

Taxonomic notes on *Ypthima ciris* LEECH, 1891 with description of a closely related new species from S. Sichuan, S.W. China

(Lepidoptera, Nymphalidae, Satyrinae)

by

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Abstract: In this paper, *Ypthima ciris* LEECH, 1891 is studied, and one of its subspecies, *Y. ciris paraclinioides* LANG, 2022, is raised to specific status, viz. *Y. paraclinioides* LANG, 2022 **stat. nov.** A new species, which is closely related to *Y. ciris* LEECH, is described from Huidong, S. Sichuan, viz. *Y. albociris* **spec. nov.** The new species is very local and its habitat is restricted and confined in the range of *Y. ciris clinioides* OBERTHÜR, 1891.

Ypthima ciris LEECH, 1891 belongs to the *Y. motschulskyi* (BREMER & GREY, 1853)-group sensu SHIMA (1988) (Satyrini: Ypthimina), and it has 3 subspecies known from S.W. China and N. Vietnam, namely the nominate subspecies from W. Sichuan, subspec. *clinioides* OBERTHÜR, 1891 from Yunnan, S. Sichuan, W. Guizhou, E. Tibet & N. Vietnam, and subspec. *paraclinioides* LANG, 2022 from N.W. Yunnan (Dulongjiang Valley) (SHIRÔZU & SHIMA, 1979; SHIMA, 1988; HUANG, 2001; UÉMURA, 2020; LANG, 2022). Recently, an undescribed taxon, which is very close to *Ypthima ciris* LEECH, was collected from S. Sichuan. Biogeographically, habitat of the unnamed creature is totally restricted and confined in the range of *Y. ciris clinioides* OBT., and therefore, it can hardly be treated as a subspecies of *Y. ciris* LEECH. Though, no obvious difference of ♂ genitalia can be found between the creature and *Y. ciris* LEECH, it still can be confirmed as a new species basing upon its different wing markings and androconial morphology. On the other hand, according to distinct features of ♂ valva apex and androconia, *Y. ciris paraclinioides* LANG is raised to specific status.

Materials: Specimens in this study are kept in Chongqing Museum of Natural History, Beibei, Chongqing, CHINA (CMNH) and SONG-YUN LANG's private collection, Beibei, Chongqing, CHINA (LSY).

Methods and Terminology: Terminology of ocelli on wings follows that of LANG (2022). Androconia were prepared using the methods described in WAKEHAM-DAWSON & KUDRNA (2000) and WAKEHAM-DAWSON et al. (2007). Terminology of androconia follows that of LANG (2020). Abdomens were removed and macerated in hot 10% KOH solution for examination of genitalia. Treatment and observation of ♀ genitalia follow the methods in COUTSIS (1984) and LANG (2023). In general, the sterigma of ♀ genitalia of this species group is hidden in an invaginated genital chamber (sinus vaginalis, abbreviation sin.v) which is composed of the lateral intersegmental cuticula of 7th-8th sternites on two lateral sides and a ventral tray on ventral side, but in this research, the chamber was totally eversed outwards for easy observation of the sterigma. Terminology of ♂ genitalia in this paper follows that of KLOTS (1970) and SHIRÔZU & SHIMA (1979). Terminology of ♀ genitalia follows that of COUTSIS (1984) which was slightly improved by LANG (2023).

A new term for the ♀ genitalia system: In the taxa involved in this work, a pair of sclerotised lobes are present on each lateral side of the mid-dorsal process. Though, this structure looks alike the dorso-lateral lobe which belongs to the anterior unit (= lamella antevaginalis, lla), it is in fact a part of the posterior unit (= lamella postvaginalis, llp) together with the dorsal lamella and the mid-dorsal process. So, a new term is temporarily given to the paired structure of llp as “the pseudo-dorso-lateral lobes” (figs. 13A-B).

Taxonomic account

Ypthima ciris LEECH, 1891 (figs. 1, 7-8, 12a, 14a)

Ypthima ciris LEECH, 1891, Entomologist 24 (Suppl.): 4. Type locality (TL): Huang-mu-chang [Huangmu, Hanyuan, Sichuan].

