

***Loxerebia chouchuensis* M. & T. OKANO, 1985**

***Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985** (figs: 2-4, 11, 12)

*Loxerebia saxicola chouchuensis* M. & T. OKANO, 1985, Artes Liberales **36**: 157, pl. 1: 1, 2, 4, 5. TL: Zhugqu, Gansu.

*Loxerebia yukikoae sikunianensis* YOSHINO, 1997, Neo Lepidoptera **2**: 6, figs. 36-39, 62. TL: Sigunyan [Mt. Siguniang], Sichuan.

Material: 2 ♂♂, CHINA, Sichuan, Maoxian, Songping-gou, 2400 m, 19-20.VIII.2015, leg. S-Y. LANG (LSY); 69 ♂♂, 1 ♀, CHINA, Sichuan, Heishui, Hamu Lake, 2300-2400 m, 25-26.VIII.2015, leg. S-Y. LANG (LSY); 5 ♂♂, 13 ♀♀, CHINA, Sichuan, Jiuzhaigou, Zhangzha, 2210-2400 m, 30.VIII.2015, leg. S-Y. LANG (LSY).

Distribution: S.E. Gansu, N.W. Sichuan.

***Loxerebia chouchuensis huanghaoi* LANG subspec. nov.** (figs: 1, 9, 10)

*Loxerebia albipuncta*: LANG & HOU (nec LEECH), 2019, Ent. Z. **129** (1): 59, figs. 2, 15.

HT ♂, CHINA, Hubei, Shennongjia, Yanziya, 31.VII.2013, leg. GUOXI XUE, SATY0229, ANDR0148, CMNH. PTs: 1 ♂, CHINA, Hubei, Shennongjia, Hongping, 11.VIII.2013, leg. HAO HUANG, LSY; 3 ♀♀, CHINA, Hubei, Shennongjia, Yanziya, 13-14.VIII.2013, leg. HAO HUANG, LSY; 6 ♂♂, 3 ♀♀, CHINA, Hubei, Shennongjia, 11.-14.VIII.2013, leg. HAO HUANG, HH; 1 ♂, CHINA, Chongqing, Chengkou, Huang'an, 1550 m, 22.VIII.2008, leg. XIAODONG YANG, LSY.

Diagnosis: A) The new subspecies can be distinguished from the nominate subspecies *Loxerebia c. chouchuensis* M. & T. OKANO by the combination of the following characters: a1) ♂ dorsal forewing reddish cloud below the subapical ocellus is very dull, whereas it is vivid coloured in the nominate subspecies; a2) ♂ ventral forewing apical greyish area is less developed than that of the nominate subspecies; a3) ♀ forewing is more elongated and expanded than that of the nominate subspecies; a4) ♀ forewing subapical ocellus on both sides is usually smaller than that of the nominate subspecies; a5) ♀ ventral hindwing discal fascia is less yellowish, whereas it is yellowish in the nominate subspecies.

B) The new subspecies is similar to *Loxerebia albipuncta* (LEECH) but can be distinguished from the latter by the combination of the following characters: b1) ♂ dorsal hindwing usually does not have any ocellus, whereas it usually has a distinct ocellus in space 2 in the latter; b2) ♂ ventral forewing subapical ocellus is circled with an orange yellow ring, whereas it is circled with a pale yellow ring in the latter; b3) ♂ ventral hindwing postdiscal whitish spots are not clear, whereas they are distinct in the latter; b4) ♀ forewing subapical ocellus on both sides is smaller than that of the latter; b5) ♀ forewing basal half is richly covered with red, whereas it is usually blackish in the latter; b6) ♀ dorsal hindwing usually has a tiny ocellus in space 2, whereas it has a large ocellus in space 2 and usually has additional ocelli in spaces 3 and 4, and even more in spaces 1b, 5 and 6 in the latter; b7) ♀ ventral hindwing does not have ocellus in space 2, whereas it usually has a distinct ocellus in space 2 in the latter.

C) The new subspecies habitats together with *Loxerebia yanziya* LANG & HOU in Shennongjia (their adults occur in different times), but it can be easily distinguished from the latter by the combination of the following characters: c1) The new subspecies is obviously larger than the latter; c2) its ♂-brand is well present on dorsal forewing, whereas it is totally absent in the latter; c3) ♂ dorsal forewing reddish cloud below the subapical ocellus is extending into space 2 and forming a reddish bar, whereas it is only reaching vein 3 in the latter.

Etymology: The subspecific name *huanghaoi* is named after Mr. HUANG HAO.

Distribution: W. Hubei, N. Chongqing.

***Loxerebia yukikoae* (SUGIYAMA, 1992)**

*Callerebia yukikoae* SUGIYAMA, 1992, Pallarge **1**: 13, figs. 30-32, 42. TL: S. E.-Min Mts., Sichuan.

*Loxerebia saxicola chouchuensis* (Partim): M. & T. OKANO, 1985, Artes Liberales **36**: pl. 1: 3, 6.

Material: 1 ♂, PARATYPE *Callerebia yukikoae* SUGIYAMA, 1992 ♂ H. SUGIYAMA/ 24.VIII.1989 S.E. MIN Mts. SICHUAN CHINA H. SUGIYAMA leg./ UMUT OMT-SAT057-022 (UMUT); 1 ♀, PARATYPE *Callerebia yukikoae* SUGIYAMA, 1992 ♀ H. SUGIYAMA/ 17.VIII.1989 S.E. MIN Mts. SICHUAN CHINA H. SUGIYAMA leg./ UMUT OMT-SAT057-023 (UMUT); Photo, ♂, "m. 2300-2700, Zhuqu, Min Shan S. Gansu, CHINA 11.VII.1998 G.C. BOZANO/ *yukikoae* SUGIYAMA, 1992" (BGC); Photo, ♀, ditto (BGC).

