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茜草科螺序草属一新种——阳春螺序草

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摘 要: 描述了自广东省发现的茜草科一新种——阳春螺序草, 其与宽昭螺序草相似, 两者均具有半木质化的茎、披针形的叶片、线状的苞片和小苞片以及高脚碟形的花冠, 但本种因茎叶无毛、花序蝎尾状、花萼裂片小三角形、长柱花的雄蕊着生位置更近于花冠管基部等特征而不同于后者。目前阳春螺序草仅在其模式种产地发现一个不足 200 株的居群, 根据 IUCN 评价标准, 其应处于濒危(EN)等级。

关键词: IUCN; 螺序草属; 新种; 命名; 分类学
中图分类号: Q949.781.1 **文献标识码**: A **文章编号**: 2095-0837(2016)01-0013-05

Spiradiclis yangchunensis (Rubiaceae), a new species from Guangdong, China

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Abstract: *Spiradiclis yangchunensis*, a new species endemic to Guangdong Province, China, is described and illustrated here. It is similar to *S. howii* H.S. Lo in somewhat woody stems, lanceolate leaves, linear bracts and bracteolates, and salverform flowers, but differs in having glabrous stems and leaves, scorpioid paniculiform inflorescence, small and triangular hypanthium lobes, and low position of stamens in long-styled flowers. Only one population with less than 200 individuals of *S. yangchunensis* was found at the type locality up to now, and its conservation status is evaluated as Endangered (EN), according to the IUCN Red List Categories and Criteria.

