Myriocolea irrorata Spruce

Status: Critically Endangered (CR) A2c

Class: Jungermanniopsida  
Order: Porellales  
Family: Lejeuneaceae

Description and Biology: This species is characterised by its robust, up to 3 cm long and 0.5 cm wide leafy, dark green to yellowish green shoots. The basal part of the main axis is stolon-like, without leaves, very short and firmly adhered to the substrate by rhizoids. The leafy portion is projecting from the substrate, the older shoots are typically pendent, regularly and densely pinnately branched, with the branches originating from the base of almost every lateral leaf. The leaves are ca 2-3.5 mm long, present on younger stems and decayed on the older pendent shoots, ± transversely inserted, strongly undulate with crispate margins; lobules not observed. Underleaves are present near the base of each leaf, very small, bifid, often reduced. The plants are paroicous, with innovations between gynoecia and male bracts. The androecia consist of one or two male bracts present at the base of each gynoecium, with 2-5(-7) antheridia in the axil of each male bract. The gynoecium consists of a perianth with 2 bracts, (1-)2 fertile innovations. Perianths are terete below and 5-keeled in the upper part. The complicated branching system and extraordinary fertility of Myriocolea irrorata was already discussed by Spruce (1884) and Thiers (1983). We calculated that there were about 630 perianths in one cm of the plant. Sporophytes are freely produced and spores are released in great quantities.

Distribution and Habitat: Myriocolea irrorata is currently known only from the banks of two Andean tributaries of the Río Pastaza, which is itself a major Ecuadorian tributary of the Amazon river. By far the largest population is found along the lower 12 km of the Río Topo, with dense colonies growing less than 0.5 m above soil level on the shrub Cuphaea bombonasae Sprague. A very small population, occupying less than 1 square meter, occurs in similar environmental conditions on the Río Zuñac, about 2 km from the nearest Myriocolea site on the Topo river. Both the Río Topo and Río Zuñac drain the Llanganates mountains southwards into the Pastaza river. The unusual geological characteristics of the Llanganates, which are primarily granitic, may help explain the restricted distribution of Myriocolea. Also climatic factors as well as flood regimes seem to control the distribution of this unusual rheophytic species.

History and Outlook: Myriocolea was first discovered by Spruce along the Río Topo, Ecuador, in 1857. This taxon was recollected in September 2002 (Gradstein & Nöske 2002) along two tributaries of the Río Pastaza, Ecuador, including the Topo river, ± 12 km upstream the type locality. The second locality was on the Río Zuñac. The valley of the Río Topo and Río Zuñac has been proposed as the site of a hydroelectric project. A dam anywhere in this valley would greatly alter the flood regime of these streams and would almost certainly result in the extinction of the known populations of Myriocolea. Until new populations are found, Myriocolea must be considered critically endangered (criteria: A2c).

References:

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