Notes: In this species complex, *Loxerebia yukikoae* (SUGIYAMA) is much closer to *L. yanziya* LANG & HOU than to others. First, both of them lack of a distinct ♂ brand, which is well present on dorsal forewing in other species. Second, both their adults fly in July, whereas the flight periods of other species are very late, usually in August and even to late September. Though typical material of *Loxerebia yukikoae* (SUGIYAMA) were collected in middle and late August, these specimens are very worn and not fresh. After the publication of original description, Mr. SUGIYAMA visited S.E. Min Mts. again and collected a series of specimens in late July, 1993 and they are in much better condition than the types (SUGIYAMA, per. comm.).

Distribution: N. Sichuan, S. Gansu.

***Loxerebia yanziya* LANG & HOU, 2019**

Ent. Z. **129** (1): 59. TL: Yanziya, Shennongjia, Hubei.

Material: HT ♂, CHINA, Hubei, Shennongjia, Yanziya, 2150 m, 19.VII.2018, leg. JIANG HOU (CMNH); 3 ♂♂, 3 ♀♀, PTs, ditto, 14-19.VII.2018, legs. S-Y. LANG & JIANG HOU (LSY).

Distribution: W. Hubei.

***Loxerebia pieli* HUANG & WU, 2003**

Neue Ent. Nachr. **55**: 124. TL: Ku-ling [Guling, Jiangxi].

Material: 1 ♂, HT, Ku-ling [Guling, Mt. Lu], September 13th 1934, leg. O. PIEL (IZCAS).

Notes: In the autumn of 1934, Rev. O. PIEL, whose Chinese name is ZHENG BIER, collected the typical series of *Loxerebia pieli*

HUANG & WU from Guling on Mt. Lu and since then this species had not been reported again from there. For obtaining new material, I visited Mt. Lu from 11<sup>st</sup> to 17<sup>th</sup> September 2018, but unfortunately, I failed in meeting it. I hope the truth of my failure is that I'm a stupid collector but is not that this species is extinct from its TL. Furthermore, ZHU et al. (2017) recorded *L. pieli* HUANG & WU from Mts. Dabie-shan, W. Anhui Province, it is not only its second record since PIEL's discovering but is also the second known locality of this species.

Distribution: W. Anhui, N. Jiangxi.

#### Genitalia of *Loxerebia saxicola* (OBTH., 1876)-complex

♂ genitalia (fig: 17): ♂ genitalia in different species are highly similar and no useful information can be used for the classification of this species complex. Though shape of the valva is not stable, some with its apex more protruding and others only weakly elongated, this variation can be observed in a given species. It is not an interspecific difference.

♀ genitalia (figs: 18, 19): Terminology of ♀ genitalia in this paper follows that of COUTSIS (1984). *Loxerebia saxicola* (OBTH.), *L. albipuncta* (LEECH), *L. chouchuensis* M. & T. OKANO and *L. yanziya* LANG & HOU are studied, obvious differences can hardly be found. Ventral lamella of *L. yanziya* LANG & HOU are much narrower than those of the other tested species.

#### Androconia of *Loxerebia saxicola* (OBTH., 1876)-complex

Androconia (fig: 20) of *Loxerebia saxicola* (OBTH.), *L. albipuncta* (LEECH), *L. chouchuensis* M. & T. OKANO are studied, and the length of the lamina can vary in a same species and even in a given local population. Therefore, the features of androconia can not provide useful informations for the taxonomy of this species complex. Moreover, androconia scale can not be found from *L. yanziya* LANG & HOU, which does not have a visible ♂-brand.

