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## 聚叶钗子股—中国兰科新记录种及形态特征增补

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**摘要:** 报道了产自滇东南的中国兰科植物一新记录种——聚叶钗子股(*Luisia appressifolia* Averyanov)。研究发现, 已往文献报道该种时, 对其花部特征(如花颜色、萼片及花瓣形状、大小等)的描述仅依据腊叶标本, 因标本严重失水导致描述信息不准或缺失。本文根据新鲜植株和花部材料对该种相关形态特征给予了补充。

**关键词:** 聚叶钗子股; 兰科; 新记录; 增补; 中国

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## New record and additional notes on *Luisia appressifolia* (Orchidaceae) in China

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**Abstract:** *Luisia appressifolia* Averyanov, a newly recorded species characterized by erect and branched stem, clasped leaves, golden yellow petals and labellum, and labellum adaxially with fleshy longitudinal ridge on epichile is reported from China.

**Key words:** *Luisia appressifolia*; Orchidaceae; Newly recorded; Additional note; China

*Luisia* was established in 1829 by Charles Gaudichaud-Beaupré<sup>[1]</sup>. The genus was named in honor of Don Luis de Torres, a Portuguese botanist from the nineteenth century<sup>[2]</sup>. Although it is a small genus, its generic and interspecific relationships are still not well understood<sup>[3-5]</sup>. There are approximately 41 species, distributed in Bhutan, China, India, Indochina, Indonesia, Japan, Malaysia, New Guinea, Pacific islands, Philippines, Sri Lanka, and Thailand<sup>[6-8]</sup>. In China, there are 11 species (five endemic), which are

mainly found in the Guangxi, Guizhou, Yunnan, and Hainan provinces<sup>[6]</sup>. *L. appressifolia* was first described from Vietnam<sup>[9]</sup> and postulated that it also occurred in South China<sup>[6]</sup>. In 2016, we carried out a botanical survey of southeastern Yunnan and discovered the existence of *L. appressifolia*.

However, the flower color and shape of *L. appressifolia* from illustrations<sup>[9]</sup> based on shrunken herbarium specimens were inconsistent with the freshly collected flowers. Here, we report

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on this newly recorded species from China and present an updated description based on fresh material, along with color plates to facilitate its recognition.

### 聚叶钗子股(新拟, Fig. 1)

*Luisia appressifolia* Averyanov, Lindleyana. 15(2): 79. 2000.

Type: Northern Vietnam. Ha Giang Province: Dong Van District, Ho Quang Phin Municipality, vicinities of Ta Xa village, 14 – 16 km to Dong Van town (23°16'N, 105°22'E), 1550 – 1600 m, limestone forest, 28 Apr. 1999, P. K. Loc, P. H. Hoang & L. Averyanov, CBL 1802 (holotype: LE)

Epiphytic herb, stem erect, usually branched, ca. 16 cm long, ca. 2.8 mm diameter, internodes ca. 1.0 cm. Leave terete, clasped, 5.6 – 7.7 cm × 2.1 – 2.4 mm, acute. Inflorescences borne from basal part of stem, green yellow with dense spots, ca. 5 mm length, 1-flowered; floral bracts broadly ovate, green yellow on adaxial surface and red on abaxial surface, ca. 3 mm length. Flowers fleshy, sepals greenish yellow with purple stripes, especially on abaxial surface; petals golden yellow, tinged with purple stripe on middle of abaxial surface, lip golden yellow, with densely brown spots on adaxial surface, anther cap pale yellow; pedicel and ovary 8 – 10 mm. Dorsal sepal ovate-oblong, 8.5 – 9.0 mm × 5.0 – 5.5 mm, obtuse; lateral sepals similar to dorsal sepal, but slightly longer and wider than dorsal sepal, acute, dorsally carinate-winged, becoming winged at apex. Petals ellipse, 11.5 – 12.2 mm × 6.0 – 6.5 mm, obtuse; lip 10 – 15 mm, thickly fleshy, without distinct boundary between epichile and hypochile; hypochile slightly concave, base with sub-rectangular lateral lobes ca. 1.5 mm; epichile oblong, 7.5 – 8.0 mm × 6.5 – 7.0 mm, adaxially with fleshy longitudinal ridge, emarginated at apex. Column ca. 3.0 mm, rostellum large,

