



Range Extension of *Bonamia evolvuloides* (Choisy) Raiz. in Tamil Nadu.

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ABSTRACT

Bonamia evolvuloides (Choisy) Raiz. (Convolvulaceae), an overlooked endemic hitherto known to occur only in the coastal areas of Gulf of Mannar has been newly collected from the scrub forests of Sivagangai district, Tamil Nadu. Detailed nomenclature, description and relevant notes are also provided for better understanding and identification of this little known species.

KEYWORDS

Bonamia evolvuloides, Endemic, Range extension, Scrub forests.

Introduction

Bonamia is a pantropical genus (Austin, 1980; Myint, 1966) comprises about 45 species and 11 varieties (Myint & Ward, 1968). The generic name *Bonamia* was established by Dupetit-Thouars (1804) in honour of Francois Bonami (1710-1786), a French physician and botanist who wrote the flora of the Environ Nantes in 1782. During botanical surveys conducted in the scrub forests of Sivagangai district, *Bonamia evolvuloides* has been collected. Screening of literature shows that it is an endemic mostly confined to coastal regions of Southern Tamil Nadu (Ahmedullah & Nayar, 1986; Nayar, 1996) and that has been overlooked by later workers. Further study of literature such as Myint & Ward (1968) revealed that *Bonamia evolvuloides* belong to the section *Breweria* characterised by the following characters viz., leaves less than 3 x 2 cm, corolla shorter than 1.8 cm and flowers mostly solitary, rarely in simple cymes. The present collection from Sivagangai district extends the distribution of the species, beyond its known distribution areas and is of phytogeographical significance. Hence it is presented here with detailed nomenclature, description, notes on ecology and images are provided. All the voucher specimens are deposited in the herbarium of Department of Botany, Saraswathi Narayanan College, Madurai.

Bonamia evolvuloides (Choisy) Raiz. in Ind. For. 84: 474. 1958; Raiz. in Ind. For. 93: 754. 1967; Chandrabose in A. N. Henry & al., Fl. Tamil Nadu 2: 104. 1987; Daniel & Umamaheswari, in Ind. J. Forest. 21(1): 64, ff. a-e. 1998 & Fl. Gulf Mannar 290, ff. a-f. 2001; Karuppusamy & Pullaiah in J. Econ. Taxon. Bot. 30(2): 243, ff. a-d. 2006. *Breweria evolvuloides* Choisy, Convolv. Orient. 1834 & in DC., Prodr. 9: 439. 1845; Wight, Cat. Indian Pl. 4: 138. No. 2302. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 4: 224. 1883; Brandis, Ind. Trees 488. 1906; Rama Rao, Fl. Pl. Travancore 282. 1914; Gamble, Fl. Pres. Madras 2: 923. 1923. *Breweria choisyana* Steudel, Nomencl. Bot. ed. 2, 1: 225. 1840. *Seddera evolvuloides* (Choisy) Wight, Icon. Pl. Ind. Orient. 4: 189. t. 1369. 1848; Demissew & Mill in Kew Bull. 64: 221. 2009.

Under shrubs, 0.8-1m high; stem much-branched; young branchlets erect, pinkish, white-hairy, older branchlets green, diffuse, radiating from the stem, leafless with age. Leaves simples, alternate, sub-sessile, elliptic or oblong or oblong-elliptic, 0.4-0.1 x 0.2-0.3 cm, white-pubescent on both sides, base cuneate, margin entire, acute-mucronate at apex; mid ribs and lateral veins obscure. Inflorescence solitary, axillary or rarely 2-3 flowered cymes; peduncles 0.5-0.8 cm long, terete, pubescent. Flowers white, 0.5 cm across; bracts ovate, pubes-

cent, pedicels 0.2-0.3 cm long. Sepals 5, oblong-elliptic, sub-erect. Corolla white, campanulate, 0.5-0.6 cm across, 5-lobed, lobes obovate, 0.2-0.4 cm long, obtuse, hairy outside, plicate at centre; corolla tube 0.3 cm long. Stamens 5, epipetalous, exerted; filaments 0.4-0.6 cm long, dilated, connate at base; anthers oblong, 0.1 cm long; ovary ovoid; 1-2 mm long, glabrous; styles 2, sub-equal, 0.5-0.6 cm long, glabrous; stigma capitate. Capsules ovoid or ovoid-subglobose, 4-valved, shortly pointed, glabrous, tipped with a tuft of hairs; seeds 4, ovoid, 0.2 cm across, black.

