

## Description of a new species closely related to *Mycalesis gotama* MOORE, 1857 from C. Yunnan, S.W. China

(Lepidoptera, Nymphalidae, Satyrinae)

by

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received 6.X.2023

**Abstract:** In this paper, a new species, viz. *Mycalesis houjiangae* LANG spec. nov., which is closely related to the Chinese bushbrown, viz. *M. gotama* MOORE, 1857, is described from Tonghai, central Yunnan, Southwest China.

The Chinese bushbrown, viz. *Mycalesis gotama* MOORE, 1857 (= *borealis* C. & R. FELDER, 1867), which belongs to the *francisca* (STOLL, [1780])-group sensu TALBOT (1949) (Satyrini: Mycalesina), is a common oriental species known from E. Himalayan region, Indo-China Peninsula, S. China (including Taiwan and Hainan islands), S. Korean Peninsula and Japanese Archipelago (MOORE, 1891; FRUHSTORFER, 1911; MELL, 1942; TALBOT, 1949; D'ABRERA, 1985; GU & CHEN, 1997; SHIRÔZU, 2006; KIM et al., 2012; HSU, 2013; LANG, 2022), but in Ryukyu Islands it is replaced by its vicariant *M. madjicosa* BUTLER, 1868 (TAKAHASHI, 1978; KAWAZOÉ & WAKABAYASHI, 1979; SHIRÔZU, 2006; SUDA et al., 2019). Recently, a kind of similar satyrid from Tonghai county, central Yunnan Province, Southwest China was collected. Though it is closely related to *Mycalesis gotama* MOORE, several specific but not subspecific or infraspecific differences can be found between them. Therefore, it is described as a new species here. The habitat of this new species is in the wide range of *Mycalesis gotama charaka* MOORE, [1875] (= *oculata* MOORE, 1880; *periboea* BUTLER, 1885), which is extending from E. Himalayas to S. Yunnan and Indo-China (MOORE, 1891; FRUHSTORFER, 1911; TALBOT, 1949; SHIZUYA et al., 2005; KIMURA et al., 2016; LANG, 2022).

**Terminology:** Venational nomenclature follows the numerical systems and that of CORBET & PENDLEBURY (1992). Nomenclature of the ♂ genitalia follows that of KLOTS (1970).

**Abbreviation:** forewing (FW), forewing length (FWL), hindwing (HW), lower discocellular vein (ldc), middle discocellular vein (mdc), upper discocellular vein (udc), holotype (HT), paratype (PT), Chongqing Museum of Natural History, Beibei, CHINA (CMNH), Dr. SONG-YUN LANG's private collection, Beibei, CHINA (LSY).

### *Mycalesis houjiangae* LANG spec. nov. (figs: 1-12, 19B, 20B, 21d)

HT: ♂, CHINA, Yunnan, Tonghai, 1800 m, 3.VIII.2023, leg. SONG-YUN LANG, kept in CMNH. PTs: 17♂♂, 11♀♀, CHINA, Yunnan, Tonghai, 1800 m, 3.VIII.2023, legs. HOU JIANG, YI LANG & SONG-YUN LANG (LSY).

**Description:** ♂: FWL: 23-24 mm. Wing pattern and venation following the basic type of *Mycalesis gotama* MOORE. Venation: FW: the vein 1b, the cubitus and the vein 12 swollen at their bases; HW: the udc invisible; the origin of the vein 6 strongly expanded and arched inwards, forming a crescent mark; the mdv short. Upperside: the ground colour brown; the marginal line absent or vestigial; the darkish submarginal fascia vague. FW: the postdiscal ocelli in the spaces 2 and 5 present, blackish with white pupil and yellowish ring, the lower ocellus huge in size. HW: the postdiscal ocellus absent; a whitish grey sexual brand situated along the base of the vein 7 and it partly covered by a yellowish hair-pencil; the crescent mark (the origin of the vein 6) densely covered by darkish grey scales, it well connected with the sexual brand on the vein 7. Underside: the ground colour yellowish brown; the marginal line absent or vestigial; the darkish submarginal line thin and wavy; the discal fascia well present, creamy white; the basal half without any markings inside the discal fascia. FW: the small postdiscal ocellus in the space 5 often with attached tiny ocelli in the spaces 4 and 6; the huge postdiscal ocellus in the space 2 seldom with attached tiny ocellus in the space 1b; a whitish grey sexual brand present along the vein 1b near the wing base. HW: the postdiscal ocelli divided into two groups; the upper group with ocelli in the spaces 4 to 6 which gradually enlarged towards the costa, the ocelli in the spaces 5 and 6 with their yellowish rings fused together; the lower group with a huge ocellus in the space 2 and two small ocelli in the space 1b, an additional tiny ocellus in the space 3 weakly present or vestigial; the crescent mark (the origin of the vein 6) with its surface bulged and densely covered by yellowish brown scales.

