

Differentiate between the 3 classes of urochordate

Answer:

Urochordates or Tunicata are divided into 3 classes:

1. Ascidiacea
2. Larvacea
3. Thaliacea

| Ascidiacea | Larvacea | Thaliacea |
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| Fixed or free swimming. Solitary or colonial | Free swimming | Free swimming and pelagic |
| Body is saccular. Tail is absent | Tail is present throughout their life | Body is cask shaped with opening at the opposite ends. Tail is absent in the adult |
| The body is covered by a test | True test covering is lacking | The body is covered by transparent test. |
| Atrium is present | Atrium is absent | Atrium is present |
| Pharynx is large and contains numerous gill slits or stigmata, opening into the atrial cavity | Two gill slits are present | Pharynx is small. Gill-slits number is less. |
| Notochord and nerve-cord are absent | Notochord and nerve cord are persistent | Notochord and nerve-cord are absent in the adult |
| The dorsal lamina is present | The dorsal lamina is absent | The dorsal lamina is present |
| The test is secreted by the body wall of the adult animal | The test is not permanent and is secreted at times only | The test is permanent |
| Reproduction is both asexual and sexual. These are bisexual animals | Only sexual reproduction is known. They are hermaphrodite and there is no metamorphosis in development | They exhibit alteration of generation by reproducing sexual and asexual forms. These are bisexual animals |
| Life-history includes a typical tadpole larva that is free swimming with well developed tail and possesses well developed dorsal tubular nerve chord | They are neotenic forms i.e. larval nature is retained throughout life. | Tailed larva may be present or absent |