Chapter - I

INTRODUCTION
INTRODUCTION:

Biodiversity is crucial for the functioning of ecosystems, which provide us with products and services without which we could live. Food, freshwater, fertile soil, pure air, shelter, protection from storms and floods, stable climate and recreation all have their source in nature and healthy ecosystems. In spite of that species extinction and the degradation of ecosystems are proceeding rapidly and rate is accelerating. Species are declining to critical population levels, important habitats are being destroyed and ecosystems are being disestablished due to climate change, pollution, alien invasive species and harmful human activities. We are entering into the phase of mass extinction by losing species at a rate which is 100 to 1000 times faster than the natural extinction rate (IUCN, 2001). Therefore, it has become very necessary especially for developing countries to know where biodiversity is, how it is changing over space and time, what are the drivers responsible for this change, its consequences for ecosystem services and human well being, so that efforts can be made for conservation and sustainable utilization of biodiversity.

India is one of the seventeen mega-diverse countries with four mega-diversity centers and ranks 10th in the global biodiversity of flowering plants. India is also recognized as one of the eight Vavilovian centers of origin and diversity of crop plants, and possesses more than 300 wild ancestors and close relatives of cultivated plants, which are still evolving under natural conditions (MOEF, 2009). It is a home for threatened and endemic species that have immense ecological and commercial value. Since Rio Earth Summit held in 1992, biological resources have received a priory weighting in all global discussions about biodiversity conservation. A thorough understanding of our flora becomes urgent necessity not only because of the ecological and economic importance of biodiversity but also of accelerated genetic erosion occurring as a consequence of the deterioration of the forest and other habitats (Manilal, 1998). It is also imperative to have a detail taxonomic knowledge of every plant species to meet global biodiversity challenges and to achieve sixteen ambitious targets set by the signatories of the Convention on Biological Diversity in April 2002, to stem the species loss. Further, in this era of Biological Crisis, Patent Laws and Intellectual Property Right; it is extremely important to know the biodiversity especially the plant wealth of our country as early as possible at least important economic and medicinal plants and their products. Botanical survey of India (BSI), a nodal agency under Ministry of Environment and Forests has been working with a
task to record the floristic diversity. The agency has successfully engaged in the process but alone BSI cannot inventories entire country from one end to other and hence at regional or district level, various other organization like Universities or Colleges are contributing to document the regional vegetation.

In recent years, there has been a renewed interest in floristics, particularly of those areas which have high concentration on species as it may have immense implication in biodiversity conservation. Floras or the inventories are catering to the needs of people in various walks of life, be it an anthropologist, archeologist, economist, ethno-botanists, planners or foresters. Now a day’s floras are much more than mere checklist or description sources. They have become very comprehensive with the advent of new technology and data from every field of science is tried to be incorporated.

Balaghat Mountain range is an eastward spur of Western Ghats of India (Sahyadri Mountain), running northwest to southeast in Maharashtra. It is located from 18° 47' 40.26" - 18° 32' 29.28" N latitude and 75° 20' 26.90" - 76° 48' 56.18" E longitude, in the basins of rivers Manjra, Sindphana and Sina and their tributaries; mainly spread over Ahmednagar, Beed, Latur, Osmanabad and Solapur districts, and forms a natural boundary between Western-Maharashtra and Marathwada subdivisions of the State. The entire Balaghat region is situated at an average height ranges between 610-792 m above mean sea level, sloping towards the south and east, forming the water divide between the Godavari River and Krishna River valleys. The terrain of Balaghat Ranges supports unique tropical dry deciduous forest and open scrub vegetation with vast grasslands. Pockets of dry deciduous forest in Balaghat not only provide habitats to an enormous number of animals, birds, insects and spiders, but also it is the only site of their residence in drought prone region of Maharashtra. The forests of Balaghat Ranges perform many ecological functions such as ground-water-recharge, downstream-flood-control, precipitation and nutrient recharge, and indirectly affect socio-economic development of the region. The vegetation of Balaghat Ranges is quite varied and interesting. The area is also rich in a number of economically important plant species. The grasslands of Balaghat Ranges are unique and popularly known as Indian Savannas, they provide habitat to more than 100 bird species, which include the critically endangered Great Indian Bustard. Thorny scrub
jungles of Balaghat Ranges play vital role in dry land ecosystems by providing sheltering places to wildlife.

In spite of the rich and varied vegetation, Balaghat remains under explored or rather neglected with regards to its plant wealth. Earlier sporadic work is far from satisfactory. The State and regional floras are usually consulted by researchers, teachers and students for study and identification of flowering plants of Balaghat, these floras are not directly concern with the plants of Balaghat as they dealt with flora of the Bombay Presidency, Maharashtra state or Marathwada region of which Balaghat happens to be a part. It was therefore necessary to bring out a comprehensive floristic account of plant wealth of Balaghat Ranges which will be useful to the agriculturists, biochemists, botanists, foresters, horticulturists, Ayurvedic medicinal practitioner, teachers and students and anyone interested in plants of Balaghat Ranges. This data also would contribute to some extent in preparation of the Flora of India. In light of this, the present research work was undertaken in the year 2009 with the following objectives.

1. Survey, collection and documentation of the flowering plants of Balaghat Ranges of Maharashtra.

2. To provide brief description and information on phenology, ecology, geographical distribution (GPS data) and present status of all reported plant taxa.

3. Documentation of wild flowering plants of the Balaghat Ranges in the form of voucher herbarium specimens.

4. To provide up-to-date nomenclature for each taxon.

5. To provide artificial dichotomous keys to facilitate easy identification of flowering plants of Balaghat Ranges of Maharashtra.