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A new synonym of *Rhododendron* subgenus *Hymenanthes* (Ericaceae)

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Abstract

Morphological comparison indicates that *Rhododendron oligocarpum* is conspecific with *R. leishanicum*. Therefore, we reduced *R. oligocarpum* to a synonym of *R. leishanicum*.

Keywords

Rhododendron, *Rhododendron leishanicum*, morphology, new synonym

Rhododendron L. is the largest genus of Ericaceae, which contains ca. 1200 species (Chamberlain et al. 1996; MacKay and Gardiner 2017). This genus is widely distributed the Asia, Europe and North America, of which the great majority occurs in China and the Malaysian archipelago, the centers of diversity are in the Himalayas and South East Asia (Fang et al. 2005; Gibbs et al. 2011). When we revised the type specimens of *Rhododendron* from Guizhou Province, China, *R. leishanicum* Fang et S. S. Chang ex Chamb. and *R. oligocarpum* Fang et X. S. Zhang were found to be morphologically very similar and identified very confusing.

Rhododendron leishanicum was originally described by Chamberlain (1982) based on a single collection, Austro-Guizhou Exped 909, from Leigong mountain in Lei Shan Xian, Guizhou Province, China (Fig. 1A). In the protologue, Chamberlain placed *R. leishanicum* in the Subsection Williamsiana. The next year, *R. oligocarpum* was described by Fang (1983) based on six collections (including Z. S. Zhang et al 401557 (Typs), Z. S. Zhang 58, T. H. Tu 31739, from Fanjing Mountain; Austro-Guizhou Exped 1411, from Leigong Mountain; G. Z. Li 6211 & 11277, from Maoer Mountain) from three different origins in China (Fig. 1B-D). According to the protologue, Fang placed *R. oligocarpum* in the Subsection *Maculifera*. Meanwhile, *R. leishanicum* was again described as a new species by Fang in the same protologue. It is worth noting that a paratype of *R. oligocarpum*, Austro-Guizhou Exped 1141, was collected from Leigong Mountain (Fig. 1C), but the relationship between *R. oligocarpum* and *R. leishanicum* were not mentioned in the protologue.

According to critical examination of the type specimens and original descriptions of *R. leishanicum* and *R. oligocarpum*, we found that both species have tomentose young branches and petioles, with small apiculate leathery leaves, racemose-umbellate inflorescences, campanulate corolla, filaments pubescent at base, ovoid ovaries (Table 1). Therefore, we place *R. oligocarpum* in synonymy with *R. leishanicum* according to ICN rules (Turland et al. 2018).

Taxonomy treatment

Rhododendron leishanicum Fang et S. S. Chang ex Chamb. (1982: 261).
Type:—CHINA. Guizhou province: Leishan Xian, Leishan, 1850 m, 29 april 1959, Austro-Guizhou Exped 909 (holotype: SZ; isotype: HGAS007912!; KUN0540381!).
Rhododendron oligocarpum Fang et X. S. Zhang (1983: 466). **syn. nov.**
Type: —CHINA. Guizhou province: Yinjiang county, Sanduodian, 2070 m, 14 april 1964, Z. S. Zhang et al 401557 (holotype: HGAS0088928!; isotypes: IBSC0481928!; PE01297915!, PE01297916!; paratype: HGAS007915!; IBK00187538!; IBK00187539!; IBK00187541!; IBK00187559!; PE00312607!; PE00313389!; KUN540382!; SZ0036179!).

Description. Shrubs or small trees, 3-6 m tall; bark gray, dehiscent on drying; branchlets terete, 3-4 mm in diam., setose when young, grad-ually glabrescent; bud scales membranous, long-ovate, 1-1.5 × 0.5-0.7 cm, apex rounded or with short cusp, with yellowish hairs on outer surface, inner surface glabrous. Petiole rounded abaxially, furrowed adaxially, 5-15 mm, densely setose; leaf blade leathery, elliptic or obovate, 4-6 × 2-3 cm; base rounded or subcordate; margin revolute, apex rounded, with small apiculate; abaxial surface pale green, glabrous or sometimes sparsely hairy on midrib; adaxial surface green, sparsely glandular; midrib impressed abaxially, grooved adaxially; lateral veins 11-15-paired, inconspicuous on both surfaces. Inflorescence racemose-umbellate, 3-5-flowered; rachis 5-7 mm, tomentose. Pedicel 1-2 cm, densely setose-tomentose; calyx teeth 5, 1-2 mm; corolla campanulate, purple-red, with deep purple basal spots, 3-3.5 cm, lobes 5, sub-orbicular, ca. 1.5 ×2 cm; apex emarginate; stamens 10, unequal, 1–2 cm, filaments pubescent at base, ovary cone-shaped, 4-5 mm, densely setulose-tomentose; style 2.5-3 cm, glabrous, stigma slightly expanded. Capsule cylindric, 20-25 × ca. 7 mm, rough. Flowering from April to May and fruiting from September to October.

Distribution and habitat. *Rhododendron leishanicum* is distributed in Eastern Guizhou and Northeastern Guangxi. It grows in Thickets at 1800-2500 m a.s.l.

Specimens examined. China. Guizhou: Qiandongnan Prefecture, Leigong Mountain, *P. L. Song 1016* (GYBG barcode 0002282, 0002283), *4407* (CCNU barcode 9018123), *4717* (CCNU barcode 9018122); Tongren City, Fanjing Mountain, Z. S. Zhang et al 401673 (IBSC barcode 0481934), *401317* (HGAS barcode 0088940, IBSC barcode 0481929), *400681* (HGAS barcode 0088933), *400610* (HGAS barcode 0088939), *Z. P. Jian 32039* (HGAS barcode 0088938), *Wuling Mountain Expedition 731* (GFS barcode 0007355, KUN barcode 0339467, 0339468, PE barcode 00258535), *1348* (GFS barcode 0007356, KUN barcode 0339469). **Guangxi:** Guilin City, Maoer Mountain, *G. Z. Li 11272* (IBK barcode 00187540), *12378* (IBK barcode 00187542), *12084* (IBK barcode 00187561), *F. X. Jin 1066* (HTC barcode 0010523, 0010524, 0010525), *J. X. Zhong 83311* (IBK barcode 00187551, 00187552, IBSC barcode 0481913), *83523* (IBK barcode 00187560), *81647* (IBK barcode 00187566, 00187567), *L. M. Gao 20077* (KUN barcode 0767388, 0767389).

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Additional information

Conflict of interest
The authors have declared that no competing interests exist.

Ethical statement
No ethical statement was reported.

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Author contributions
Conceptualization: XC, LH, SC. Data curation: JMY, JXL, YSH. Writing – original draft: SC, LH, XC. Writing - review and editing: SC, XC.

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Data availability
All of the data that support the findings of this study are available in the main text.

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