Key words: IUCN; *Spiradiclis*; New species; Nomenclature; Taxonomy

The genus *Spiradiclis* Blume belongs to the tribe Ophiorrhizeae on the basis of either morphological or molecular evidence[1-6]. At least 50 species are expected to be included in this genus according to our recent taxonomic study. *Spiradiclis* plants favor karst caves or shaded hill cliffs in secondary forests. Most species in China and North Vietnam have only one to several small populations, with several to dozens of individuals in each[7-9]. The fragile and fragmented habitats and the small number of individuals and populations have become the main threat to the survival of *Spiradiclis* plants. *Spiradiclis* species are perennial rosette, erect or subshrub herbs and have cymose or paniculiform inflorescences with dichasial or scorpioid axes and several to many di-

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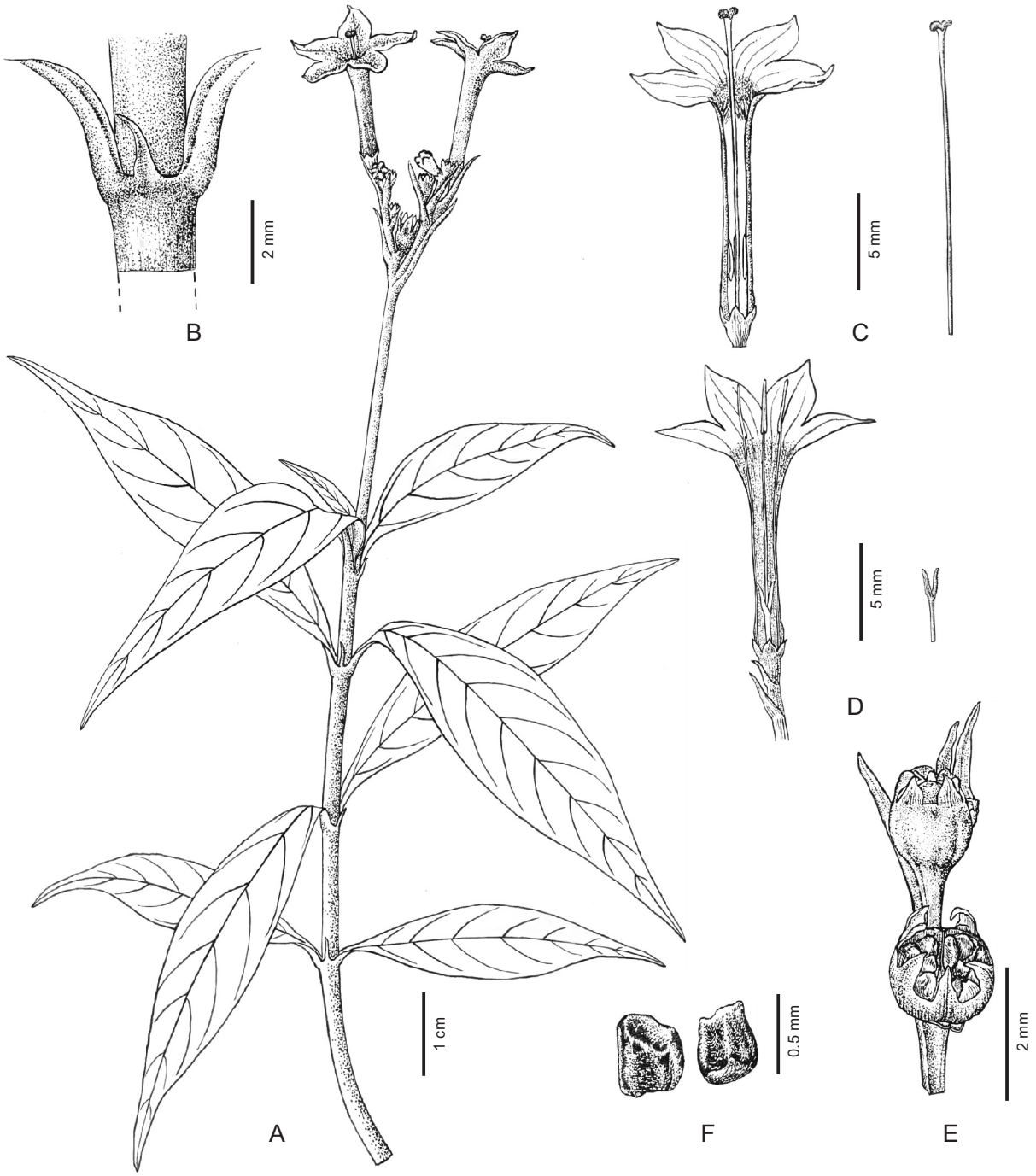
stylous, 5-merous flowers[10, 11].

