



Phlogacanthus yangtsekiangensis, a new combination in Chinese Acanthaceae

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The genus *Cystacanthus* was established by Anderson (1867: 457) and placed in tribe Ruellieae Dumortier (1829: 23) when published. In fact, it is closely related to *Phlogacanthus* Nees von Esenbeck (1832: 76, 99) and differs only in the corolla shape and indumentum. Thus, many authors merged *Cystacanthus* with *Phlogacanthus* (Benoist 1935, Imlay 1939, Brummit 1992, Mabberley 2008). But it was still recognized as a genus independent from *Phlogacanthus* by many recent authors (Scotland 1992, Scotland & Vollesen 2000, Hu 2002, Hu & Fu 2005, Wu *et al.* 2003, 2006, Hu *et al.* 2011). Our recently unpublished molecular analysis, however, showed that species of *Cystacanthus* are nested within *Phlogacanthus* and they might be treated as a single genus, *Phlogacanthus*. *Phlogacanthus* belongs to tribe Andrographideae Endlicher (1839: 707) and consists of about 35 species distributed in S and SE Asia (Scotland 1992, Scotland & Vollesen 2000, Mabberley 2008, McDade *et al.* 2008). In the recently published English version of the *Flora of China* (Hu *et al.* 2011), eight species were recognized in *Cystacanthus*. Among these, five species, i.e., *Cystacanthus paniculatus* Anderson (1867: 458), *C. pyramidalis* Benoist (1928: 907), *C. abbreviatus* Craib (1911: 438), *C. vitellinus* (Roxburgh 1820: 117) Y. F. Deng in Hu *et al.* (2011: 477) and *C. colaniae* (Benoist 1936: 109) Y. F. Deng in Hu *et al.* (2011: 477), already have names in *Phlogacanthus*; *Cystacanthus yangtsekiangensis* (Léveillé 1915: 6) Rehder (1935: 315), *C. affinis* Smith (1916: 103) and *C. yunnanensis* Smith (1916: 104), still need to be transferred to *Phlogacanthus*.

Cystacanthus yangtsekiangensis, *C. affinis* and *C. yunnanensis* were described based on types from Jinsha Jiang Valley, N. Yunnan, China. *Cystacanthus yunnanensis* was considered to be different from *C. yangtsekiangensis* in the different indumentum. The character of the indumentum, however, is not sufficient to distinguish them as different species, as can be concluded after study of the type material. *Cystacanthus affinis* has abbreviated inflorescences and seems to be different from *C. yangtsekiangensis*. After comparing a large number of specimens, and after investigations in the field, it was revealed that *C. yangtsekiangensis* has both abbreviated and elongated inflorescences and is therefore variable in this character. Therefore, we propose both *Cystacanthus affinis* and *C. yunnanensis* as synonyms of *C. yangtsekiangensis*.

Currently, eight species in *Phlogacanthus* are recognized from China: *P. abbreviatus* (Craib 1911: 438) Benoist (1935: 712), *P. colaniae* Benoist (1936: 109), *Phlogacanthus curviflorus* (Wallich 1831: 9) Nees (1832: 99), *P. paniculatus* (Anderson 1867: 458) Imlay (1939: 128), *P. pubinervius* Anderson (1867: 508), *P. pyramidalis* (Benoist 1928: 907) Benoist (1935: 711), *P. vitellinus* (Roxburgh 1820: 117) Anderson (1867: 507) and *P. yangtsekiangensis* (Léveillé 1915: 7) C. Xia & Y. F. Deng.

Phlogacanthus yangtsekiangensis (H. Lév.) C. Xia & Y. F. Deng, *comb. nov.*

Basionym: *Strobilanthes yangtsekiangensis* Léveillé (1915: 7).—*Cystacanthus yangtsekiangensis* (H. Lév.) Rehder (1935: 315). Type:—CHINA. Yunnan: Dêqên Xian, Rives du fleuve Bleu à Ta-Tchai, 400–450 m, May–June 1912, E. E. Maire *s.n.* (holotype E!)

Cystacanthus affinis Smith (1916: 103), *syn. nov.* Type: —CHINA. Yunnan: Lijiang Shi, Fengkow Valley, Lat. 27°40'N", 8000 ft., June 1914, G. Forrest 12493 (holotype E!; isotype A!, K!).

Cystacanthus yunnanensis Smith (1916: 104), *syn. nov.* Type:—CHINA. Yunnan: Dengchuan Xian, Tengchwan Valley, Lat. 26°5'N, 7000 ft, May 1913, G. Forrest 10007 (holotype E!).

Distribution:—*Phlogacanthus yangtsekiangensis* is endemic to China and occurs in Sichuan and Yunnan.

Ecology:—This species grows in thickets in the valley at the elevation of 400–2200 m.

Conservation status:—*Phlogacanthus yangtsekiangensis* was collected from more than thirty localities and has a large area of occurrence in Jinsha Jiang Valley in N Yunnan and SW Sichuan Provinces which cover more than 20000 km². It is thus considered to be of Least Concern (LC) according to the IUCN (2001, 2011) Red List criteria and categories.

Acknowledgements

This work was supported by the National Natural Science Foundation of China (grant nos. 31070175, 31270247, 31110103911), and Main Direction Program of Knowledge Innovation of Chinese Academy of Sciences (grant no. KSCX2-EW-Z-1). We are grateful to the curators of the herbaria A, E and K for their help for our studies.

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