

Topic: **Role of Embryology in Taxonomy**

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Embryology in Taxonomy:

Embryology is the study of the process of formation of embryo in a fertilized ovule, i.e., the study of the changes taking place in an ovule before and after the fertilization.

- **Dicots and Monocots:** Angiosperms are universally divided into dicotyledons and Monocotyledons. The primary classification of angiosperm is based on one major embryological character i.e., the number of cotyledons.
- **Helobiae:** This monocotyledonous order, treated as a subclass in some recent system of classification, is characterized by the presence of a helobial type of endosperm.
- **Orchidales:** The distinguishing embryological character of the members of this order is the presence of undifferentiated embryo and very little or no endosperm.

- **Podostemaceae:** Members of this family are recognized because of the formation of pseudo embryosac, which is formed by nucellar cells.
- **Lemnaceae:** Phylogenetic studies indicate that Lemnaceae have been derived either from the Helobiales or from the Araceae. But on the basis of the embryological studies, Maheswari suggested that Lamnaceae have been evolved from Araceae, not from Helobiales.
- **Crassulaceae:** Embryological studies of Crassulaceae suggest that it should be placed in the order Rosales.

All the above-mentioned examples confirm that embryology plays a definite and significant role in solving taxonomic problems.