G. W. Hu & Y. Tan HGW-00778 (holotype, KUN!; isotype, KUN!).

Latin diagnosis: Haec species *A. austroyunnanensi* H. Li similis, sed planta nana, alt. ca. 20 cm, pseudocaudice petiolo pedunculo et tubo spathae punctis atropurpureis, limbo spathae ad basem piece frustro albo transverso, floribus neutis ad appendicem spadicis terminalibus 3–6 mm longis differt.

Morphological description: Deciduous herb to 20 cm tall. Tuber subglobose, 0.5–2 cm in diameter. Cataphylls dark purple, mottled with snakeskin pattern. Pseudostem 6.5–7.5 cm long. Leaf 1, petiole 15–16 cm long, similar to cataphyll in color, free part 8–10 cm; leaf blade 3-foliolate, central leaflet ovate-oblong to rhombic-elliptic, 6–8.5 × 3–5.5 cm, base attenuate, apex acuminate, with a 1–3 mm arista at tip, lateral leaflets similar to central one, but asymmetrical at base, 5.5–9.5 × 2.5–3.5 cm. Peduncle approximately as long as petiole; spathe ca. 5 cm long, tube funnel-shaped, ca. 2 cm long, 7 mm thick, greenish longitudinally purple-dotted, base white, mouth-margins obliquely truncate, limb ovate, apex acuminate, 2.5–3.5 × 1.1 cm, green, with a white traverse patch at base, spadix male only seen, ca. 1 cm long; male flowers sparse, synandria of (1–)2(–3) stamens, shortly stipitate to subsessile, thecae whitish with purple top, dehiscent by a rounded pore, pollen white; spadix-appendix sessile, 2–2.5 cm long, basal 3/5 part dark purple, with scattered, ca. 2 mm long, subulate neuters, upper 2/5 part exerted out of the spathe tube, yellow-green, covered with 3–6 mm long, filiform, bristly projections.

Distribution and ecology: *Arisaema guangxiense* is found in southwestern Guangxi Zhuang Autonomous Region at Jingxi and Longan counties, growing in groups in humus soil in rock crevices on limestone hills at altitudes from 300 to 720 m. Sometimes two shoots grow up from one big tuber and become two individuals in the coming year.

Chromosome number: $2n = 26$ (S5-2. Fig. 2).

Notes: *Arisaema guangxiense* belongs to *Arisaema* section *Fimbriata*. It resembles *A. austroyunnanense*, but obviously differs by its shorter plant height, only to 20 cm tall; pseudostem, petiole dark purple mottled with snakeskin pattern; spathe tube greenish longitudinally dotted dark purple; projections on the upper part of spadix-appendix filiform, 3–6 mm long.

Additional specimens examined:

China. Guangxi Zhuang Autonomous Region: Longan County, in crevices on limestone hill, in sparse forest, alt. 300 m, 2008-05-13, *Joint Expedition on Plants in Guangxi of CAS 0332* (PE); Jingxi County, Baonian Valley, on hill top, alt. 720 m, 2008-05-16, *Joint Expedition on Plants in Guangxi of CAS 0663* (IBK).

Arisaema austroyunnanense H. Li, Acta Phytotax. Sin. 15 (2): 105. 1977 ("*austro-yunnanense*").

(S5-3. Fig. 3)

(Section *Fimbriata* (Engler) H. Li)

Type: **China. Yunnan:** Jinghong, Xiaomengyang, alt. 780 m, 1958-05-22, *Yunnan University 1420* (holotype, YUKU!).

Distribution: South Yunnan (Jinghong, Simao), Vietnam. First report in Hainan.

Notes: We observed an abscission layer between pseudostem and tuber in *Arisaema austroyunnanense* H. Li from Hainan (**S5–3**. Fig. 3: H) and separated its overground part from the tuber very easily. This phenomenon disclosed why most specimens of this species lack tuber (Gusman & Gusman, 2002; Li et al., 1977, 2010).

Additional specimens examined:

China. Hainan: Ledong County, Jianfengling, under rainforest, alt. 900 m. 2009-05-28. *G. W. Hu 24593* (KUN).

Online supplementary data:

S5-1. Fig. 1. *Arisaema guangxiense* G. W. Hu & H. Li.

