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NOTE

REDISCOVERY OF *OPHIORRHIZA INCARNATA* C.E.C. FISCH. (RUBIACEAE) FROM THE WESTERN GHATS OF INDIA AFTER A LAPSE OF 83 YEARS

Perumal Murugan, Vellingiri Ravichandran & Chidambaram Murugan

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Rediscovery of *Ophiorrhiza incarnata* C.E.C. Fisch. (Rubiaceae) from the Western Ghats of India after a lapse of 83 years

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Ophiorrhiza L. a therapeutically important genus (Deb & Mondal 1997) belongs to the family Rubiaceae with 322 species in worldwide (POWO 2020). The distribution and diversity of the genus *Ophiorrhiza* is mainly recorded from tropical and subtropical regions of Asia, Australia, New Guinea, and the Pacific Islands (Darwin 1976; Chen & Taylor 2011; Duan et al. 2019). Among these, 52 taxa are found in India (Hareesh & Sabu 2018) and 21 taxa (including 12 endemics) are distributed in the evergreen forests of the Western Ghats (Deb & Mondal 1997; Sasidharan 2013; Nayar et al. 2014; Hareesh et al. 2015).

During the studies on endemic plants of Nilgiri Biosphere Reserve the authors collected an interesting species of *Ophiorrhiza* L. from the evergreen forest of Chandanathode, Wayanad District of Kerala. On the basis of critical studies based on pertinent literature (Fischer 1938, protologue; Deb & Mondal 1997) and type specimen at K (K000031234 image!), it is authenticated and confirmed to be *Ophiorrhiza incarnata* C.E.C.Fisch.

Ophiorrhiza incarnata C.E.C. Fisch.

(Image 1)

Kew Bull. 1983(3): 124. 1938; Sebastine in Bull. Bot.

Surv. India 4:223.1962; Deb & Mondal in Nayar & Sastry Red Data Ind. Pl. 1:337. 1987 & Bull. Bot. Surv. India 39:61.1997; Sasidharan, Bio. Doc. Kerala, Part 6. Flow. Plants: 227. 2004; Nayar et al. Flow. Pl. Kerala-A Hand Book 531. 2006.

Holotype: India: Kerala, Wayanad District, near Nadugani, vi.1937, *E. Barnes* 1559 (K000031234 image!)

Annual, erect herbs up to 30cm. high; branchlets terete, ascending, obscure brown-pubescent below the nodes; internodes 3–8 cm long with a vertical line of brown pubescence. Leaves simple, opposite, narrowly elliptic, 4–10 × 2–3.5 cm, base slightly in equilateral, margin slightly wavy, acuminate at apex, adaxial glabrous with dark green and abaxial pale green scabrid on the nerves; lateral nerves 8–10 pairs, arising at a wide angle from the midrib; petioles 5–15 mm long; stipules 3–8 mm long, early deciduous. Inflorescence terminal, capitate cymes; peduncles 2–4 cm long. Flowers actinomorphic, pentamerous, pinkish-white, heterostylous; bracteoles 5–8 mm long, ovate-lanceolate, subacute, slightly in equilateral, midrib distinct, pellucid-dotted; pedicels less than 1mm, very short. Calyx valvate, 1.5–2.5 mm long; tube 5-ribbed, 1.5mm long; lobes 5, broadly acicular, ca. 1mm long, glabrous. Corolla infundibuliform, 6–9

