Occurrence of *Selliguea rynchophylla* (Hook.) Fraser-Jenk. [Polypodiaceae] in Darjiling Himalaya: an addition to the flora of West Bengal, India

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Abstract

Recent collection of *Selliguea rynchophylla* (Hook.) Fraser-Jenk. (Polypodiaceae) from the temperate habitat of Bhotey Khola area of the Kalimpong district (part of Darjiling Himalaya) is a new record of its occurrence for the state of West Bengal in India. The plant is sparsely distributed and its distribution in Indian subcontinent is known only from North-eastern India.

Key words: *Selliguea rynchophylla*, New record, Kalimpong, Darjeeling Himalaya, West Bengal

INTRODUCTION

Floristically rich Darjiling hills part of the Eastern Himalaya is home to diverse form of plants harbouring Sino-Himalayan elements in higher altitude (Das1995; Fraser Jenkins *et al.* 2015; Das & Lungphi 2019). The Pteridophytes are the second most diverse group of land plants after the angiosperms with generally recognized 45 families (Christenhusz *et al.* 2011). The Darjiling hills is the northernmost district of the Indian state of West Bengal that lies between 26°31' and 27° 13' N Latitudes and between 87°59' and 88°53' E Longitudes (Das 2004). The Hills of Darjiling form the outer fringes of the Singalila Range of Eastern Himalaya, covers an area of 2436.55 km² with altitudinal variation ranging from ± 150 m (at Sukna) to 3660 m (at Sandakphu – Phalut), presents diverse topographical conditions and offer suitable habitat for the occurrence of wide range of plants (Das 1995). Though the district is floristically well explored but the occurrence of micro-niche in difficult terrains with negligible accessibility and alienated studies on the Kingdom *Plantae* has led some plants of the region remained undiscovered even today.

Regular field-trips were made in different vegetation tracts of Darjiling hills since April 2017 to May 2019 for floristic and phytosociological observations. The collected specimens were processed into mounted herbarium sheets following conventional techniques (Jain & Rao 1977) and were identified by matching with pre-identified specimen in the herbarium of Llyod's Botanical Garden, as well as through consultation of published literature including (Mehra & Bir 1964; Hara1971; Mathew 1971; Fraser-Jenkins 2008; Fraser-Jenkins *et al.* 2015). In April 2018, a fern was collected from the Bhotey Khola (Kalimpong district) area that was later on identified as *Selliguea rynchophylla* (Hook.) Fraser-Jenk. While studying the distribution of the species, it was revealed that the plant is known to grow in North-eastern India (Fraser Jenkins 2008) but was not recorded yet from the Darjiling hills as well as from the state of West Bengal. A brief description of the species along with sketches is provided here for its easy identification.

Plate I: *Selliguea rynchophylla* (Hook.) Fraser-Jenk.: **A.** Sterile frond; **B.** Fertile frond; **C.** Portion of fertile lamina; **D.** Rhizome – densely scaly; **E.** Scales; **F.** Sporangium (basic magnification 100 X); **G.** Spore (basic magnification 400 X).

Population of c.1000 individuals at one site were recorded on branches of *Lithocarpus pachyphyllus* (Kurz) Rehder and this species being in pristine, protected environment is least threatened.

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Pleopeltis rynchophylla (Hook.) T. Moore, Index Fil. 78. 1857.

Phymatopsis rynchophylla (Hook.) J.Sm., Hist. Fil. 104. 1875.

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Crypsinus rhynchophyllus (Hook.) Copel., Gen. Fil. 206. 1947.

Phymatopteris rhynchophylla (Hook.) Pic.Serm., Webbia 28(2): 464. 1973.

Selliguea rhynchophylla (Hook.) H.Ohashi & K.Ohashi, J. Jap. Bot. 84(5): 307-308. 2009, isonym.

Phymatodes okamotoi Tagawa, Act. Phytotax. Geobot. 7(3): 189. 1938.

Crypsinus okamotoi (Tagawa) Tagawa, Act. Phytotax. Geobot. 14(6): 194. 1952.

Selliguea okamotoi (Tagawa) Ralf Knapp, Ferns Fern Allies Taiwan 480. 2011.

Plants epiphytic to lithophytic, erect, 8 – 12 x 1 – 2 cm; rhizome creeping, 0.4 – 0.8 cm in diameter, scaly; scales subulate with broad base, toothed, long-acuminate, 0.2 – 0.8 cm, ferruginous. Fronds dimorphic, distant; sterile fronds simple; stipe 2 – 4 cm; lamina simple, lanceolate, 6 – 10 × 1 – 2 cm, entire with irregular shallow notches, obtuse, base cordate, glabrous; Fertile fronds simple; stipe 2 – 3 cm; lamina simple, linear to lanceolate, 5 – 10 x 1 – 2 cm, entire, obtuse, soriferous portion contracted; sori medial, orbicular, between the rows of lateral veins, brown; sporangium ovoid, dark brown, 300 – 210 µm; Spores reniform, minutely spinous, pale brown, 23 x 15 µm.

Exsiccatae: West Bengal, Darjiling hills, Kalimpong, Bhotay-khola Camp, N 27° 03' 06.51" and E 88° 46' 24.72", Alt: 1900 m ± 5, dated October 08, 2018, *Alisha Thapa, Norbu Sherpa & Nayan Thapa*, LB014418 (LBH),

Global distribution: Nepal, Bhutan, India (Meghalaya, Sikkim), China, Myanmar, Philippines, Thailand, Laos, Vietnam

Local distribution: Bhotay Khola Camp area of Kalimpong district, West Bengal.

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