Ypthima [sic] *clini* OBERTHÜR, 1891, Ét. ent. 15: 16, pl. 2: 13. TL: Ta-Tsien-Lou [Kangding, Sichuan].

Material: 1 ♂, CHINA, Sichuan, Hanyuan, Qingxi, Mt. Niba-shan, 2000-2500 m, 17.VIII.2014, leg. YI LANG (LSY); 2 ♂♂, CHINA, Sichuan, Mianning, 2500 m, 10.VII.2024, legs. JIANG HOU & SONG-YUN LANG (LSY).

Distribution: China (W. Sichuan).

Ypthima ciris clinioides OBERTHÜR, 1891 (figs. 3, 6, 10-11, 12c, 13B-D, 14c)

Ypthima [sic] *clinioides* OBERTHÜR, 1891, Ét. ent. 15: 16. TL: Yunnan.

Aphantopus yunnananus SWINHOE, 1915, Ann. Mag. nat. Hist. (8) 16: 172. TL: Yunnan.

Material: 3 ♂♂, CHINA, Sichuan, Huili, 2100 m, 20.VII.2024, legs. YI LANG & SONG-YUN LANG (LSY); 4 ♂♂, 3 ♀♀, CHINA, Sichuan, Ningnan, 2250 m, 29.VII.2024, leg. YI LANG & JIANG HOU (LSY); 1 ♂, CHINA, Sichuan, Muli, Donglang, 2800 m, 11.VIII.1992, L920479, [leg. WEN-PING LIU] (CMNH); 1 ♂, CHINA, Yunnan, Lijiang, 2700 m, leg. GUO-XI XUE (LSY).

Distribution: China (Yunnan, S. Sichuan, W. Guizhou, E. Tibet), N. Vietnam.

Ypthima albociris **spec. nov.** (figs. 2, 5, 9, 12b, 13A, 14b)

Holotype (HT) ♂, CHINA, Sichuan, Huidong, 2130 m, 13.VII.2024, leg. SONG-YUN LANG (CMNH). Paratypes: 1 ♂, 1 ♀, CHINA, Sichuan, Huidong, 2130 m, 13.VII.2024, leg. SONG-YUN LANG (LSY).

Description: ♂ Forewing length (FWL): 21-21.5 mm. Upperside: the ground colour blackish with distal third pale; the submarginal and marginal fasciae blackish. Forewing: the costa bordered with grey; the sexual brand on the discal area obscure; the subapical ocellus black, oval and moderately oblique inwards, its ring gloomy yellow with a black circle outside, its double pupils bluish; the

submarginal fascia thick and curved; the marginal fascia very thin. Hindwing: the anal ocelli present in the spaces 2 and 3, each ocellus black, with single blue pupil, gloomy yellow ring and a black circle outside; the submarginal fascia thick; the marginal fascia very thin. Underside: the ground colour pale whitish grey, densely covered by brownish striae; the discal, submarginal and marginal fasciae on both wings brown. Forewing: the discal and submarginal fasciae thick, fused together at the vein 2; the subapical ocellus alike that on the upperside, but with its ring bright yellow and circle brown; the marginal fascia very thin. Hindwing: the discal fascia obscure but still visible, tangential to the inner edge of the subapical ocellus; the postdiscal ocelli composed of 1 subapical ocellus and 3 anal ocelli (in the spaces 1b, 2 and 3); each ocellus with bright yellow ring and brownish circle outside; the subapical ocellus enlarged, with a blue pupil in the space 6, and an additional tiny blue pupil in the space 5 present or absent; the anal ocellus in the space 1b small, with double blue pupils; the anal ocelli in the space 2 and 3 touched or weakly fused together; the submarginal fascia thick; the marginal fascia very thin.

♂ androconia (fig. 14b): The glandular scale belonging to the “Satyrini-type” sensu LANG (2020); the lamina narrow, elongated, tapering distally; the distal stalk short, about one third to a half the length of the lamina.

