**THE EFFECT OF MICROENVIRONMENT ON THE DISTRIBUTION OF *Cladonia squamosa* AND *Cladonia gracilis***

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Lichens are known to be very sensitive to environmental conditions such as temperature, humidity, light, air pollution, and so on. The effect of environments on lichen viability have been conducted on a large geographical scale and different climate zone. However, it is also known that specific microenvironments affect lichen survival. The Barton Peninsula of King George Island, Antarctica, is a small area but diverse topographical features including a variety of slopes, aspect, and altitude can lead to various microclimate and diverse vegetation such as lichens, mosses, liverworts, and vascular plants. To investigate the distribution pattern of lichens *Cladonia squamosa* and *C. gracilis* complex that are widely distributed in Barton Peninsula, a total of 177 *Cladonia* samples were collected from 11 different sites. There were several sites that were inhabited exclusively by *C. squamosa* or by *C. gracilis*. The effect of microenvironments formed by geographical topography and microclimate on the distribution of two *Cladonia* species was studied. Analysis of variance of microenvironmental factors has revealed that eastness, topographic exposure, the period of below zero temperature, distribution of moss *Sanionia uncinata*, and the genus *Andreaceae*, were closely related to the distribution of *C. squamosa* and *C. gracilis*. Both lichen-forming fungi had a symbiotic relationship with *Asterochloris erici*. *A. erici* was majorly divided into three haplotypes. Distribution of three haplotypes of *A. erici* was significantly different depending on the topographic exposure and the vegetation frequency of *S. uncinata* and *Psoroma* species. It was suggested that the low temperature and direction of the slopes which can cause snow cover differences can affect the distribution of mycobiont and photobiont, and also vegetation structures.