

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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