

PAEONIA JISHANENSIS

Posted on 2017, October 4th by khurtekant

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Paeonia jishanensis (footnote: Hong, De-Yuan. "Peonies of the World. Taxonomy and phytogeography." Kew: Royal Botanic Gardens, 2010, pp. 87-91.)

Shrubs to 1.8 m tall. Roots attenuate downwards. Turions present. Stems grey or grey—brown. Lower leaves biternate, with 9 leaflets, very occasionally terminal leaflets 3-fid to the base, and thus with 11 or 15 leaflets; leaflets ovate-orbicular or orbicular, 3-cleft, 4-8 cm long, 3-11 cm wide, glabrous above, villose along veins or throughout beneath; segments lobed, segments/lobes acute to rounded at the apex. Flowers solitary and terminal; involucre bracts 2-4 in number, long-elliptic, unequal in size; sepals 3 or 4 in number, green or yellow-green, broad—ovate, 2.5-5 cm long, 1.8—2.5 cm wide, all rounded at the apex; petals 5-11 in number, white, occasionally pinkish at the base or on margins, obovate, 4.5-7.2 cm long, 4—6 cm wide, irregularly incised at the apex; filaments pink or purple, white above, 8—10 mm long; anthers yellow, linear, 8-10 mm long; disk entirely enveloping carpels at anthesis, red-purple, leathery, dentate at the apex; carpels 5, densely tomentose; stigmas red. Follicles oblong, densely brown-yellow tomentose. Seeds dark brown, nearly spherical, 8-9 mm in diameter.

Chromosome number: $2n=10$ (diploid)

In secondary deciduous broad-leaved forests and well-developed thickets at an altitude of 900—1,700 m. Native to N Henan (Jiyuan County), C Shaanxi (Huayin County and Tongchuan City), and SW Shanxi (Jishan and Yongji counties).

According to the protologue, the holotype of *Paeonia jishanensis* is preserved in CAF. However, when we visited this herbarium and asked HONG Tao for the holotype, we were told that it had not been preserved. Thus, we designate a neotype herein.

Haw (2001) used the specific name *Paeonia spontanea* (Rehder) T. Hong & W. Z. Zhao (in Hong et al., 1994), while treating *P. jishanensis* T. Hong & W. Z. Zhao (1992) as its synonym. He cited T. Hong and Zhao's (1992) statement "P. suffruticosa subsp. spontanea has petaloid stamens, which are an important characteristic developed after domestication of a wild tree peony, so that *P. suffruticosa* subsp. spontanea should be reduced to the status of a cultivar, 'spontanea'" (translated by Haw from the original Chinese). After the citation, Haw (2001) noted that "Hong and Zhao included the type of *P. suffruticosa* subsp. spontanea (i.e. W. Purdon 338) in their concept of the species *P. jishanensis*", and concluded that "the name *P. jishanensis*, typified by Hong Tao 915010, is therefore, superfluous and illegitimate". We (Hong & Pan, 1999) restored *P. jishanensis* T. Hong & W. Z. Zhao as a valid specific name. Here, we still argue for its legitimate status. First, although T. Hong and Zhao (1992) did say that *P. suffruticosa* subsp. spontanea should be reduced as a cultivar, they did not say "in *P. jishanensis*". Second, in the same paper, they (T. Hong & Zhao, 1992) stated that "the present species (*P. jishanensis*) differs from *Paeonia suffruticosa* Andrews var. spontanea Rehder mainly in having petals white and lacking petaloid stamens." This statement clearly indicates that *P. suffruticosa* var. spontanea was not included in the circumscription of *P. jishanensis* by T. Hong and Zhao (1992). The type of *P. jishanensis*, Hong Tao 915010, can not be confused with the type of *P. suffruticosa* var. spontanea, W Purdom 338, as it was selected by Haw (2001). Therefore, *P. jishanensis* T. Hong & W. Z. Zhao is a legitimate name.

The *Paeonia jishanensis* group has been treated at three different levels: as the variety *P. suffruticosa* var. spontanea by Rehder (1920), Stern (1946), Anonymous (1972), and Pan (1979); as the subspecies *P. suffruticosa* subsp. spontanea by Haw and Lauener (1990); and as an independent species by Hong and Zhao (in Hong et al. 1994). The most distinct morphological character of *P. jishanensis* is its calyx with three or two sepals, which are all rounded at the apex and rather large, up to 5 cm long. This calyx morphology is unique in sect. Moutan DC. Another distinct feature of this species is vegetative reproduction by turions, and these long scaly shoots produced from underground stem buds can reach over 1 m long. Seeds could scarcely be found. Digging roots of this species for market as danpi, a traditional Chinese medicine, was a serious activity for several years around 1960. The species probably escaped extinction solely because of its reproductive strategy of turions.

Paeonia jishanensis is rarely found in scattered locations in the Zhongtiao Mountains (Yongji County in Shanxi and Jiyuan County in Henan), the Luliang Mountains (Jishan County, Shanxi), the Huashan Mountains (Huayin County, Shaanxi), and Tongchuan and Yan'an (both in Shaanxi). All of these populations, except the one in Yan'an (the type locality of *P. suffruticosa* var. spontanea Rehder), grow in thickets or secondary deciduous forests at altitudes from 900 to 1,700 m. The population in Yan'an consists of several individuals on the western side of the peony garden behind Zhaojun Temple in Wanhua Shan, and may well be introduced and naturalized there. Because the garden has probably been established for hundreds of years, and no one (including local people) knows its exact history and it is hard to give a definite answer about the history of *P. jishanensis* in Yan'an. All the populations mentioned above have purely white petals that are occasionally pinkish at the periphery.

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