

Science

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(Chapter – 9) (Heredity and Evolution)

(Class – X)

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Question 1:

What factors could lead to the rise of a new species?

Answer 1:

Natural selection, genetic drift and acquisition of traits during the life time of an individual can give rise to new species.

Question 2:

Will geographical isolation be a major factor in the speciation of a self-pollinating plant species? Why or why not?

Answer 2:

Geographical isolation can prevent the transfer of pollens among different plants. However, since the plants are self-pollinating, which means that the pollens are transferred from the anther of one flower to the stigma of the same flower or of another flower of the same plant, geographical isolation cannot prevent speciation in this case.

Question 3:

Will geographical isolation be a major factor in the speciation of an organism that reproduces asexually? Why or why not?

Answer 3:

Geographical isolation prevents gene flow between populations of a species whereas asexual reproduction generally involves only one individual. In an asexually reproducing organism, variations can occur only when the copying of DNA is not accurate. Therefore, geographical isolation cannot prevent the formation of new species in an asexually reproducing organism.