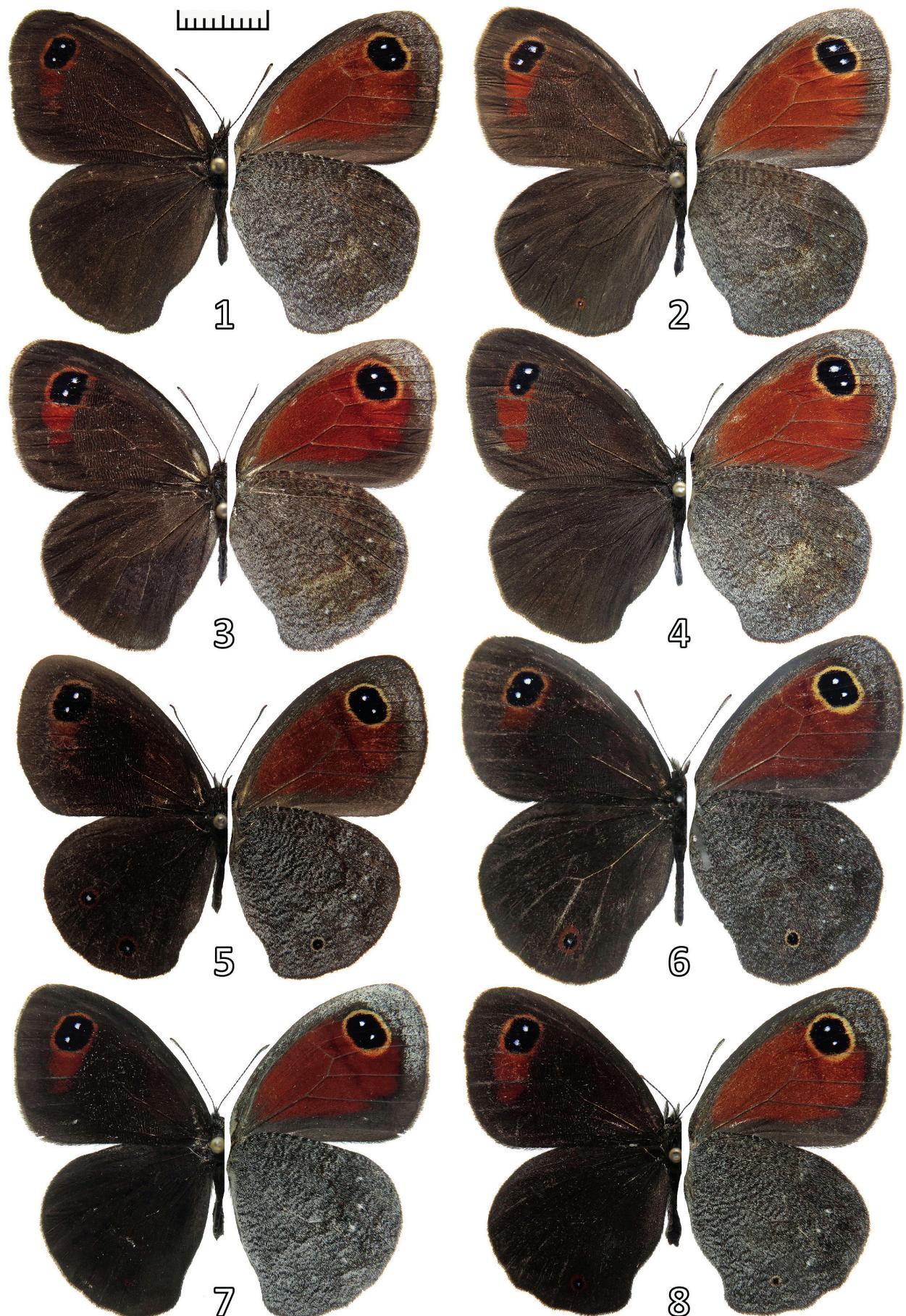
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#### References

