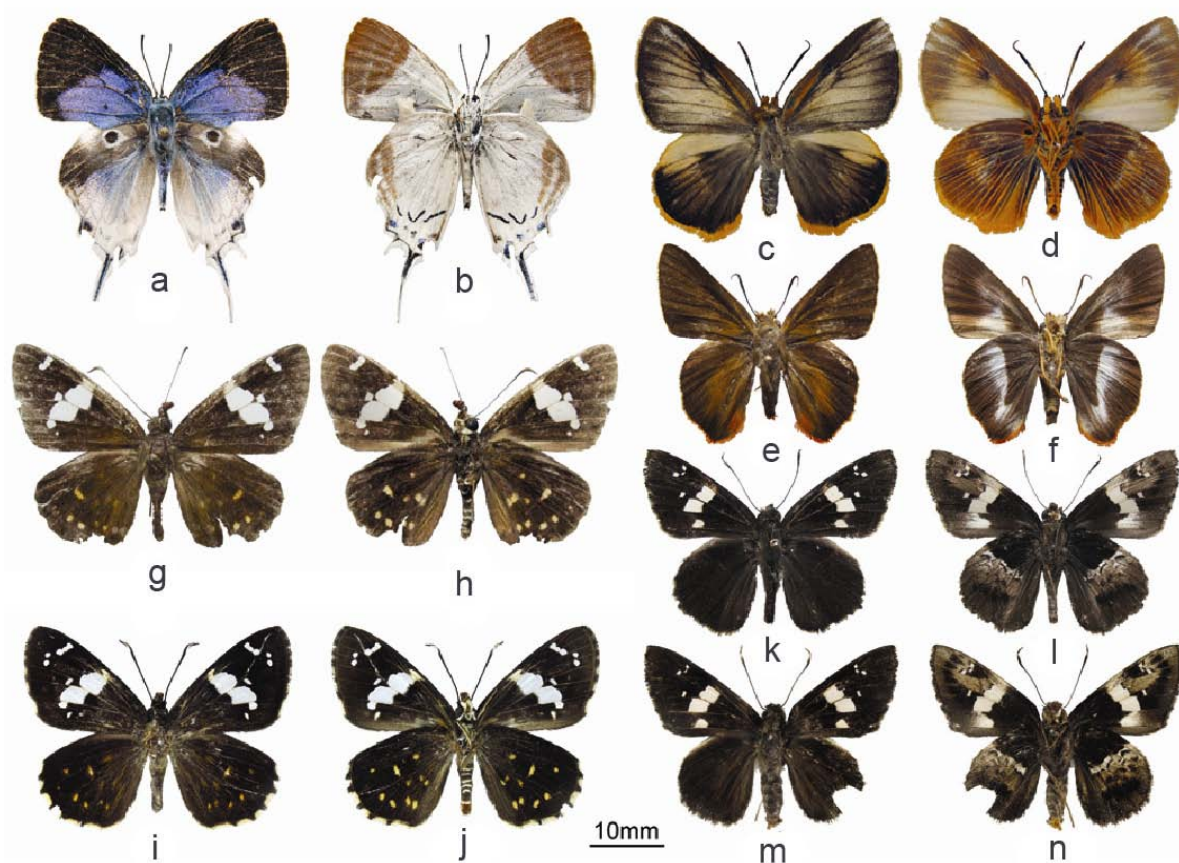


Figure 1. a (Up) – b (Un): *Neocheritra fabronia*, ♂, Manxieba, Pu'er, 2011-II-9; c (Up) – d (Un): *Bibasis harisa*, ♂, Hajichong, Yuanjiang, 2010-IX-7; e (Up) – f (Un): *Bibasis sena*, ♂, Menglun, Mengla, 2011-I-15; g (Up) – h (Un): *Celaenorhynchus leucocera*, ♂, Hajichong, Yuanjiang, 2009-IV-12; i (Up) – j (Un): Ditto, ♀, ditto, 2010-IX-7; k (Up) – l (Un): *Hyarotis adrastus*, ♂, Menglun, Mengla, 2010-I-28; m (Up) – n (Un): Ditto, ♀, ditto, 2011-I-15.

Bibasis harisa: Evans, 1949: 48-49, pl. 12; Osada *et al.*, 1999: 184, pl. 130. *Burara harisa*: Chiba, 2009: 10-11, pl. 3, fig. 34.

Description: Male: LF: 24 mm, body blackish with dense grayish hairs dorsally and orange hairs ventrally, antenna black dorsally and partially covered with orange scales ventrally, labial palpi and legs orange. FW: broad triangular, termen arched; upperside cream colored with black veins, costa black with dense orange scales on the basal half, termen and dorsum blackish and irrigated inwardly; underside rusty red on the upper half and whitish

below, an obscure blackish discocellular spot and a serial dark subterminal markings near veins. HW: approximately round with termen near the tornal area slightly concave; upperside blackish brown with creamy yellow costal area and dense grayish hairs on the basal half, veins black, termen black and irrigated inwardly, a creamy yellow, elongated oval spot in space 6; underside rusty red with basal half darker, veins and the stripes between veins orange, a black spot at the base; cilia entirely orange.

