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The genus *Ophiorrhiza* L. is distributed in the Indo-Malayan region with the greatest diversity found in Southeast Asia and New Guinea (Mabberley 2005). In India, the genus is represented by 47 species and nine varieties (Deb & Mondal 1997) wherein 11 species and three varieties are reported from the state of Tamil Nadu (Henry et al. 1989). One-third of *Ophiorrhiza* species in India face a high risk of threat (Walter & Gillett 1998).

During the recent floristic exploration of the southern Western Ghats, the authors collected some interesting specimens of *Ophiorrhiza* from Mukurthi National Park, Nilgiri District of Tamil Nadu, India. After critical studies, the specimens turned out to be *O. pykarensis*. The identity was confirmed by comparing the Type specimens [Nilgiris, Pykara Falls, J.S. Gamble 20506] held at Kew Herbarium (K) and Central National Herbarium (CAL).

Ophiorrhiza pykarensis was originally collected and described by Gamble from the Pykara Falls at an altitude of 1829m in the Nilgiri Biosphere Reserve of Tamil Nadu in May 1889 and established in 1919. After the original discovery, it was collected only once on 24 May 1935 by E. Barnes from the shola on the saddle on Makurti Peak (presently Mukurthi National Park). The

REDISCOVERY OF *OPHIORRHIZA PYKARENSIS* GAMBLE (GENTIANALES: RUBIACEAE) FROM THE NILGIRI BIOSPHERE RESERVE IN THE WESTERN GHATS OF INDIA

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species could not be traced again during recent years, even though the region has been well-explored, as the habitat has undergone changes due to developmental activities leading to its decimation (Nayar & Sastry 1987; Walter & Gillett 1998; Deb & Mondal 1997). Hence the present collection after a lapse of 78 years from its second collection is a rediscovery. The voucher specimens are housed at the Herbarium of the Kerala Forest Research Institute (KFRI), Peechi, Kerala, India. A detailed taxonomic description, ecology, phenology and conservation status of the species are provided along with its illustration.

Ophiorrhiza pykarensis

Gamble in Kew Bull. 407. 1919. & Fl. Pres. Madras 607. 1921; Fyson in J. Indian Bot. 2: 210. 1921; Blasco



DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
DD	LC	NT	VU	EN	CR	EW	EX

Ophiorrhiza pykarensis



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in J. Bombay Nat. Hist. Soc. 67(3): 524. 1970. Deb & Mondal in Nayar & Sastry; Red Data Book Indian Pl. 1: 339. Fig.1. 1987; Henry et. al Fl. Tamil Nadu 2: 18-19. 1989; Sasidharan Biod. Doc. Kerala. Pt. 6: Fl. Pl. 227. 2004; T.S.Nayar et. al., Fl. Pl. Kerala - Handb. 532. 2006 (Fig. 1, Image 1).

Herbs or under-shrubs, 25–35 cm tall; stems erect, branched, woody at base, internodes 0.5–11.5 cm long. Leaves 1.5–5.2 × 0.75–2 cm, ovate-lanceolate, acute to acuminate at apex, cuneate at base, upper surface glabrous, pubescent on the nerve beneath; lateral nerves 6–9 pairs; petioles 0.5–1.45 cm long, pubescent; stipules 1.5–2.5 mm long, triangular, acute, puberulous, caducous, glandular. Inflorescence in terminal cymes, 1–1.8 cm across, 3–8 flowered, puberulous; peduncle 1–1.4 cm long, slender, puberulous; pedicels 1–3 mm long, slender, puberulous. Flowers 8–14 mm long, pale blue, pentamerous; bracts and bracteoles 1.5 mm long, similar, linear, puberulous, caducous. Hypanthium 1.5–1.75 × 1–1.35 mm, obovoid, puberulous; calyx

lobes 0.65–1 × 0.6–0.75 mm, ovate, acute, puberulous outside and glabrous within. Corolla 8–13.5 mm long, infundibuliform, puberulous outside, villous throughout inside; lobes 2.45–3.2 × 2.25–3 mm, ovate, slightly incurved, acute, strongly keeled at back. Stamens 5, adnate to the corolla below the middle; filaments 0.75–1 mm long; anthers 2.4–2.65 mm long. Ovary 1.3–1.45 × 0.7–1.2 mm, obovoid, disc 1 mm across; carpels 2; locules 2; ovules many; style 6–10 mm long or as long as the corolla tube or slightly longer, pubescent; stigma 0.6–1 mm long, 2-lobed; lobes ovate, glabrous. Capsules 2.5–3 × 3–4 mm, pubescent. Seeds numerous, angular, glabrous, brown.