S5-2. Fig. 2. Somatic chromosome of *Arisaema guangxiense* G. W. Hu & H. Li.

S5-3. Fig. 3. *Arisaema austroyunnanense* H. Li from Hainan.

Acknowledgements This work was supported by the Key Research Direction Project of Knowledge Innovation Program for Chinese Academy of Sciences (Grant No. 292010KIBA04), Main Direction Program of Knowledge Innovation of Chinese Academy of Sciences (Grant No. KSCX2-EW-Z-1), and the Applied Basic Research Programs of Science and Technology, Commission Foundation of Yunnan Province Foundation of Natural Science (Grant No. 312009CD113).

Elsholtzia lamprophylla (Lamiaceae): A new species from Sichuan, southwest China

Chun-Lei XIANG En-De LIU*

(*Key Laboratory of Biodiversity and Biogeography, Kunming Institute of Botany, Chinese Academy of Sciences*, Kunming 650201, China)

Elsholtzia lamprophylla C. L. Xiang & E. D. Liu, sp. nov.

亮叶香薷 (S6-1. Fig. 1, S6-2. Fig. 2)

(Series *Fruticosae* C. Y. Wu & S. C. Huang)

Type: **China. Sichuan:** Xiangcheng County, Ranwu, Xiaranwu Village, 28°46′02″N, 99°52′11″E, riverside, in thickets, alt. 2819 m, 2010-08-03, *E. D. Liu, C. L. Xiang & X. Nong 2697* (holotype, KUN!; isotypes, K!, KUN!, MO!, PE!).

Latin diagnosis: Species affinis *E. glabrae*, sed foliis ovalibus 0.8–2.0 cm longis, 0.3–0.9 cm latis, basi anguste cuneatis, venis lateralibus 3–5 jugatis, floribus flavis extus floccosis differt; in *E. glabra* foliis rhombico-lanceolatis (6–15 cm longis, 2–4.6 cm latis), basi cuneato-decurrentibus, venis lateralibus 7–8 jugatis et floribus albis pubescentibus.

Morphological description: Shrubs, 0.8–1.0 m tall. Stems 3–7 mm in diam., glabrous, bark peeling off longitudinally; branchlets puberulent, purplish red when young, getting brown when old. Leaves aromatic when kneaded; petiole 0.8–1.5 mm long, puberulent; blades oval, 0.8–2.0 × 0.3–0.9 cm, adaxially sparsely golden glandular and simple-haired, abaxially densely golden-glandular, base narrowly cuneate, margin dentate with small teeth, apex acute, midrib prominent abaxially, lateral veins 3–5 pairs. Spikes terminal, 2–9 cm long, puberulent and sparsely dotted with golden glands. Verticillasters 3–6-flowered, gray puberulent, densely golden-glandular. Bractlets lanceolate to linear-lanceolate, 0.2–0.3 cm long, puberulent, sparsely golden-glandular. Peduncle and pedicel inconspicuous, ca. 0.5 mm

* Author for correspondence. E-mail: liuende@mail.kib.ac.cn. Tel./Fax: 86-871-5213916.

long. Calyx campanulate, 0.2–0.3 cm long, outside mixed with golden glands and eglandular trichomes, inside grayish tomentose; teeth narrowly lanceolate, equal, ca. 0.7–1.1 mm long. Corolla yellowish to white, 0.5–0.9 cm long, floccose and golden glandular outside, apex emarginate; middle lobe of lower lip circular, margin erose; lateral lobes semicircular. Stamens exserted from corolla, 2 anterior stamens much longer, ca. 4.5–5.3 mm long; filaments filiform, glabrous. Style 6–8 mm long, apex equally two-cleft. Nutlets brown, oblong, ca. 1.5 mm long (S6-3. Fig. 3, S6-4. Fig. 4).

Distribution: Currently known only from the type locality (S6-5. Fig. 5). The new species grows in thickets along a dry-warm valley, with altitude ranging from 2800 to 2900 m.

Etymology: The specific epithet *Lampros* comes from the Greek root for bright, shiny, lustrous; hence shiny leaves. *Elsholtzia lamprophylla* is so named because when observed in an open field and exposed to direct sunlight, the leaves are demonstrably bright green, and the golden glands are sparkling.

