# Book Review

**Gymnosperms in India 1: Extant Gymnosperms in India**, by R C Srivastava,

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The book under review, **Extant Gymnosperms in India** by Dr R C Srivastava is an up to date resource on one of the interesting group of plants, Gymnosperms. Present work is an outcome of a long standing demand for a book on this group of plants from the people, foresters, teachers and students.

The name Gymnosperm is derived from the Greek word, '*Gymnospermos'* ('Gymnos' – naked, '*Sperma'* – seed) meaning naked seeds; ovules are naked and freely exposed to pollination, and the fertilized seeds are not enclosed by carpels. Gymnosperms are also characterised by various other characters. Gymnosperms are placed in five distinct and widely divergent orders namely *Cycadales, Ginkgoales, Taxales, Coniferales* and *Gnetales*. In addition to their ornamental value, the Gymnosperms are of much use to the human beings as they provide valuable timbers, wood pulp, soft wood, resins, edibles and medicines.

According to the author, 1,026 species belonging to 63 genera are distributed almost in all continents except Antarctica; 152 species, 6 varieties and 1 forma (indigenous/introduced) belonging to 46 genera under 11 families are found in India. Out of these, 78 species, 6 varieties and one forma are indigenous and 17 species, 6 varieties and one forma are endemic to India. Plant diversity in Northeast India comprises elements of Himalayan and Indo-Malayan region. Gymnosperms of the region also share distribution with adjacent regions especially the coniferous plants. Northeast India has highest diversity of Gymnosperms in India. With 24 species, conifers are the most diverse group followed by *Gnetales* with 6 species. *Cycads* are represented by only one species.

The introductory chapter provides extensive descriptions of its historical aspects, classification and distribution. Genera of Gymnosperms in British India, Gymnosperms in India and seven adjacent countries, Species Diversity of Gymnosperms in India, and Endemic Gymnosperms of India have been provided in tabular form. Based on author's own observations and others, the distribution of the Gymnosperms along with the associated Angiosperms are presented in the following chapter.

Economic importance and ethnobotanical uses of Gymnosperms including *Abies pindrow, Agathis robusta, Araucaria* spp*, Callitris cupressiformis, Cedrus deodara, Ephedra* and *Cycas* species, among others have been described. In India, Gymnosperm habitats are protected by law, yet due to human greed, mass destructions of these forests have been observed in many NE states. Protected areas such as Biosphere Reserves, Wild Life Sanctuaries, National Parks and Botanical Gardens have been established in different parts of the country. In- vitro multiplication of some species has been done successfully. Author, who was instrumental in such conservation projects, mentions that a good number of species (indigenous and exotic) are well conserved in nine protected areas comprising of one

Biosphere reserve; one National Park; seven Wildlife Sanctuaries and three Conservation Reserves.

Taxonomy of Gymnosperms, Classification keys of families, such as, *Cycadaceae, Zamiaceae, Ginkgoaceae, Ephedraceae, Gnetaceae, Welwitschiaceae, Podocarpaceae, Araucariaceae, Taxodaceae, Cupressaceae, Pinaceae, Taxaceae* along with an easy to use key, have been provided. Taxonomic details of species of each family have been discussed in detail. Special importance is attached to accurate description of the parts of plants, and to the correct use of technical terms. Comprehensive up to date reference, Index to Botanical Names, Vernacular/Common Names listed and coloured photographs of about fifty Gymnosperms provided at the end of the book, have added much needed value to the book.

Presenting up-to-date, scientific data and applied information, this book is invaluable for researchers, teachers, and all professionals working in the area. The text copiously illustrated is an outstanding resource for anyone with an interest in Gymnosperms. It will appeal not only to the professional researcher, but to the Gymnosperms enthusiast or anyone with an eye to the future of Gymnosperms research. In my view, the new book, under review, combines decades of real-life experience with the heartfelt passion of a true plant lover. The most comprehensive guide to the botany, history, distribution, and cultivation of all known Gymnosperms, easy to read and hard to put down! Share this book with a botanist friend or two to spread the knowledge on Gymnosperms, too. Grab a copy Today!

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