

Parts of ovule → (their formation) -

(i)

Integument ⇒ normally there are two integuments (Bitegmic ovule) but in some cases single integument is formed. (Ategmic condition, that is ovule without integument has been reported in some members of Salicaceae). In some plants a third integument is also found known as an atategmic is characteristic of members of polypetalae.

(ii)

Caruncle ⇒ It is formed by the proliferation of the integumentary cells at the micropylar region. The integuments may fuse between themselves or with the nucellus or with the funiculus.
eg- Euphorbaceae.

presence of chlorophyll in the integuments was first of all reported by Hofmeister in Baobab minor.
Stomata have also been reported in the integuments of Crossopium.

(iii)

Microphyte → the microphyte formed by the outer integument is known as the exostome & that formed by the inner integument is known as the endostome. The exostome alone rarely forms the microphyte.

5) Hemianatropous \Rightarrow In this type the body of ovule becomes at right angle to the funiculus, & the micropyle & Chalazae lie in a straight line. The micropyle in this case is not found near to the hilum.

Fig 1

6) Circinotropous \Rightarrow In this case the ovule is first orthotropous, but due to rapid growth on one side, the ovule becomes anatropous. The curvature of ovule, however, continues until the micropyle again becomes directed upwards. This type of ovule is found in *Spermatophytes*.

Fig 12

12

T. 14

Galaxy S21 FE 5G

(3) Amphitropous or transverse \Rightarrow Here the annature 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. Butomaceae

(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.

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