Conservation status: Less than 100 individuals were found in the only population and the habitat is easily influenced by human activities. Therefore, this species should be regarded as critically endangered according to the IUCN threat categories (IUCN, 2008).

Online supplementary data:

S6-1. Fig. 1. *Elsholtzia lamprophylla* C. L. Xiang & E. D. Liu. Drawn from holotype, *E. D. Liu, C. L. Xiang & X. Nong 2697* (KUN).

S6-2. Fig. 2. Photographs of *Elsholtzia lamprophylla* C. L. Xiang & E. D. Liu.

S6-3. Fig. 3. Scanning electron micrographs of hairs, flower, calyx, pollen, and fruit morphology of *Elsholtzia lamprophylla* C. L. Xiang & E. D. Liu.

S6-4. Fig. 4. Type specimens of taxa within *Elsholtzia* ser. *Fruticosae* (with the exception of *E. stauntonii* Benth.).

S6-5. Fig. 5. Geographical distribution of *Elsholtzia lamprophylla* C. L. Xiang & E. D. Liu (solid circle) in southwest Sichuan, China.

Acknowledgements The authors thank Dr. George STAPLES (SING) for his valuable suggestions and his great help in editing the text, Dr. Jorge Fontella PEREIRA (UFRJ) for translation of the Latin, Dr. Wenbin YU for providing map, Miss Ling WANG (KUN) for preparation of the line drawing. Thanks are especially due to three anonymous reviewers for their constructive suggestions that improved the paper. We also thank the curators/keepers of the herbaria CDBI, E, HITBC, HNWP, HUH, IBK, IFP, K, KUN, LBG, PE, WUK, and XJBI for giving access to their specimens or provided images of the types. This project was financially supported by the National Natural Science Foundation of China (Grant No. 31110103911), Main Direction Program of Knowledge Innovation of the Chinese Academy of Sciences (Grant Nos. KSCX2-EW-Z-1, KSCX2-EW-J-24), and Light in Western China Project of the Chinese Academy of Sciences (Grant No. 09225111W1).

References

Fang WZ. 1982. Verbenaceae. In: Flora Reipublicae Popularis Sinicae. Beijing: Science Press. 65: 25–79.

Gusman G, Gusman L. 2002. The genus *Arisaema*: A monograph for botanists and nature lovers. Portland: Timber Press.

IUCN (International Union for Conservation of Nature and Natural Resources). 2008. IUCN red list categories and criteria, version 7. Gland & Cambridge: IUCN Species Survival Commission. http://www.iucnredlist.org/.

Li H, Shiao Y, Tseng S-L. 1977. Claves diagnosticae et taxa nova aracearum sinicarum. Acta Phytotaxonomica Sinica 15: 87–109.

Li H, Zhu G-H, Murata J. 2010. *Arisaema*. In: Wu ZY, Raven PH eds. Flora of China. Beijing: Science Press; St. Louis: Missouri Botanical Garden Press. 23: 43–69.

Merrill E. 1927. New Chinese ligneous plants. Journal of the Arnold Arboretum 8: 16–17.

Wang W-T. 1995. Elatostema. In: Flora Reipublicae Popularis Sinicae. Beijing: Sciense Press. 23: 187–317.

Wang W-T. 2012. Nova classificatio specierum sinicarum *Elatostematis* (Urticaceae). In: Fu DZ ed. Paper collection of W. T. Wang. Beijing: Higher Education Press. 2: 1061–1178.

Wang Y-Z, Mao R-B, Liu Y, Li J-M, Dong Y, Li Z-Y, Smith JF. 2011. Phylogenetic reconstruction of *Chirita* and allies (Gesneriaceae) with taxonomic treatments. Journal of Systematics and Evolution 49: 50–64.

Elsholtzia lamprophylla (Lamiaceae): A new species from Sichuan, southwest China

作者： Chun-Lei XIANG， En-De LIU
作者单位： Key Laboratory of Biodiversity and Biogeography,Kunming Institute of Botany,Chinese Academy of Sciences,Kunming 650201,China
刊名： 植物分类学报 ISTIC SCI PKU
英文刊名： Journal of Systematics and Evolution
年，卷(期)： 2012,50(6)