♂ genitalia (fig. 12b): Tegumen: flat dorsally, its caudal end bulged above the base of the uncus. Uncus: slender, nearly as long as the tegumen, weakly bent downwards. Gnathos: absent. Saccus: very short and slender. Juxta: narrow and slender, V-shaped. Valva: the apical half narrowed beyond its broad basal portion; the apex heavily bent and serrated, alike a “brush”. Aedoeagus: simply built, as long as the valva, nearly straight.

♀: FWL 20 mm. Upperside: the wing markings similar to ♂; the ground colour brownish greyish. Forewing: the apical half with its ground colour pale grey, covered by brownish striae; the discal fascia clear, fused with the submarginal fasciae in the space 1b; the subapical ocellus enlarged. Hindwing: the submarginal striped area between the submarginal and marginal fasciae whitish grey; the double anal ocelli in the spaces 2 and 3 somewhat enlarged. Underside: similar to ♂ but with all ocelli more enlarged.

♀ genitalia (fig. 13A): Sterigma (llp+lla): llp: the dorsal lamella shield-like, its dorsal edge rounded, concave mid-dorsally; the mid-dorsal process simply finger-like, weakly sclerotised; the pseudo-dorso-lateral lobes present as a pair of narrow slices extending forwards; lla: the ventral lamella bristled, narrow and elongated, its apical half bent upwards and deeply bifurcated. Ductus bursae: shorter than the corpus bursae, not sclerotised. Corpus bursae: oval, with a pair of elongated signa near its caudal end. Intersegmental cuticula of 7th-8th abdominal segments: the ventral tray thin, expanded; the lateral arms present as a pair of tapering lobes.

Diagnosis: A) The new species can be distinguished from *Ypthima ciris ciris* LEECH by the combination of the following characters: 1) on the underside, the ground colour is whitish, whereas it is greyish in *Y. ciris ciris* LEECH; 2) on the hindwing underside, the discal fascia is tangential to the inner edge of the subapical ocellus (fig. 9), whereas it is directly pointed to the central pupil in the space 6 of the ocellus in *Y. ciris ciris* LEECH (figs. 7-8); 3) the laminae of androconia (fig. 14b) are obviously narrower than those of *Y. ciris ciris* LEECH (fig. 14a).

B) The range of the new species is totally restricted and confined in a corner of the wide territory of *Y. ciris clinioides* OBTH., and it can be distinguished from the latter by the combination of the following characters: 1) on the underside, the ground colour is whitish, whereas it is greyish in *Y. ciris clinioides* OBTH.; 2) on the underside, the darkish striation is more coarser than that of *Y. ciris clinioides* OBTH.; 3) on the hindwing underside, the discal fascia is tangential to the inner edge of the subapical ocellus (fig. 9), whereas it is directly pointed to the central pupil in the space 6 of the ocellus in *Y. ciris clinioides* OBTH. (figs. 10-11); 4) the laminae of androconia (fig. 14b) are obviously narrower than those of *Y. ciris clinioides* OBTH. (fig. 14c).

Etymology: The specific name *albociris* composed by the Latin prefix *albo-* and the name *ciris*, means “whitish *ciris*”.

Distribution: China (S. Sichuan).

Ypthima paraclinioides LANG, 2022 stat. nov. (figs. 4, 12d, 14d)

Ypthima ciris paraclinioides LANG, 2022, Nymphalidae of China, Part III: 178, pl. XVIII: 32. TL: Dulong-jiang, Gongshan, Yunnan.

Material: HT ♂ of *Ypthima ciris paraclinioides* LANG, CHINA, Yunnan, Gongshan, Dulong-jiang, Xiongdang, 2000 m, 8.VII.2015, leg. SONG-YUN LANG (CMNH); 2 ♂♂, Paratypes of *Ypthima ciris paraclinioides* LANG, CHINA, Yunnan, Gongshan, Dulong-jiang, Xiongdang, 2000 m, 7.VII.2015, leg. SONG-YUN LANG (LSY).

