Dung Beetles & Dog Waste

Prelims: *Current events of national and international importance| Environment*

Why in News?

A study published in Ecology and Evolution found that the dung beetle Onthophagus orpheus strongly prefers dog dung over cow dung.

- **Issue** – This preference may negatively affect offspring survival, highlighting an emerging risk from accumulation of domestic dog waste in urban areas.
- Dung beetles are important detritivores that feed on mammalian faeces.
- They roll dung into balls and bury them in soil, where the dung serves as food for developing offspring.
- This activity helps in:
    - Nutrient recycling
    - Soil enrichment
    - Seed dispersal and burial
    - Supporting plant growth

Study Findings

- **Onthophagus Orpheus** preferred Dog dung over cow dung and larger brood balls were made using dog dung.
- Eggs developed faster in dog dung. Offspring (Progeny) emerging from dog dung were larger.
- **Major concern** – Egg mortality was higher in dog dung.
- Thus, there was a mismatch between adult preference and offspring survival.
- **Dog dung harm** – A possible explanation is the *presence of residues of antiparasitic medicines administered to domestic dogs*.
- These chemicals may accumulate in dog faeces and potentially harm larvae and pupae of dung-dwelling insects.
- The study notes that this mechanism requires further investigation.
- **Ecological Importance –** Dung beetles rapidly remove dung from the surface.
- Their tunnelling and burial activities improve nutrient cycling and soil processes.
- They therefore act as important ecosystem engineers.



Reference

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