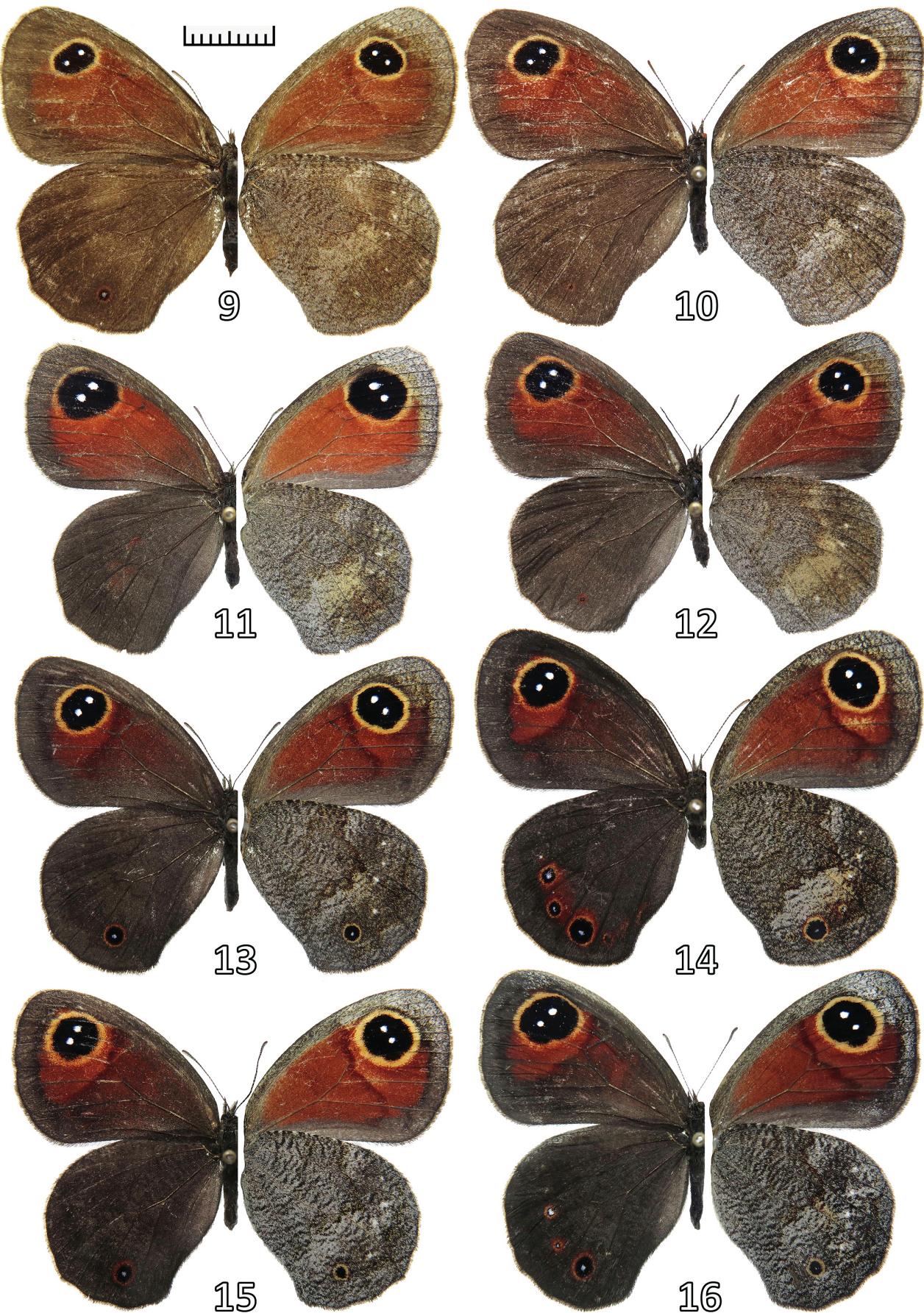
- COUTSIS, J. G. (1984): Description of the female genitalia of *Hipparchia fagi* SCOPOLI, *Hipparchia semele* LINNAEUS (Satyridae) and their related taxa. - The Journal of Research on the Lepidoptera **22** (3): 161-203, Santa Barbara.
- D'ABRERA, B. (1992): Butterflies of the Holarctic Region. II. Satyridae (concl.) & Nymphalidae (Partim). - Hill House Publishers, Melbourne.
- DELLA BRUNA, C., GALLO, E., LUCARELLI, M. & V. SBORDONI (2000): Guide to the Butterflies of the Palearctic Region, Satyridae, part 2: Subfamily, Satyrinae, Tribe Yphtimini, *Argestina*, *Boeberia*, *Callerebia*, *Grumia*, *Hemadara*, *Loxerebia*, *Paralasa*, *Proterebia*. - Omnes Artes, Milano.
- DELLA BRUNA, C., GALLO, E., LUCARELLI, M. & V. SBORDONI (2002): Guide to the Butterflies of the Palearctic Region, Satyridae, part 2: Subfamily, Satyrinae, Tribe Yphtimini, *Argestina*, *Boeberia*, *Callerebia*, *Eugrumia*, *Hemadara*, *Loxerebia*, *Paralasa*, *Proterebia* (second edition). - Omnes Artes, Milano.
- HUANG, H. & C. S. WU (2003): New and little known Chinese butterflies in the collection of the Institute of Zoology, Academia Sinica, Beijing -1 (Lepidoptera, Rhopalocera). - Neue Entomologische Nachrichten **55**: 115-143, 178-181, Marktleuthen.
- LANG, S. Y. & J. HOU (2019): Notes on *Loxerebia saxicola* (OBERTHÜR)-complex (Lepidoptera, Nymphalidae, Satyrinae) with description of a new subspecies from C. China. - Entomologische Zeitschrift **129** (1): 57-61, Schwanfeld.
- LEECH, J. H. (1890): New subspecies of Lepidoptera from China. - Entomologist **23**: 26-50, 81-83, 109-114, 187-192, London.
- LEECH, J. H. (1892): Butterflies from China, Japan, and Corea 1, 2. - R. H. Porter, London.
- OBERTHÜR, C. (1876): Lépidoptères nouveaux de la Chine. - Études d'Entomologie **2**: 13-34, 4 pls, Rennes.
- OKANO, M. & T. OKANO (1985): New or little known Callerebias from China (Lepidoptera: Satyridae). - Artes Liberales **36**: 157-160, pl. 1., Morioka.
- SETO, K. (2013): A study of the butterflies in Beijing, First Edition [in Japanese]. - Mokuyosha (Nishiyama Yasusuke), Tokyo.
- SOUTH, R. (1902): Catalogue of the collection of Palaearctic butterflies formed by the late JOHN HENRY LEECH. - Printed by order of the trustees, London.
- SUGIYAMA, H. (1992): New butterflies from Western-China, including Hainan. - Pallarge **1**: 1-19, Gifu.
- YOSHINO, K. (1997): New butterflies from China 2. - Neo Lepidoptera **2**: 1-8, Kakogawa.
- ZHU, L. X., LIU, Z. H., YU, L. & Y. Y. OU (2017): Butterfly fauna of Anhui [in Chinese]. - University of Science and Technology of China Press, Hefei.

