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New Taxa and Nomenclatural Actions

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A new species of *Lathyrus* L. (Fabaceae) from Turkey

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Lathyrus L. belongs to the tribe Fabeae within the Fabaceae (Leguminosae). It contains more than 200 taxa and has an almost worldwide distribution (Allkin et al., 1986). Tutin & Heywood (1981) reported, in *Flora Europaea*, that 54 species are known from the area. In *Flora of Turkey,* Davis (1970) stated that the genus is represented by 67 taxa at the species, subspecies, and variety level. However, the number of taxa known from Turkey has since increased to 75 (Davis et al., 1988; Günes & Özhatay, 2000; Genç & Şahin, 2008; Genç, 2009).

Lathyrus tefennicus H. Genç & A. Şahin, sp. nov.

(**S1-3.** Fig. 1, **S1-4.** Fig. 2)

Type: **Turkey, Burdur Tefenni Province:** 37°17′; 33.71″N, 29°35′40.07″E, alt. 1250–1370 m, grassy places around *Pinus* forests in the Burdur Tefenni Province, 2009-06-20, *H. Genç 1200* (holotype, FUH; isotype, GUL).

Latin diagnosis: Affinis *L. spathulato*, sed foliolis 1–3 jugis, peranguste ellipticis, stipulis lanceolatis vel subulatis, pedunculis 14–21 mm longis, floribus 2–4 (5), purpureis vel laete purpureis, legumine oblongo vel lineari, 29–66 × 5–7 mm differt.

Morphological description: Ascending–erect, slender, 13–65 cm tall. Stem glabrous to sparsely pubescent, wingless. Leaflets 1–3 paired, linear to elliptic, with 3–5 parallel veins, 22–86 × 1.7–6.5 mm. Stipules lanceolate to subulate 5.5–19 × 0.7–2.5 mm. Peduncles 12–125 mm long, 2–4 (–5) flowered; pedicel 4–9.5 mm. Calyx 3.5–5 mm, teeth unequal, 2–3 mm long, almost two-thirds as long as a tube. Corolla purple to light purple, 14–21 mm long, with glabrous standard. Legume oblong to linear, 29–66 × 5–7 mm, glabrous; style spathulate, 4.5–7 mm long; seeds dark brown to dark green with rough surface, 2.9–3.8 × 4.8–6 mm with a 1.5–3.2 mm long hilum.

Distribution: *Lathyrus tefennicus* grows in grassy places around *Pinus* forests, alt. 1250–1370 m. Flowering and fruiting occurs in May–July. It is endemic to the Burdur Tefenni Province, and belongs to the Mediterranean element of the Turkish flora. The species was collected from only one locality and is rare, confined to a limited area of approximately 2000 m^2. The population is not in good condition and the number of individuals is approximately 50–300. Therefore, it could be regarded as being in the Critically Endangered (CR) category (IUCN, 2001).

Online supplementary data:

S1-1. Additional statements

S1-2. Table 1. Some characters of *Lathyrus tefennicus* and other closer relatives in *Lathyrus* section *Platystylis*

S1-3. Fig. 1. *Lathyrus tefennicus* sp. nov. a, Habit (from holotype). b, Standard ×3. c, Keel ×3. d, Wings ×5. e, Calyx, stamen, and ovary ×3.5. f, Seed ×6. g, Flower ×3. h, Legume ×1.5. i, Leaflets ×2.

S1-4. Fig. 2. Geographic location of *Lathyrus tefennicus* sp. nov. (⋆), *L. pallescens* (△), *L. brachypterus* (•), *L. cilicicus* (○), *L. spathulatus* (■), and *L. variabilis* (□) in Turkey.

S1-5. References

S1-6. Appendix

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Aspidistra hezhouensis (Ruscaceae s.l.), a new species from Guangxi, China

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Aspidistra hezhouensis Qi Gao & Yan Liu, sp. nov.