♂ genitalia (fig: 21d): No obvious differences can be found among the new species, *Mycalesis gotama* MOORE (figs: 21a-b) and *M. madjicosa* BUTLER (fig: 21c). The tegumen with its lateral sides broad. The uncus slender, weakly swelled mediadorsally. The gnathos with a sharp apex, as long as the uncus, bent downwards, its base far away from the base of the uncus. The saccus slightly shorter than the uncus, its cephalic end bulbed. The juxta inverted triangle. The valva with its apical half tapering and hooked, its apex distorted and serrated. Aedeagus slightly longer than the valva, heavily curved and bent upwards.

♀: FWL: 27-28 mm. Similar to ♂ but obviously larger. Venation: HW with the udc, the mdc and the origin of the vein 6 normally shaped. Upperside: the postdiscal ocelli on FW with their yellowish ring more clear and thicker than ♂; the lower ocellus on FW more enlarged than ♂. Underside: the creamy white discal fasciae more thickened comparing with ♂; the postdiscal ocelli more enlarged and with their yellowish rings more thickened comparing with ♂.

**Diagnosis: A)** The new species can be distinguished from the closely related species, *Mycalesis gotama* MOORE, by the combination of the following characters: 1) the FW underside sexual brand on the vein 1b and the HW upperside sexual brand on the vein 7 are both larger and whitish grey, whereas they are both smaller and deep brownish in *M. gotama* MOORE; 2) the HW upperside sexual brand on the vein 7 is extending into the space 6, whereas it is not entering the space 6 in *M. gotama* MOORE; 3) the ♂ HW udc is invisible, whereas it is very short but discernible in *M. gotama* MOORE; 4) on both sides, the marginal line of each wing is absent or vestigial, whereas it is thin but clear in *M. gotama* MOORE; 5) on the underside, the creamy white discal fascia of each

wing lacks a darkish inner border, whereas it has a clear and thick brownish inner border in *M. gotama* MOORE; 6) on the underside, the basal half of each wing is unmarked, whereas the brownish basal and subbasal lines are well present in *M. gotama* MOORE; 7) on the underside of both wings, the yellowish rings of the postdiscal ocelli are often obviously thicker than those of *M. gotama* MOORE; 8) on the HW underside, the yellowish rings of the postdiscal ocelli in the spaces 5 and 6 are fused together, whereas they are separated from each other in *M. gotama* MOORE. **B)** The new species can be easily distinguished from the Ryukyuan species *M. madjicosa* BUTLER by the combination of the following characters: 1) on the FW upperside, the postdiscal ocelli have developed yellowish rings, whereas the rings are obscure or vestigial in *M. madjicosa* BUTLER; 2) on the HW upperside, the postdiscal ocellus is absent, whereas it is present in the space 2 in *M. madjicosa* BUTLER; 3) on the underside of both wings, the difference of wing markings with *M. madjicosa* BUTLER is similar to its difference with *M. gotama* MOORE (sexual brand of *M. madjicosa* BUTLER is not studied in this research).

**Remark:** Totally 29 individuals (18 ♂♂, 11 ♀♀) are examined in this research, and among them 2 ♂♂ and 1 ♀ have weakly present markings on the basal half of both wings' underside, including the basal and subbasal lines and the darkish inner border of the discal fascia.

**Etymology:** The specific name *houjiangae* is named after Ms. JIANG HOU, who first found the new species in our tour.

**Distribution:** China (C. Yunnan).

**Acknowledgements:** The present author thanks Mr. SI-YAO HUANG (Bonn), Mr. YI LANG (Shuangliu) and Ms. JIANG HOU (Beibei) for their various helps.