During field collection in the western Guangdong Province in late 2014, one *Spiradiclis* species was found at the mouth of a cave. It has characteristic leaves and inflorescence and is morphologically different from any previously published species[9]. It is therefore described and illustrated as a new species here.

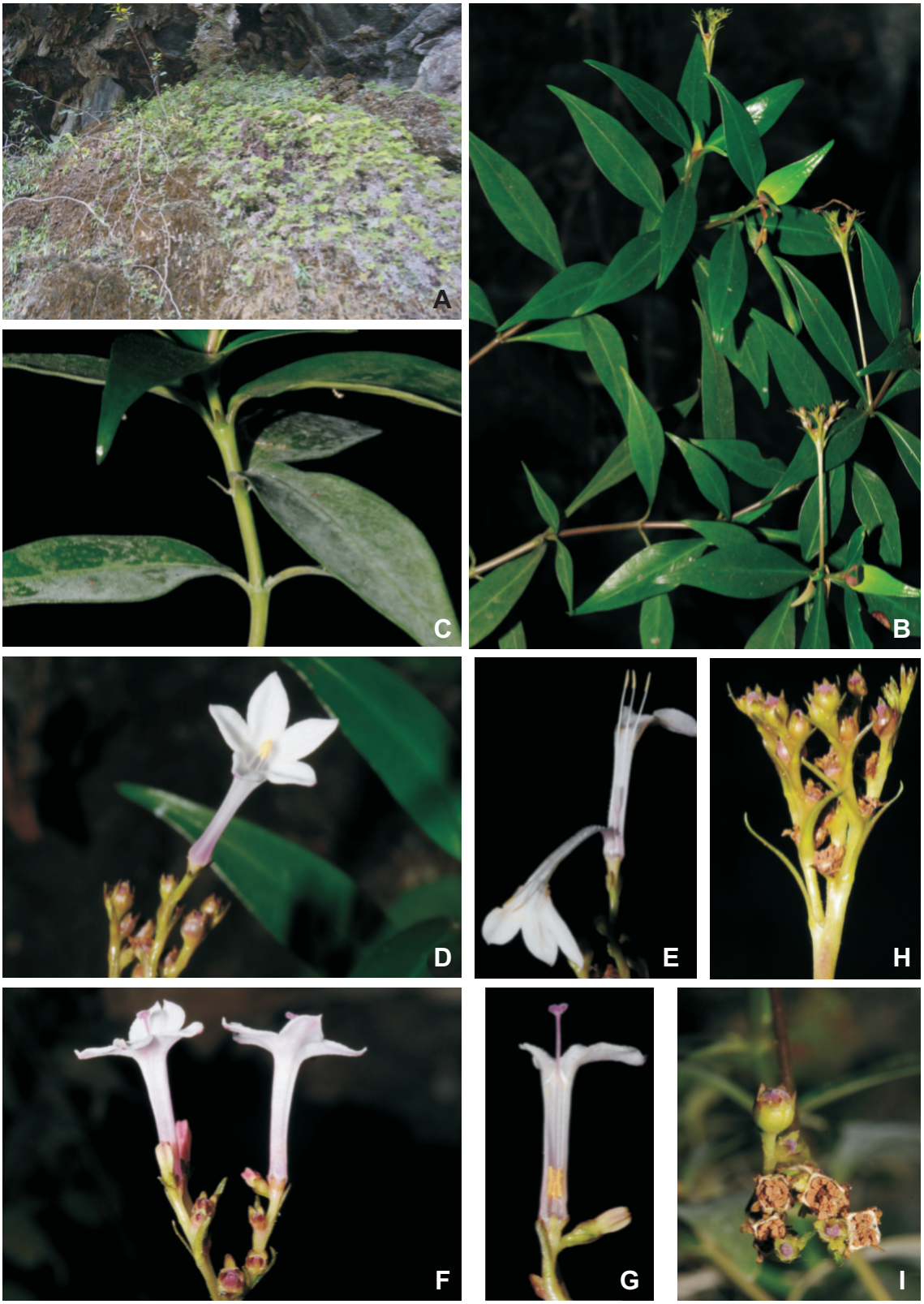
阳春螺序草（图 1，图 2）

Spiradiclis yangchunensis R. J. Wang, sp. nov. (Fig. 1 & Fig. 2)



A: Habit; B: Stipe; C, D: Dissected long-styled (C) and short-styled (D) flowers, showing the indument of the corolla and morphology and position of the stamens and styles, respectively; E: Dehiscent capsules; F: Seeds. (D from R.J. Wang 2716, the others from type). Drawn by Ms LIU Yun-Xiao.

Fig. 1 Spiradiclis yangchunensis



A：Habitat；B：Habit；C：Stipes；D－G：Integrated and dissected short-styled（D，E）and long-styled（F，G）flowers，showing the indument of the corolla tube and morphology and position of the stamens and styles，respectively. H：Infructescence；I：Dehiscent capsules and mature seeds，showing four erect valves.（Photos by WANG Rui-Jiang）

Fig. 2　Morphology of Spiradiclis yangchunensis

Type: CHINA. Guangdong Province: Yangchun County, Helang Town, 22°37′ N, 111°50′ E, 40 m, 10 November 2014, long-styled flower, R. J. Wang 2917 (holotype IBSC!, isotypes IBSC!).

Diagnosis: *Spiradiclis yangchunensis* is similar to *S. howii* in somewhat woody stems, leaf morphology, linear bracts and bracteolate, and salverform flowers, but differs in having glabrous stems and leaves, scorpioid paniculiform inflorescence, small and triangular hypanthium lobes, and low position of stamens in long-styled flowers (Table 1).