贺州蜘蛛抱蛋 (**S2-1.** Fig. 1, **S2-2.** Fig. 2: A–C)

Type: **China. Guangxi Zhuang Autonomous Region:** Hezhou City, Babu District, Huangtian Zhen (township), Xincun, limestone mountains, alt. 180 m, 2005-04-01, *Yan Liu L1186* (holotype, IBK); Guilin City, Guilin Botanical Garden, cultivated, introduced by Yan Liu from the type locality, *Qi Gao 351* (paratype, IBK).

Latin diagnosis: Haec species nova *A. quadripartitae* similis stigmate cruciformi, sed perianthii tubo campanulato, lobis flavis, lanceolatis et recurvatis differt; etiam similis *A. flaviflorae* perianthii lobis flavis, sed staminibus prope medium tubi insertis, stigmatibus aequantibus in positione, stigmate cruciformi, supra ad centrum convexo, margine plerumque 4-lobato differt.

Morphological description: Herbs perennial, evergreen, rhizomatous. Rhizome creeping, subterete, ca. 6 mm in diam., covered with scales, nodes dense. Leaf at tip of rhizome embraced by 1–3 reddish-purple cataphylls (2–12 cm long); petiole stiff, upright, 10–23 cm long; blade oblong-lanceolate to narrowly elliptic, 15–28 cm long, 3–6 cm wide, dark green, base cuneate, margin entire, apex acuminate. Peduncle erect or declining, 1.5–3.8 cm long, with 3–5 bracts, bracts gradually wider from base to top of peduncle, two bracts at perianth base broadly ovate, light purple, ca. 10 mm long, ca. 8 mm wide, apex acuminate. Flowers solitary; perianth campanulate, yellow, tinged purplish adaxially and whitish abaxially, (6–)8-lobed apically; lobes recurved, subequal, lanceolate, 6–10 mm long, 2–3 mm wide at base; tube 6–12 mm long, 5–10 mm in diam.; stamens 8, rarely 6, subsessile, inserted at middle of perianth tube, anthers elliptic, ca. 3 mm long; pistil 4–6 mm long; stigma purple, ca. 3 mm in diam., centrally concave, cross-shaped, 4-lobed at margin, rarely 3-armed, 3-lobed at margin. Fl. March–April.

Distribution: Currently known only from the type locality, Babu District, Hezhou City, Guangxi Zhuang Autonomous Region, China (**S2-3.** Fig. 3). The new species grows on shaded rocky slopes of limestone mountains at an altitude of 180 m.

Etymology: The specific epithet is derived from the type locality, Hezhou City, Guangxi Zhuang Autonomous Region, China.

Aspidistra hezhouensis is similar to *A. quadripartita* in the cross-shaped stigma (**S2-2.** Fig. 2: C, F), but readily distinguished from the latter by the flower campanulate (**S2-2.** Fig. 2: A) (vs. the flower subcampanulate, **S2-2.** Fig. 2: D), and perianth lobes yellow, lanceolate, and obviously recurved (**S2-2.** Fig. 2: B) (vs. lobes yellowish-green, ovate-deltoid, and suberect (**S2-2.** Fig. 2: E).

The chromosome number of *Aspidistra hezhouensis* was counted to be $2n = 36$ (**S2-4.** Fig. 4: A), and the karyotype was formulated as $2n = 20\text{m} + 4\text{sm} + 12\text{st}$ (**S2-4.** Fig. 4: C). The chromosome number of *A. quadripartita* was also counted to be $2n = 36$ (**S2-4.** Fig. 4: B), and the karyotype was formulated as $2n = 20\text{m} + 4\text{sm} + 12\text{st}$ (**S2-4.** Fig. 4: D).

