

Archidium elatum Dixon & Sainsbury

Status: **Endangered (EN)** B1,2c

Class: Bryopsida

Order: Archidiales

Family: Archidiaceae

Description and biology. Plants dark green below, yellow-green above. Stems to 18 mm, with 2–4 sterile innovations in axils of outer perichaetial leaves or upper vegetative leaves; with lower stems prostrate and stoloniferous and these giving rise to erect and fertile branches which form rhizoids at base and often become detached; in cross-section the cortex of large thin-walled cells and lacking a central strand, the cortical cells smaller and firmer-walled. Leaves of lower stem triangular-lanceolate, c. 1.0–1.2 X 0.25–0.3 mm, erect-spreading, otherwise as perichaetial leaves; those of innovations sometimes longer (c. 1.4–1.5mm) and more wide-spreading. Costa stout, occupying 1/3 or more of leaf base, percurrent or filling the upper 1/3 of leaf and short excurrent. Capsules unknown.

Distribution and Habitat. Endemic to New Zealand (North Island and offshore islands). Occurring on coastal rocks. The best documented collections came from damp or waterlogged depressions on an exposed basalt platform. *Campylopus introflexus*, *Disphyma australe*, *Astelia banksii* and *Sporobolus africanus* are sometimes associated. One collection was made “amongst gorse [*Ulex europaeus*].”

Archidium elatum is one of least documented mosses in the New Zealand flora, and has been recorded only from the Ahipara (35° 10' S, 173° 09' E) in the far north of the North Island and from Moturoa Island (and from the associated Crater Rim Rock) in the Bay of Islands (35° 12' S, 174° 07' E). The distance between the Ahipara and the Motorua Island localities is approximately 100 km.

History and Outlook. First collected in 1931 by H.B. Matthews at Ahipara on the west coast of the North Island of New Zealand and described by Dixon and Sainsbury in 1945. The only more recent collections, all made in 1990, are by R. Beever on Moturoa Island and by R. Beever and J.E. Beever at Crater Rim Rock (one of the Black Rocks located c. 1 km from the east end of Moturoa Island).

Although it is difficult to speculate as to whether *A. elatum* was more common in the past, reduction in range and habitat since its original discovery is likely given the disturbance of coastal habitats in New Zealand. The population at Ahipara is quite likely extinct, due to invasion by the invasive and exotic kikuyu grass [*Pennisetum clandestinum*].

Archidium elatum is currently (Feb. 2002) listed as “Nationally Endangered” on a schedule of threatened plants maintained by the New Zealand Department of Conservation. In this schedule it is qualified as being “data poor” and the populations are predicted to decline in the next 10 years.

The Moturoa Island and Crater Rim Rock sites are critical for the survival of this species. Moturoa Island is privately owned but is managed as a nature reserve. Crater Rim Rock is administered by the NZ Department of Conservation as a Scenic Reserve and access to it is difficult because of its isolation and topography. Weed control at these two sites would be the most useful protective measure.

A collection made by G. de Groen in 1964 from a geothermal inland site at Lake Rotomahana in South Auckland (CHR 500985) is no longer accepted as belonging to this species.

References:

Snider, J.A. 1975: A revision of the genus *Archidium* (Musci). J. Hattori Bot. Lab. 39: 105–201. (illustrations included),

Red Data sheet authors : Drs. Allan Fife, Landcare Research, P. O. Box 69, Lincoln, New Zealand.
& Jessica E. Beever, Landcare Research, Private Bag 92170, Auckland, New Zealand

Last updated: February 2002