

Two new distributional records for the Indian flora

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Abstract

Circaea alpina L. subsp. *alpina* and *Circaea x intermedia* Ehrh., a hybrid form, of Onagraceae, have been recorded for the first time for the flora of India from the Indian part of Himalayas. Detailed descriptions with scanned images of herbarium sheets of these taxa have been provided in the communication.

Key words: *Circaea alpina* subsp. *alpina*, *Circaea x intermedia*, New record; India

INTRODUCTION

During a taxonomic study of Onagraceae in India, collections of *Circaea alpina* L. subsp. *alpina* and a hybrid form *Circaea x intermedia* Ehrh. are found to be housed in Central National Herbarium (CAL) collected from the Indian part of Himalayas. The identification of these taxa have been confirmed and subsequent perusal of the literature (Gagnepain 1916; Hoch & Raven 1981; Boufford 1982; Paul 1998; Chen & Boufford 2007) revealed that both these taxa are hitherto not reported and the same are communicated here as a new records for Indian flora. A key to all the subspecies of *C. alpina* reported from India is provided to distinguish among them morphologically.

Taxonomic treatment

Circaea alpina L. Sp. Pl. 9. 1753. subsp. *alpina* – C. Jiarui & D. Boufford in Fl. China 13: 408. 2007. *Circaea caulescens* (Kom.) Nakai ex H. Hara var. *glabra* H. Hara in J. Jap. Bot. 10: 590. 1934. *C. lutetiana* L. subsp. *alpina* (L.) H. Lév. in Monde Pl. 7: 71. 1898. ‘Small enchanter’s nightshade’ (English). [Onagraceae] **[Plate I, A]**

Perennial herbs, 4-15 cm tall, rhizomatous. Stems glabrous. Leaves 1.2 – 3.5 x 0.6 – 2.5 cm, ovate to ovate - oblong, apex shortly acuminate to acute, base cordate to subcordate, less commonly truncate or rounded, margin conspicuously dentate, upper surface sparsely hairy, lower surface glabrous, translucent. Inflorescence simple or with lateral racemes from base, glabrous to densely pubescent with short glandular hairs; flowering pedicel glabrous, with a setaceous bracteole at base; flowers 2- merous with a floral tube. Sepals oblong to ovate, sometimes broadly so, apex rounded to obtuse. Petals white, obtriangular to obovate, apical notch, 1/4-1/2 length of petal. Stamens erect, ascending or spreading at anthesis. Ovary clavate to obovate, minutely pubescent; style straight, erect; stigma bilobed. Capsules clavate or obovate, tapering into the pedicel, unilocular, 1-seeded, covered with soft to stiff uncinat hairs and with few short, clavate-tipped capitate hairs.

Flowering: June – August (-September); *Fruiting:* July – October.



PLATE I. A. *Circea alpina* L. subsp. *alpina*; B. *Circea* x *intermedia* Ehrh.

Chromosome number: $n = 11$ (Seavey & Boufford 1983).

Habitat: Scattered in moist place in 3000 m altitude.

Exsiccata: India: Sikkim, Turubok, 10 Oct. 1870, *C.B. Clarke 12885B*, Acc. No. 179287 (CAL); Turubok, 10 Oct. 1870, *C.B. Clarke 12885C*, Acc. No. 179286 (CAL); Nepal, China, Japan, Korea, Mongolia, Russia.

Note: *Circea alpina* L. is having six subspecies of which three subspecies have been reported from India including present one. *C. alpina* subsp. *alpina* which is easily distinguished from other subspecies by having its ovary minutely pubescent during anthesis and petals notched 1/4-1/2 of the length.

Key to the subspecies of *C. alpina* reported from India

- 1a. Stem glabrous subsp. *alpina*
- 1b. Stem pubescent with few falcate hairs 2
- 2a. Leaves thick, opaque, denticulate to subentire, rounded to subcordate at base; ovary pubescent at anthesis subsp. *imaicola*
- 2b. Leaves thin, translucent, pale green, denticulate to serrate, cordate at base; ovary glabrous at anthesis subsp. *micrantha*

Circaea x intermedia Ehrh. in Beitr. Naturk. 4: 42. 1789. 'Upland enchanter's nightshade' (English). [Onagraceae] **[Plate I, B]**

This is a sterile hybrid, between *C. alpina* L. and *C. lutetiana* L. (Skvostsov 1979) and widespread in temperate Europe, Central and Eastern Asia and North America. The plant is a perennial herb c. 20 – 40 cm tall, occurs in moist wooded and shaded habitats and also in disturbed areas on road sides. The leaves are ovate to ovate lanceolate, 3.5 – 6.5 x 1.6 – 3.6 cm, margins subentire to sharply serrate, both surfaces sparsely hairy. Flowers white, Pedicels hairy. Capsules unequal at base with two unequal locules, abscising early before fruit maturity and containing one abortive ovule in each locule.

It spreads by rhizomes, stolons and occasionally by seed, even though it is usually sterile. It can persist in the absence of one or both parents. This vigorous hybrid perhaps arose shortly after the last Glacial period when *C. alpina* was more frequent (<http://www.brc.ac.uk/plantatlas>).

Flowering & Fruiting: June – September.

Distribution: India: Himachal Pradesh, Kashmir; Pakistan, Europe, Central and Eastern Asia and North America.

Exsiccata: India: Kashmir, Jhelum valley, without collector's name, 654/k, Acc. No. 179308 (CAL). Himachal Pradesh; Dalhousie, 7500', 17 Sept. 1874, C.B. Clarke 22656B, Acc. No. 179307 (CAL). Pakistan: Layalpur Agricultural campus, Punjab, August 1926, without collector's name, s.n., Acc. No. 179306 (CAL).

Note: In the genus *Circaea*, hybrids are common and often abundant in naturally disturbed habitats in Europe, Japan, China and North America. Eight accepted hybrid names of this genus have been mentioned in www.theplantlist.org. Four hybrids have been reported from China (C. Jiarui & D. Boufford *l.c.*). *Circaea x intermedia* Ehrh. is the first hybrid so far being reported here.

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