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● Notes on three taxa of the genus *Lethe* Hübner (Lepidoptera, Papilionoidea, Nymphalidae, Satyrinae) from China

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Abstract: The little-known satyrid species *Lethe huongii* Monastyrskii, 2004 is rediscovered from Gongshan, W Yunnan, SW China, and the male is reported for the first time. The females of *L. luyanquani* H. Huang, 2019 and *L. tengchongensis pingpingae* Zhang & Hu, 2018 are discovered for the first time and illustrated.

Keywords: Lethina, Oriental Realm, Satyrini, taxonomy

● 中国产三黛眼蝶分类单元的注记（鳞翅目，凤蝶总科，蛱蝶科，眼蝶亚科）

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摘要：香黛眼蝶 *Lethe huongii* Monastyrskii, 2004 在云南西部贡山县被重新发现，其雄性亦被首次记载。卢氏黛眼蝶 *L. luyanquani* H. Huang, 2019 及腾冲黛眼蝶滇中亚种 *L. tengchongensis pingpingae* Zhang & Hu, 2018 的雌性被首次记录。

关键词：黛眼蝶亚族，东洋区，眼蝶族，分类学

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● Introduction

The satyrid species *Lethe huongii* Monastyrskii, 2004 (type locality: Huu Lien NR., Lang Son, N.Vietnam) belongs to the *L. lanaris* species-group (*sensu* Lang 2020) and currently it was only known by the unique female holotype (Monastyrskii 2004). During the field work conducted by the first author in Nujiang valley in 2021, two peculiar males of *Lethe* belonging to *L. lanaris* species-group were collected, and their wing patterns showed similarities with the female holotype of *L. huongii*, despite the long distance between the two localities, and are identified as the male of this species herein. Subsequently, more males of *L. huongii* were discovered in the second author's collection together with a female of *L. luyanquani* H. Huang, 2019 which was not known previously. We also take this chance to report the female of *L. tengchongensis pingpingae* Zhang & Hu, 2018 which was also unknown and externally similar to the female of *L. luyanquani*. Therefore, the present paper is dedicated to the discovery of the male of *L. huongii* and the females of *L. luyanquani* and *L. tengchongensis pingpingae*.

● Material and Methods

Specimens examined are deposited in the following institutional and private collections: the research collection of Song-yun Lang (CSYL), Chongqing, China, the Natural History Museum (NHMUK), London, UK, the private collection of Peng Yu (CYP), Chongqing, China and the private collection of Hao Huang (CHH), Qingdao, China. Photos of adults, except for *L. luyanquani* which were provided by the second author, were taken by a Sony DSC-RX100 v1.00 camera or a Canon EOS 6D. Abdomens were removed and macerated in hot 10% NaOH solution for examination of male genitalia. Photos of genitalia were taken under a Keyence VHX-5000 digital microscope. Adult and genitalia photos were all processed by Adobe Photoshop CS5 ® software.

Label data. For the holotype label citations, information provided in quotation marks is transcribed verbatim. Different labels are separated by a forward slash (“/”) while the different lines of the same label are separated by a vertical bar (“|”). Any additional data are provided in square brackets.

