

Rescuing *Magnolia sinica* (Magnoliaceae), a Critically Endangered species endemic to south and south-east Yunnan, China

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SUPPLEMENTARY MATERIAL 1 Observations of floral traits of *Magnolia sinica*

Observations of floral traits were made in the flowering season (March–April) in 2012, 2013 and 2014. The floral traits of 35 flowering *M. sinica* individuals were assessed. Fresh flowers were collected from four sites (Xichou, Maguan, Hekou and Jinping; Table 1; Fig. 1) where the species is still found in its natural habitat; additional flowers were obtained from one individual at Kunming Botanical Garden. Three to 10 flowers of each individual were selected for recording record floral traits, including the colour of the tepals in various whorls; names of colours were assigned using the colour chart published jointly by the Royal Horticultural Society of London and the Flower Council of Holland, and the number of tepals was counted. Based on our literature review, study of related specimens, and field surveys, we propose that previous descriptions of floral traits be amended as follows: the colour of flower buds is greyed-purple (187B-D), red-purple (74A-D) or green (143B-D; only green is mentioned in Law, 1996, 2006); the colour of the abaxial outer tepal is greyed-purple (187C-D; described as ‘deep red’ in Law, 2004), purple-violet (81A-C) or yellow-green (145A-D); the abaxial tepal of the second layer (as counted from the outside inwards) is yellow-white (158C-D; described as ‘white’ in Law, 2004), in some flowers the base of the petal is flushed purple-violet (80A-B, 81C-D; ×Plate S1); the number of floral tepals is not restricted to nine in three whorls as reported previously (Law, 1996, 2006), as we observed 11 or 12 tepals in four whorls.

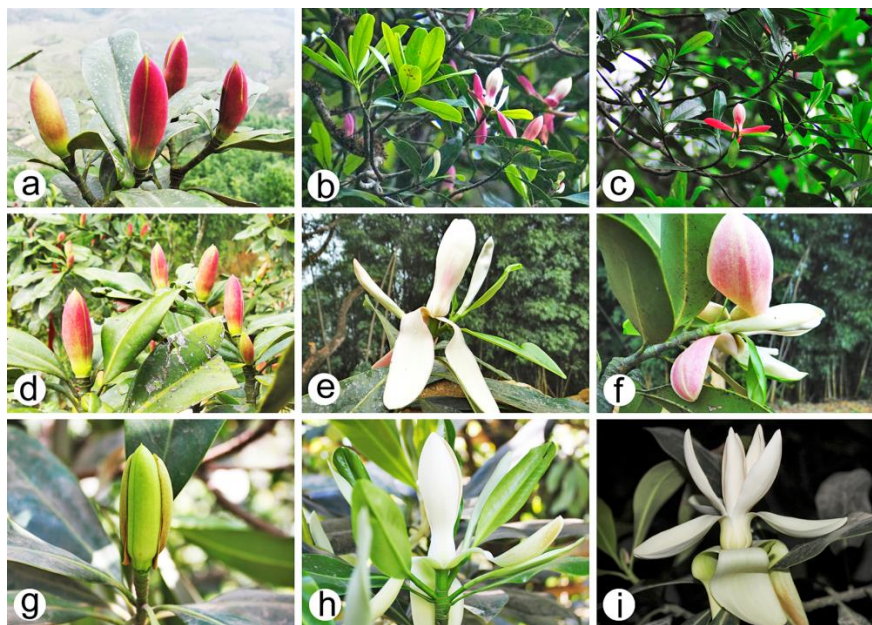


PLATE S1 Phenotypic variance of floral traits of *Magnolia sinica*: (a) greyed-purple flower buds, (b) yellow-white, flushed purple-violet abaxial tepal of the second layer, (c) greyed-purple abaxial outer tepal, (d) red-purple flower buds, (e) yellow-white, flushed purple-violet abaxial tepal of the second layer, (f) purple-violet abaxial outer tepal, (g) green flower bud, (h) yellow-white abaxial tepal of the second layer, and (i) yellow-green abaxial outer tepal.

TABLE S1 Mean annual growth rate of *M. sinica* saplings in Kunming Botanical Garden and at the reinforcement site at Xichou, with percentage increases in height, basal diameter and crown breadth.

Batch* (no. of saplings)	% increase in height (mean \pm SE)	% increase in basal diameter (mean \pm SE)	% increase in west–east crown breadth (mean \pm SE)	% increase in north–south crown breadth (mean \pm SE)
Kunming Botanical Garden (ex situ)				
KBG1 (45)	6.81 \pm 0.91	20.39 \pm 1.78	3.49 \pm 3.92	0.58 \pm 3.34
KBG2 (22)	21.09 \pm 3.28	21.60 \pm 3.05	8.47 \pm 2.93	10.79 \pm 3.09
Xichou (reinforcement)				
SC1 (20)	5.69 \pm 1.44	1.83 \pm 0.57	2.96 \pm 1.76	3.83 \pm 2.58
XQG1 (18)	16.00 \pm 1.87	33.28 \pm 5.05	27.06 \pm 6.26	28.80 \pm 16.09
SC2 (21)	8.80 \pm 1.90	7.45 \pm 3.14	13.13 \pm 5.43	9.16 \pm 3.86
XQG2 (23)	17.82 \pm 3.69	30.24 \pm 6.06	29.38 \pm 10.18	27.18 \pm 9.73

*KBG1, Kunming Botanical Garden (1); KBG2, Kunming Botanical Garden (2); SC1, Shangchang (1st batch); SC2, Shangchang (2nd batch); XQG1, Xiaoqiaogou (1st batch); XQG2, Xiaoqiaogou (2nd batch)