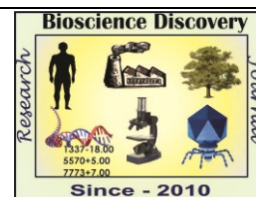


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Research Article



Pohlia wahlenbergii (F. Weber & D. Mohr) A. L. Andrews, a new addition to the Bryoflora of South India

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Abstract

The present study reports the occurrence of the moss species of *Pohlia wahlenbergii* in the Kalrayan hills, Eastern Ghats of Tamil Nadu. Earliest workers reported 17 species in India belong to this genus *Pohlia*. The genus *Pohlia* belongs to the family Bryaceae. It is a new addition to the Bryoflora of South India. Previous reports of this species reported from Sikkim, Manipur, Kashmir, Mussoorie, Western Himalaya and Munsiyari (Uttarakhand).

INTRODUCTION

Bryophytes are the non vascular cryptogams. Among them mosses are highly advanced with enormous surviving capacity and survive under wide variety of environmental condition. Kalrayan hills a major hill range of Eastern Ghats of Tamil Nadu, which is divided in to two sections, the Chinna Kalrayan (823m.) and the Periya Kalrayans (1220m.). Kalrayan hills separate the Kaveri river basin in to the South from the Paler river basin to the north. The hills occupied scrub jungles, deciduous forest and sholas. The range as a whole is fairly smooth, with soil well suited for plant growth. Earlier the forest cover was grown due to habitat uniqueness. But now it is much disturbed by the human impact. These species belongs to the family Bryaceae which is one of the most dominant erect mosses of India. Most of the genus and species of this family were able to survive in all the major phytogeographical regions. Kumar (2002) made a survey on the mosses from Shervaroys hills, 14 species with 4 genera under this family and 3 taxa of *pohlia*. Nath *et al.*, (2007) enumerated 28

species. Among which 3 taxa belong to the family Bryaceae and one of which under the genera of *Pohlia* from Amarkantak (Madhya Pradesh). Daniels (2010) listed out the bryophytes of Tamil Nadu. In this 493 taxa of mosses were reported; out of these 42 species belong to 8 genera of this family and 4 taxa belong to the genus of *Pohlia* other than *Pohlia wahlenbergii*. Dandotiya *et al.*, (2011) reported 1,786 moss species from various regions of India, where 102 species under 9 genera comprising in family Bryaceae and 7 taxa in the genus of *Pohlia*. Alam *et al.*, (2011) accounts on moss from Palni Hills, 4 taxa and 3 genera of the family and include 1 taxa of *Pohlia*. Govindapyari *et al.*, (2012) reported 75 taxa with 20 species and 5 genera of the family and 4 species of *Pohlia* from Manipur. Alam (2013) listed out 745 moss species with 44 taxa comprising of 6 genera of this family, among these 3 species only enumerated belong to the genus of *Pohlia* from Western Himalayas. Alam (2013) carry out the survey on mosses, 5 taxa and 4 genera of this family and a representation of single species of *Pohlia* from Munsiyari (Uttarakhand).

Alam *et al.*, (2015) reported 223 mosses with 30 taxa under 6 genera of this family from Central India; among these 2 species were belonging to the genus of *Pohlia*. Mishra *et al.*, (2016) has given 102 moss species of which 12 species in 3 genera of this family with a single species of *Pohlia* from Odisha. Rawat (2016) provided the list of mosses; within this family 5 taxa and 3 genera, included single species of *Pohlia* from Gangetic Plains, India. Palani *et al.*, (2017) worked on Bodamalai Hills in Eastern Ghats of Tamil Nadu, 52 species, 9 taxa belong to 3 genera of the family Bryaceae. In this enumeration report only one species belongs to this genus. Magdum *et al.*, (2017) reported 128 moss species, 20 taxa belong to 5 genera of this family and a species of *Pohlia* from Western Ghats of Maharashtra. Rawat *et al.*, (2017) account 30 moss species. Out of which 3 taxa coming under 3 genera of this family and 1 species belongs to this genus, from Tawang, Arunachal Pradesh.

MATERIALS AND METHODS

The plants were collected from Kalrayan hills, a major hill range of Eastern Ghats of Tamil Nadu, it extend from northeast of Salem District to the central part of Villupuram District. It lies between 11°20' - 12° - 12° 05'N latitude and 78°28' - 79°05' E longitude. Kalrayan Hills spread over an area of 1095 Km² and 1220m in height. The study area has rich natural resources. Extensive survey was made during and after monsoon from various localities. This species distributed in different forest types like evergreen, sholas, semi-evergreen and deciduous forest. This species found to be in various substratum such as soil, stone and rocks. After the desiccation process samples was preserved as herbarium. The voucher specimens have been deposited in the Center for Cryptogamic Studies, Department of Botany St. Joseph's College (Autonomous), Tiruchirappalli. Brief description of the species with photo plates and illustrations are provided here.

