

***GLOCHIDION TALAKONENSE* SP. NOV. (PHYLLANTHACEAE) FROM  
SESHACHALAM BIOSPHERE RESERVE, ANDHRA PRADESH, INDIA**

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**Abstract**

*Glochidion talakonense* M. Sankara Rao, J. Swamy, S. Nagaraju, S.B. Padal, M. Tarakeswara Naidu, K. Chandramohan & T. Thulasiah, a new species of Phyllanthaceae from Talakona hills, Seshachalam Biosphere Reserve, Andhra Pradesh, India, is described and illustrated. It is allied to *G. karnaticum* Chakrab. & M. Gangop., but differs from the latter by stamens, ovary, style and fruit characters.

**Introduction**

The Seshachalam hills, spread in Chittoor and Kadapa districts of Andhra Pradesh, were declared as Biosphere Reserve by Government of India in 2010. The Reserve lies between the latitudes of 13° 38" and 13° 55" N and the longitudes of 79° 07" and 79° 24" E with an area of c. 4755.99 sq. km. The vegetation of the reserve is chiefly Southern dry mixed deciduous forests, dry deciduous scrub, dry savannah, Red sander forests and *Hardwickia* forests (Champion and Seth, 1968). A total of 1756 species of flowering plants belonging to 176 families are estimated to occur in this area (Sudhakar, 2012). The hill ranges vary in elevation from 400 to 1370 m with an average altitude of 700 m above sea level.

The genus *Glochidion* J.R. Forst & G. Forst. is represented by c. 320 species distributed in tropical Asia to Northern Australia and Polynesia, a few species in Madagascar and tropical America (Chakrabarty and Gangopadhyay, 1995, 2012; Balakrishnan and Chakrabarty, 2007). In India, the genus is represented by c. 22 species and 8 varieties, of which 3 species and one variety are reported from Andhra Pradesh (Babu, 1997; Chakrabarty and Gangopadhyay, 1995, 2012). Recently, one new species was described from the Seshachalam Hills (Rasingam *et al.*, 2014). While exploring the Talakona area of Seshachalam Biosphere Reserve, the authors collected an interesting species of *Glochidion*, which on critical observations showed conspicuous differences from all other known species of the genus. The same is therefore described and illustrated here as a new species *Glochidion talakonense* sp. nov. and compared with the allied *G. karnaticum* Chakrab. & M. Gangop.

***Glochidion talakonense*** M. Sankara Rao, J. Swamy, S. Nagaraju, S.B. Padal, M. Tarakeswara Naidu, K. Chandramohan & T. Thulasiah **sp. nov.** (Figs 1 & 2).

**Diagnosis:** *Glochidion talakonense* is allied to *G. karnaticum* Chakrab. & M. Gangop., but differ in the asymmetric-rounded leaf-base, 5 stamens, 6-locular ovary and capsules and the longer columnar style, inflexed at apex (Table 1).

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*Type:* India. Andhra Pradesh, Chittoor Dist., Talakona hills (13° 48' 43.7" N & 79° 13' 05.5" E), 852 m, 16 Apr 2014, *M. Sankara Rao & Party*, 4465 (*Holotype:* CAL; *Isotypes:* BSID); *ibid.*, 9 Sep 2014, *M. Sankara Rao & Party* 5503 (*Paratypes:* BSID).