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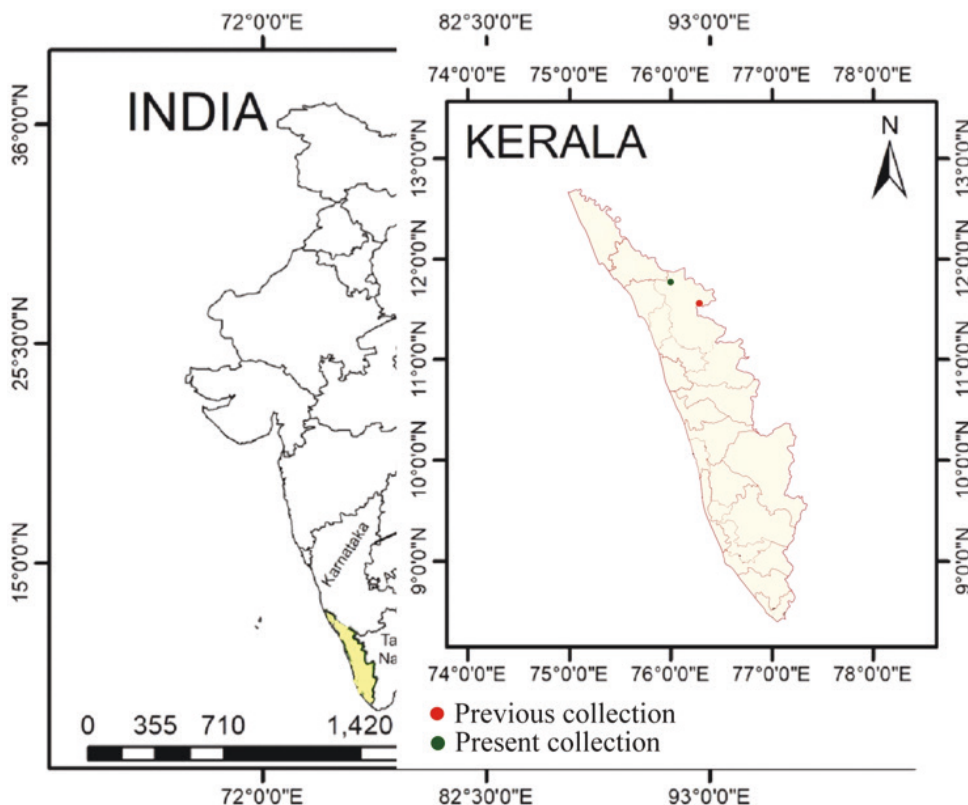


Figure 1. Distribution of *Ophiorrhiza incarnata* C.E.C. Fisch., in Western Ghats of India.

mm long, 5-lobed; tube 4.5–6.5 mm long, slender, very slightly widened at the mouth, glabrous; each lobe ca. 1.5mm long, broadly triangular, acute. Stamens 5, epipetalous, exserted, alternate to corolla lobes, attached to throat, inserted; filaments 2.5–3.5 mm long, slender; anthers ca. 2mm long, linear-oblong, 2-celled, basifixed. Ovary inferior, 0.8–1.3 mm long, obovoid; disk 0.5–0.6 mm high; style 0.8–2.5 mm long, slender; stigmas bilobed, linear, minutely puberulous. Fruit not seen (Image 1).

Flowering: April–June.

Distribution: India: Kerala (Wayanad).

Specimen examined: 144833 (MH!), 09.v.2019, India: Kerala, Wayanad District, Chandanathode, near stream side (11°50'55.7"N, 75°48'22.0"E, 754m), coll. P. Murugan & V. Ravichandran (Figure 1, Image 1).

Deb & Mondal (1997) reported that *Ophiorrhiza incarnata* C.E.C.Fisch. has been collected only once after the type based on the collection of C.E. Ridsdale 231 (MH00122489!) in 1976 from Mankulam presently at Idukki district of Kerala. After critical examination of this specimen with relevant literature, protologue and type specimen at K (K000174141 image!) it is found to be *Ophiorrhiza caudata* C.E.C. Fisch. Therefore, the present collection of *Ophiorrhiza incarnata* C.E.C.Fisch.

forms the formal rediscovery after type collection by Barnes on June 1937 after a lapse of 83 years from the adjacent areas of the type locality. Despite several attempts by different workers in the type locality and adjacent areas it could not be collected after the type collection. The statement by Hareesh et al. (2015) about the introduction of *Ophiorrhiza incarnata* in Indian gardens seems doubtful, because Deb & Mondal (1997) clearly mentioned that it has been collected only once after the original discovery. It is a threatened species and deserves to be conserved in the wild and introduced into the garden.

The species is collected from swampy areas of Wayanad District of Kerala. No population is recorded after 1937 by Barnes. Present collection also located as single population of five individuals. Based on the study of literature, herbarium data and field observations *O. incarnata* is provisionally categorized as Critically Endangered (CR) based on highly restricted population numbers (<50 mature individuals) D (IUCN 2020).

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Image 1. *Ophiorrhiza incarnata* C.E.C. Fisch., dried specimen.

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