

Dr. Suman Chauhan

Botany Deptt.

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

B.Sc (First Year)

Heterospory

Most of Pteridophytes produce only one type of spores i.e. They are homospores. But some pteridophytes produce two types of spores which differ in size the smaller spores are called microspores and larger spores as Megaspores. These are formed in microsporangia and megasporangia. The microspore on germination gives rise to male gametophyte and megaspore to female gametophyte. Heterospory is known in nine genera of Pteridophyte Selaginella, Marsilea, Salvinia, Azolla.

Origin of Heterospory Heterospory originated due to reduction in number of spores within sporangia. When all spores in sporangium are functional greater competition for nutrition spores receive less supply of food microspores are formed. If spore mother cells in sporangium disintegrate remaining spores get nutrition their size is increased Megaspores are formed.

Evidence from experimental studies

In experimental studies photosynthesis activity of Selaginella slowed down by keeping it in low light intensity microsporangia developed spores could not grow in size due to limited nutrition factor similar result in **Marsilea**.

Importance of Heterospory

1. Heterospory expresses sex determining capability of plant. It forms the sex of the gametophyte can be predicted at spore stage.
2. Development of gametophyte is not affected by ecological factors.
3. Independently growing gametophytes are formed.