Annelida Characteristics

- Body vermiform, bilaterally symmetrical
- Triploblastic
- Schizocoelomate (true coelom)
- body metamerically segmented and covered with a layer of cuticle
- Segmentally arranged setae / chetae
- Acron is divided into prostomium & peristomeum and the posterior terminal segment is called pygidium.
- Blood vascular system is closed type and respiratory pigment is usually present.
- Excretion by nephridia
- Body length varies from less than 1 mm to < 3 m Giant earthworm (megascolides australis) can attain 1 m length. South American leech Haementeriaghilianii can reach more than 40 cm in length
- Mostly aquatic, some are terrestrial, free living
- Organ system grade of organization
- Body possess 3 separate sections a prosomium a trunk & a pygidium
- Digestive system complete & developed
- Respiration by general body surface
- Nervous system with an anterior nerve ring, ganglia & a ventral nerve chord
- Reproduction – sexual & gonochoristic or hermaphrod
- Fertilization – internal or external
- Development – direct with no larval stages.

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Schizocoelomate — Secondary body cavities (coelom) are formed by splitting a solid mass of mesodermal embryonic tissue.

Metameric segmentation — characteristics of annelida and arthropoda phylum. It is a true segmentation in which external segmentation corresponds to the internal segmentation. Body segments & organ systems are serially repeated one after another called metameres / somites.

Metamerism is first observed in annelids in the animal kingdom. Every single segment mainly contains appendages, muscles, nerves, blood vessels, excretory organs and a pair of coelomic sacs that are repeated in almost all segments.

Segmentation is not the same concept as metamerism as it is confined only to ectodermally derived tissue eg - in cestoda tapeworm.

Metamerism is of two types — (1) Homonomous. It is a strict serial succession of metameres. It can be grouped into two more classifications (a) Pseudometamerism (ex - Cestoda) where repeating segments acts independently from the others. Repeating segments are primarily for reproduction & basic nutrient exchange.

(b) True metamerism (earthworm) - Here all segments work together for the whole organism i.e they are not independent.

(2) Heteronomous — Metameres are grouped together itic to perform a particular similar task. ex - insect head (5 metameres) Thorax (3 metameres) and abdomen (11 metameres). The process resulting into grouping of metameres is called Tagmatization

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