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Heterospory and Seed habit

From the desk of

and biological evolution

Remaining part : — Regarding the retention of megaspore within the megasporangium, it has also been achieved by some superior plants. This feature could not become common to all the sps. because there is no histological union between the megasporangial wall and the megasporangial wall. In the presence of such a union the megaspore could never come out of the megasporangium. Such a union if present in Selaginella could also usher in an era of rest for the embryo after its development. In such a case the whole megasporangium could have fallen down from the plant and a megasporangium with contained embryo could easily be regarded as primitive seed. In case we find a living example of a seed plant in which there are traces of operation

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of megaspore from the megasporangium
 we can regard it as a clue
 to the origin of seed habit.

Stelar evolution

The concept of the stele as the fundamental unit of vascular system put forwarded for the first time by Van Tieghem and Douliot (1886).

Stele — stele has evolved from a Greek word meaning pillar or column. They also proposed that stem and root are alike in their primary structure.

They defined stele as a central cylindrical portion of the all vascular plants delimited by its own endodermis.

In broader sense, stele system includes inter fascicular portion (cambium), pith

Types of stele

According to Esau (1953 and Smith 1955), there are two fundamental principle types of steles organizations. These are —

(A) Protosteles

(B) Siphonosteles

(A) Protosteles — In which the vascular cylinder consists of a solid core of xylem surrounded by phloem, pericycle, and endodermis.

The name "Protosteles" was given by Jeffrey (1897, 1899). This is without pith and regarded as the simplest and fundamental type of stele from which other type of steles have evolved. Found in earliest vascular cryptogams.

According to Rehner 1902, Protosteles is of two main types: —

(A) Haplosteles

(B) Actinosteles.