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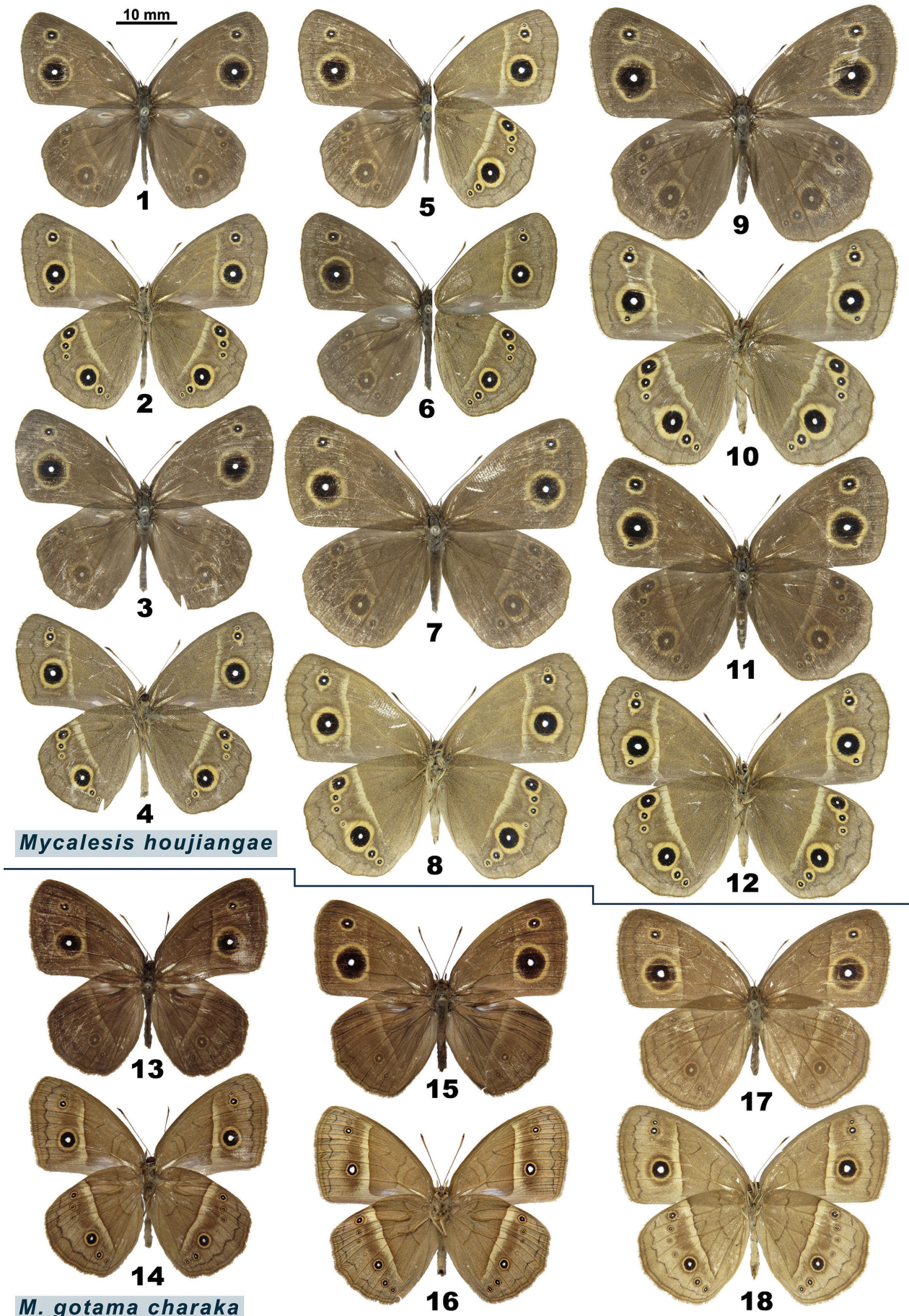
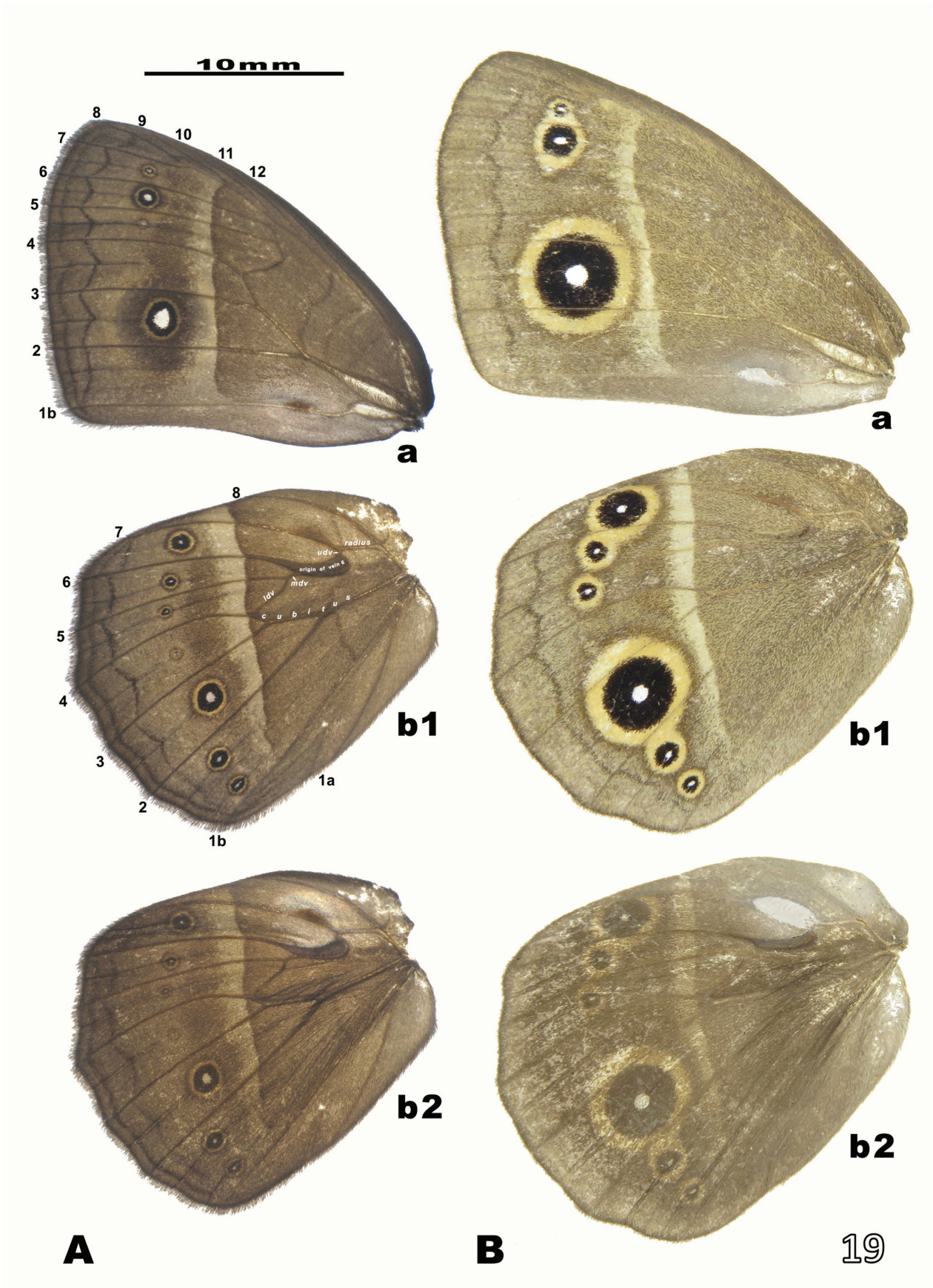