Taxonomical Treatment:

Pohlia wahlenbergii (F. Weber & D. Mohr) A.L. Andrews
Bryum austroalbicans Müll. Hal. Bot. Jahrb. Syst. **5**: 78 (1887); *B. philonotum* Müll. Hal. Flora. **68**: 403 (1885); *Hypnum wahlenbergii* F. Weber & D. Mohr Bot. Taschenbuch. **280**: 475 (1807); *Mniobryum austro-albicans* (Müll.

Hal.) Broth. Nat. Pflanzenfam. **I**(3): 553 (1903); *M. wahlenbergii* (F. Weber & D. Mohr) Jenn. Man. Moss. W. Pennsylvania. 146 (1913); Gangulee. Moss. E. India. **2**(4): 904 (1974).

Plant is light green to pale, soft, wiry, laxly grow in tufts. Stem up to ±1.2 cm. high, red, flexuose and simple and somewhat branched at base. Leaves ±1 mm. long, erectopatent to spreading (shrunk and appressed on stem when dry), lower leaves slightly ovate, lanceolate, acute apex, apical leaves long, narrower, ovate to lanceolate, margin serrate, more or less base to apex of the leaf. Costa strong, percurrent and ending just below the apex. Leaf cells rectangular to hexagonal (±48 x 8 μ) at base, margin of basal cells slightly narrower and smaller narrower cells (±26 x 3μ) at leaf apex. Sporophyte not seen (Plate-1).

Habitat: Terricolous, rupicolous in ever green, semi-evergreen and deciduous forest.

Distributions in India: Sikkim, Manipur, Kashmir, Mussoorie. Western Himalaya, Munsiyari (Uttarakhand), **Kalrayan Hills (Eastern Ghats of Tamil Nadu).**

RESULTS AND DISCUSSION

The present study mainly focused on the taxa of *Pohlia wahlenbergii* and their distributions from the study area. Among the South Indian States viz. Karnataka, Andhra Pradesh, Telangana, Kerala and Tamil Nadu, Kerala have the highest diversity because of the presence of Western Ghats. Manju *et al.*, (2005) worked on the bryophytes in Wayanad hills, a longest one in Kerala and reported a long list of mosses, where this plant is not found. The Eastern Ghats is more or less an unexplored region for the diversity of bryophytes. The Eastern Ghats, like the Western Ghats, rich in the diversity of bryophytes, which are evident by the number of new reports made by Kumar (2002), Daniels (2010) and Palani *et al.*, (2017). But they didn't report this species so far. So this is the first report in South India for the species *Pohlia wahlenbergii*.

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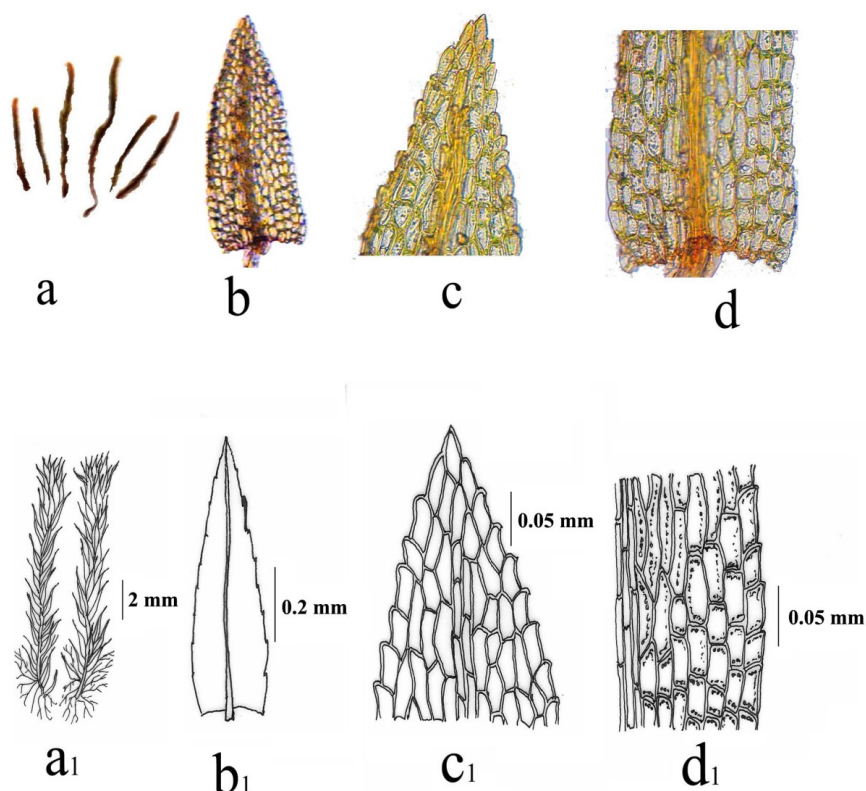


Plate 1. *Pohlia wahlenbergii* (F. Weber & D. Mohr) A.L. Andrews
a & a1 - Habit, b & b1 - Leaf, c & c1 - Leaf apex, d & d1 - Leaf base

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