● Results

Lethe huongii Monastyrskii, 2004 香黛眼蝶

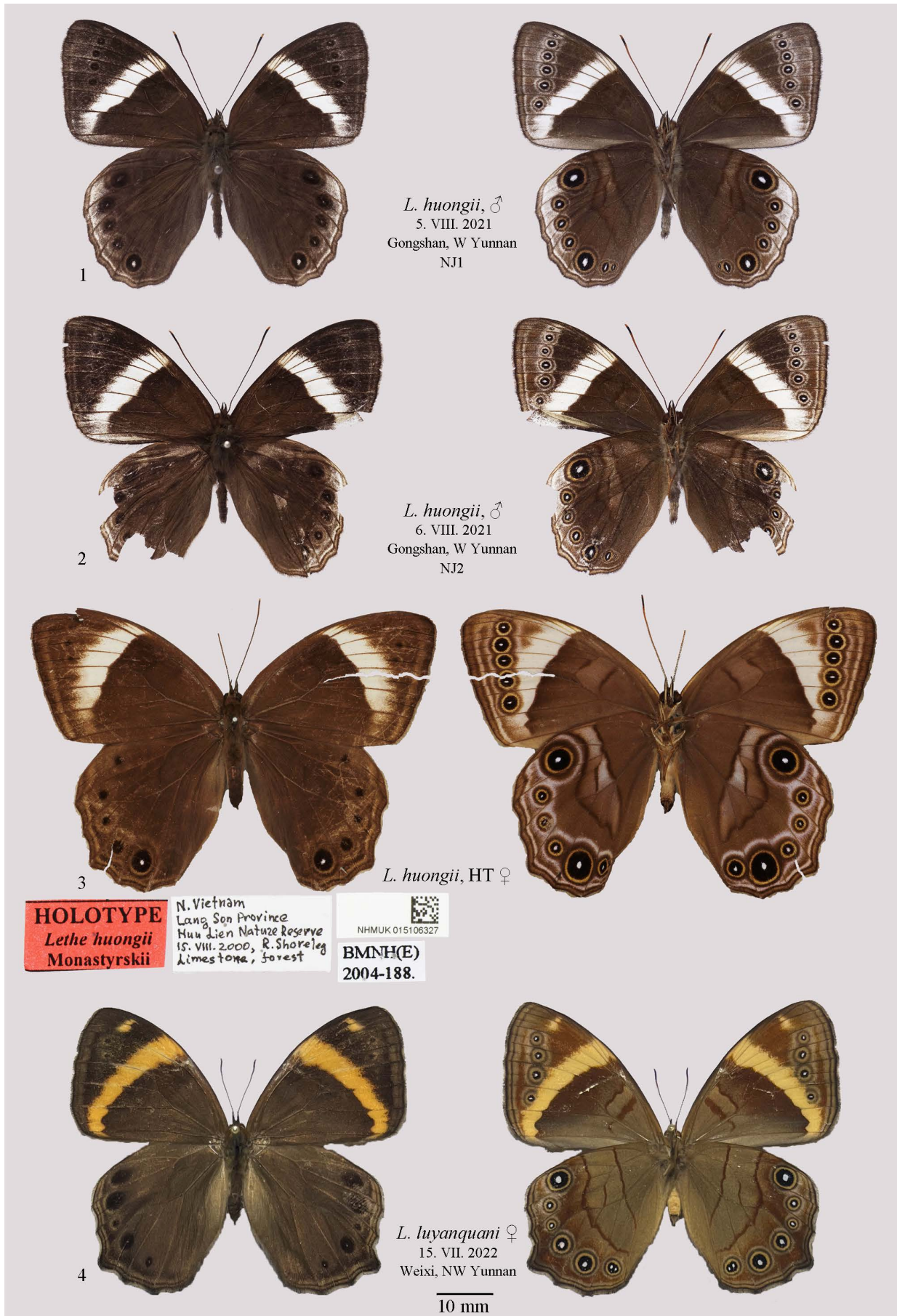
Figs 1–3, 6 & 7

Lethe huongii Monastyrskii, 2004: 47, figs 3&4; Lang, 2020: 334.

Material examined: Holotype (Figs): female, “N. Vietnam | Lang Son Province | Huu Lien Nature Reserve | 15. VIII. 2000 | R. Shore leg. | Limestone, forest” / “HOLOTYPE | *Lethe huongii* | Monastyrskii” / “NHMUK 015106327” / “BMNH (E) | 2004-188” (NHMUK). 1 male, 5. VIII. 2021, Gongshan, W Yunnan, China, Si-yao Huang leg. (CQMNH); 1 male, same locality and collector, but 6. VIII. 2021 (CQMNH). 2 males, 10. VIII. 2025, Fugong, W Yunnan, China, native collector leg. (CYP).

Diagnosis. The length of forewing is 31–32 mm in males and 36.5 mm in female. The male of *Lethe huongii* can be readily distinguished from the males of the congeners in *L. lanaris* species-group by the presence of a prominent white band on forewing upperside as well as the white scales along submarginal area on hindwing, especially in spaces 4–6. In male genitalia, *L. huongii* can be distinguished from the congeners in the species-group by the much narrower and sharper gnathos.

Note. It is possible that the Chinese population of *L. huongii* represents a distinct subspecies different from the nominate one from N Vietnam for the following reasons. In *L. lanaris* species-group, the females usually have the postdiscal band on forewing underside much wider than that in males, e.g. Lang (2017: pl. XI, figs 8 & 9 and 10 & 11). However, in the known individuals of both sexes of *L. huongii*, the width of the postdiscal band on forewing underside is more or less the same or only slightly wider in the female, which means, the unknown female



FIGURES 1–4. Adults of *Lethe* spp. Depositories of the specimens: 1 & 2 in CQMNH 3 in NHMUK (©The Trustees of NHMUK) 4 in CYP. Left column: dorsal side; Right column: ventral side.

