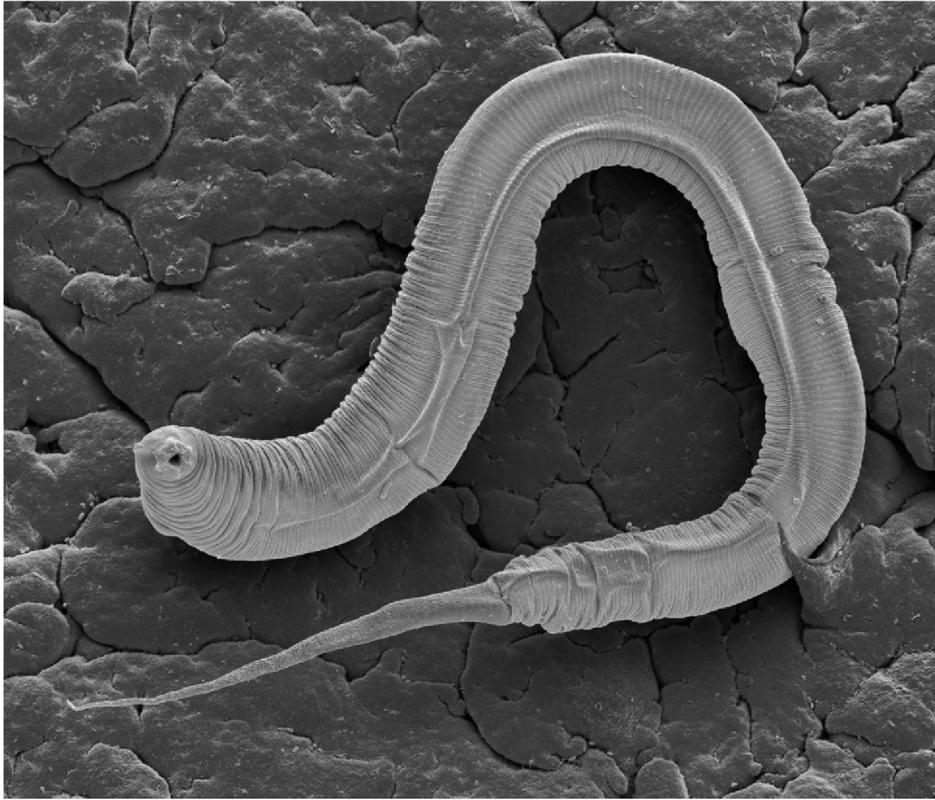


- 7 Variation between organisms occurs as a result of sexual reproduction and epigenetic modification.

The photograph shows a nematode, as seen using an electron microscope.



(Source: © Leonid Serebrennikov / Alamy Stock Photo)

- \*(a) Animals of this species are either male or hermaphrodites.

Nematodes that inherit one sex chromosome are male.

Nematodes that inherit two sex chromosomes are hermaphrodites.

Hermaphrodites can produce both egg cells and sperm. Approximately 300 sperm are produced first and stored inside the nematode. After this, egg cells are produced.

The sperm of a hermaphrodite nematode can fertilise its own egg cells. This is called self-fertilisation.

However, when a hermaphrodite nematode mates with a male nematode, the sperm of the male fertilises the egg cells. This results in 700 more egg cells being fertilised than when a hermaphrodite self-fertilises. Half of these fertilised egg cells will result in male offspring.