

Ques

Describe structure & types of ovules or structure of ovule at the time of fertilization of any dicot plant studied by you?

Ans

A megasporangium or ovule consists of the nucellus and one or two integuments which leave an opening called micropyle. The ovule remains attached to the placenta of ovary by a stalk called funiculus.

An ovule may arise from the base of ovary or from the inner surface of the ovary. Each ovule is attached to the placenta by a distinct stalk known as funiculus. The point of attachment of the ovule to its stalk is called the chilum. The main body of ovule consists of the parenchymatous mass - the nucellus. Nucellus is the megasporangium proper one or two coverings or integuments of ovule arise as a collar like mass of tissue at the base of young nucellus & surround all around it except at the apex, where a narrow passage is left called Micropyle. Through this micropyle pollen tube penetrates the tissue of megasporangium.

Types or forms of ovule → Mainly, there are five types of ovules. One more type of megasporangium named circinotropous ovule is also known.

(1) Orthotropous ovule ⇒ In this type the micropyle, chalaza & the hilum lie in the same straight line & above the hilum. Here the body of the ovule is straight or upright. This is considered most primitive type of ovule. e.g. - Polyporaceae

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Utricleae

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(2) Anatropous ^(inverted) ovule \Rightarrow In this type the ovule is inverted with the micropyle lying very close to the hilum & lateral to it. Here the body of the ovule is completely bent over, & fused along the funicle, the fused portion of which called the raphe. This is the most common type of ovule found in angiosperms & is the characteristic of Sympetalae group.

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(3)

Amphitropous or transverse \Rightarrow Here the annulate ~~of~~ the body of the ovule becomes more than is placed at right angles to the funicles. The hilum, Chalaza & micropyle are all separated from one another. This is quite ^{rare} ~~type~~ type & found in Ranunculaceae, Dicotylaceae.

(4)

Campylotropous or curved ovule \Rightarrow Here the body of the ovule is curved & bent round like horse shoe. The hilum, chalaza & micropyle all lie close together. Ex - Some members of Chenopodiaceae, Leguminosae.

