

**PIPER HAMILTONII C. DC. (PIPERACEAE) –A NEW DISTRIBUTIONAL RECORD FOR PENINSULAR INDIA**

Geethakumary, M. P., Deepu Sivadas and A. G. Pandurangan*

Plant Systematics & Evolutionary Science Division,
Jawaharlal Nehru Tropical Botanic Garden and Research Institute,
Palode, Karimancode P.O., Thiruvananthapuram, Kerala, India – 695 562

* Corresponding author: agpandurangan@gmail.com; tel – 9446422458; fax - +91(0)472 2869646

ABSTRACT: *Piper hamiltonii* C. DC. (Piperaceae) thought to be endemic to North Eastern Himalaya and Andaman Islands are recorded for the first time from Western Ghats region of Peninsular India. The disjunct distribution pattern of this species in dissimilar geographic areas deserves scientific scrutiny. Hence, a detailed description, photographs and other relevant notes are provided for easy recognition of the taxon.

Key words: *Piper hamiltonii*, Western Ghats, new record, Peninsular India.

INTRODUCTION

The genus *Piper* L. belonging to the family Piperaceae includes approximately 2000 species making it one of the largest genera in dicot families [1]. The genus distributed in both hemispheres and however, the greatest diversity of *Piper* species occur in American tropics, followed by Southern Asia, the south pacific and Africa with each centres having its own endemics. The members are most commonly found in the understory of lowland tropical rainforests, also occur in clearings and in higher elevation life zones such as cloud forests [2, 3, 4]. The life forms range from climbing shrubs and rarely becoming herbs and small trees. Majority of the species of the genus are an important source of food, spice and condiments, medicine etc. [5, 6, 7]. In India, the genus is represented by 46 species of which nearly 20 are occurring in North East India and the rest in Western Ghats of Peninsular India [7, 8]. During the plant exploration trips to different shola forests of Southern Western Ghats, Peninsular India, the authors collected an interesting specimens from the forest areas of Yellakandi in Nilgiri district of Tamil Nadu and Munnar in Idukki district of Kerala. On critical study with literature and comparing with images of type specimens from Geneva (G00206876!; G00206866!) and Kew (K000794455!), it has been confirmed as *P. hamiltonii* C. DC., a species distributed in Sikkim, Terai, West Bengal, Khasi hills of North Eastern India and South Andaman Islands [9, 10]. On further perusal of herbarium specimens housed at Madras Herbarium (MH), Coimbatore, it has been found out that the collections made by C A Barber during 1905 from Kodaikanal Ghat path in Madurai Dist. (now in Dindugal Dist.) of Tamil Nadu kept under *P. hymenophyllum* which was later determined by Gamble as *P. hymenophyllum* Miq. with a question mark. On critical study these sheets were confirmed as *P. hamiltonii* C. DC. and overlooked its distribution in Peninsular India. Hence, the occurrence of this species forms an interesting distributional record and its disjunct distribution pattern from North Eastern Himalaya, Andaman Islands to Western Ghats of Peninsular region is of phytogeographical significance. Therefore, it is described herewith a detailed description and photographs to facilitate its easy identification.

TAXONOMIC TREATMENTS

Piper hamiltonii C. DC. In DC. Prodr. xvi. 1. 359; Hook. f., Fl. Brit. India 5: 88. 1886; Prain, Bengal Pl. 2:898. 1903; Long in Grierson & Long., Fl. Bhutan 2: 351. 1984; Das *et al.*, Pleione 4(1): 37. 2010.

Climbing shrubs, perennial, dioecious; branches subterete, nodes swollen with climbing roots. Leaves simple, alternate, broadly elliptic to ovate, 8 – 14.5 x 5.3 – 10.4 cm, surface bullate, pale when dry, coriaceous, glabrous on both surface, base unequal or nearly equal, margins recurved, apex attenuate or shortly or abruptly caudate-acuminate, acumen 0.5 – 1 cm long; 7 nerved from base, nerves prominent on both sides, looped or joined towards the intra-margin, reticulation fine; petioles 1.2 - 2.8 cm long, grooved; stipules lanceolate, 0.8 - 1 cm long, cuspidate at apex, caducous. Inflorescences leaf opposing spikes, drooping; peduncles 1.3 - 3.5 cm long, slender; bracts peltate, orbicular, 4 – 5 x 2 – 2.2 cm, hyalin along margin. Male spike slender, rachis glabrous, 5 – 12.5 cm long.

Stamens 3 – 4; anthers 2-locular, dehiscence longitudinal. Female spike 4 – 9.5 cm long. Ovary ovoid, 1- loculed; ovules solitary; stigma 3, cylindrical, reflexed. Fruiting spike loose, interrupted, tip curved; bracts persistent almost forming a cup, papery when mature. Drupe ovoid, 0.5 – 0.7 x 0.3 - 0.4 cm, loosely arranged with persistent stigma, yellowish or red when mature. Seed 1. (Fig. 1).



Fig. 1. *Piper hamiltonii* C. DC. **A-B.** Habit, **C.** Inflorescence, **D.** Fruiting spike, **E.** Fruiting spike showing peltate bracts, **F.** Leaf, **G.** Type of *P. hamiltonii* C. DC. (K794455!), **H.** *P. hamiltonii* (TBGT 55403!).

Flowering & Fruiting: June – December.

Uses: The plant possesses diuretic and carminative properties [11].

Distribution: Bangladesh, Bhutan, China, Myanmar, Nepal and India (North Eastern States, South Andamans and Southern Western Ghats - Kerala, Tamil Nadu)

Ecology: It is widely grown in shola forests on the trees of *Cinnamomum wightii* Meissner, *Litsea floribunda* (Blume) Gamble, *Neolitsea foliosa* (Nees) Gamble, *Meliosma simplicifolia* (Roxb.) Walp., *Phoebe wightii* Meissner etc. at an altitude 1800 – 2200 m from the sea level.

Notes: (i) The species can be easily identified in the field by its robust climbing habit, leaves with bullate nature, pendulous yellowish green flowering spikes and loosely arranged drupes becoming yellow or red on ripening. The identity of *Piper hamiltonii* C.DC. often confused with *P. nigrum* L. in morphological resemblance but can be distinguished by its ovate to ovate-oblong leaves, spikes smaller than leaves, ovoid fruits with persistent stigma whereas the latter is characterized by shortly ovate leaves, spikes longer than the leaves, globose fruits without stigma, etc. The non-report of this species so far from Peninsular India may be ascribed to its habitat as it invariably grows amongst the community of *P. nigrum* and earlier field explorers might have failed to observe the yellowish green inflorescence leading to its misidentification.

Specimens examined: India, Tamil Nadu, Madurai Dist., Kodaikanal Ghat path 20-09-1905, C. A. Barber 7539, *ibid*, 7000 ft, 1-10-1905, C. A. Barber 7595 (MH); Nilgiri Dist, Yellakandi, ±2080 m, Lat. N11°21'02", Lon. E 76°38'12", 21-08-2011, Deepu Sivadas 67215 (TBGT). Kerala, Idukki district, Munnar, Pampadam shola, ±1835m, Lat. N 10°07'30.7", Lon. E 77°15'06.3", 21-10-2004, Geethakumary 55403 (TBGT).

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