

A survey on macrophytic flora growing on ancient monuments of Sivasagar district, Assam

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Received : July, 2010; Accepted : November, 2010

SUMMARY

Sivasagar, one of the Assam's oldest cities, was once regime of Ahoms for approximately six centuries. The present paper deals with the growth of macrophytes on the ancient monuments of Sivasagar, District Assam. A total of 66 species had been collected out of which 57 (of 23 families) are angiosperms (46 dicot and 11 monocot); 7 (of 6 families) pteridophytes and 2 species are bryophytes. the highest number of species was collected from Fakuwa Dol (53) and Golakghar, Gargaon (43), respectively. The Shannon diversity and equitability or evenness at Fakuwa dol or Jaymoti dol is 2.04 and 1.18 followed by Golak ghar which is about 1.5 and 0.92, respectively and is less at the Ranghar and is about 0.45 and 0.06, respectively. These monuments should be conserved or renovated because of its design and craftsmanship, which show a past architectural style.

Das, Dimbeshwar, Nath, Prabhat Ch., Medhi, Homen and Sarma, Gajen Ch. (2011). A survey on macrophytic flora growing on ancient monuments of Sivasagar district, Assam. *Internat. J. Plant Sci.*, 6 (1): 154-160.

Key words : Sivasagar, Monuments, Ahoms, Plant diversity, Conservations

Assam, the “Shangri – La” of the North – Eastern India is a melting pot where races like Indo – Tibetan, Mongoloian, Aryans, etc. dawn from diverse hive at different points of time were synthesizes and transformed into colourful Assamese people, such perfect fusion of culture and heritage gave birth to Assamese culture.

Sivasagar, is one of the Assam's oldest cities, remained the seat of Ahom regime for approximately six centuries whose first king, Sukapha, migrating from, Mong – Mao or Mong – Mao Ling (South – west Yunnan province in China) had first established his first capital at Charaideo in 1261 A.D. There are several historical monuments, which were constructed by Ahoms in between 1228 A.D. and 1826 A.D. such as Rang Ghar, Kareng Ghar, Talatal Ghar, etc. expressing engineering marvels of the past and have a great importance in the history of Assam as well as of India, which provides information's regarding the

civilizations, art and culture, etc. of the past. These monuments are spread all over the district, which comprises of three subdivisions viz. Sivasagar, Charaideo and Nazira. It is believed that Ahoms were great builders. Their buildings activities spread far and wide beyond the limit of the political boundary of Sivasagar district. But with the passage of time, most of the monuments are in dilapidated conditions due to the deteriorations of stones (Biodeteriorations), which are enhanced by the mineralogical and physical characteristics and their varying, weathering responses under different climatic and environmental conditions (Kumar, R. and Kumar, A.V. 1999) that favours the growth of various macrophytic floras.

Biodeterioration can be defined as the irreversible loss of value and/or information of an object of art following the attack by living organisms (Urzi and Krumbein 1994). The environmental factors such as high temperatures, high relative humidity levels and heavy rainfall, wind, sunlight and pollution favours the growth and sustenance of a wide variety of living organisms on the stone surfaces from bacteria to higher plants. These agents cause an increase in the surface area of stone by the formation of micro and macro-fissures or formation of encrustations. When the surface of the monument has undergone this process of alternation, living organisms begin to colonize the area. The growth of higher plants over monuments and historic buildings is one of the major problems faced by conservators especially in tropical

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