Flowering & Fruiting: November-December.**Specimens examined:**

Tamil Nadu: Kanyakumari district; Nagercoil 20-12-1893, M. A. Lawson s.n. (MH). Anjunagaram, on Kanyakumari-Tiruchendur highway, 25-1-1996, Daniel & Umamaheswari 107072, 31-12-1996, Daniel 107534. Tirunelveli district; Nambiyar Reservoir project site near Vijayanagaram, 13-3-1996, Daniel 107636 (MH). Sivagangai District; Opposite to Melakkad Forest range office, 200m, 24-11-2011 & 26-12-2011, R. Kottaimuthu 142569 & 142600; Near the scrub jungles from Arasanur to Padamathur, 245m, 26-11-2011 & 30-12-2012, R. Kottaimuthu 142590 & 142811.

Distribution: Tamil Nadu (Dindigul, Kanyakumari, Sivagangai, & Tirunelveli district)-Endemic.**Systematic treatment:**

Bonamia evolvuloides was originally described as *Breweria evolvuloides* by Choisy (1834) based on Heyne's material collected from Peninsular India. Alternatively Steudel (1840) proposed a new name *B. choisyana*, because he considered *Breweria evolvuloides* was a later homonym of *B. evolvuloides* R. Br. (1814) which is not. Later Wight (1848) kept the species under the genus *Seddera* Hochst. Later Raizada (1958) was the first person who correctly placed it in *Bonamia*. However, the combination was validated by him only in 1967. However recent Convolvulaceae specialists such as Demissew & Mill (2008) were followed the views of Wight (1848).

Conservation:

Populations of *Bonamia evolvuloides* are very thin everywhere and are on the risk (Karuppusamy & Pullaiah, 2006). Habitat crunch is identified as a casual factor (Daniel & Umamaheswari, 1999). In the present locality, it is facing high threats of grazing, forest fire, soil erosion and illicit felling of thorny members for fuel wood and human interference in the form of road extension. Since this species is an overlooked endem-

ic and habitat-specific, it is phytogeographically significant and warrants suitable conservation measures.

Ecology:

Bonamia evolvuloides found to grow in the scrub forests especially on red-gravelly soils at an altitude of 180-220 m. This species is found associated with *Acacia horrida* (L.) Willd., *Prosopis juliflora* (Sw.) DC., *Cadaba fruticosa* (L.) Druce, *Carissa paucinervia* DC., *Sarcostemma brunonianum* Wight & Arn., *Ceropegia juncea* Roxb., *Kedrostis foetidissima* (Jack.) Cogn., *Pentatropis capensis* (L. f.) Bullock, *Blepharis repens* (Vahl) Roth, *Perotis indica* (L.) Kuntze, *Hybanthus ennespermus* (L.) F. Muell., *Portulaca wightiana* Wight & Arn. and *Polygala elongata* Klein ex Willd. Only a small population of less than 40 individuals were recorded in the present locality, indicating its rarity.

Notes:

Bonamia evolvuloides is an overlooked endemic that is threatened. Its distribution is restricted to the Gulf of Mannar coastal and sub coastal regions (Daniel & Umamaheswari, 1999 & 2001). The present collection of this endemic species from Sivagangai District forms new report to the district as well as extends the known distribution in Tamil Nadu. The disjunct distribution of *Bonamia evolvuloides* from Coastal areas of Gulf of Mannar to Sivagangai can not, as yet be explained.

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Fig. *Bonamia evolvuloides* (Choisy) Raiz.
A-Flowering twig; B-Fruiting twig

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