Diagnosis: Habitat of this species is close to the wide range of *Ypthima ciris clinioides* OBTH., and it can be distinguished from the latter by the combination of the following characters: 1) the forewing subapical ocellus is less oblique than that of *Y. ciris clinioides* OBTH.; 2) on the underside, the striation is very faint, whereas it is clear in *Y. ciris clinioides* OBTH.; 3) the laminae of androconia (fig. 14d) are obviously narrower than those of *Y. ciris clinioides* OBTH. (fig. 14c); 4) the serrated apical “brush” of ♂ valva (fig. 12d) is only a half length of that in *Y. ciris clinioides* OBTH. (fig. 12c).

Notes: To maintain a uniform standard sharing with the establishment of *Y. albociris* LANG spec. nov., therefore, *Y. ciris paraclinioides* LANG is raised to specific status.

Distribution: China (N.W. Yunnan).

Notes on ♀ genitalia: Genitalia of 1 ♀ *Y. albociris* spec. nov. (PT, Huidong, S. Sichuan) (fig. 13A) and 3 ♀♀ *Y. ciris clinioides* OBTH. (Ningnan, S. Sichuan) (figs. 13B-D) have been studied in this research. No reliable interspecific difference was found between the two taxa, but in the same population of *Y. ciris clinioides* OBTH., some obvious intraspecific differences can be found. 1) the top edge of the dorsal lamella of the PT *Y. albociris* spec. nov. (fig. 13A) is round and weakly concave, whereas there are 3 different types in the 3 examined individuals of *Y. ciris clinioides* OBTH. from the same locality. The dorsal lamella of the first specimen (fig. 13B) is elongated upwards and deeply concave; the second specimen (fig. 13C) is round and weakly concave as in *Y. albociris* spec. nov. (fig. 13A); the third specimen (fig. 13D) is square and weakly concave. 2) the lateral arms of PT *Y. albociris* spec. nov. (fig. 13A) and 2 *Y. ciris clinioides* OBTH. (figs. 13B-C) are straight and tapering, whereas they are strongly bent and apically round in the remaining *Y. ciris clinioides* OBTH. (figs. 13D). Therefore, in a given practice of specific classification in Satyrid butterflies (Satyridae), selecting diagnostic characters from ♀ genitalia, which are often with complex structures (LANG, 2023), should be very cautious.

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Fig. 1: *Ypthima ciris* LEECH, 1891: (a) ♂, Sichuan, Mianning, SATY1346, LSY; (b) ♂, ditto, SATY1347, LSY; (c) ♂, Sichuan, Hanyuan, SATY0281, ANDR0278, LSY.

Fig. 2: *Ypthima albociris* **spec. nov.**: (a) HT ♂, Sichuan, Huidong, SATY1315, ANDR0395, CMNH; (b) PT ♂, ditto, SATY1314, ANDR0391, LSY.

Fig. 3: *Ypthima ciris clinioides* OBERTHÜR, 1891: (a) ♂, Sichuan, Huili, SATY1345, LSY; (b) ♂, Sichuan, Huili, LSY; (c) ♂, Yunnan, Lijiang, SATY0272, ANDR0279, LSY.

Fig. 4: *Ypthima paraclinioides* LANG, 2022 **stat. nov.**, HT ♂, Yunnan, Dulongjiang, SATY1055, ANDR0280, CMNH.

