Ophiorrhiza sahyadriensis (Rubiaceae), a new species from southern Western Ghats, Kerala, India

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Abstract

A new species of Ophiorrhiza (Rubiaceae) is described from southern Western Ghats, Kerala, India. The new species, Ophiorrhiza sahyadriensis, is similar to Ophiorrhiza brunonis, an endangered species endemic to Western Ghats, to which is compared. Detailed description, distribution, ecology, phenology and relevant taxonomic notes are provided along with colour photographs and illustrations.

Key words: Endemic species, Evergreen forest, Muthikulam, Palakkad, Silent Valley National Park

Introduction

The genus Ophiorrhiza Linnaeus (1753: 150) (Rubiaceae) comprises between 150 (Mabberley 2008) and 307 species and 15 uncertain names according to the Plant List (2013), distributed in wet tropical forests of South-East Asia and extends from Sri Lanka and eastern India to China, Formosa, Japan, Micronesia and southeast through Malesia and Fiji to the Society Islands (Darwin 1976). It is a notably species-rich, taxonomically complicated genus (Darwin 1976) that has been little-studied by taxonomists and is poorly known, particularly in southeast Asia (Tao & Taylor, 2011). Although several taxonomic treatments of the genus were published for geographical areas, viz. Pacific, Chinese, Australian and Indian regions (Darwin 1976, Lo 1990, Halford 1991, Manilal 1988, Deb & Mondal 1997), a worldwide monographic study has yet to be attempted. In India, 47 species are recorded (Deb & Mondal 1997). Peninsular India, especially the Western Ghats, is one of the diversity centers of Ophiorrhiza species followed by the north-eastern Himalayas (Deb & Mondal 1997). Nearly 21 taxa are distributed in the evergreen forest of the Western Ghats (Deb & Mondal 1997, Sasidharan 2013). Among these, 18 taxa were reported from Kerala state, and 12 are endemic to Western Ghats (Sasidharan 2013). Some species of Ophiorrhiza are reported to possess medicinal properties both in traditional and conventional medicine, e.g., O. mungos Linnaeus (1753: 150) and O. pumilla Champion ex Bentham (1852: 169) (Saito et al. 2001, Krishnakumar et al. 2012). Ophiorrhiza incarnata Fischer (1938: 124) is the only species introduced in the gardens of India (Deb & Mondal 1997) for its ornamental value. While conducting floristic explorations in the Western Ghats, in 2011 the authors came across an interesting Ophiorrhiza species in Walakkad, Silent Valley National Park, Palakkad district, Kerala. The Palakkad district is located at the southernmost end of Nilgiri phytogeographical region and northern portion of Anamalais of the Western Ghats, known for its phytodiversity. Later, similar specimens were also collected from the evergreen forests of Sispara, Anguinda (Silent Valley National Park), Muthikulam falls and the western slopes of Velliangiri hills (Muthikkulam) during 2011–2014. Detailed taxonomic studies with the perusal of relevant literature (Darwin 1976, Lo 1990, Halford 1991, Manilal 1988, Deb & Mondal 1997), the new taxon is similar to Ophiorrhiza brunonis Wight & Arnott (1834: 404), but shows numerous morphological differences, which are summarized in Table 1. Therefore, after comparing the recent collections with several specimens and the type of O. brunonis at K, the new species is here described and illustrated.

**Conservation status:**—Known from only four localities and with an extent of occurrence estimated to be less than 100 km². So far, in these localities we encountered populations of approximately 100 individuals. Therefore, the status is here assessed as Data Deficient (DD), and more field studies are necessary to assess its conservation status (IUCN 2012).

**Additional specimens examined (paratypes):**—INDIA. Kerala: Palakkad district, Silent Valley, Sispara, 2150 m, 25 July 2012, V.S. Hareesh & V.B. Sreekumar 28525 (KFRI); Walakkad, 1100 m, 1 November 2013, V.S. Hareesh & V.B. Sreekumar 28850 (KFRI); Muthikulam falls, 1350 m, 23 November 2013, V.S. Hareesh & K. M. Prabhu Kumar 28851 (KFRI); Muthikulam falls, 1350 m, 23 November 2013, K. M. Prabhu Kumar & V. S. Hareesh 7772 (CMPR).

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