Distribution: From Assam to Malay Archipelago and the Philippines, recorded from Guangxi and Hainan
Specimen examined: 1 ♂, CHINA: Hajichong, Yuanjiang, C. Yunnan, 2010-IX-6, leg. J.Q. Zhu.

Bibasis sena (Moore, [1866]) (Figs. 5 – 6) *Goniloba sena* Moore, [1866]; Proc. zool. Soc. Lond., 34 (3): 778; type locality: Bengal [Dehradun, N. India]. *Bibasis sena*: Evans, 1949: 52-52, pl. 12; Osada *et al.*, 1999: 184, pl. 130; Chiba, 2009: 14-15, pl. 5, fig. 40.

Description: Male: LF: 21 mm, body brown with dense hairs, antenna black dorsally and brown ventrally, labial palpi brown dorsally and yellowish ventrally, legs pale orange. FW: triangular with termen arched; upperside brown with darker veins, orange hairs on the basal area and dense orange scales on the basal 2/3 of costal area; underside purplish brown with the color in space 1b paler, a cluster of whitish scales near the end of cell, a white triangular median fascia below the cell entering space 2. HW: approximately oval but slightly elongated, termen arched in the median portion and concave near the tornal angle; upperside brown, with orange long hairs on the basal half and the tornal angle; underside purplish brown, a white, hook-shaped median fascia extending from veins 1b to 8, a cluster of whitish scales at the tornal angle; cilia entirely orange.

In appearance, this species is similar to some *Hasora* species with a white fascia on the underside of hindwings, but can be distinguished by the absence of translucent forewing spots and the orange hindwing cilia (Osada *et al.*, 1999; Chiba, 2009).

Distribution: From Sri Lanka, India, Andaman Islands, Indo-China to Malay Archipelagos, only recorded from Hainan Island in China (Evans, 1949).

Specimen examined: 1 ♂, CHINA: Menglun, Mengla, S. Yunnan, 2011-I-15, leg. X. Zhang.

Island in China (Evans, 1949).

Celaenorrhinus leucocera (Kollar, [1844]) (Figure 1. g-j) *Hesperia leucocera* Kollar, [1844]; in von Hügel, Kaschmir und das Reich der Siek, 4 (5): 454, pl. 18, figs. 3-4; type locality: “Himaleya” [Himalayas]. *Celaenorrhinus leucocera*: Evans, 1949: 98-99; Osada *et al.*, 1999: 188, pl. 134.

Description: Male: LF: 22 mm, body dark brown with yellow stripes on the undersides of abdomen, antennae whitish dorsally and brownish ventrally, labial palpi dark brown dorsally and pale yellowish ventrally. FW: triangular, termen arched and slightly concave near the tornal angle; upperside brown with yellowish hairs on the basal portion; a white postdiscal band oblique, reaching costa and consisting of two large spots at the end of cell and space 2 and two small spots in spaces 1b and 3; a tiny, isolated white spot in space 1b below the band; and a thin subapical band formed by three contiguous white spots in spaces 7 to 9 and two detached white spots in spaces 5 and 6; underside paler. HW: approximately oval, termen strongly arched and slightly concave near the tornal angle; upperside brown with yellowish hairs on the basal portion and small, separately distributed yellow spots; cilia checkered with brown and pale yellow; underside paler with yellow spots better defined; cilia checkered with brown and white. Female: LF: 23 mm, similar to male, antennae brown but whitish at the apex, wings broader.

This species is similar to *C. putra* (Moore, [1866]), *C. patula* de Nicéville, 1889, and *C. victor* Devyatkin, 2003 in appearance (Osada *et al.*, 1999; Devyatkin, 2003.) but can be distinguished from the paler and smaller hindwing yellow spots and the shorter and thinner processes of the harpe in male genitalia structure (Zhu and Li, 2011).

Distribution: From India to Malay Peninsula, only recorded from Hainan Island and Hong Kong in China (Evans, 1949).

Specimens examined: 1♂, CHINA: Hajichong, Yuanjiang, C. Yunnan, 2009-IV-12, leg. S.J. Hu; 2 ♀♀, the same locality, 2010-IX-7, leg. J.Q. Zhu.

Hyarotis adrastus (Stoll, [1780]) (Figure 1. k-n) *Papilio adrastus* Stoll, [1780]; in Cramer, Uitl. Kapellen, 4 (26b-28): 62, pl. 319, figs. F-G; type locality: "Suriname" [error = Ceylon]. *Hyarotis adrastus*: Evans, 1949: 302-303; Osada *et al.*, 1999: 194, pl. 140.

