ABSTRACT

The research work carried out in the thesis entitled “Assessment of lichen diversity and distribution for prospecting the ecological and economic potential of lichens in and around Along town, West Siang district, Arunachal Pradesh comprised of 12 chapters.

The first chapter introduction contains the problem undertaken together with the objective and described about general aspects of lichen and forest vegetation of Arunachal Pradesh.

The second chapter review of literature deals with the historical account and recent investigations of similar researches carried out in other parts of the world as well as in India.

The third chapter material and method include the details of methodologies employed for survey, collection and identification of lichen taxa, ecological and physiological parameters. Details of the study area are also provided.

The fourth chapter deals with the detailed taxonomic treatment of one hundred and thirty species together with key to identify the lichen taxa and their coloured photographs.

The fifth chapter is the floristic account of the lichens found in the eleven different sites of the study area. Various graphs are given to represent the floristic account.

Chapter sixth deals with the ecological studies carried out employing the Frequency, Density, abundance, Relative frequency, Relative Density, Important Value Index, Margalef’s index, Menhinick’s index, McIntosh index of diversity, distance and evenness, Shannon index, Simpson index, Evenness and β diversity. Various parameters are compared in the disturbed and the undisturbed sites.

Chapter seven comprises of physiological studies related with chlorophyll and carotenoid estimation, chlorophyll degradation in the disturbed and the undisturbed areas together with the relation of the lichen diversity with pH and water holding capacity in different trees found in the study area.

Chapter eight deals with the various bioindicator lichen communities as well as sensitive and tolerant lichens in the study area.

Chapter nine describes about the lichen utilized by the ethnic people of the study area.

Chapter ten is the conclusion deals with the utilization of the study.

Chapter eleven incorporates a brief summary of the research work highlighting the salient features of the result.

References pertaining to all the chapters have been appended at the end.