

Dr. Suman Chauhan

Botany Deptt.

N.A.S. College (P.G.)

B.Sc (First Year)

Evolutionary significance of gymnosperm

Gymnosperms are small heterogenous group of seed plants, which appeared in middle Devonian period of palaeozoic era. Gymnosperm to trace evolutionary history is difficult. Seed germs were first seed plants protecting their reproductive parts in cupules fossil record reveal that seeds evolved independently in more than one group of Palaeozoic. Devonian period is considered earliest seed plant. The ancestry of gymnosperms is traced from Progymnosperms of Devonian period that had gymnosperms type wood with secondary growth and their reproductive organs have free sporing like ferns as in pteridophyte. This group of plant is now accepted as ancestors of gymnosperms.

Theophrastus first used the word gymnosperm because these plants bear naked seeds i.e. seed not enclosed in ovary cycadophytes and coniferophytes are phylogenetic groups of gymnosperm with distinct vegetative and reproductive plants are small leaves large compound secondary wood monoxyclic and reproductive organs simple borne on Micro and megasporophylls form of cones. This group includes pteridospermales cycadeaitales and cycadales.

In coniferophytes, plants are large trees leaves simple secondary wood pinoxylic and reproductive organs more complex specially female reproductive organs. This group include Ginkgoales, coniferales, Gnetales.