Perennial herbs. Stems somewhat woody, erect, up to 50 cm; stems terete, glabrous. Leaf blades lanceolate, [4.6 – 7.5 (– 9)] cm × [1 – 1.5 (– 2)] cm, base narrowly attenuate, apex acute, somewhat falcate, papery, glabrous; secondary veins 5 or 6 on each side; stipules simple, entire, linear, 2 – 3 mm long; petiole [2.5 – 7.5 (– 12)] mm long, glabrous. Inflorescence terminal, scorpioid paniculiform, many-flowered; peduncles glabrous, 3 – 5 cm long, slender; bracts linear, 5 – 8 mm long. Flowers on a rachis sessile for lateral ones and with short pedicels for terminal ones, distylous, 5-merous; bracteoles linear, 2 – 3 mm long. Hypanthium obconical, ca. 1.5 mm long, glabrous; lobes triangular, small, ca. 0.5 mm long, glabrous. Corolla salverform, white or somewhat pinkish, glabrous abaxially, tube 1 – 1.5 cm long, ca. 1 mm wide; lobes elliptic, (2.5 – 3) mm × ca. 1. 5 mm, apex acute, pubescent adaxially; stamens 5; anthers oblong-linear, yellow, dorsifixed; filaments linear; stigma bilobed. Long-styled flowers: corolla tube with a ring of hairs on throat; stamens 3 – 4 mm long, included, not exceeding to half the corolla tube, anthers ca. 1.5 mm long, filaments 1.5 – 2.5 mm long, adnate to the base of corolla tube; styles 1.5 – 2 cm long, exserted; stigma lobes capitate, ca. 0.3 mm, purplish. Short-styled flowers: corolla tube sparsely pubescent adaxially; stamens 5 – 5.5 mm long, exserted, anthers 1.5 – 2 mm long, filaments ca. 3.5 mm long, adnate to the upper corolla tube; styles 3 – 5 mm long, included; stigma lobes linear, 1.5 – 2 mm long. Capsules subglobose, 2 – 2.8 mm in diam., with persistent calyx lobes; valves erect, not twisted while dehiscence. Seeds ca. 0.5 mm long, many, light brownish, angular.

Distribution and habitat: Known only from the type locality. It grows in a very limited shady and moist area at the mouth of a karst cave. The

Table 1 Morphological comparison of *Spiradiclis yangchunensis* and *S. howii*

Characters	*S. yangchunensis*	*S. howii*
Stem	Glabrous	Subglabrous to densely pilose
Leaf	Lanceolate, apex acute, somewhat falcate, base narrowly attenuate, glabrous	Lanceolate to ovate, apex acuminate, subfalcate, base cuneate to subrounded, pubescent
Leaf size (cm)	4.6 – 7.5 (– 9) × 1 – 1.5 (– 2)	(1.6 –) 2.7 – 10.3 × 0.8 – 3.3
Secondary veins	5 or 6 on each side	(5 –) 6 – 8 (– 11) on each side
Stipule	Simple, linear, 2 – 3 mm long, glabrous	Simple or 2-lobed, linear, 1.5 – 3.7 mm long, pubescent
Inflorescence	Terminal; scorpioid paniculiform; peduncles 3 – 5 mm long, glabrous	Terminal; cymose inflorescence; peduncles 0.8 – 4.8 mm long, pubescent densely
Bracts	Linear, 5 – 8 mm long	Linear, 3.5 – 7.8 mm long
Bracteoles	Linear, 2 – 3 mm long	Linear, 1.6 – 3.2 mm long
Hypanthium lobes	Triangular, ca. 0.5 mm long, glabrous	Narrowly lanceolate, (3 – 4.6) mm × ca. 0.5 mm, pubescent densely
Corolla	Salverform, corolla tube (1 – 1.5) cm × ca. 1 mm	Salverform, corolla tube (1 – 1.7) cm × ca. 1 mm
Long-styled flowers	Stamens 3 – 4 mm long, adnate to the base of corolla tube, not exceeding the half of the tube; styles 1.8 – 2.1 cm long	Stamens ca. 0.4 mm long, adnate to the middle of corolla tube; styles ca. 1.4 cm long
Short-styled flowers	Sparsely pubescent adaxially; styles 3 – 5 mm long	Densely pubescent adaxially; styles ca. 7 mm long
Capsule	Subglobose, 2 – 2.8 mm	Subglobose, 2.5 – 4 mm

associated plants are mainly *Ctenitis subglandulosa* (Hance) Ching, *Adiantum capillus-veneris* L., and *Ficus tinctoria* G. Forst. subsp. *gibbosa* (Bl.) Corner.

IUCN Conservation assessment: The number of all *Spiradiclis yangchunensis* individuals is estimated to be less than 200 within an area of less than 400 m^2. The population is prone to the effects of human activities or stochastic events in an uncertain future, because the plants grow at the roadside in Yangchun National Geopark, and it is evaluated as Endangered (EN, B2ab (i, iii, iv); D), according to the IUCN Red List Categories and Criteria[12].

Phenology: Flowering in October to November and fruiting in November.

Additional specimens examined (paratypes): CHINA. Guangdong Province: Yangchun County, Helang Town, 10 November 2014, R.J. Wang 2916, short-styled flowers (IBSC), R.J. Wang 2918, in fruiting (IBSC).

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