Aspidistra hezhouensis is also similar to *A. flaviflora* in having yellow perianth lobes (**S2-2.** Fig. 2: A, G), differing in the stamens inserted at middle of perianth tube, positioned nearly equal to stigma (**S2-2.** Fig. 2: B) (vs. the stamens inserted proximally in perianth tube, positioned lower than stigma which is positioned nearly equal to the entrance of tube, **S2-2.** Fig. 2: H), in the stigma centrally concave, cross-shaped, usually 4-lobed at margin (**S2-2.** Fig. 2: C) (vs. stigma indistinctly 6-lobed at margin, **S2-2.** Fig. 2: I), and in the chromosome number ($2n = 36$ vs. $2n = 38$) and morphology (see below).

Online supplementary data:

S2-1. Fig. 1. *Aspidistra hezhouensis* Qi Gao & Yan Liu. **A,** Habit. **B,** Flower. **C,** Perianth opened, showing stamens. **D,** Pistil, side view. **E,** Stigma in upper view. Drawn from the holotype, *Yan Liu L1186* (IBK).

S2-2. Fig. 2. A–C, *Aspidistra hezhouensis*. **D–F,** *A. quadripartita* G. Z. Li & S. C. Tang. **G–I,** *A. flaviflora* K. Y. Lang & Z. Y. Zhu. **A, D, G,** Flowers. **B, H,** Flowers opened, showing pistil and stamens. **E,** Flowers, side view. **C, F, I,** Flowers in upper view, showing the stigma. Scale bar = 5 mm.

S2-3. Fig. 3. Distribution of *Aspidistra hezhouensis* (circle) in Guangxi Zhuang Autonomous Region, China.

S2-4. Fig. 4. Chromosomes at mitotic metaphase (A, B) and karyotypes (C, D) in *Aspidistra hezhouensis* and *A. quadripartita*. **A, C,** *A. hezhouensis*, from *Qi Gao 351* (IBK). **B**, **D**, *A. quadripartita*, from *Qi Gao 297* (IBK). Scale bar = 10 μm.

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A new synonym of *Pedicularis cyathophylla* (Orobanchaceae)

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Pedicularis cyathophylla Franchet in Bull. Soc. Bot. France 47: 25. 1900.

Type: **China. Sichuan:** Kangding, Zheduoshan Mountains (Ta-tsien-kou & Tche-to-chan), *J. A. Soulié 218* (holotype, P00160827, P!).

Pedicularis xiangchengensis H. P. Yang in Acta Phytotax. Sin. 28: 137. f. 3: 3. 1990, syn. nov.

Type: **China. Sichuan:** Xiangcheng, Rewu, on mountain slopes, alt. 4100–4300 m, 1981-08-06, *Qing-Zang Exped. 3829* (holotype, 00032964, PE!; isotypes, KUN!, CDBI!).

In *Flora of China*, *Pedicularis* ser. *Cyathophyllae* H. L. Li contains two species, *P. cyathophylla* Franchet and *P. xiangchengensis* H. P. Yang (Yang et al., 1998). The former species was described by Franchet (1900) based on a single collection, *J. A. Soulié 218* (P); the latter was published by Yang (1990), also from only one collection, *Qing-Zang Expedition 3829* (PE). Yang (1990) proposed that *P. xiangchengensis* was closely related to *P. cyathophylla*, from which it mainly differs by having crested corolla galea, emarginate middle lobe of lower corolla lip, and 3–5 calyx lobes (also see Yang et al., 1998).

Based on field observations, examinations of the type specimens of *P. cyathophylla* and *P. xiangchengensis*, and further comparisons of additional specimens, we found that *P. cyathophylla* possessed a conspicuous crested galea, especially of the fresh flowers in the field; the emarginate middle lobe of lower corolla lip was indistinct in the type of *P. xiangchengensis* and fresh flowers of *P. cyathophylla*; and the number of calyx lobes was inconstant from 2 to 5, small or large, margin entire or leaf-like (see **S3-1.** Fig. 1; **S3-2.** Fig. 2). It was clear that the macro-morphological characters of *P. xiangchengensis* resembled those of *P. cyathophylla*. The pollen morphology of both species was also consistent (Yu & Wang, 2008), and DNA barcoding of four candidate DNA loci (*rbcL*, *matK*, *trnH-psbA*, and internal transcribed spacer) showed that a sample collected at the type location of *P. xiangchengensis* can not be discriminated from four samples of *P. cyathophylla* from other sites (Yu et al., 2011). Therefore, we suggest that *P. xiangchengensis* should be treated as a new specific synonym of *P. cyathophylla* herein.