#### Address of the author

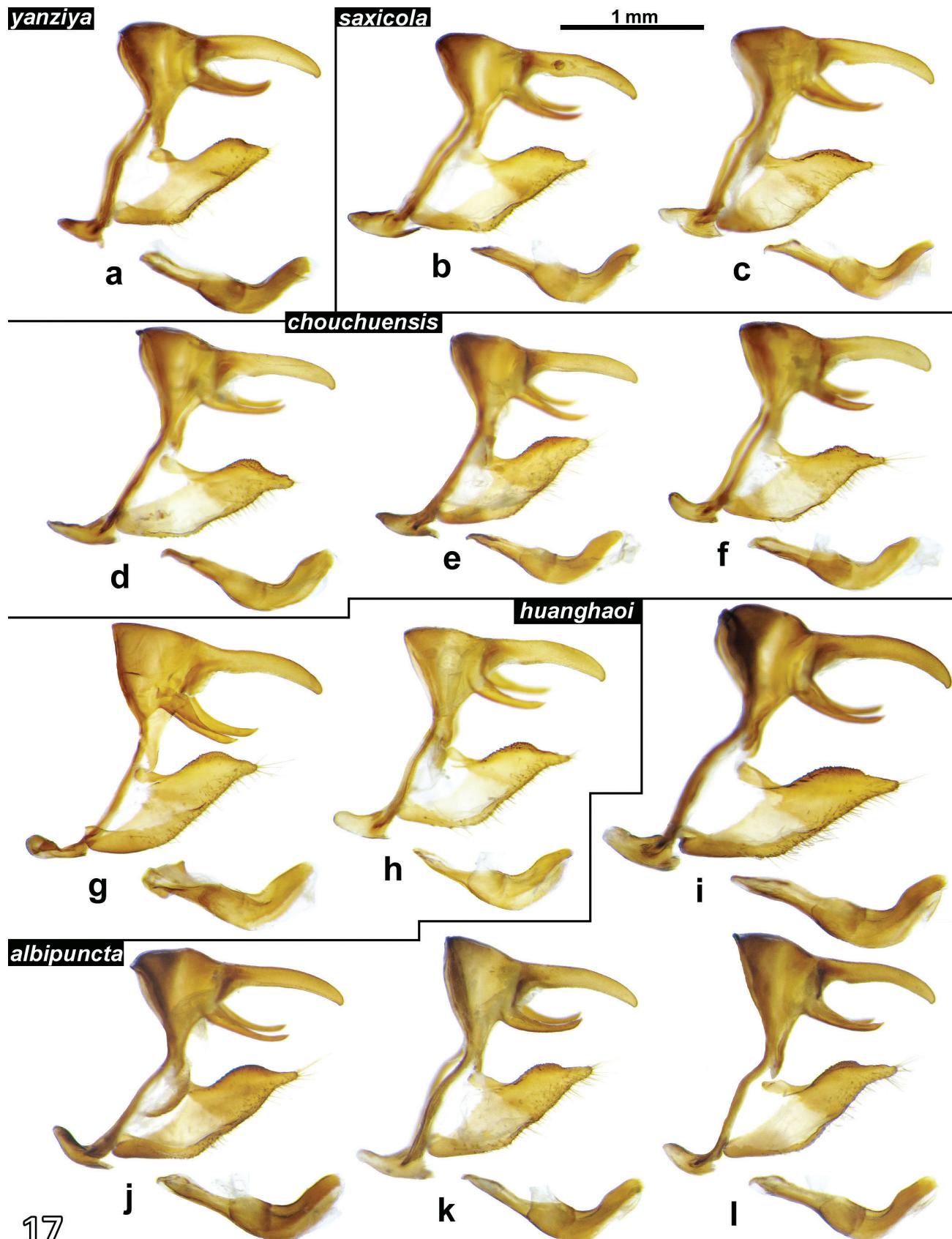
SONG-YUN LANG  
Chongqing Museum of Natural History  
400700, Beibei, Chongqing, P. R. China  
E-mail: langsongyun@126.com



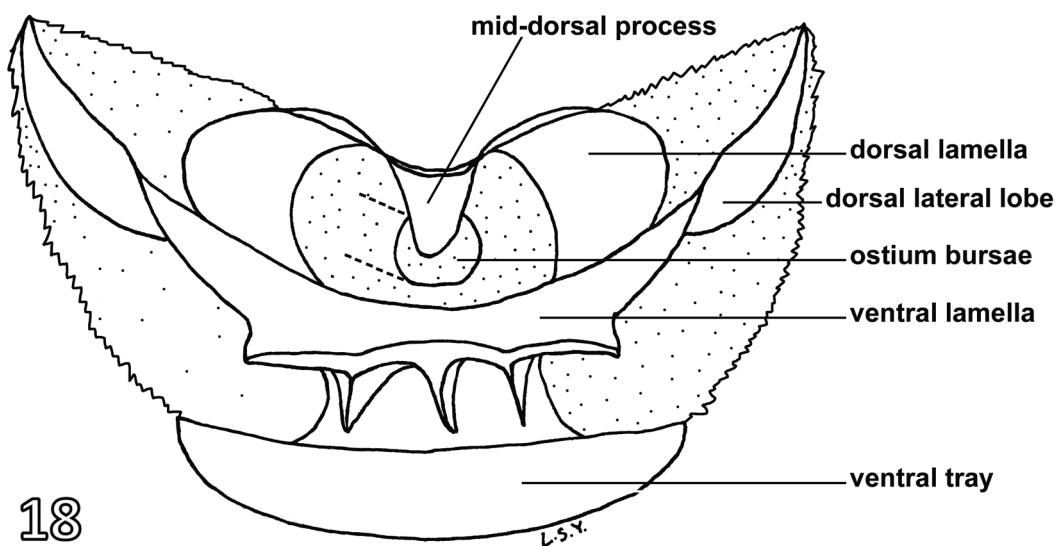
**Fig. 1:** *Loxerebia chouchuensis huanghaoi* subspec. nov., HT ♂, Hubei, Shennongjia, SATY0229, ANDR0148, CMNH. **Fig. 2-4:** *Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985: (2) ♂, Sichuan, Maoxian, SATY0698, LSY; (3) ♂, Sichuan, Jiuzhaigou, SATY0697, ANDR0146, LSY; (4) ♂, Sichuan, Heishui, LSY. **Fig. 5-8:** *Loxerebia albipuncta* (LEECH, 1890): (5) ♂, Hubei, Wufeng, SATY0820, ANDR0153, LSY; (6) ♂, Hunan, Wulingyuan, SATY0719, ANDR0142, LSY; (7) ♂, Hubei, Enshi, SATY0822, ANDR0155, LSY; (8) ♂, ditto, SATY0823, ANDR0156, LSY.



