
Status of *Stephensiella brevipedunculata* in Jammu (NW Himalayas) - India

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Stephensiella brevipedunculata Kash., monotypic Indian liverwort, belonging to Division Marchantiophyta, Class Marchantiopsida, Order Marchantiales and Family Exorothecaceae was initially instituted by Kashyap in 1914, when he collected it for the first time from Mussorie and later on collected it from other parts of Western Himalayas, such as Kulu and Dulchi pass at an altitude of 2,000 to 2,400m (Kashyap, 1929). Later collections were made from different parts of Western Himalaya by various bryologists like Kanwal (1977), Srivastava (1983), Pant (1983), Pant and Tiwari (1995). Udar *et al.* (1983) in an attempt to assess reasons for disappearance of this prestigious hepatic undertook studies on its detailed reproductive biology. However, Pant (1983) attributed fast increasing urbanization as the main cause for the disappearance of this liverwort from Nainital area of Western Himalayas. This liverwort was considered to be endemic to Western Himalayas only (IUCN, 2000). Tan *et al.* 1994a, while compiling first ever red list of bryophytes included 50 species (24 mosses, 25 liverworts and 1 hornwort). Subsequently, the list included another 41 taxa, including *S. brevipedunculata*, thus increasing the number of most endangered bryophyte species worldwide to 91 (Geissler *et al.* 1997).

Preliminary Observations on its population status in NW Himalaya

Bryologists from India during last few decades have attributed disappearance of this taxon from its natural home, largely due to habitat destruction caused by various anthropogenic factors like urbanization, tourism, deforestation, vehicular traffic pollution, over exploitation etc (Pant 1983; Bhattacharyya, 2011). This has led to an alarm from bryologists to save these hapless but extremely useful plants and to undertake exploration of under and un-explored areas of the country, in order to assess their exact status.

Earlier this taxon was reported by Tanwir (2003), from Nurpur in district Poonch, which is one of the remote districts of the Jammu and Kashmir State and situated on LOC (Line of Control) and lies between 33°25' to 34° 01' North latitude and between 73°58' to 74°35' East longitude. It is surrounded by Kashmir Valley (Baramulla, Badgam, Shopian and Kulgam Districts) in the North East; district Rajouri in the South and Pakistan Occupied Kashmir (POK) in the West. Topography of District Poonch is hilly and mountainous barring few-low lying valleys. Sky touching peaks covered with shining snow and lush green surrounding present stunning scenery. During present explorations also *S. brevipedunculata* has been collected from Nurpur and its adjoining areas in

Poonch district. Sharma and Langer (2011), collected it from Kathua District, which is situated at 32° 17' to 32° 55' North Latitude and 75° 70' to 76° 16' East longitude. The District is surrounded by Punjab in the S-E, Himachal Pradesh in N-E, Doda and Udhampur in North and N-W, Jammu in the West and Pakistan in the South West. The taxon was collected from Banjal, Panyalag and Duggan areas of Bani in Kathua district. Present exploration suggest that the taxon is growing luxuriantly in this part of country, and more work on it may help in changing its status (endemic and endangered) set by IUCN.

Morphology

Thalli light green, medium sized and spongy 4.0-12.0 (7.5) mm long and 2.0-4.0 (3.3) mm broad. Simple, once or twice forked, base thick, margins wavy, apex emarginate; areolae conspicuous. Thalli growing in irregular and small patches of 200-350 plants (Fig. 1 Insert Picture). Thalli have been collected during ending June to October from both the districts. They grow on moist soil and are partially exposed to sunlight at an altitude of 2100- 2550m in association with mosses and other hepatics.

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Fig. 1: Patch of *Stephensiella brevipedunculata* growing in association with a moss on moist soil.