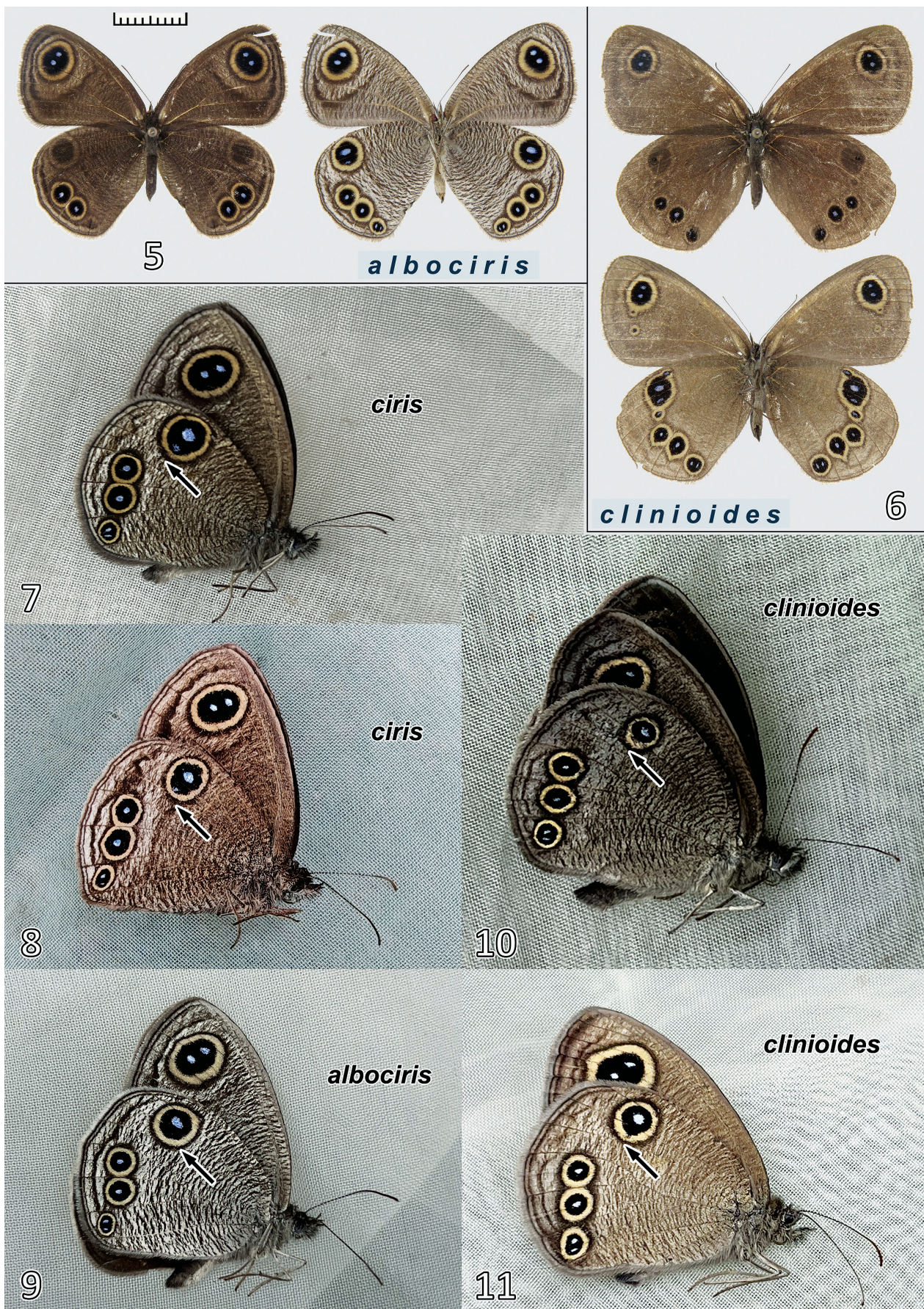


Fig. 5: *Ypthima albociris* spec. nov., PT ♀, Sichuan, Huidong, SATY1348, LSY.

Fig. 6: *Ypthima ciris clinioides* OBERTHÜR, 1891, ♀, Sichuan, Ningnan, 2250 m, LSY.

Fig. 7-11: Freshly caught butterflies in net: (7) ♂ *Ypthima ciris* LEECH, 1891, Sichuan, Mianning (10.VII.2024); (8) ditto; (9) ♂ (HT) *Y. albociris* spec. nov., Sichuan, Huidong (13.VII.2024); (10, 11) ♂ *Y. ciris clinioides* OBERTHÜR, 1891, Sichuan, Huili (20.VII.2024).