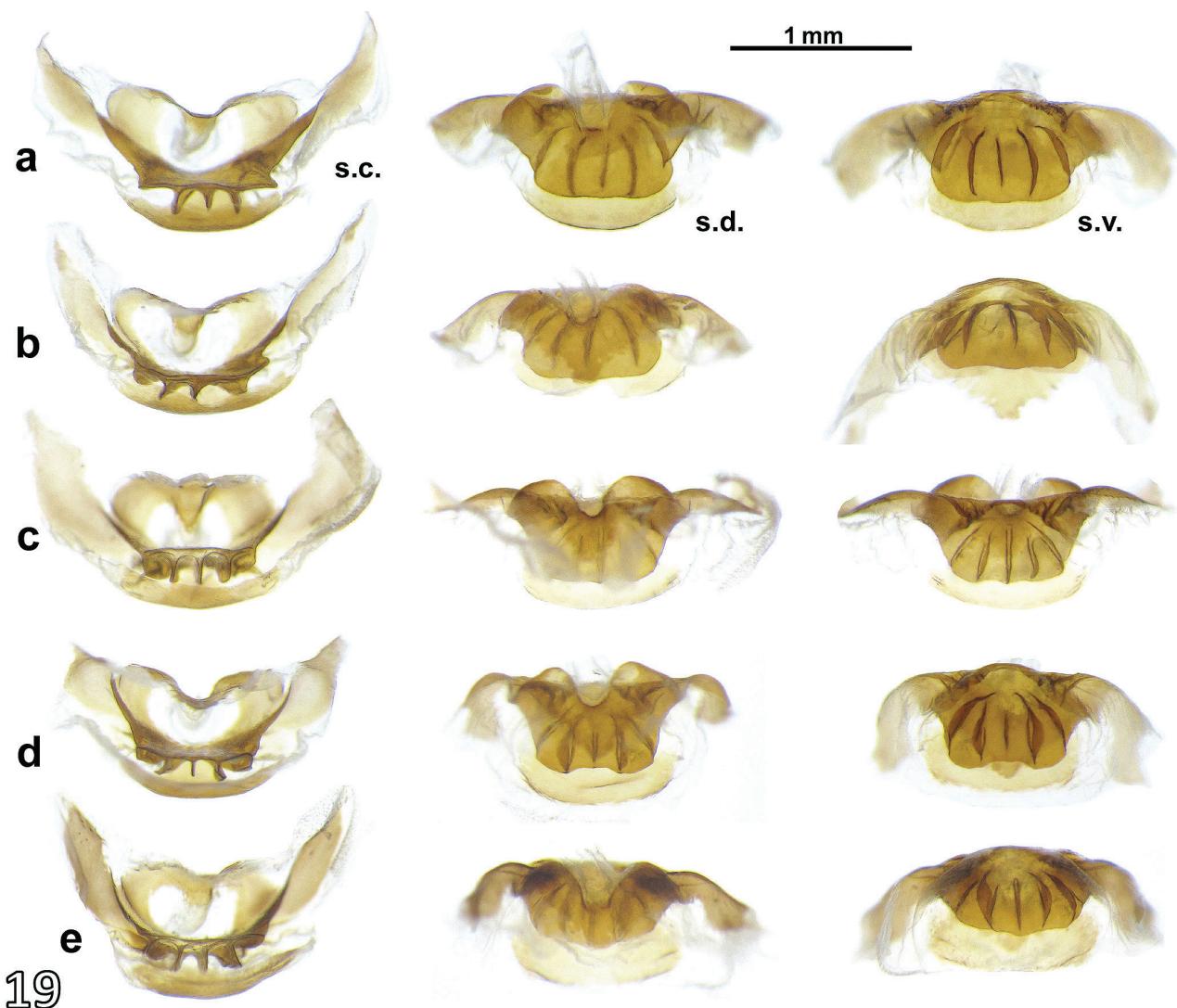
**Fig. 9-10:** *Loxerebia chouchuensis huanghaoi* subspec. nov.: (9) PT ♀, Hubei, Shennongjia, SATY0836, LSY; (10) ditto, SATY0842, LSY. **Fig. 11-12:** *Loxerebia chouchuensis* M. & T. OKANO, 1985: (11) ♀, Sichuan, Heishui, LSY; (12) ♀ Sichuan, Jiuzhaigou, SATY0843, LSY. **Fig. 13-16:** *Loxerebia albipuncta* (LEECH, 1890): (13) ♀, Hubei, Wufeng, SATY0840, LSY; (14) ♀, Hubei, Wufeng, LSY; (15) ♀, Hubei, Enshi, LSY; (16) ditto.



**Fig. 17:** ♂ genitalia in lateral view with left valva removed. (a) *Loxerebia yanziya* LANG & HOU, 2019, HT, Hubei, Shennongjia, SATY0694, CMNH; (b) *Loxerebia saxicola* (OBTH., 1876), Gansu, Tanchang, SATY0720, ANDR0054, LSY; (c) ditto, Gansu, Yuzhong, SATY0695, ANDR0145, LSY; (d) *Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985, Sichuan, Maoxian, SATY0722, ANDR0147, LSY; (e) ditto, Sichuan, Heishui, SATY0724, LSY; (f) ditto, Sichuan, Jiuzhaigou, SATY0725, ANDR0055, LSY; (g) *Loxerebia chouchuensis huanghaoi* subspec. nov., holotype, Hubei, Shennongjia, SATY0229, ANDR0148, CMNH; (h) ditto, paratype, ditto, SATY0696, ANDR0057, LSY; (i) *Loxerebia albipuncta* (LEECH, 1890), Hunan, Wulingyuan, SATY0719, ANDR0142, LSY; (j) ditto, Hubei, Wufeng, SATY0820, ANDR0153, LSY; (k) ditto, Hubei, Enshi, SATY0822, ANDR0155, LSY; (l) ditto, SATY0824, LSY.



