

Date
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Question: 53 :- Detorsion of Gastropods to classify karte hue chitka sahita varnan kare ?

Torsion and Detorsion in Gastropoda

Definition :-

Torsion (twisting) is the rotation of visceral organs in anticlockwise direction through an angle of 180° on the west of the body during larval development. The phenomenon takes place in the free-swimming (veliger) larva of gastropods and converts the symmetrical larva into an asymmetrical adult.

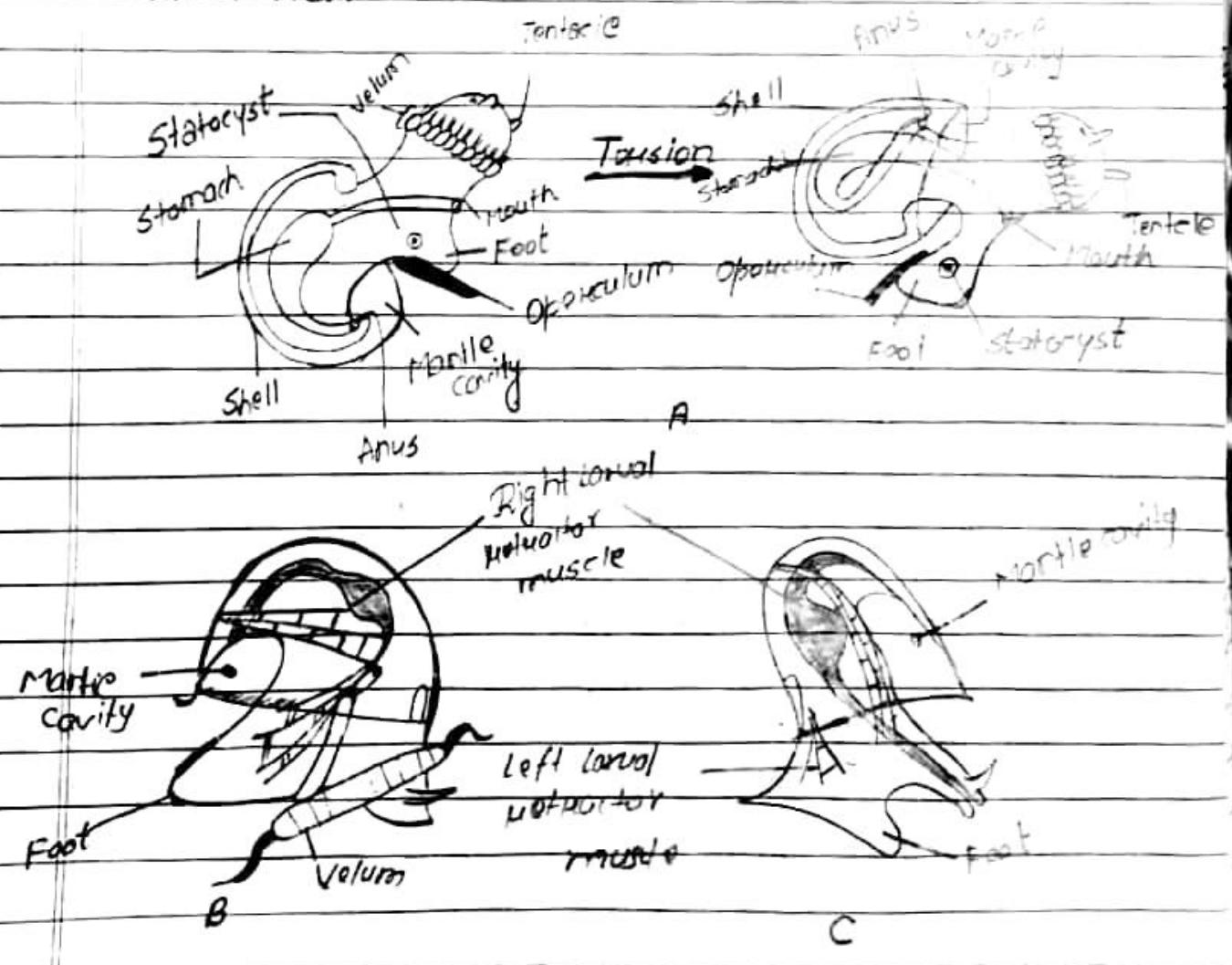
Contraction of the larval metacloacal muscles and differential growth are possibly responsible for such rotation. Entire rotation results within few minutes. Asymmetry is encountered at the mesodermal bands develop asymmetrically. The mesodermal band on the right side is larger than its left counterpart.