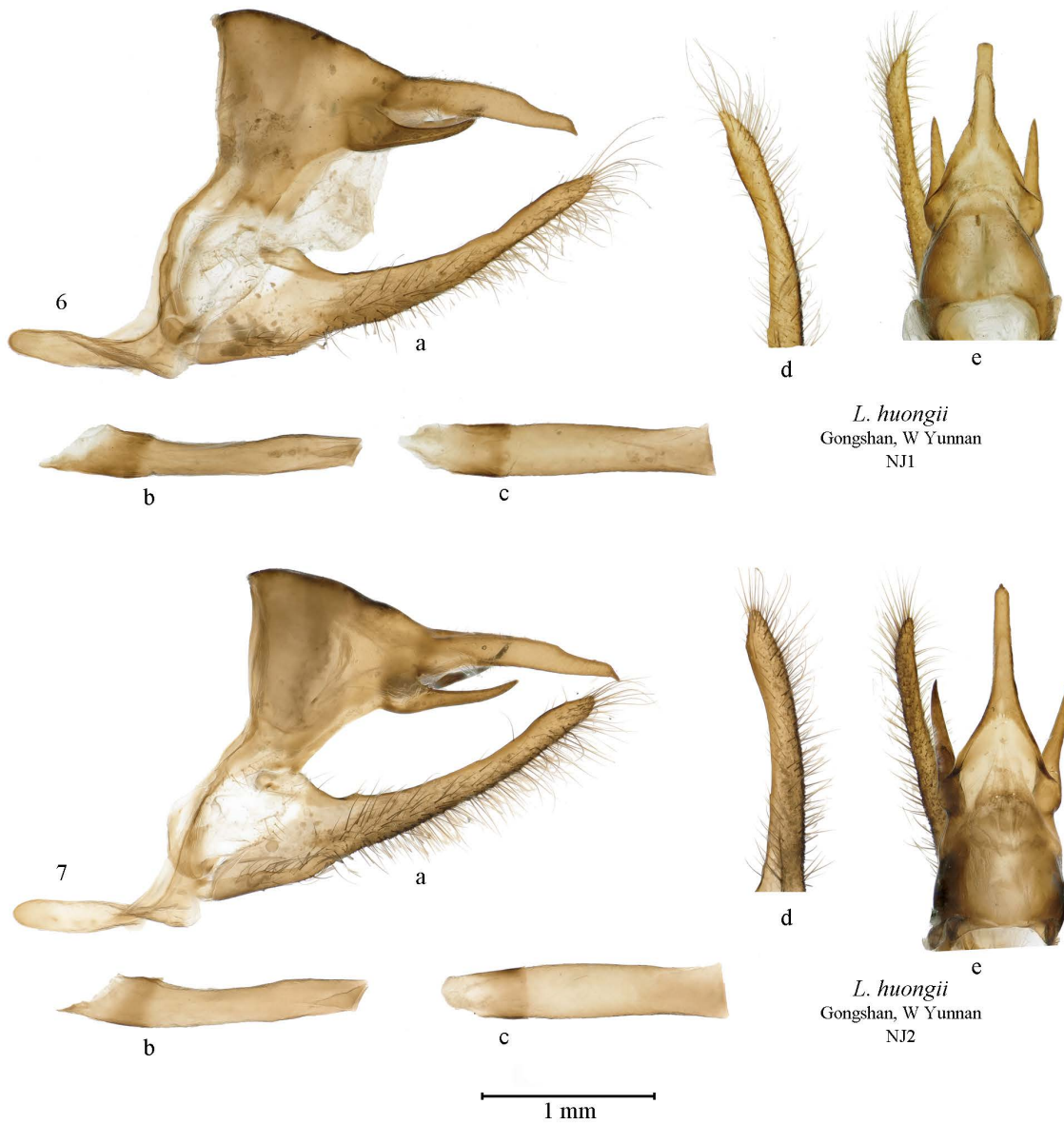
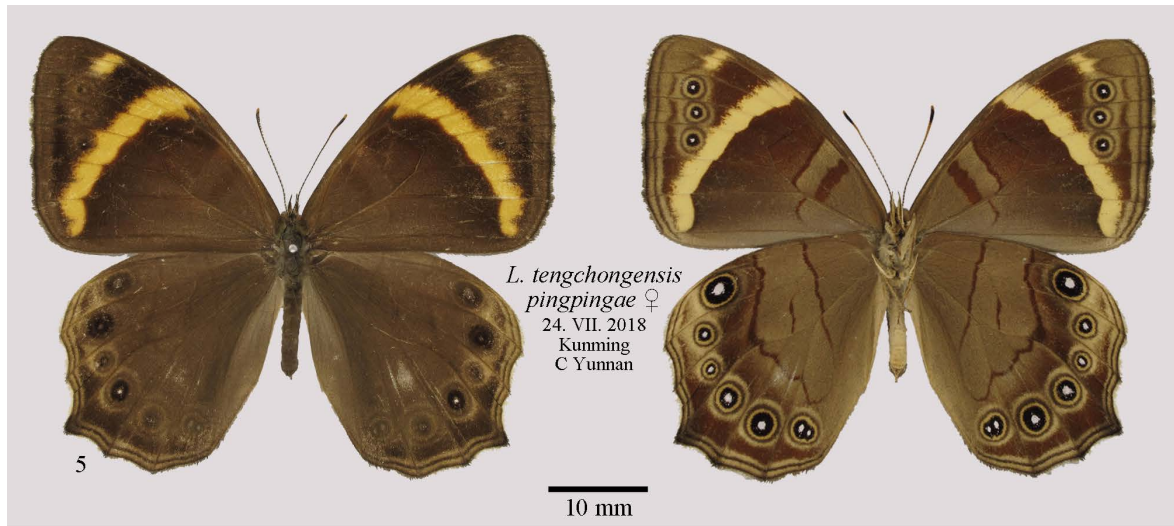


