

## Heterospory and Seed Habit

### Heterospory

- Most of the pteridophytes produce only one kind of spore called homosporous.
- Some of the pteridophyte produce two kind of spore one is small microspore and the other larger one is megaspore
- Microspore is produced in microsporangia and megaspore is produced/develop in -  
Megasporangium.
- Microspore on germination give rise to male gametophyte and megaspore to female gametophyte.
- The phenomenon where two types of spores differing in size, structure and function are formed on the same plant is known as ~~the~~ heterospory.
- Heterospory is known in nine genera of pteridophytes - Selaginella, Isoetes, Marsilea, etc --  
Some of genera also nearly approach to seed habit.

## Origin of Heterospory =

Heterospory originated due to reduction division in the number of spores within sporangia.

When all the spores in sporangium are functional, there is a greater competition for nutrition and as such as spore receives a limited food supply and its size remain smaller, then microspores are formed.

⇒ If some of the spore mother cells in a sporangium disintegrate during development the remaining ones get sufficient nutrition for ~~their~~ their development and the size is increased thus megaspores are formed.

⇒ Palaeobotanical evidences of heterospory states, ~~that~~ Heterospory has not evolved in living forms but was also present in fossil plants.

⇒ It originated due to disintegration of some spores in a sporangium.



## Importance of Heterospory -

➤ Heterospory expresses sex determination

Capability of the plant

➤ Biological significance of Heterospory is that in heterosporous forms development of gametophyte is endosporic and the nutrition for developing gametophyte is derived from sporophyte.

➤ Heterospory ensures nutrition for the developing embryo.