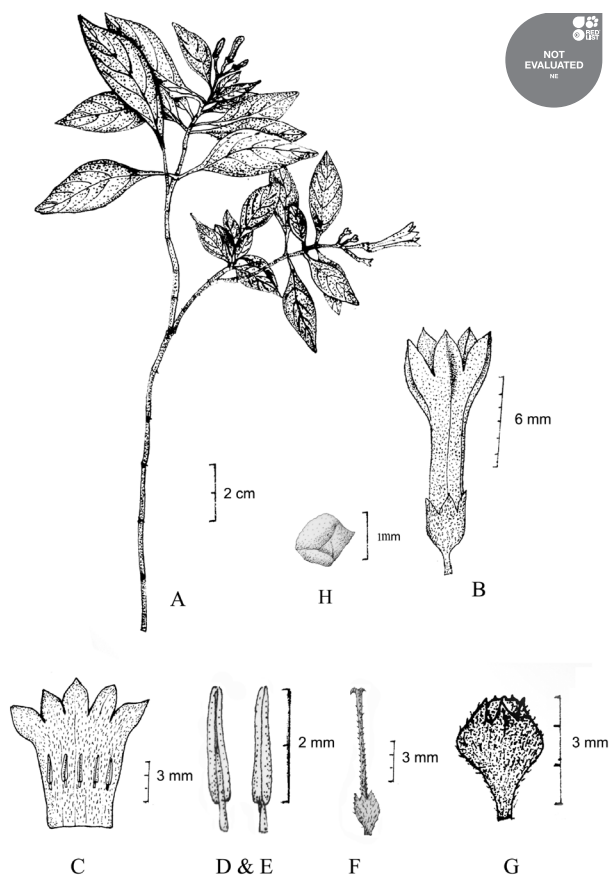


Figure 1. *Ophiorrhiza pykarensis* Gamble.

A - Habit with inflorescence; B - Flower; C - Corolla split opened; D & E - stamens (abaxial and adaxial views); F - Pistil; G - Fruit; H - Seed (Drawn by V.S. Hareesh).



Image 1. Herbarium of *Ophiorrhiza pykarensis*

Specimens examined: V.B. Sreekumar & V.S. Hareesh 28822 (Kerala Forest Research Institute, Peechi, Thrissur (KFRI), 15.v.2013, ~1950m, Mukurthi, Nilgiri District, Tamil Nadu, India; J.S. Gamble 20506, Nilgiris, Pykara Falls, May 1889, ~1829m (K!, CAL!); *E. Barnes*. 1172 (K!) shola on the saddle on Makurthi Peak, 24.v.1935.

Flowering and fruiting: May–June.

Distribution: The species is reported from Pykara Falls and Mukurthi Peak of Nilgiri hills, Tamil Nadu (Gamble 1921; Henry et al. 1989). Sasidharan (2004, 2013) reported this taxon from Idukki District of Kerala, but there is no evidence to prove this distribution, as we were unable to find any herbarium specimen from Idukki District at CALI, CMPR, KFRI and MH. So its occurrence in Kerala is doubtful.

Habitat and Ecology: *O. pykarensis* is found in the rocky areas in the understorey shola forest of the Mukurthi National Park at ~1950m altitude.

Conservation Assessment: Nayar & Sastry (1987) and Walter & Gillett (1998) treated this species as extinct. Using IUCN Red List Categories and Criteria (IUCN 2001, 2010), a threat assessment of CR B1ab(i,ii,iv) and 2ab(i,ii,iv) has been assigned as Critically Endangered due to the rarity and very restricted distribution of this taxon. The known population contains only five plants and hence it is a provisionally treated here as

threatened. More field studies are needed to confirm the status.

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