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云南种子植物分布新记录*

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摘要: 在乌蒙山保护区野外调查中, 发现 11 种云南新记录种子植物, 其中假繁缕属 (*Theligonum*) 和齿鳞草属 (*Lathraea*) 为新记录属, 丰富了云南省种子植物区系。建议将发表的新记录物种的凭证标本保存在较大的可供公开查询的标本馆, 建立省级高等植物分布信息实时动态数据库, 以便国家和省级植物志的更新。

关键词: 假繁缕属; 齿鳞草属; 种子植物; 新记录; 云南省

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New Records of Seed Plants in Yunnan

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Abstract: During the latest survey of Wumeng Mountain National Nature Reserve, 11 new records of species were found in Yunnan, including 2 new records of genera, *Theligonum* and *Lathraea*. We suggested that all the voucher specimens of new records deposited in the Herbariums with public access when published, and establish the dynamic updating database of the new distributional information.

Key words: *Theligonum*; *Lathraea*; seed plants; new records; Yunnan Province

During the latest survey of Wumeng mountain National Nature Reserve from April to May in 2016, two genera and 11 species of seed plants were recorded for the first time in Yunnan, which are important supplement to the flora of Yunnan, after the 10 new recorded species of seed plants by Ding *et al.* in 2009^[1]. Most of these species are the elements of Huazhong Flora Region, offering more evidence to the conclusion that Wumeng mountain of NE Yunnan is a part of the Huazhong Flora Region^[2]. It implied that the catalogue of Yunnan plants is still ongoing. All the voucher specimens are deposited in Herbarium of Kunming Institute of Botany, Chinese Academy of Sciences (KUN). Here they are reported as follow (Figure 1):

1 异叶假福王草 (Asteraceae, Plate I, 1)

Paraprenanthes prenanthoides (Hemsley) C. Shih, Acta Phytotax. Sin. 26:423. 1988. Flora Reipublicae Popularis Sinicae 80(1):180. 1997. Flora of China 20-21:227. 2011.

China. Yunnan (云南): Yiliang (彝良), Haiziping (海子坪), Laomukan (老母坎), alt. 1 350m, 2016-Apr-26, H. J. Dong *et al.* (董洪进等) - WM-0081 (KUN); Yiliang (彝良), Haiziping (海子坪), Huajiaping (花椒坪), alt. 1 320m, 2016-Apr-27, H. J. Dong *et al.* (董洪进等) - WM-0222 (KUN); Dagan (大关), Sanjiangkou (三江口), Xiaoyanfang (小岩方), alt. 1 510 m, 2016-May-05, H. J. Dong *et al.* (董

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洪进等)–WM-0280(KUN).

Habitat and distribution : In margin of forest, earth slope or gravel, alt. 1 320–1 510m. Accompanied by *Emmenopterys henryi*, *Davidia involucrata*, *Lonicera*

inconspicua, *Eomecon chionantha*, *Meehania fargesii* var. *radicans*, *Viola urophylla* et al. Guangxi, Guizhou, Sichuan, NE Yunnan. **Newly recorded to Yunnan.**



注:1. *Paraprenanthes prenanthoides*; 2. *Trigonotis laxa* var. *hirsuta*; 3. *Carex caespitosa*; 4. *Kobresia capillifolia*; 5. *Salvia substolonifera*; 6. *Lathraea japonica*; 7. *Theligonum macranthum*; 8. *Saxifraga davidii*; 9. *Mazus omeiensis*; 10. *Pedicularis omiiana*; 11. *Pilea peploides*

Plate 1

2 硬毛附地菜 (Boraginaceae, Plate I, 2)

Trigonotis laxa I. M. Johnston var. *hirsuta* W. T. Wang ex C. J. Wang, Acta Bot. Yunnan. 4: 39. 1982. Flora Reipublicae Popularis Sinicae 64(2): 97. 1989. Flora of China 16: 368. 1995.