Trees, up to 7 m high; branches spreading; branchlets terete, puberulous when young, glabrescent at maturity, greenish-yellow. Leaves oblong to oblong-elliptic, 4.0-12.5 x 2.5-6.2 cm, asymmetric-rounded at base, entire, acuminate at apex, thinly coriaceous, glabrous, green above, glaucous beneath; lateral veins 7-8 pairs, prominent on both sides; petioles 4-5 x c. 2 mm, glabrous; stipules subulate, 1-2 mm long, puberulous. Inflorescences axillary, sessile, fascicled, 8-many-flowered, unisexual or bisexual. Male flowers: up to 18 in each fascicle, c. 2.0 x 1.8 mm, brownish-pink; pedicels filiform, up to 4 mm long; tepals 3+3, free, unequal, spreading and recurved, puberulous outside, glabrous inside; outer ones 1.8 x 1.3 mm, ovate, acute at apex; inner ones 1.8-2.0 x c. 1 mm, elliptic-oblong, rounded at apex; stamens 5; anthers connate into an oblong mass, c. 0.8 x 0.6 mm, connectives c. 0.3 x 0.3 mm; anther thecae linear, longitudinally dehiscent. Female flowers: many in each fascicle, 4-5 x 4.5-4.7 mm, greenish with purple tinge; pedicels 2-4 mm long; tepals 3+3, free or occasionally shortly connate at base, unequal, tawny-puberulous on both surfaces; outer ones 1.8-2.2 x 1.6-1.8 mm, ovate, acute at apex; inner ones 1.4-2.0 x 0.8-1.2 mm, oblong, rounded or acute at apex; ovary subglobose, c. 2.3 x 2.6 mm, glabrous or puberulous, 6-locular, locules biovulate; styles columnar, inflexed at apex, c. 2.3 x 0.9 mm; apical lobes 6, linear or triangular, tawny-puberulous. Fruits capsular, 6-7 x 8-9 mm, shallowly lobed, slightly depressed, glabrous or puberulous. Seeds 12, glabrous.

*Phenology:* Flowering & Fruiting: April - September.

*Etymology:* The species is named after the type locality, "Talakona", a famous water fall in Seshachalam Biosphere Reserve in Chittoor district of Andhra Pradesh.

*Habitat:* Along waterfalls in moist deciduous forests at about 852 m elevation growing in association with *Allophylus cobbe*, *Syzygium alternifolium* and *Phoenix loureiroi*.

**Table 1. Morphological comparison of *Glochidion talakonense* sp. nov. and its allied *G. karnaticum*.**

Characters	<i>Glochidion talakonense</i> sp. nov.	<i>Glochidion karnaticum</i>
Leaves	Asymmetric-rounded at base	Acute at base
Petioles	4-5 x c.2.2 mm	2-3 x 1.0-1.5 mm
Male pedicels	Up to 4 mm long	7-10 mm long
Male tepals	Unequal, outer ones ovate, 2.3-2.6 x 1.5-1.7 mm; inner ones elliptic-oblong, 1.8-2.0 x 0.9-1.0 mm	Equal, oblong, elliptic-ovate, 1-2 x 0.5-1.0 mm
Anthers	5	3
Female pedicels	2-4 mm long	c. 2 mm long.
Female tepals	Unequal, outer ones ovate, 1.8-2.2 x 1.6-1.85 mm; inner ones oblong, 1.4-2.0 x 0.8-1.2 mm	Equal, oblong, 1.0-1.5 x c. 0.5 mm
Ovary	6-locular, 2.0-2.6 mm in diameter	4-locular, c.1 mm in diameter
Style	Columnar, inflexed at apex, c. 2.3 x 0.9 mm	Columnar, c.1 x 0.4 mm
Fruits	6-7 x 8-9 mm, 6-locular	2-3 x 4-5 mm, 4-locular

