

Materials & Methods

Collection of Plant material :

14049 The three plant species Parmelina (Parmelia), Leptogium and Usnea are collected just after the (monsoon) season from the Kas forest. Large number of samples of these foliose and fruticose lichens were collected from different localities in order to average out the fluctuation likely to arise in the data due to variation in the locality. They were brought to the laboratory, cleaned and thoroughly washed, blotted dry and used for further studies.

Moisture determination :

Ten gram samples from the above collection was kept in the petri dish in an oven at 80°C of constant temperature. Next day it was removed, cooled in the desiccator and weighed. The process was repeated till it attained the constant weight. Moisture percentage of the sample was calculated by the following formula :

$$\text{Moisture percentage} = \frac{(\text{Fresh weight} - \text{dry weight})}{\text{Fresh weight}} \times 100$$

Mineral analysis :

Wet digestion : Oven dried lichen samples were acid digested by the method of Black (1965). About 3 gm dry sample of each of the lichen material was taken in a 100 ml corning beaker and

sp) to that 10 ml of the acid mixture was added. The acid mixture was prepared by mixing 75 ml of concentrated HNO_3 and 15 ml concentrated H_2SO_4 and 30 ml of 60% perchloric acid. The beaker containing digestable material was kept for an hour in a fuming hood for cold digestion and then it was kept on the flame, initially at a low flame then gradually the intensity of the flame was increased till the mixture started boiling. The process was continued till clear white mixture remained. In the process the volume is also reduced and at the cooling semi-solid plasmatic mass remained. It was then dissolved in double distilled water in a conical flask of 100 ml. It was then filtered through acid washed No.44 Whatman Filter paper and subsequently through sintered glass funnel. The filtrate was made to volume (100 ml) and used for various elemental determination.

For determination of inorganic constituents of the lichen samples Atomic Absorption Spectrophotometer of Central facility Centre of Shivaji University, Kolhapur was used by the courtsey of University authorities. Following inorganic elements have been estimated - Sodium (Na), Potassium (K), Calcium (Ca), Manganese (Mn), Iron (Fe), Cobalt (Co), Nickel (Ni), Cadmium (Cd), Lead (Pb), Zinc (Zn), Chromium (Cr), Lithium (Li), Copper (Cu), Rubidium (Rb), Gold (Au).