China. Yunnan (云南): Yiliang (彝良), Haiziping (海子坪), Huajiaoping (花椒坪), alt. 1 280m, 2016–Apr–27, H. J. Dong et al. (董洪进等)–WM-0175(KUN); Daguan (大关), Sanjiangkou (三江口),

Xiaoyanfang (小岩方), alt. 1 560 m, 2016–May–05, H. J. Dong et al. (董洪进等)–WM-0403(KUN).

Habitat and distribution: On roadside, grass slope. Accompanied by *Euptelea pleiospermum*, *Stachyurus salicifolius*, *Corylopsis sinensis*, *Mazus omeiensis*, *Viburnum prattii*, *Faberia sinensis*, *Epimedium davidii*, *Cypripedium henryi*, *Primula ovalifolia* et al. Guizhou, Hunan, Jiangxi, NE Yunnan. **Newly recorded to Yunnan.**

3 丛藁草 (Cyperaceae, Plate I, 3)

Carex caespitosa Linnaeus, Sp. Pl. 2:978. 1753.

Flora Reipublicae Popularis Sinicae 12:412. 2000. Flora of China 23:424. 2010.

China. Yunnan (云南): Yiliang (彝良), Xiaocoba (小草坝), Chaotianma (朝天马), alt. 1 910m, 2016– May–18, H. J. Dong *et al.* (董洪进等)–WM–0445 (KUN).

Habitat and distribution: On cliff along stream. Accompanied by *Dipentodon sinicus*, *Meliosma cuneifolia* var. *glabriuscula*, *Sorbus arguta*, *Pilea verrucosa*, *Beesia calthifolia*, *Primula sinolisteri*, *Asteropyrum peltatum*, *Asteropyrum cavaleriei et al.* Heilongjiang, Jilin, Nei Mongol, Qinghai, Shaanxi, Xinjiang, NE Yunnan, also Japan, Kazakhstan, Korea, Mongolia, Russia, Turkmenistan, SW Asia (Caucasus, Turkey), Europe. **Newly recorded to Yunnan.**

4 线叶嵩草 (Cyperaceae, Plate I, 4)

Kobresia capillifolia (Decaisne) C. B. Clarke, J.

Linn. Soc. Bot. 20:378. 1883. Flora Reipublicae Popularis Sinicae 12:31. 2000. Flora of China 23:279. 2010.

China. Yunnan (云南): Yiliang (彝良), Xiaocoba (小草坝), Niujiayuan (牛角岩), alt. 1 745m, 2016– May–18, H. J. Dong *et al.* (董洪进等)–WM–0483 (KUN).

Habitat and distribution: On cliff along the road. Accompanied by *Fagus lucida*, *Sycopsis triplinervia*, *Carpinus fangiana*, *Cornus multinervosa*, *Beesia calthifolia*, *Primula stenodonta*, *Asteropyrum peltatum*, *Veronica laxa et al.* Gansu, Qinghai, Sichuan, Xinjiang, Xizang, NE Yunnan, also Afghanistan, Bhutan, India (Himachal Pradesh, Sikkim), Kashmir, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Tajikistan. **Newly recorded to Yunnan.**

5 佛光草 (Lamiaceae, Plate I, 5)

Salvia substolonifera E. Peter, Acta Horti Gothob. 9:138. 1934. Flora Reipublicae Popularis Sinicae

66:177. 1977. Flora of China 17:219. 1994.

China. Yunnan (云南): Yiliang (彝良), Haiziping (海子坪), Laoshuidong (老水洞), alt. 1 275m, 2016–Apr–28, H. J. Dong *et al.* (董洪进等)–WM–0262 (KUN).