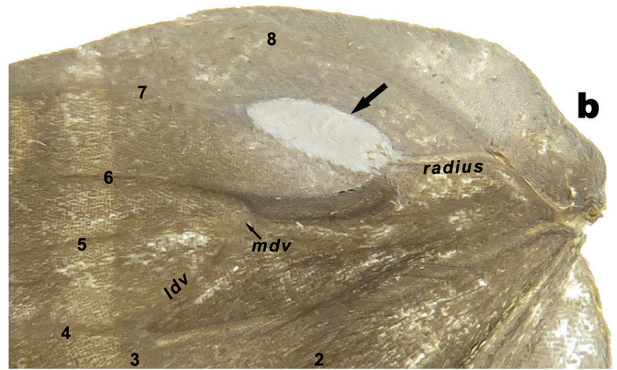
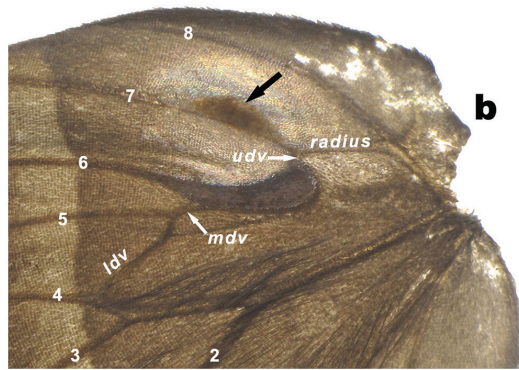
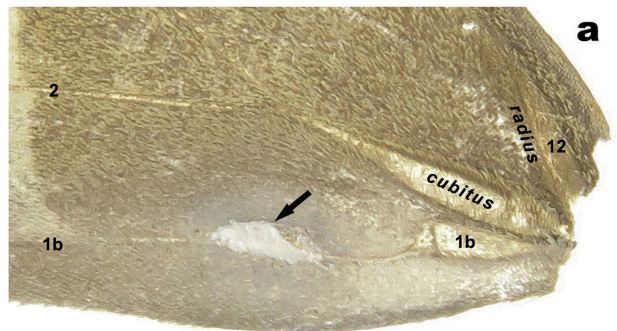
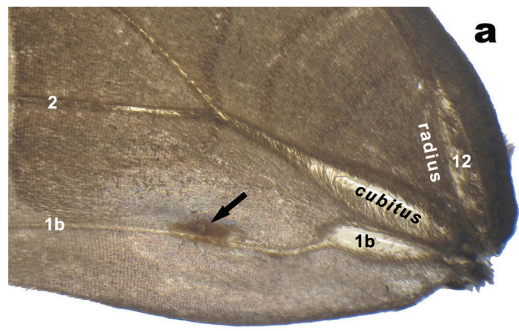
Fig. 1-12: *Mycalesis houjiangae* spec. nov.: (1-2) ♂, HT, Yunnan, Tonghai, SATY1205, CMNH; (3-4) ♂, PT, Yunnan, Tonghai, LSY; (5) ♂, PT, ditto; (6) ♂, PT, ditto; (7-8) ♀ PT, ditto; (9-10) ♀, PT, ditto; (11-12) ♀, PT, ditto. Fig. 13-18: *Mycalesis gotama charaka* MOORE, [1875]: (13-14) ♂, Yunnan, Ximeng, SATY0916, LSY; (15-16) ♂, Yunnan, Ruili, LSY [this ♂ was erroneously written as ♀ in LANG (2022: pl. I: fig. 11)]; (17-18) ♀, Yunnan, Ximeng, LSY.