Additional specimens examined:

China. Qinghai: Nangqen, *T. N. Ho et al. 2410* (KUN), *2435* (KUN); Yushu, *T. N. Ho et al. 2555* (KUN). **Sichuan:** Dajin, *Xin Li 7798* (PE); Daofu, *Wen-Pei Fang et al. 10965* (PE), *Wen-Bin Yu et al. LIDZ1180* (KUN); Fubian, *Fa-Zan Wang 21435* (KUN, PE); Heishui, *Xin Li 73073* (KUN, PE); Litang, *J. K. Ward 4423* (E); Litang, *Wen-Bin Yu et al. 111* (KUN), *LIDZ1204* (KUN); Maerkang, *Xin Li 716104* (KUN, PE); Muli, *J. R. Rock 17825* (E), *216636* (E), *23756* (E), *T. T. Yu 6445* (KUN, PE), *6447* (KUN), *6574* (KUN); Qianning, *Nan-Shui-Bei-Diao Exped. 9680* (KUN, PE); Xiangcheng, *Qing-Zang Exped. 3699* (KUN, PE), *4891* (KUN), *D. E. Boufford et al. 30686* (KUN), *28478* (KUN), *Wen-Bin Yu et al. HW10215* (KUN); Xiaojin, *Mian Zhou 94* (PE), *Xiu-Sai Zhang & You-Rao Ren 6177* (PE); Yajiang, *Henduan Mts. Exped. 4974* (PE), *Kai-Yong Lang et al. 2877* (KUN, PE), *Zhong-Tian Guan 42–0129* (PE), *Nan-Shui-Bei-Diao Exped. 2636* (PE), *Wen-Bin Yu et al. LIDZ1198* (KUN). **Yunnan:** Zhongdian, *Zhongdian Exped. 1423* (KUN), *D. E. Boufford et al. 29113* (KUN), *Xue Yang & Wen-Li Li 1081* (KUN), *Hong Wang et al. 03–042* (KUN), *Wen-Bin Yu et al. 53* (KUN), *LIDZ1268* (KUN).

Online supplementary data:

S3-1. Fig. 1. Photographs of type specimens. **A, B,** *Pedicularis cyathophylla* Franchet. **A,** Holotype of *P. cyathophylla* Franchet (*Soulié 218*, P). **B,** Flowers, crested galea showed by an arrow. **C, D,** *P. xiangchengensis* H. P. Yang. **C,** An isotype of *P. xiangchengensis* H. P. Yang (*Qing-Zang Exped. 3829*, KUN). **D,** Flower, entire middle lobe of lower corolla lip indicated by arrow. (Scale bar: 1 cm.)

S3-2. Fig. 2. Photographs of *Pedicularis cyathophylla* Franchet (photographed at Daxue Mountain of Shangri-La, in NW Yunnan, China). **A,** Habitat. **B,** Flowers, crested corolla galea shown by an arrow. **C, D,** Corolla lower lips, entire or emarginated middle lobe shown by arrows. **E,** Flower and calyx, number of calyx lobes is shown. **F,** Bumblebee pollinating on flower. (Scale bar equivalents. A, 5 cm; B–F, 1 cm.)

S3-3. References

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Validation of the name *Callicarpa bodinieri* var. *iteophylla* (Lamiaceae)

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Callicarpa bodinieri H. Léveillé var. **iteophylla** C. Y. Wu, var. nov.

Type: **China. Yunnan:** Mengla, 1953-06-03, *Yong-Shu Wang 27* (holotype, KUN 0484466!; isotype, KUN 0484467!).