Habitat and distribution: On grass slope along roadside. Accompanied by *Euscaphis japonica*, *Stachyurus chinensis*, *Lonicera ligustrina*, *Sargentodoxa cuneata*, *Corydalis temulifolia*, *Geranium nepalense*, *Meehania fargesii* var. *pedunculata*, *Peracarpa carnosa et al.* Fujian, Guizhou, Hunan, Sichuan, NE Yunnan, Zhejiang. **Newly recorded to Yunnan.**

6 齿鳞草 (Orobanchaceae, Plate I, 6)

Lathraea japonica Miquel, Ann. Mus. Bot. Lugduno–Batavi. 3:205. 1867. Flora Reipublicae Popularis Sinicae 69:93. 1990. Flora of China 18:243. 1998.

China. Yunnan (云南): Dagan (大关), Sanjiangkou (三江口), Mafengwan (麻风湾), alt. 1 820m, 2016– May–06, H. J. Dong *et al.* (董洪进等)–WM–0364 (KUN).

Habitat and distribution: In forest along stream. Accompanied by *Davidia involucrata*, *Cercidiphyllum japonicum*, *Hydrangea davidii*, *Dichocarpum adiantifolium*, *Meconopsis chelidoniifolia*, *Anemone davidii*, *Cardamine flexuosa*, *Chrysosplenium delavayi et al.* S Gansu, N Guangdong, N Guizhou, S Shaanxi, SE Sichuan, NE Yunnan, also Japan, Korea. **Newly recorded genus to Yunnan.**

Note: *Lathraea* is new recorded genus in Yunnan, a typical parasitic herb of the Sino–Japan flora.

7 齿鳞草假繁缕 (Rubiaceae, Plate I, 7)

Theligonum macranthum Franchet, Nouv. Arch. Mus. Hist. Nat., sér. 2. 10:71. 1887. Flora Reipublicae Popularis Sinicae 53 (2):151. 2000. Flora of China 19:346. 2011.

China. Yunnan (云南): Dagan (大关), Sanjiangkou (三江口), Mafengwan (麻风湾), alt. 1 820m, 2016– May–06, H. J. Dong *et al.* (董洪进等)–WM–0346 (KUN).

Habitat and distribution: On rock along the stream. Accompanied by *Davidia involucrata*, *Ribes da-*

vidii, *Sorbus scalaris*, *Polygonum runcinatum* var. *sinense*, *Meconopsis chelidoniifolia*, *Anemone davidii*, *Cardamine flexuosa*, *Chrysosplenium delavayi* et al. Chongqing, W Hubei, Hunan^[3], Sichuan, NE Yunnan, Zhejiang. **Newly recorded genus to Yunnan.**

Note: *Theligonum* is new recorded genus in Yunnan. *Theligonum* was previously placed in Theligonaceae, then transferred into Rubiaceae based on molecular evidence^[4].

8 双喙虎耳草 (Saxifragaceae, Plate I, 8)

Saxifraga davidii Franchet, Bull. Herb. Boissier. ser. 2, 8: 229. 1886. Flora Reipublicae Popularis Sinicae 34(2): 62. 1992. Flora of China 8: 283. 2001.

China. Yunnan (云南): Yiliang (彝良), Xiaocaoba (小草坝), Huijiangyan (灰浆岩), alt. 1 765 m, 2016–May–19, H. J. Dong et al. (董洪进等)–WM–0523 (KUN).

Habitat and distribution: On rock under forest. Accompanied by *Fagus lucida*, *Sycopsis triplinervia*, *Viburnum oliganthum*, *Malus prattii*, *Stranvaesia amphi-oxa*, *Meliosma kirkii*, *Primula sinolisteri*, *Asteropyrum peltatum*, *Veronica laxa* et al. W Sichuan, NE Yunnan, also N Myanmar. **Newly recorded to Yunnan.**

9 岩白翠 (Scrophulariaceae, Plate I, 9)

Mazus omeiensis H. L. Li, Taiwania. 1: 161. 1950. Flora Reipublicae Popularis Sinicae 67(2): 182. 1979. Flora of China 18: 48. 1998.