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The right band is composed of five mesoderm cells which elongate to form muscle cells. With the transformation of the muscle cells the visceral hump is displaced to the left side. These cells on the right side converge and transform into the larval Heltractor muscles. The muscle cells are absent on the left side. Junction of the visceral hump commences as soon as the larval muscle cells attain the power, the contraction



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Attended

Conditions before Tomision :-

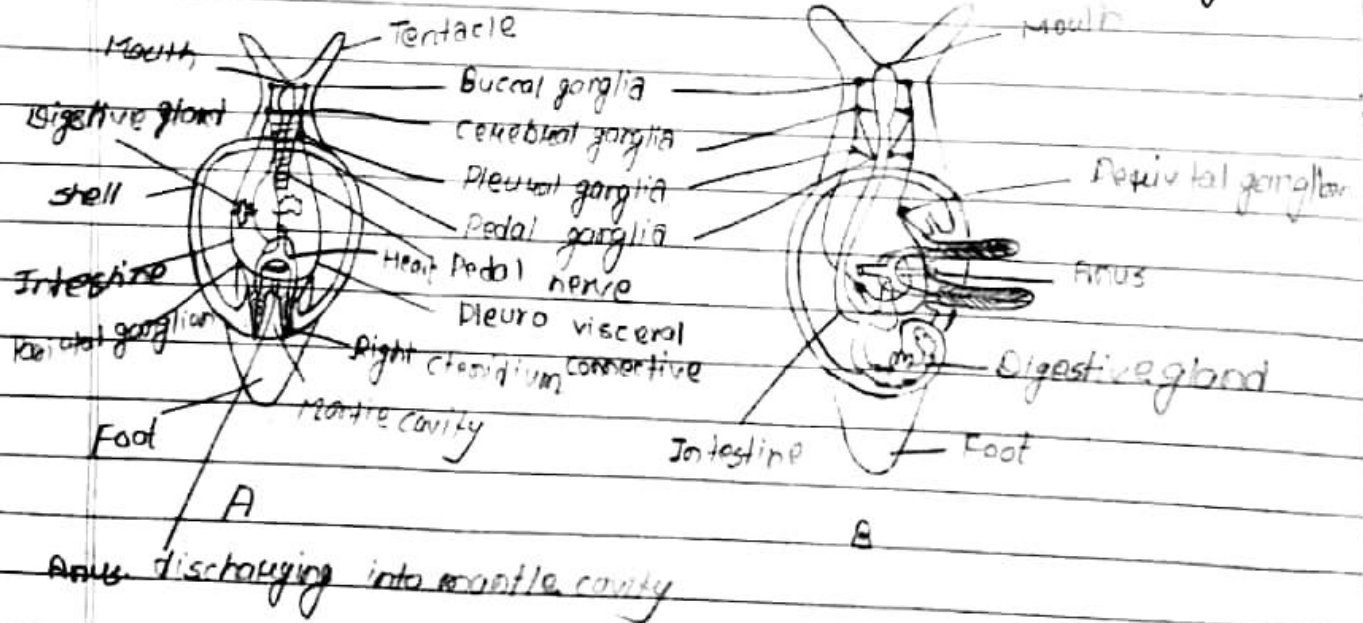
1. The mantle cavity is situated at the posterior side containing the gillial complex.
2. The ctenidia and two nephridiopores are located posteriorly.
3. The alimentary canal is straight with the mouth at the anterior side and anus at the posterior side.
4. The auricles are placed behind the ventricle.
5. The nervous system is bilaterally symmetrical in the veliger stage when foot and a prosopinal shell are formed first in this stage.

How Tomision Occurs :-

- ① The morphological phenomenon of bending on the ventral side which takes place in an antero-posterior sagittal plane about a transverse axis of the animal results.
- ② Simultaneous coiling up of these structures

results in an exogastric coil.

- (3) Ventral portion for the visceral mass and mantle rotate about 180° on little more.
- (2) During the completion of metamorphosis there is a lateral torsion subsequent of primitive ventral plexus with the result that the original coil of the visceral sac and the shell which was originally dorsal or exogastric becomes ventral or endogastric.



So the lateral torsion leads to the attainment of condition of gastropods following certain changes in original organisation. Lateral torsion is due to arrested growth of one side and active expansion of the other.