FIGURE 5–7 Adult of *Lethe* spp. and male genitalia of *Lethe huongii*. Depositories of the specimens: **5** in CHH, **6 & 7** in CQMNH. For figs **6 & 7**: a = genitalia capsule with left valva and phallus removed; b = phallus, lateral view; c = phallus, dorsal view; d = dorsal view of the distal end of left valva; e = dorsal view of the genitalia capsule with left valva and phallus removed.

of the Chinese population might have a wider postdiscal band than that in the Vietnamese population. Moreover, the postdiscal band on forewing underside is more curved outwards in the Vietnamese female than in the Chinese males, while in other species of *L. lanaris* species-group the male and female usually have their postdiscal band on forewing more or less similar in the degree of curving. However, these issues can only be solved when the Vietnamese male is discovered or the female of Chinese population is captured, pending future studies and field work.

Distribution. SW China (W Yunnan) and N Vietnam.

Lethe luyanquani H. Huang, 2019 卢氏黛眼蝶

Fig. 4

Lethe luyanquani H. Huang, 2019: 207, figs. 41–43, 175–182: B, C & I; Lang 2022: 21, pl. XXXI, fig. 9.

Material examined: 1 female, 15. VII. 2022, Tacheng, Weixi, NW Yunnan, China, native collector leg. (CYP).

Diagnosis. The length of forewing is 32.5 mm in female. The female of *L. luyanquani* is reminiscent of that of *L. tengchongensis pingpingae* Zhang & Hu, 2018 but can be distinguished by the broader postdiscal band on both sides of forewing and the presence of ocellus in space 2 on forewing underside.

Distribution. SW China (NW Yunnan).

Lethe tengchongensis pingpingae Zhang & Hu, 2018 腾冲黛眼蝶滇中亚种

Fig. 5

Lethe tengchongensis pingpingae Zhang & Hu, 2018: 139, figs 1 & 2; H. Huang 2019: 208, figs. 47–49, 175 H, 176 F, 177 F–H, 178 F–H, 179 F, 180 F–H, 181 F–H & 182 F–H; Lang 2022: 21, pl. XXXI, fig. 10.

Material examined: 1 female, 24. VII. 2018, Shuanglong, Kunming, C Yunnan, China, Si-yao Huang leg. (CHH).

Diagnosis. The length of forewing is 29.5 mm in female. The female of *L. tengchongensis pingpingae* displays no fundamental difference from the male except for the slightly broader forewing. It is reminiscent of *L. luyanquani* and the comparison with it has been provided above in the diagnosis of the species.

Distribution. SW China (C Yunnan).

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● Additional information

Author contributions: Conceptualization: S-Y Huang & P Yu. Project administration: S-Y Huang. Resources: S-Y Huang. Supervision: S-Y Huang. Visualization: S-Y Huang. Writing–original draft: S-Y Huang. Writing–review and editing: S-Y Huang & P Yu.

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