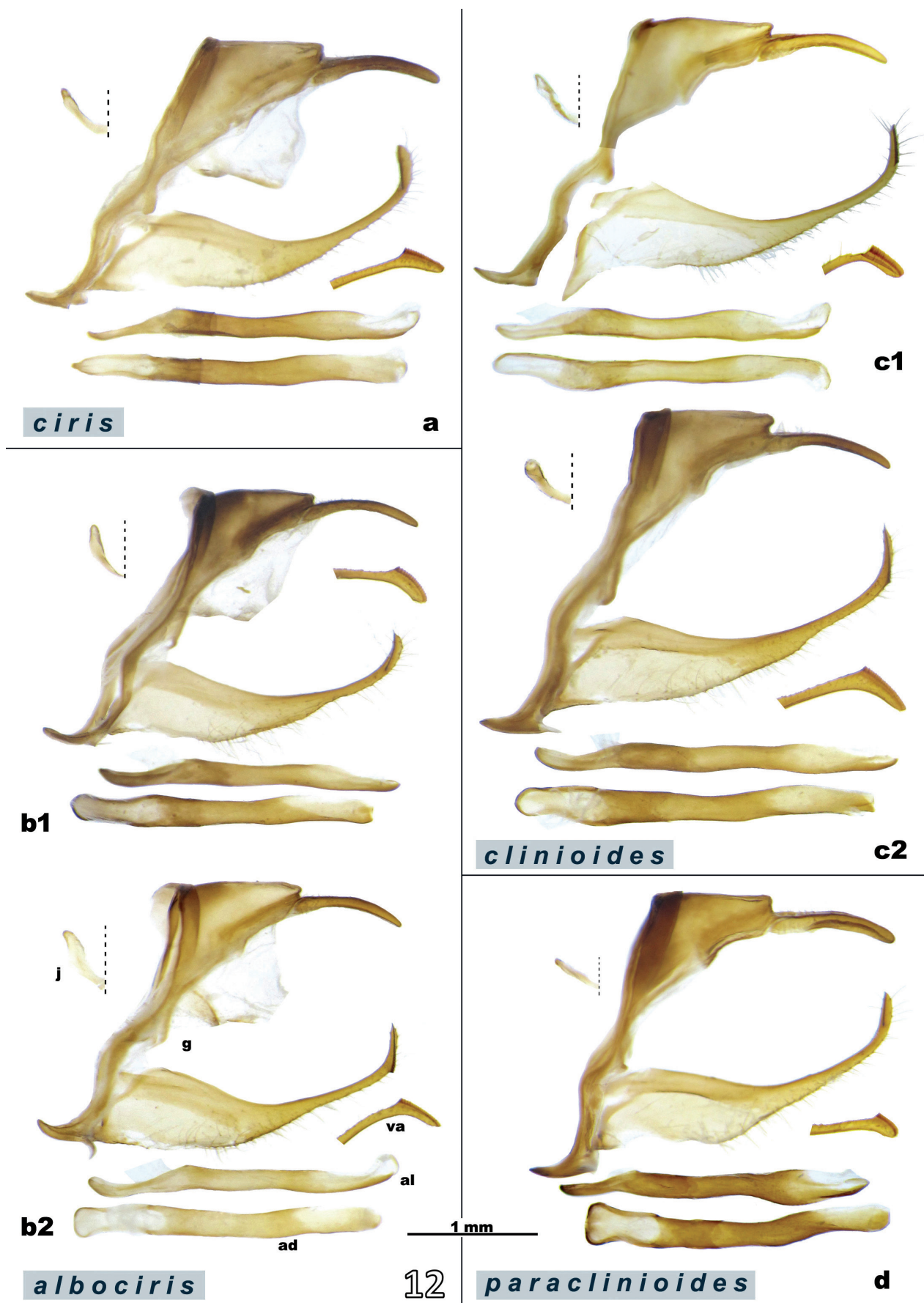


Fig. 12: ♂ genitalia. g: ♂ genitalia in lateral view with left valva and aedeagus removed; j: juxta; al: aedeagus in lateral view; ad: aedeagus in dorsal view; va: valva apex in dorsal view. **a.** *Ypthima ciris* LEECH, 1891, Sichuan, Mianning, SATY1346, LSY. **b.** *Ypthima albociris* LANG spec. nov.: (b1) HT, Sichuan, Huidong, SATY1315, CMNH; (b2) PT, ditto, SATY1314, LSY. **c.** *Ypthima ciris clinioides* OBERTHÜR, 1891: (c1) Yunnan, Lijiang, SATY0272, LSY; (c2) Sichuan, Ningnan, SATY1340, LSY. **d.** *Ypthima paraclinioides* LANG, 2022 stat. nov., HT, Yunnan, Dulongjiang, SATY1055, CMNH.

