

**CHAPTER - I**  
**INTRODUCTION**

Bryophytes are the simplest and the most primitive of the land plants. They are the pioneers to colonize the terrestrial habitat from an aquatic environment. Their adaptation to a terrestrial mode of life is still partial as water is indispensable in one or the other in their life cycle. Due to this very reason they are also called as the “amphibians” of the plant kingdom.

In India, the floristic study of bryophytes has received little attention in comparison to those carried out in Great Britain, Europe, North America, Canada and Japan- countries whose bryoflora is well explored.

Under the research project BRYOTROP, sponsored by the West German Government, ‘one of the wettest and mossiest places in the world’, the Peruvian Andes have been intensively explored and the results already published in 1987. Since then, the results of the BRYOTROP transect of Mount Kinabalu (North Borneo) have also appeared (Tewari et.al. 1994). Lately Bryologica Africa project has been started to explore the bryophyte flora of Tropical Africa (Magill, 1991). Some of the “bryologically advanced” countries (most of Europe, North America and Japan are now preparing bryological floras for districts or countries or states and even using the techniques for numerical taxonomy and

computer applications in bryophyte systematics. The last ten years have seen a great increase in interest in the use of computers in bryology and the International Association of Bryologists (I.A.B.) has already announced the I.A.B. software library. This includes (a) general purpose software, useful for bryophyte systematics like identification program, herbarium, management, scanning and digitizing of illustrations, distribution mapping, word processing and (b) special purpose software produce specifically for bryophyte ecology (Frahm, 1986, 1988; Frahm and O'shea, 1990). More recently BRYONET has also been introduced (Frahm and O'shea 1992).

Systematic studies on Hepatic flora of different localities have frequently been pursued in various parts of the world as well as in India.

The year 1914 is memorable year in the history of Indian bryology as it is only since then that the study of these plants received serious attention from botanists at home. Kashyap, the founder of school of bryology in India published an article on the West Himalayan hepatics in 1914. During the following twenty years or so (1914-1935), he covered the various aspects of Indian hepaticology. No review of Kashyap's contributions to Indian bryology would be complete without reference to his monograph 'Liverworts of the Western Himalayas and Punjab

Plain' (1929, 1932). Kashyap's contribution created a renaissance in bryological research in India.

Some helpful information on the taxonomic and systematic studies is available in earlier reviews by Pande (1936); Pande and Bhardwaj (1952); Pande and Srivastava (1957); Mahabale (1958); Maheshwari and Kapil (1963); Udar (1970a, 1973); Udar and Srivastava (1983) have studied reproductive biology of some liverworts of India. Some other workers like Morajkar (1982); Biradar and Joshi (1984); Shirke and Kalgaonkar (1996) have studied liverworts from Maharashtra. The floristic studies of bryophytes of Maharashtra are very fragmentary.

It is only the West Himalayan bryophytes which have received considerable attention but vast areas in the Eastern Himalayas and South India still await similar attention. Many workers done systematic studies of the hepaticae of restricted areas and local regions. However, the work on liverworts of Western Ghats is quite meagre.

It was in view to fill this gap in our knowledge that efforts are being made. Panhala represents one of the promising locality in the Western Ghats. No earlier efforts on the studies of liverworts are found. Choice of the area was based primarily upon two considerations. Firstly it is early accessible. Secondly it is being developed as a hill-station.

Hence, present investigation is undertaken with a view to study the taxonomy, morphology and other aspects. It is accordingly in this study, attempts are made to gain an insight into the peculiarities of the liverworts. It is thought worthwhile to make critical survey of Panhala and accordingly collections of liverworts have been arranged. The work of their morphology, anatomy, receptacles, spores and various microbryological studies have been carried out alongwith it's micro-environment. Detailed studies of gametophytic and sporophytic phases have been carried out. This will fill up the lacunae and will add adequate information on the liverworts of Panhala.