



## A new species of *Aspidistra* (Asparagaceae) from Guizhou, China

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In October 2008, an investigation at the Guizhou province, Guiding County, Pingfa township found some low and small plants of *Aspidistra* Kew Gawler (1822: 628) with freshly opened flowers widespread in the limestone valley. After investigations in the wild for several years (30 September 2010, 13 October 2011, 16 October 2014) were performed, this species was identified as new for science after studying relevant literature.

### Description of the new species

#### *Aspidistra yunwuensis* S.Z.He & W.F.Xu sp. nov. (Figs. 1–2)

**Type**.—CHINA. Guizhou province, Guiding Country, Pingfa Township, under the shrub beside the valley, elevation ca. 780 m, 3 October 2008, S.Z. He et al. 081006 (holotype GZTM!)

Herbs perennial, rhizome creeping, subterete, 4–8 mm thick, covered with scales. Leaf sheaths 3–4, purple-red, 4–9 cm long, enclosing the base of leaves, fibrous when withered. Leaves solitary, 0.4–1.5 cm apart, leaf blade narrowly oblanceolate, 24–28 × 3–4.5 cm, apex gradually acuminate, base gradually narrowed into petiole; petiole 16–20 cm. Peduncle 1.5–3 cm, purple, erect, keeping the flower more or less horizontally, bracts 2–3, broadly ovate, purple-red, 4–6 × 3–5 mm. Flower solitary; perigone urceolate, 8–9 mm tall, 6(–8)lobed, white or spotted with purple-red outside, whitish-pink inside, perigone tube 5.5–6 mm in length, 10–11 mm in diameter, lobes deltoid, erect, 2.5–3 mm long and ca. 2.8 mm wide at base; stamens 6(–8), inserted at base of the tube, close to pistil base, filaments suberect, ca. 1 mm in length, anthers oblong, ca. 0.9 × 0.7 mm; pollen ovoid, with verrucose ornamentation; pistil 3.5–4.5 mm in length, light purple, style cylindrical, ovary slightly swollen, stigma purple-red, 1.7–1.9 mm in diameter, slightly convex with 3 indistinct radiate grooves on the upper surface, 3-lobed at margin, lobes half round; pollen ovoid, with verrucose ornamentation on the surface. Berry presence of short carpophore-elongated basal part of gynoecium, 1–1.5 cm high, 1.2–1.4 cm in diameter, with small spines. Flowering phase: September to October; Fruiting phase: October to November next year.

**Distribution and habitat**.—The species grows under shrubs on valley slopes, at 780–790 m. Distributed in Pingfa Township, Guiding Country, Guizhou province, China.

**Additional specimen examined (paratype)**.—Pingfa Township, Guiding Country, Guizhou Province, China, 3 October. 2008, S. Z. He et al. 081008 (GZTM!).

TABLE 1. Diagnostic characters distinguishing *Aspidistra yunwuensis* from similar species.

Characters	<i>A. yunwuensis</i>	<i>A. urceolata</i>	<i>A. triloba</i>
leaves	solitary	2–3 tufted	solitary
perigone	urceolate	urceolate	campanulate
stamens insertion	at the base of tube	at the base of tube	at the middle of tube
filament length	1 mm	absent	1–1.5 mm
upper surface of stigma	slightly convex with 3 indistinct radiate grooves, 3-lobed at margin, lobes entire	highly convex at center, 3-lobed shallow at margin, lobes emarginate	slightly convex with 3 obvious radiate grooves, deeply 3-lobed at margin, lobes entire

**Taxonomic relationships:**—The new species is similar to *Aspidistra urceolata* F.T.Wang & K.Y.Lang in Lang (1981: 381), *Aspidistra triloba* F.T.Wang & K.Y.Lang in Lang (1981: 380). The major differences between these species, which are illustrated in Table 1, lie in the leaves, the shape of the perigone tube, the location of stamens insertion, the filaments, and the upper surface characters of the stigma.

**Karyotype analysis:**—Cells of root tips were used for chromosome count and karyotype analysis. Terminology for position of centromeres on chromosomes follows Levan *et al.* (1964), and karyotypes following the classification of Stebbins (1971). The chromosome number of *A. yunwuensis* is  $2n = 38$ , with the karyotype formula  $2n = 38 = 16m + 10sm + 10st + 2st^{sat}$ . It has eight pairs of long and medium chromosomes and eleven pairs of short chromosomes. The ratio of the longest to the shortest chromosomes is 5.98 and the karyotype symmetry is 2C. The parameters of chromosomes and the photomicrographs of somatic metaphase chromosomes and karyogram of *A. yunwuensis* are summarised in Figure 2(I–J). *A. yunwuensis* is similar to *A. triloba* and *A. urceolata*, but the chromosome number of *A. triloba* is  $2n = 36$ , with the karyotype formula  $2n = 36 = 6m + 14sm + 14st + 2st^{sat}$  (Huang *et al.* 1997), while the chromosome number and karyotype of *A. urceolata* has not been reported so far.

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