**Fig. 18:** ♀ sterigma of *Loxerebia saxicola* (OBTH., 1876) in caudal view.

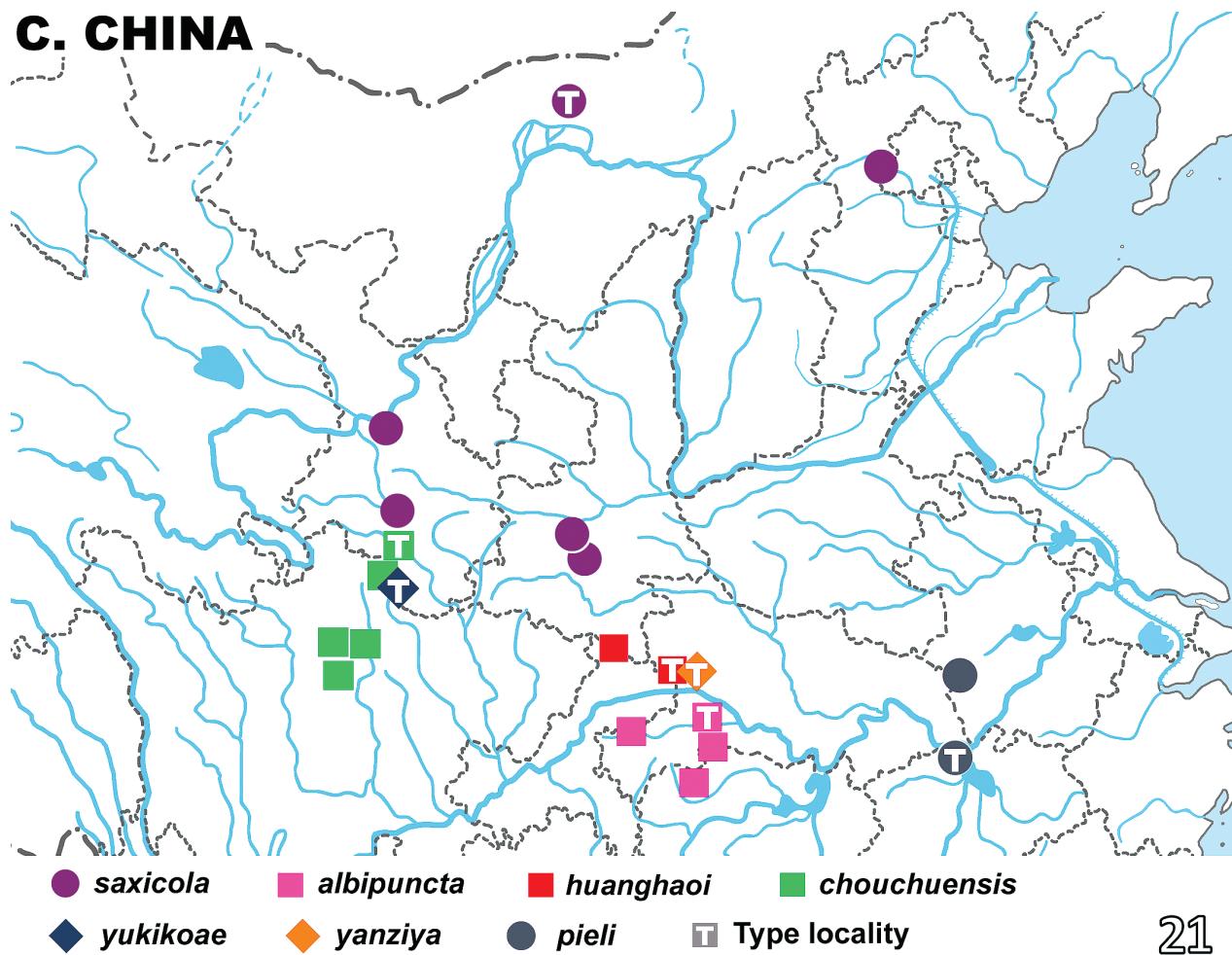


**Fig. 19:** ♀ genitalia. s.c. - sterigma in caudal view; s.d. - sterigma in dorsal view; s.v. - sterigma in ventral view. (a) *Loxerebia saxicola* (OBTH., 1876), Shaanxi, Ningshan, SATY0835, LSY; (b) *Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985, Sichuan, Jiuzhaigou, SATY0837, LSY; (c) *Loxerebia chouchuensis huanghaoi* subspec. nov., PT, Hubei, Shennongjia, SATY0842, LSY; (d) *Loxerebia albipuncta* (LEECH, 1890), Hubei, Enshi, SATY0844, LSY; (e) *Loxerebia yanziya* LANG & HOU, 2019, PT, Hubei, Shennongjia, SATY0845, LSY.

