

Studies on aquatic, semi-aquatic and marshland plants of Sivasagar district, Assam

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The beels (Phokolia, Sagunpora), tanks and ditches of Sivasagar district with its typical eco – physiographic characteristics harbour a rich and unique flora. The river Brahmaputra which flow in the northern part of the district extends over an area of 2886 sq. kms. Hydrophytes and wetland plant play an important role in the environment including their difference types of vegetation at various depth, floating, plants in central region; rooted hydrophytes in shallow region; amphibians in marginal mud and trees developing in dry habitat. During the survey recorded 177 species including 107 dicotyledons and 70 monocotyledons, amongst family Poaceae and Asteraceae are considered dominant with 19 and 12 species each, respectively.

Sivasagar district occupies the eastern part of Assam and it lies between 94°8' and 95°4' east longitude and 26°7' and 27°2' north latitude. It is surrounded by Arunachal Pradesh and Nagaland in north and east while in south and west by Jorhat and Dibrugarh district. The river Brahmaputra which flow in the northern part of the district extends over an area of 2886 sq. kms. The total populations of the Sivasagar are about 10, 52, 802. It has a rich phyto-diversity and has natural resources like coal, oil and tea gardens. The whole area of the district may be divided into three dissimilar natural sub-divisions; littoral tract (low land), broad plains and the transition hilly tract. Of these last two are quite conspicuous. Charaideo sub-divisions make the transition from by Himalayan foothills. Undulating topography and historical tanks is the unique feature of the area, the principal rivers in the district are Disang, Dikhow, Janji, Safrai, Towkak, Tifuk, Namdang and Mitong. Besides these there are numbers of small rivers, rivulets and streams through out the area. These water bodies are most lucrative sources of local breed fishes in Assam and rich in various plant species (Kanjilal *et al.*, 1932-39; Islam, 1984, 1986, 1990, 1999; Baruah

and Baruah, 2002; Gogoi, 1981; Sarmah, 1978). There had been no systematic attempt to survey and study the hydrophytes and wet land plants of Sivasagar district particularly. The wetlands of Sivasagar district are rich in floral and faunal diversity. They serve as ecological and aesthetical purposes to the local rural communities. The local people depend on these wetlands for various purposes such as fishing, fodder, food items etc.

Soil:

Soils in Sivasagar district on hilly and plains are comparatively rich and productive because of less percentage of sand and better humus content and more water holding capacity, the soil is acidic and pH ranges from 4.2 to 4.7 and support to better vegetation consisting of trees and shrubs, the soil of plain is sandy with low percentage humus and pH ranges from 5 to 5.3 and possess less organic matter.

Climate:

The weather of this region is characterized by four seasons namely spring (February to April), autumn (September and October) and winter (November – December). It comes under the influence of the south - west monsoon and rainfall ranges from 101 – 380mm during the summer. During the pre monsoon (March – May) and post monsoon period (September and October) the rainfall ranges from 75 – 289.9 mm and 198 – 218 mm, respectively due to the north eastern monsoon. The district also gets scanty of rainfall ranging from 2 – 87 mm during the winter seasons

Altogether 7 beels, 15 historical tank (more than 5 acre) 6 rivers and 8 ditches area have been selected for the present study. Extensive survey was conducted in and around these water bodies from March 2005 to January 2007. During the survey plant specimens occurring in the selected sites were collected, list of hydrophytes was prepared. Identification of flora and their habitat was also recorded with habitat analysis different seasons of the year.

Occurrence of the hydrophytes of the district:

In the Sivasagar district there are wide varieties of

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