Validating diagnosis: Those of *Callicarpa bodinieri* H. Léveillé var. *iteophylla* C. Y. Wu, Fl. Yunnan. 1: 406. 1977.

Callicarpa bodinieri H. Léveillé var. *iteophylla* C. Y. Wu is endemic to southern Yunnan province of China, and it occurs in mixed forests at altitudes between 600 and 1600 m. This new variety is easily distinguished from var. *bodinieri* and var. *rosthornii* (Diels) Rehder in that the leaf blade is lanceolate, oblanceolate, or obovate-oblong, and 2–4 cm wide (vs. narrowly elliptic, elliptic, or ovate-elliptic, and 4–7 cm wide in var. *bodinieri*), and subglabrous on both surfaces (vs. abaxially grayish stellate pubescent in var. *rosthornii*).

The genus *Callicarpa* L. belongs to the family Lamiaceae or Labiatae (Harley et al., 2004; Heywood et al., 2007), although it is sometimes placed in the family Verbenaceae (e.g. Fang, 1982; Chen & Gilbert, 1994). This genus consists of approximately 140 species distributed throughout temperate, subtropical, and tropical Asia and America, tropical Australia, and some Pacific islands (Harley et al., 2004). Approximately 48 species are recorded in China (Chen & Gilbert, 1994). *Callicarpa bodinieri* H. Léveillé is a very important Chinese medicinal plant, and it occurs in southern China and Vietnam. Among this species, three varieties are recognized, var. *bodinieri*, var. *rosthornii* (Diels) Rehder and var. *iteophylla* C. Y. Wu. However, *C. bodinieri* var. *iteophylla* C. Y. Wu was not validly published in the original description in 1977 (Wu et al., 1977: 406), because two gatherings were simultaneously designated as types (i.e. one flowering type and one fruiting type (in Chinese)) contrary to Article 37.1 and 37.2 of ICBN (McNeill et al., 2006). In the *Catalogue of type specimens (Cormophyta) in the herbaria of China* (Jin & Chen, 1994), this name was also not validated. Unfortunately, this problem was not discovered during preparation of the Chinese edition of *Flora Reipublicae Popularis Sinicae* (Fang, 1982), nor the updated English edition of *Flora of China* (Chen & Gilbert, 1994). To enable its formal use, this name is herein validated with the flowering specimen designated as the holotype. According to Article 46.2, the authorship of the name *Callicarpa bodinieri* var. *iteophylla* is ascribed to C. Y. Wu.

Additional specimens examined (paratypes):

China. Yunnan: Mengla, *Sheng-Ji Pei 59-9905, 59-10285*; ibid., *Yan-Hui Li 5031* (KUN); Jingdong, *Ying Tsiang 12495* (KUN); ibid., *Ming-Kong Li 1503* (KUN); *Menghai, Chi-Wu Wang 73962* (KUN); Jinghong, *Kai-Li Yue 61* (KUN); Guangnan, *Shou-Zheng Wang 787* (KUN); no locality, *Yunnan University Exped. 2707* (KUN).

Online supplementary data:

S4-1. Fig. 1. Holotype of *Callicarpa bodinieri* H. Léveillé var. *iteophylla* C. Y. Wu (*Yong-Shu Wang 27*, KUN 0484466).

S4-2. Fig. 2. Isotype of *Callicarpa bodinieri* H. Léveillé var. *iteophylla* C. Y. Wu (*Yong-Shu Wang 27*, KUN 0484467).

S4-3. Fig. 3. One paratype of *Callicarpa bodinieri* H. Léveillé var. *iteophylla* C. Y. Wu (*Ying Tsiang 12495*, KUN 0484465).

S4-4. Fig. 4. One paratype of *Callicarpa bodinieri* H. Léveillé var. *iteophylla* C. Y. Wu (*Ying Tsiang 12495*, KUN 0484468).

S4-5. References

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