**Fig. 19:** ♂ wings. **a.** FW underside. **b1.** HW underside. **b2.** HW upperside with the hair-pencil removed. **A.** *Mycalesis gotama charaka* MOORE, [1875], Yunnan, Ruili, LSY. **B.** *Mycalesis houjiangae* spec. nov., PT, Yunnan, Tonghai, LSY.



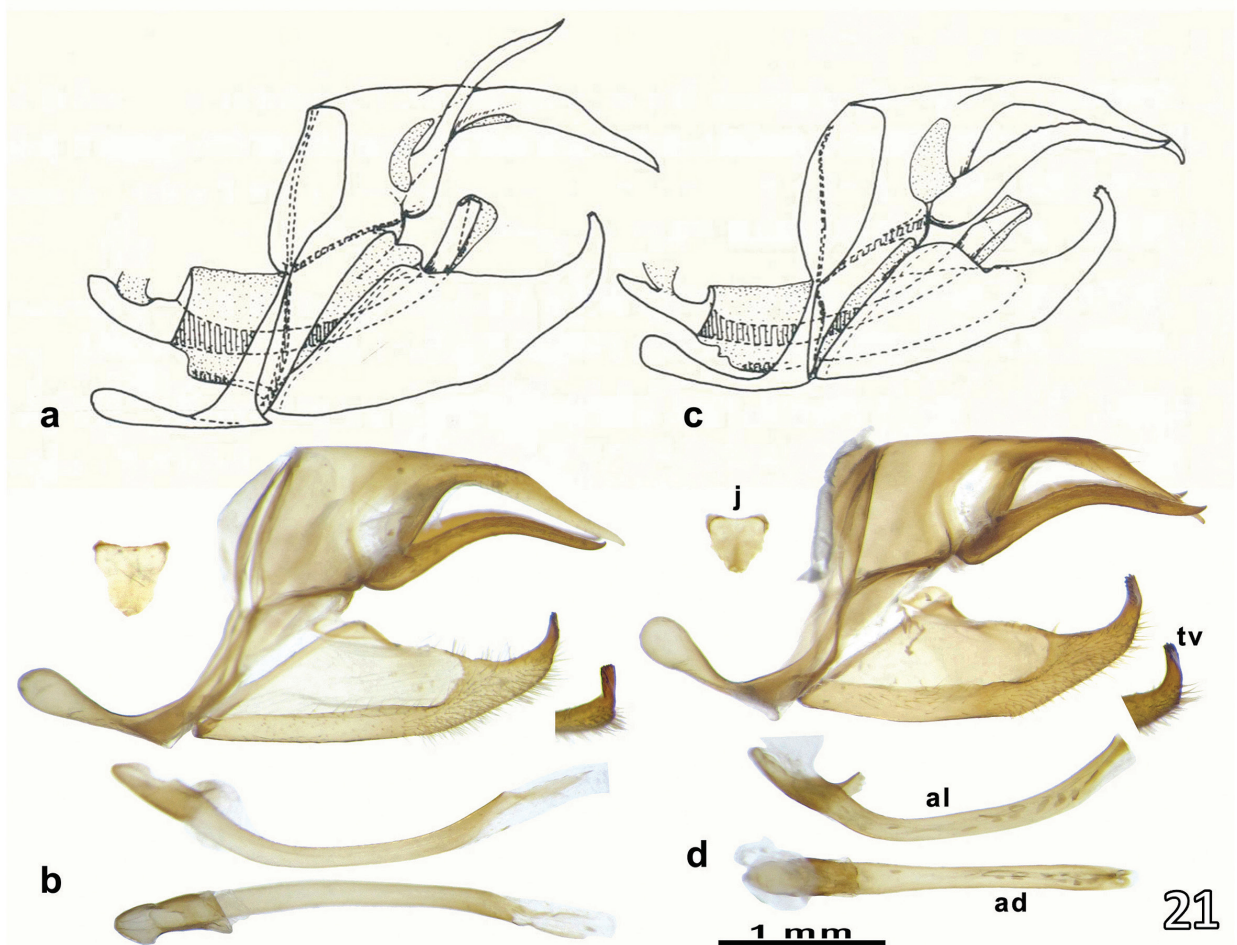


**A**

**B**

10mm

20



**Fig. 20:** ♂ wings (basal area only). **a.** FW underside. **b.** HW upperside with the hair-pencil removed. **A.** *Mycalesis gotama charaka* MOORE, [1875], Yunnan, Ruili, LSY. **B.** *Mycalesis houjiangae* spec. nov., PT, Yunnan, Tonghai, LSY.

**Fig. 21:** ♂ genitalia. al - aedeagus in lateral view, ad - aedeagus in dorsal view, j - juxta, tv - tip of valva in dorsal view. **a:** *Mycalesis gotama fulginia* FRUHSTORFER, 1911, JAPAN, Honshu, after KAWAZOÉ & WAKABAYASHI (1979: p. 286, fig. A); **b:** *Mycalesis gotama charaka* MOORE, [1875], CHINA, Yunnan, Ximeng, SATY0916, LSY; **c:** *Mycalesis madjicosa* BUTLER, 1868, JAPAN, Yaeyama Rettō, after KAWAZOÉ & WAKABAYASHI (1979: p. 286, fig. A'); **d:** *Mycalesis houjiangae* spec. nov., HT, CHINA, Yunnan, Tonghai, SATY1205, CMNH.

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