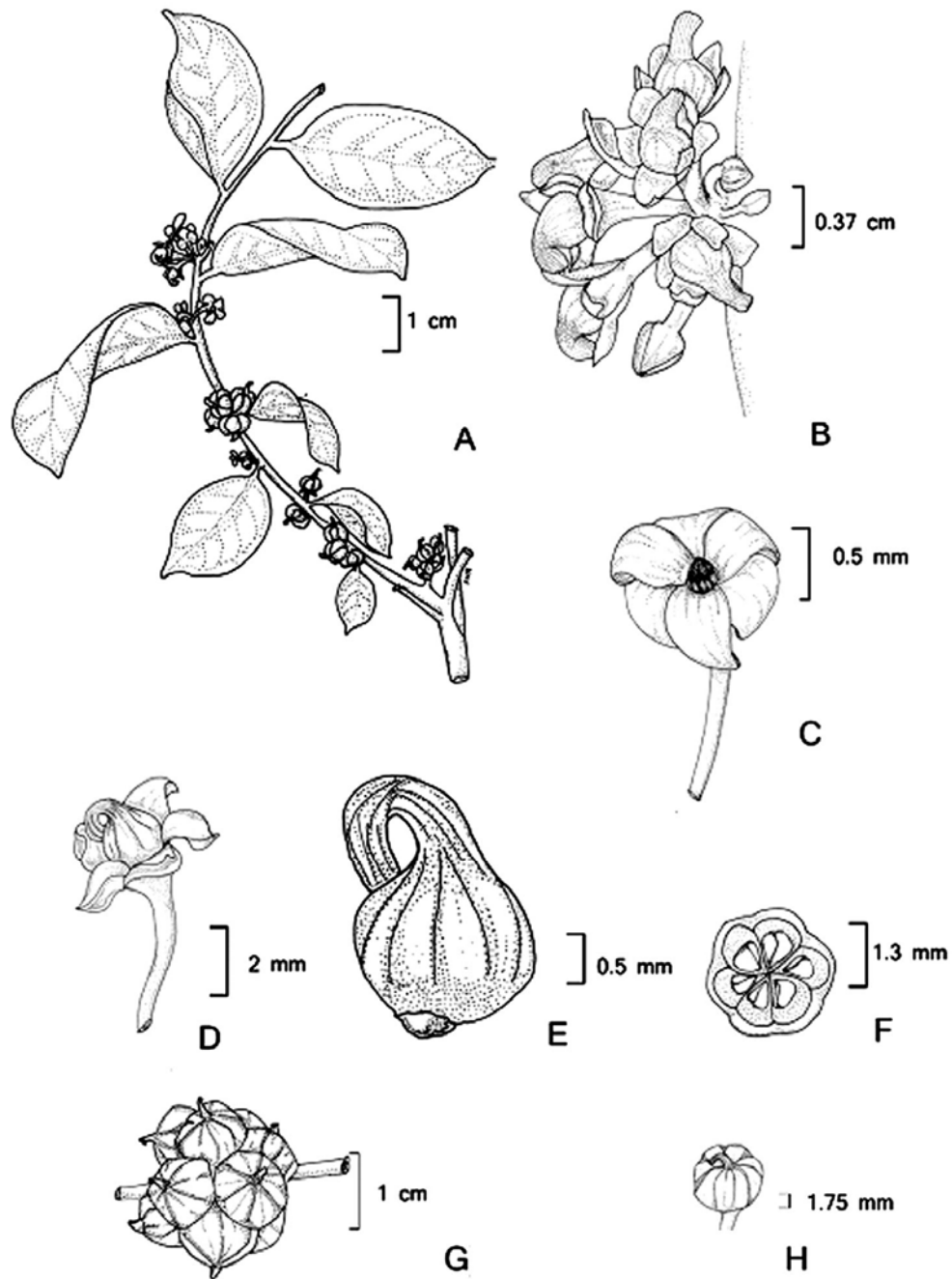


Fig. 1. *Glochidion talakonense*, sp. nov. A. Flowering branch; B. Inflorescence; C. Male flower; D. Female flower; E. Gynoecium; F. T.S. of ovary; G-H. Fruits.



Fig. 2. *Glochidion talakonense*, sp. nov. A. Habit; B. Adaxial and abaxial view of leaves; C. Inflorescence (mixed); D. Male inflorescence; E. Female inflorescence; F. Fruits; G. Male flower; H. Female flower; I. Androecium; J. Gynoecium; K. T. S. of ovary. (from type specimen)

*Conservation status:* *Glochidion talakonense* is a local endemic and so far known only from its type locality with nearly five [Criteria D] mature individuals. As it is known from a single location [Criteria B(a)], the Extent of Occurrence, EOO [Criteria B1] and Area of Occupancy, AOO [Criteria B2] is calculated as 4 km<sup>2</sup> by taking the minimum grid size of 2 km<sup>2</sup>. The quality of habitat is declining [Criteria B(b-iii)] due to climate change and high anthropogenic pressure through tourism. In view of the above, by applying IUCN Red Listing criteria and guidelines (IUCN, 2012) the threat perspective of this species has been assessed as “Critically Endangered” [CR B1ab (iii)+2ab(iii); D]. Habitat management and propagation studies are suggested conservation measures for this species.

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