Description: Male: LF: 19–21 mm, body blackish brown, antenna black with a whitish spot on the club, labial palpi blackish brown dorsally and paler ventrally, legs brown; FW: triangular with obvious apex, termen arched; upperside blackish brown with translucent white spots, the discocellular spot and the spot in space 3 quadrate and subequal, a smaller, oval spot at the central portion of space 2, a much smaller quadrate spot near the base of space 4, three spots in spaces 7, 8, and 9 with the second one smaller and slightly detached inwardly; underside brown with the apical, distal areas and space 1b paler, an irregular white marking in space 2, a white prolonged marking above the discocellular spot, spots as upperside. HW: approximately oval, termen straight; upperside blackish brown with long hairs on the basal half; underside blackish brown on the basal 1/3, an irregular pale median fascia with three slender white spots margined with black lines: a discocellular spot, two subequal spots in space 7 and cell, one smaller spot at the base of space 6; a obscure darker fascia beyond the median fascia; cilia checkered with black and brown. Female: LF: 21 mm, color and wing pattern as male.

Distribution: From Sri Lanka, India, Indo-China to the Philippines and Malay Archipelagos, recorded

from Guangdong, Hong Kong, and Hainan Island in China (Evans, 1949).

Specimens examined: 1 ♂, CHINA: Menglun, Mengla, S. Yunnan, 2010-I-28, leg. S.J. Hu; 3 ♂♂, 1 ♀, the same locality, 2011-I-15, leg. S.J. Hu and X. Zhang.

ACKNOWLEDGEMENTS

The authors are grateful for Qing-jun Li and Da-rong Yang (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Mengla), and De-dao Chen (Yunnan University, Kunming) for their assistances during the field work, and Sophie Miller (Yunnan University, Kunming) for improving the earlier drafts. This study was supported by the Open Funds of the Key Laboratory of International River and Transboundary Ecoscience, Yunnan Province.

REFERENCES

- Chiba H. (2009) A revision of the subfamily Coeliadinae (Lepidoptera: Hesperidae). *Bulletin of the Kitakyushu Museum of Natural History and Human History Series A*, 7: 1–102.
- Devyatkin A.L. (2003) Hesperidae of Vietnam, 14. A new species of the genus *Celaenorrhinus* Hübner, 1819 (Lepidoptera, Hesperidae). *Atalanta*, 34 (1/2): 115–118, pl. Xb
- Evans W.H. (1949) A Catalogue of Hesperidae from Europe, Asia and Australia in the British Museum (Natural History). London: The British Museum. 502pp.
- Hewitson W.C. (1878) *Illustrations of Diurnal Lepidoptera. Lycaenidae - 1 (Suppl.)*. London: John van Voost: 17–47, pl. (Suppl.) 1, 1a-b, 2, 3, 3a-b, 4, 4a, 5, 5a-b, 6-8.

- Hu S.J. (2009) New records and a correction of butterflies in Yunnan Province I. *Sichuan Journal of Zoology*, **28**(4): 596–597. [in Chinese with English abstract]
- Hu S.J. and Zhang X. (2010) New records and corrections of butterflies in Yunnan Province II. *Sichuan Journal of Zoology*, **29** (5): 574–577. [in Chinese with English abstract]
- Hu S.J., Zhu J.Q., and Zhang X. (2012) New records of butterflies from China (Lepidoptera: Rhopalocera): one genus and four species. *Sichuan Journal of Zoology* (China), **31**(1): 98–101.
- Huang H. and Xue Y.P. (2004) A contribution to the butterfly fauna of southern Yunnan (Lepidoptera: Rhopalocera). *Neue Entomologische Nachrichten*, **57**:135–154, 232–233.
- Kollar V. and Redtenbacher L.(1844) *Kaschmir und das Himaleyagebirge gesammelten Insecten*. In: von Hügel C.F.*Kaschmir und das Reich der Siek*, **4**(5): 393–496, pl. 1–22.
- Lee C.L. (1962) Results of the zoological-botanical expedition to southwestern China, 1955-1957 (Lepidoptera: Rhopalocera). *Acta Entomologica Sinica*, **11** (Suppl.): 172–198. [in Chinese with English abstract]
- Moore F. (1865) On the Lepidopterous Insects of Bengal. *Proceedings of the Zoological Society of London*, **34** (3): 755–823, pl. 41–43.
- Osada S., Uémura Y., Uehara J., and Nishiyama Y. (1999) *An Illustrated Checklist of the Butterflies of Laos P.D.R.* Tokyo: Mokuyōsha. 240pp; 143pl
- Stoll C. (1780) *Uitlandsche Kapellen (Papillons exotiques)*. In: Cramer P. *Uitlandsche Kapellen*, **4** (26b–28): 29–90, pl. 305–336.
- Yoshino K. (1995). New butterflies from China. *Neo Lepidoptera*, **1**: 1–4.
- Zhu J.Q. and Li L.Z. (2011) First record of the *Celaenorrhinus victor* Devyatkin, 2003 (Lepidoptera: Hesperidae) from China. *Far Eastern Entomologist*, **235**: 6–8.

Hu S.J., Zhu J.Q. and Zhang X. (2012) Five new records of butterflies (Lepidoptera: Lycaenidae & Hesperidae) from tropical Yunnan, China. *LEPCEY - The Journal of Tropical Asian Entomology*, **01**: 32–36.