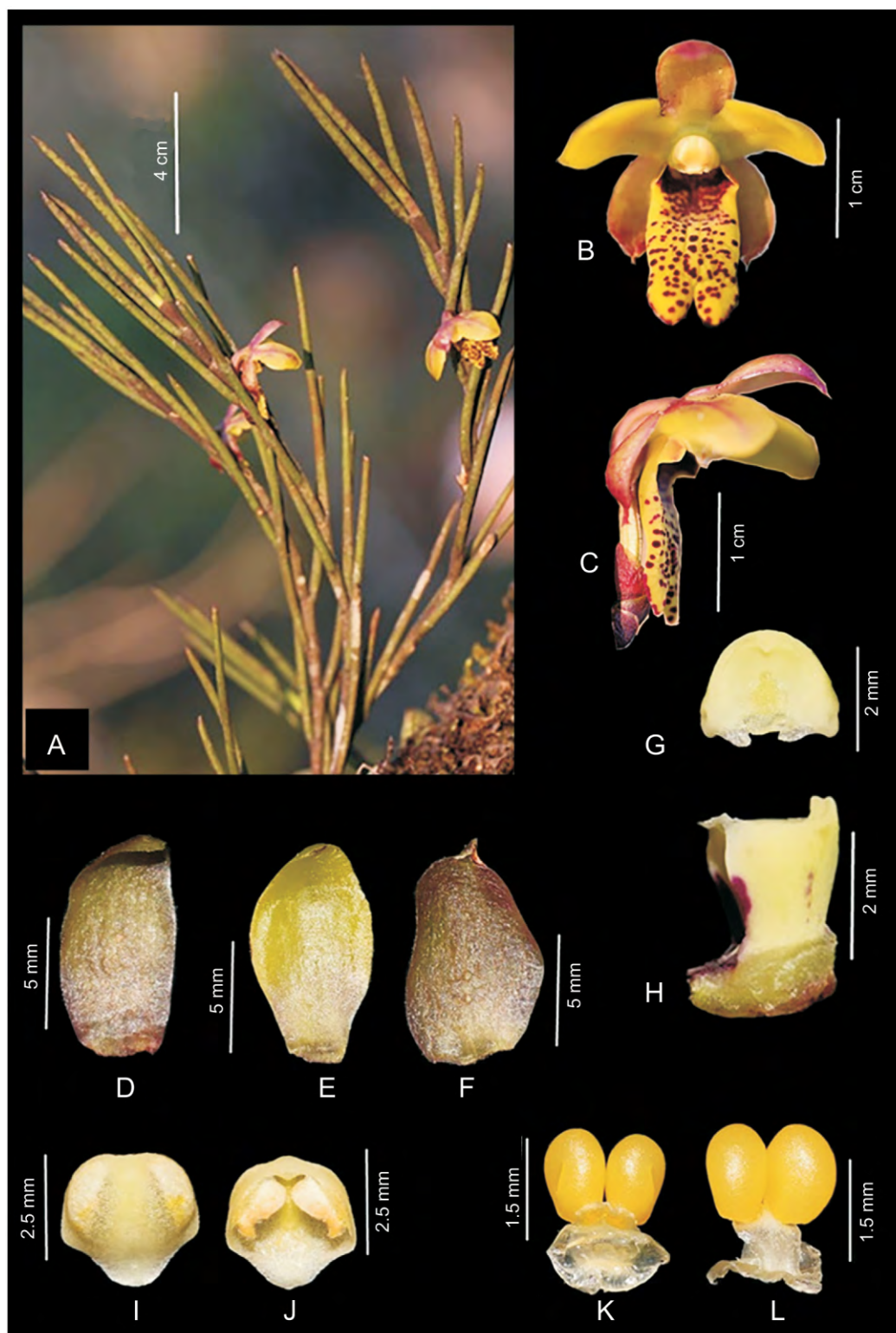
bilobed; pollinia globose, porate, ca. (2.0 × 1.0) mm; stripe ovate, ca. (1.8 × 1.2) mm; viscidium transversely oblong, large, ca. 2.0 mm wide; anther cap subglobose, ca. (2.5 × 2.7) mm, apex narrowed into beak. Flowering from April-May.

Distribution: Northern Vietnam, Cao Bang and Ha Giang Provinces. China, Yunnan Province (Malipo).

Habitat: Epiphytic on trunks at altitudes from 1450 to 1600 m in limestone forests in southeast Yunnan, China, which are mainly composed of *Quercus marlipensis* (Fagaceae), *Q. utilis* (Fagaceae), *Platycarya strobilacea* (Juglandaceae), *Manglie tiagrandis* (Magnoliaceae), *Eriobotrya japonica* (Rosaceae), *Podocarpus macrophyllus* (Podocarpaceae), *Bulbophyllum insulsum* (Orchidaceae), *Paphiopedilum malipoense* (Orchidaceae), and *Habenaria fordii* (Orchidaceae).

Additional specimens examined: —China. Yunnan: Malipo County, Xiajinchang Village, limestone forest, 1600 m, Liu 436 (HITBC!); Malipo County, Babu Village, limestone forest, 1450 m, 10 Apr. 2016, Liu 409 (HITBC!).