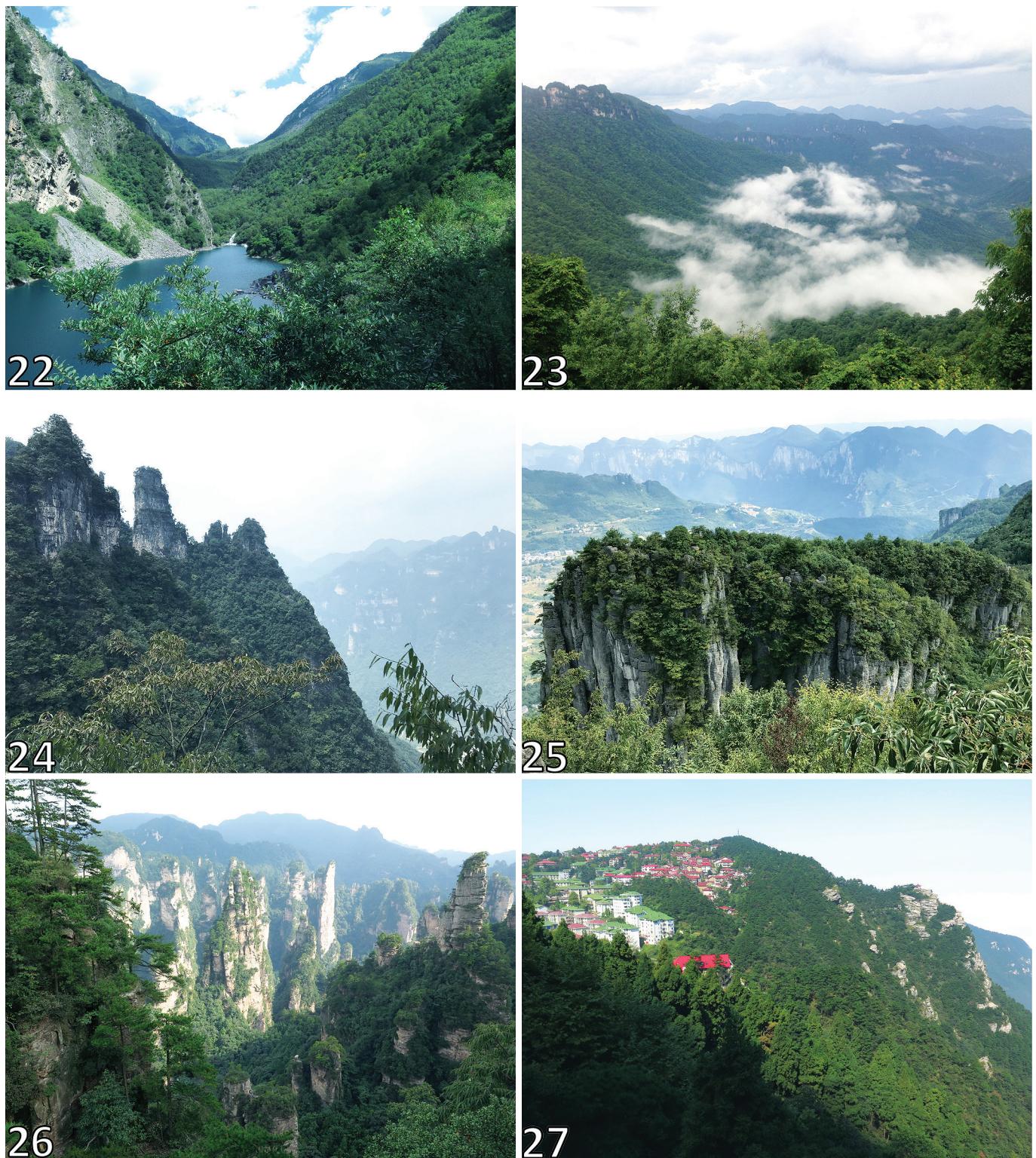


**Fig. 20:** Androconia. (a1) *Loxerebia saxicola* (OBTH., 1876), Shaanxi, Ningshan, SATY0044, ANDR0053, LSY; (a2) ditto, Gansu, Tanchang, SATY0720, ANDR0054, LSY; (a3) ditto, Gansu, Yuzhong, SATY0695, ANDR0145, LSY; (b1) *Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985, Sichuan, Heishui, SATY0699, ANDR0056, LSY; (b2) ditto, Sichuan, Maoxian, SATY0722, ANDR0147, LSY; (b3) ditto, Sichuan, Jiuzhaigou, SATY0697, ANDR0146, LSY; (b4) ditto, SATY0725, ANDR0055, LSY; (c1) *Loxerebia chouchuensis huanghaoi* subspec. nov., PT, Chongqing, Chengkou, SATY0721, ANDR0149, LSY; (c2) ditto, PT, Hubei, Shennongjia, SATY0696, ANDR0057, LSY; (c3) ditto, HT, ditto, SATY0229, ANDR0148, CMNH; (d1) *Loxerebia albipuncta* (LEECH, 1890), Hubei, Enshi, SATY0823, ANDR0156, LSY; (d2) ditto, SATY0822, ANDR0155, LSY; (d3) ditto, Hubei, Wufeng, SATY0821, ANDR0154, LSY; (d4) ditto, SATY0820, ANDR0153, LSY; (d5) ditto, Hunan, Wulingyuan, SATY0719, ANDR0142, LSY.

### C. CHINA



**Fig. 21:** Distribution map of *Loxerebia saxicola* (OBTH.)-complex.



**Fig. 22-27:** Landscapes:

- (22) Habitat of *Loxerebia chouchuensis chouchuensis* M. & T. OKANO, 1985, Maoxian, Sichuan, 20.VIII.2015 (photo by LANG YI);
- (23) Habitat of *Loxerebia yanziya* LANG & HOU, 2019 and *L. chouchuensis huanghaoi* subspec. nov., Shennongjia, Hubei, 21.VII.2018;
- (24) Habitat of *Loxerebia albipuncta* (LEECH, 1890), Wufeng, Hubei, 8.IX.2019;
- (25) Habitat of *Loxerebia albipuncta* (LEECH, 1890), Enshi, Hubei, 6.IX.2019;
- (26) Habitat of *Loxerebia albipuncta* (LEECH, 1890), Wulingyuan, Hunan, 4.IX.2018;
- (27) Habitat of *Loxerebia pieli* HUANG & WU, 2003, Guling, Jiangxi, 14.IX.2018.

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