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Q21

Due to some reasons, if there is a huge fall in the population of species of butterflies, what could be its likely consequence/consequences? 1. Pollination of some plants could be adversely affected. 2. There could be a drastic increase in the fungal infections of some cultivated plants. 3. It could lead to a fall in the population of some species of wasps, spiders and birds. Select the correct answer using the code given below: (a) 1 only (b) 2 and 3 only (c) 1 and 3 only (d) 1, 2 and 3 Official key: C.

UPSC Civil Services Prelims 2017 · General Studies · 2 marks · Environment and Ecology

Environment, ecology, climate, biodiversity - Prelims GS Paper I.

Explanation**(a)**

(a) 1 only. Butterflies are pollinators, so statement 1 is true, but they are also prey for wasps, spiders and birds, so 3 is true as well. 1 only is incomplete.

(b)

(b) 2 and 3 only. Statement 2 - a drastic rise in fungal infections of crops solely from fewer butterflies - is not a direct ecological consequence. Not the key.

(c) Official key

(c) 1 and 3 only. Loss of butterflies can cut **pollination** of butterfly-visited plants and can shrink predators that eat them. Fungal epidemics are not a necessary follow-on. This is the official key.

(d)

(d) 1, 2 and 3. The fungal claim is the extra, unsupported leap.

Summary

Official key is (c) 1 and 3 only. Many wild and cultivated plants depend in part on butterfly (and moth) **pollination**. Butterflies sit in food webs as prey, so wasps, spiders and insectivorous birds can decline if that prey collapses. A drastic increase in crop fungal disease is not a standard, direct result of butterfly loss. Bees remain the larger **pollination** story; this question isolates butterflies.

Related possible facts

These can be asked in a future Prelims paper.

Pollination

Transfer of pollen to stigma

Lepidoptera

Butterflies and moths

Keystone pollinators

Often bees, not only butterflies

Food-web link

Larvae and adults as prey

Bt cotton debate

Neighbour: non-target insect concerns

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