Morphologically, the newly recorded species is similar to *L. teres*, *L. megasepala*, *L. hancockii*, and *L. tenuifolia* by having few flowers on each inflorescence, relatively large flowers, and bilobed epichile (Table 1). However, it differs from *L. teres* (distributed in China, Japan, and Korea) by having short stem, acute apex of leaves, 1-flowered/inflorescence, and epichile emarginated at apex (vs long stem (ca. 55 cm), obtuse apex of leaves, 1–7-flowered/inflorescence, and bilobed epichile in *L. teres*)<sup>[6]</sup>; from *L. megasepala* (distributed in China) by smaller sepals (9.0 × 5.5 mm), ellipse petals, sub-rectangular lateral lobes of hypochile, and adaxially with fleshy longitudinal ridge on epichile (vs bigger sepals (15 × 6.5 mm), obovate to spatulate petals, ovate-triangular lateral lobes



A: Plant; B: Front view of flower; C: Lateral view of flower; D: Dorsal sepal; E: Petal; F: Lateral sepal; G: Rostellum; H: Lateral view of column; I: Front view of anther cap; J: Lateral view of anther cap; K & L: Pollinarium ( Photographed by Q. Liu)

Fig. 1 *Luisia appressifolia*

of hypochile , and adaxially with reticulate-sulcate on epichile in *L. megasepala*)<sup>[6]</sup>; from

*L. hancockii* ( distributed in China ) by rigid leaves , relatively large petals ( 12 × 6.5 mm ) ,

lateral lobes of hypochile, and adaxially with fleshy longitudinal ridge on epichile (vs slender leaves, small petals ( $6.0 \times 3.0$  mm), no lateral lobes of hypochile, and adaxially with three or four papillate longitudinal ridges on epichile in

*L. hancockii*)<sup>[6]</sup>; from *L. tenuifolia* (distributed in India and Sri Lanka) by ellipse sepals and sub-rectangular lateral lobes of hypochile (vs lanceolate petals and ovate-triangular lateral lobes of hypochile in *L. tenuifolia*)<sup>[3,6]</sup>.

Table 1 Morphological characters of *Luisia appressifolia* and related species

| Character     | <i>L. appressifolia</i>                                                                                          | <i>L. teres</i>                                                                                                       | <i>L. megasepala</i>                                                                     | <i>L. hancockii</i>                                                                               | <i>L. tenuifolia</i>                                                                 |
|---------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Stem          | Erect, branched, ca. 16 cm                                                                                       | Ascending or pendulous, unbranched, ca. 55 cm                                                                         | Pendulous, unbranched, ca. 50 cm                                                         | Ascending, unbranched, ca. 20 cm                                                                  | Ascending, unbranched, ca. 10 cm                                                     |
| Leaf          | Rigid, clasped, ca. 6 cm, acute                                                                                  | Rigid, facing all directions, ca. 15 cm, obtuse                                                                       | Rigid, facing all directions ca. 10 cm, obtuse                                           | Slender, facing all directions ca. 9 cm, obtuse                                                   | Slender, facing all directions ca. 15 cm, obtuse                                     |
| Inflorescence | 1-flowered                                                                                                       | 1–7-flowered                                                                                                          | 1–3-flowered                                                                             | 2–3-flowered                                                                                      | 1–2-flowered                                                                         |
| Dorsal sepal  | Greenish yellow with purple stripes, ovate-oblong, $9.0 \times 5.5$ mm                                           | Greenish yellow with purple stripes, ovate-oblong, $9.0 \times 4.0$ mm                                                | Greenish yellow with purple spots, elliptic, $15 \times 6.5$ mm                          | Yellowish green, obovate-oblong, $6.0 \times 3.0$ mm                                              | Greenish with red dots, ovate-oblong, $7.0 \times 4.0$ mm                            |
| Petal         | Golden yellow, ellipse, obtuse, $12 \times 6.5$ mm                                                               | Greenish-yellow with purple stripes, falcate-elliptic, $10 \times 3.0$ mm                                             | Greenish yellow with purple spots, obovate to spatulate, $19 \times 8.0$ mm              | Yellowish green, oblong, $6.0 \times 3.0$ mm                                                      | Greenish with red dots, lanceolate, $14 \times 3.0$ mm                               |
| Hypochile     | Golden yellow with densely brown spots, concave, lateral lobes sub-rectangular                                   | Purple or purplish brown, concave, lateral lobes sub-quadrate                                                         | Green with purple spots, lateral lobes ovate-triangular                                  | Purple-red, concave, no lateral lobes                                                             | Blackish, concave, lateral lobes ovate-triangular                                    |
| Epichile      | Golden yellow with sparsely brown spots, oblong, adaxially with a fleshy longitudinal ridge, emarginated at apex | Greenish yellow with purplish brown stripes, sub-ovate, adaxially with a fleshy longitudinal ridge near apex, bilobed | Green with dark purple spots, broadly oblong, adaxially with reticulate-sulcate, bilobed | Yellowish green, oblong, adaxially with 3 or 4 papillate longitudinal ridges, emarginated at apex | Dark purple, oblong, adaxially with a fleshy longitudinal ridge, emarginated at apex |

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