China. Yunnan (云南): Dagan (大关), Sanjiangkou (三江口), Xiaoyanfang (小岩方), alt.

1 520 m, 2016–May–03, H. J. Dong et al. (董洪进等)–WM–0289 (KUN).

Habitat and distribution: On rock of slope along road. Accompanied by *Euptelea pleiospermum*, *Corylopsis sinensis*, *Padus grayana*, *Sabia yunnanensis*, *Mazus omeiensis*, *Viburnum prattii*, *Faberia sinensis*, *Epimedium davidii*, *Cypripedium henryi*, *Primula ovalifolia* et al. NW Guizhou, SW Sichuan, NE Yunnan. **Newly recorded to Yunnan.**

10 峨嵋马先蒿 (Scrophulariaceae, Plate I, 10)

Pedicularis omiiana Bonati, Bull. Soc. Bot. France. 54: 184, 375. 1907. Flora Reipublicae Popularis Sinicae 68: 97. 1963. Flora of China 18: 132. 1998.

China. Yunnan (云南): Dagan (大关), Luohanba (罗汉坝), Zhuangzhuanghe (转转河), alt. 1 920 m, 2016–May–20, H. J. Dong et al. (董洪进等)–WM–0554 (KUN).

Habitat and distribution: Under forest along river. Accompanied by *Lithocarpus hancei*, *Sorbus multijuga*, *Taxus wallichiana* var. *mairei*, *Cerasus clarifolia*, *Rhododendron irroratum*, *Homocodon brevipes*, *Aletris stenoloba*, *Carex fluviatilis*, *Monotropastrum humile* et al. W and WC Sichuan, NE Yunnan. **Newly recorded to Yunnan.**

11 矮冷水花 (Urticaceae, Plate I, 11)

Pilea peploides (Gaudichaud – Beaupre) W. J. Hooker & Arnott, Bot. Beechey Voy. 96. 1832. Flora Reipublicae Popularis Sinicae 23(2): 149. 1995. Flora of China 5: 119. 2003.

China. Yunnan (云南): Yiliang (彝良), Haiziping (海子坪), Laomukan (老母坎), alt. 1 350 m, 2016–Apr–26, H. J. Dong et al. (董洪进等)–WM–0110 (KUN); Yiliang (彝良), Haiziping (海子坪), Huajiaooping (花椒坪), alt. 1 410 m, 2016–Apr–27, H. J. Dong et al. (董洪进等)–WM–0170 (KUN).

Habitat and distribution: Along stream, wetland. Accompanied by *Davidia involucrata*, *Phyllostachys heteroclada*, *Salvia cavalieriei* var. *simplicifolia*, *Oxalis griffithii*, *Viola arcuata*, *Corydalis sheareri*, *Dichocarpum auriculatum* et al. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hunan, Jiangxi, Liaoning, E Nei Mongol, Taiwan, NE Yunnan, Zhejiang, also Bhutan, N India, Indonesia, Japan, Korea, Myanmar, Russia (Siberia), Sikkim, Thailand, Vietnam; Pacific Islands (Hawaii). **Newly recorded to Yunnan.**

Wumeng Mountain, representing the NE Yunnan as part of Huazhou flora, contains a very different plant species composition from other area of Yunnan. It's important to reveal the relevance of Sino–Himalaya flo-

ra and Sino-Japan flora as located in the boundary between them. There is insufficient investigation of Wumeng Mountain which needed to pay more attentions. At least, 16 species had been found new to Yunnan after the publication of *Flora of China*^[1,5-6] and before this survey.

Till now, many new records have been published in diverse journals. It's easy to find a new provincial record in the nearby province, but hard to make sure whether it's published by other researchers. For example, *Meliosma kirkii* had been published as new provincial record twice in Wenshan^[7] and Yiliang^[1]. To make it complicated, there are even more species founded new to China especially in the border. So it's necessary to establish an updating database to gather all the distribution information for better consulting and plant catalogue.

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