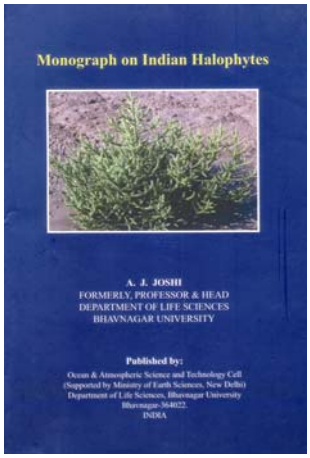


Monograph on Indian Halophytes. A. J. Joshi. Ocean and Atmospheric Science and Technology Cell, Department of Life Sciences, Bhavnagar University, Bhavnagar 364 022. 2011. 140 pp. Price: Rs 500.

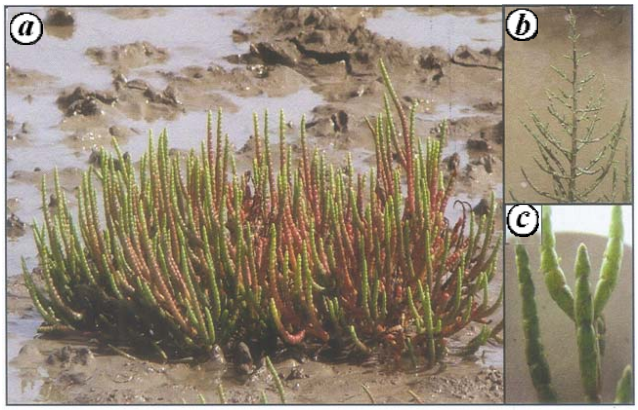
Halophytes are a special group of higher plants with exceptional capacity of tolerating salt concentrations exceeding 0.5%. They thrive in hostile environment and adverse conditions of habitats such as the sea coast, salt marshes, salt deserts, inland and alkali saline soils. Halophytes are potential sources for human food (vegetables, salads and pickles), fodder (for camels, sheep, goats, wildlife and fish), building material, non-fossil biofuel, paper pulp, cosmetics, medicines and chemicals, as well as landscaping. They play a vital role in protection against natural calamities through sand-dune stabilization as well increase the productivity of saline soils. The halophytes have bioprospecting potential, particularly as a source of 'salt-tolerant genes'. They are reportedly beneficial in sequestering carbon dioxide, removing salts and heavy metals. Thus they are promising to be developed as 'cash crops' for growing on saline wastelands without irrigation of freshwater.

In spite of the ecological and economic significance, little efforts have been made to study the biology of halophytes in India. Except for the occurrence of halophyte species in different locations, no other information is available for the east coast of India. However, Gujarat has been well studied for phytosociology and biodiversity of halophytes. Based on the available information for halophytes growing along maritime states of India, the author has brought out this book with financial support from the Ministry of Earth Sciences, Government of India. This is an appreciable initiative, though it is not a precise academic document on Indian halophytes.

The monograph describes and illustrates 36 halophytes categorized into five groups: succulent halophytes, non-succulent halophytes, shrubby halophytes, facultative halophytes and strand species. Each species is detailed with scientific name, authority, systematic position, locations, environment–habitats, figure, salient features, phytosociology, ecophysiology, seed germination, commercial use and references. The monograph has also brought out the knowledge gaps of halophytes, which will be of help to the researchers to work on them.

There are some suggestions for improvement while revising this valuable publication. Halophytes of island systems, in particular Andaman and Nicobar, and Gulf of Mannar are largely missing. Some photographs are of poor quality. The plant habit, leaves, flowers and special features, if any, can be exhibited with photographs of good quality. In order to make identification easier, it is better to indicate the distinguishing features between the overlapping halophyte species, such as between *Salicornia brachiata* and *Arthrocnemum indicum*; between *Suaeda* species, etc. There should be a clear mention about the month/season and depth of soil profile at which analysis has been made for the levels of salinity, pH, ESP and SAR. The monograph has mentioned 37 halophytes (p. 21), but has described only 36 halophyte species. According to Chapman (1975), Indian coastal vegetation is characterized by the presence of *Sesuvium portulacastrum* and *Batis maritima* (p. 11). The monograph has not illustrated *B. maritima*, and it is not clear whether the species has become extinct in India. Each species needs to be indicated for its IUCN conservation status, as critically endangered, endangered, vulnerable, etc. and also for the presence of invasive alien species, if any. Under the sub-head 'Species' for all the halophyte species, the name should be given in binomial nomenclature as the name of genus followed by species (*H. mucronatum* instead of *mucronatum*). The author has indicated the levels of mineral composition, free amino acids, proteins and sugars under the sub-title 'Ecophysiology'. Here, it is preferable to use the sub-title 'Biochemical constituents' instead. Information pertaining to the months of availability of flowers, fruits, seeds of halophytes, protocols for raising halophytes and selecting their potential areas needs to be incorporated in the revised publication. A tabular column categorizing the halophyte species based on salinity tolerance can also be added. Information about traditional knowledge, religious beliefs and cultural heritage of halophyte species can be added, if available.

The book has filled the knowledge gap between the scientific community and the user agencies. It needs to be published in local languages as well for the benefit of the field staff of the Forest Department, village administration and NGOs.



Salicornia brachiata, Roxb. ***a***, Habit, ***b***, Phylloclade-vegetative and ***c***, Phylloclade with flowers.

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