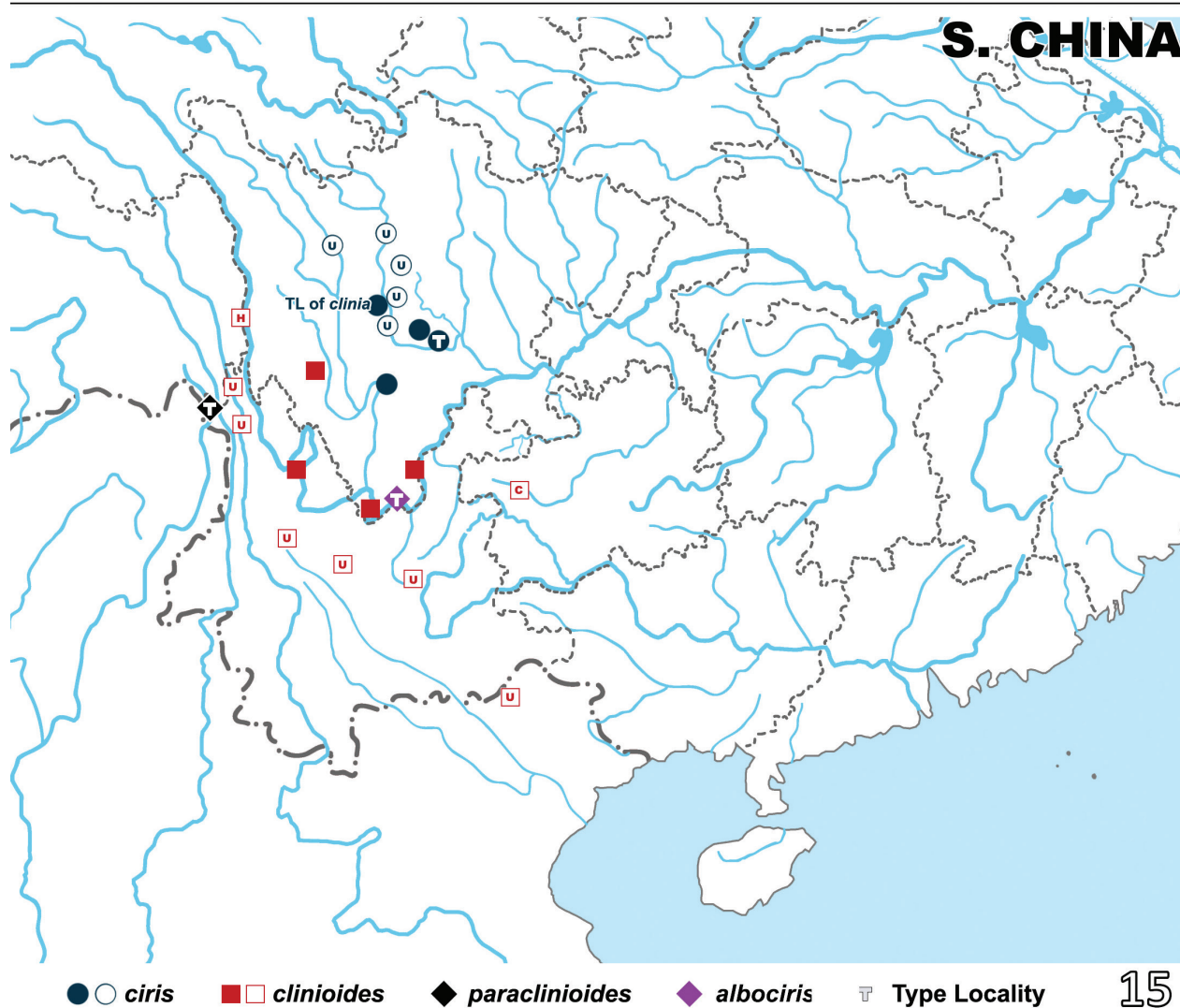
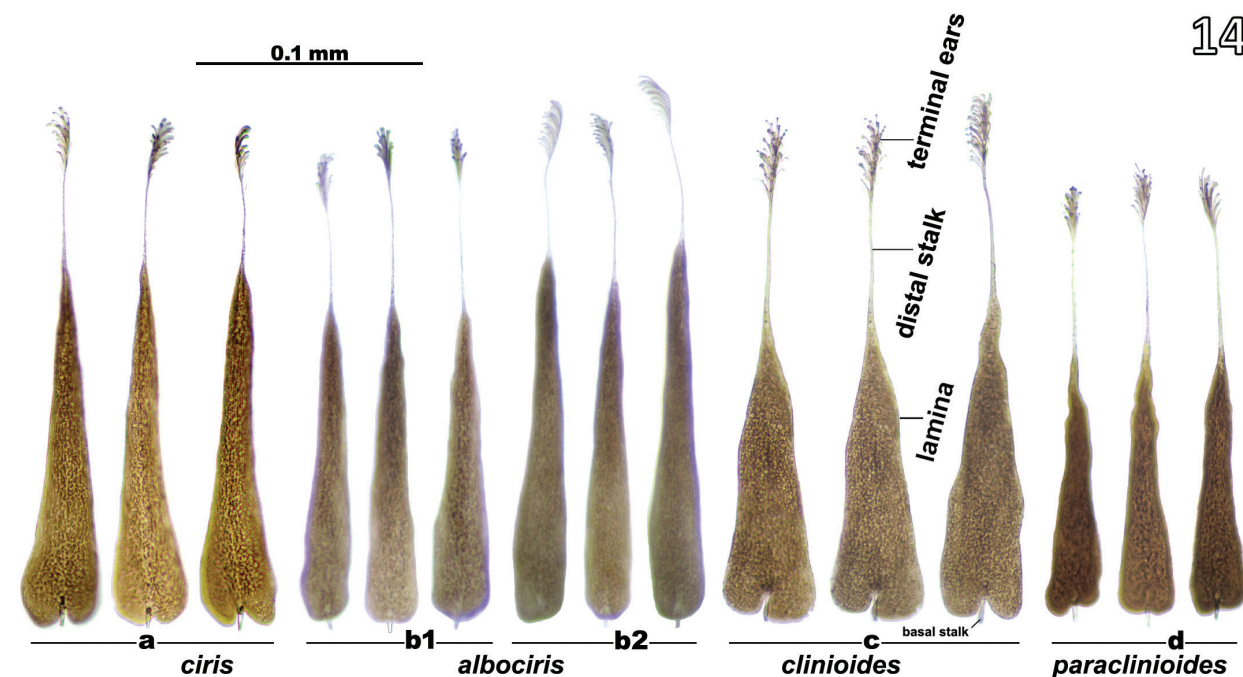


Fig. 14: Androconia. **a.** *Ypthima ciris* LEECH, 1891, Sichuan, Hanyuan, ANDR0278, LSY. **b.** *Ypthima albociris* LANG **spec. nov.**: (b1) HT, Sichuan, Huidong, ANDR0395, CMNH; (b2) PT, ditto, ANDR0391, LSY. **c.** *Ypthima ciris clinioides* OBERTHÜR, 1891, Yunnan, Lijiang, ANDR0279, LSY. **d.** *Ypthima paraclinioides* LANG, 2022 **stat. nov.**, HT, Yunnan, Dulongjiang, ANDR0280, CMNH.

Fig. 15: Distribution map of *Ypthima ciris* LEECH and its relatives [Sources of data: specimens kept in LSY, CMNH; hollow circles and squares plotted basing upon studied materials listed by U - UÉMURA (2020), H - HUANG (2001) and C - CHEN (2016); the accurate TLs of both, *Y. ciris clinioides* OBTH. and *Aphantopus yunnanensis* SWINHOE, are unknown].

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