

Variation in species composition of lichen communities among different sites with in a climatic zone

Epiphytic lichens were studied on selected substrates in sites on a transect from Colombo to Waga, and at Sapugaskanda in order to compare the diversity and species composition of lichen communities at those sites. Common three having dbh values greater than 30 cm in a 100-sq. meter quadrat were selected for the study. Three trees belonging to the same species were used to register lichens. Placed a 250 cm² quadrat randomly between 0.5 and up to 0.5 and up to 1.5m height from the ground on each tree trunk at four different places. Lichen taxa, number of individuals and percentage cover of each lichen taxon were recorded on all substrates. Identification was done using different keys, after studying the characters of different lichen collected. Light intensity; bark pH of trees and relative humidity was also recorded in each site. Shannon index was used in diversity analysis.

Higher lichen diversities were recorded in Waga and Sri Jayardenepura sites with values of 1.904 and 1.873 respectively, while lowest value (1.268) was recorded in Fort. Commonest lichens included photophilous genera such as *Pysine*, *Buellia* and *Pyrenula*. *Pyxine* had higher percentage coverage in all sites except Fort (3.5%) and Waga (1.3%) while; genus *Pyrenula* had moderate cover in all sites. Light, bark pH and moisture are the major environmental factors that determine the species composition of lichen communities that exist in different sites in the same climatic zone. *Leptogium* a genus with a Cyanobacterial photobiont was recorded only in Waga, which had a higher relative humidity when, compared to other sites. However, bark pH values and the exposure of the trees were not found to be significantly different among different trees whether they were in the same or in different sites. *Roccella*, which is coastal lichen, could be a pollution sensitive species as it was absent in all sites in Colombo except in Sri Jayewardenepura site.