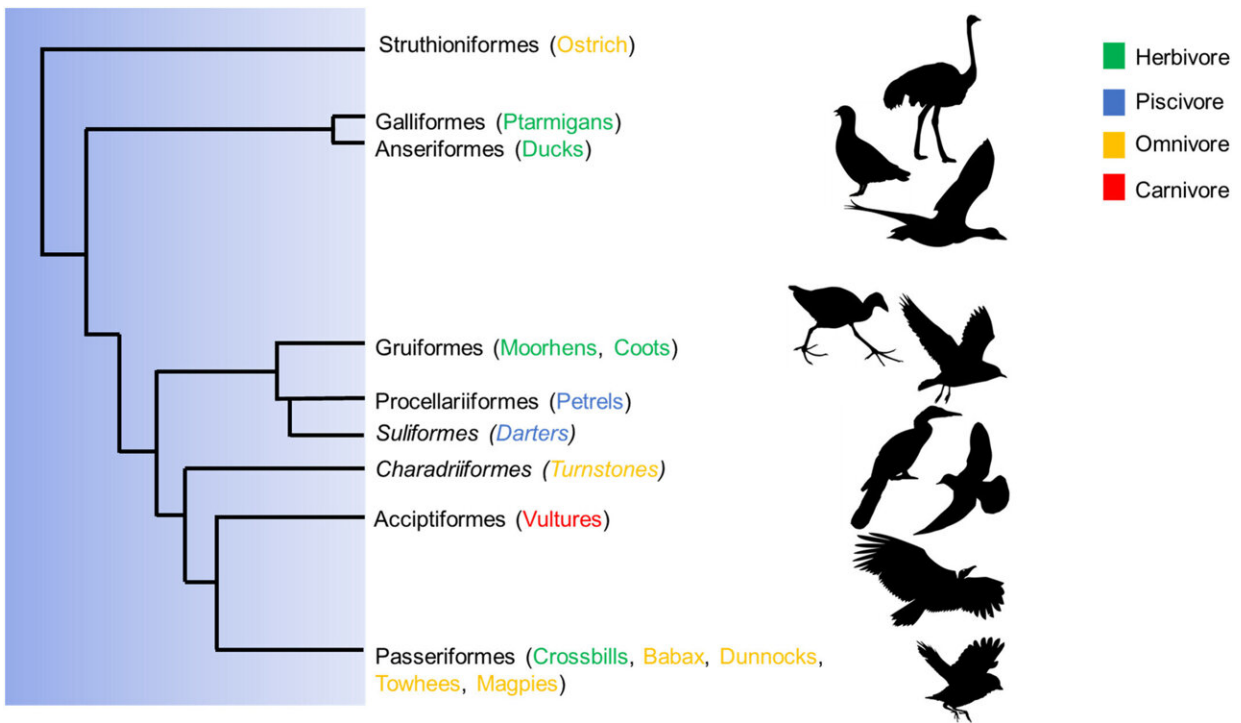


Research explains why eating feces may be vital for birds' survival

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Coprophagic foraging behaviour has been reported across a wide range of phylogenetically distant avian taxa, with substantial variation in their predominant feeding guild. Credit: *Biological Reviews* (2023). DOI: 10.1111/brv.13036

We all know that the early bird gets the worm, but new research shows they turn to something far more nutritious for their breakfast.

Feces—either their own, or from other birds—provides them with essential nutrients and energy and helps them adapt to new environments and seasonal variations, especially when they are developing.

[Research](#) led by the University of South Australia and published in *Biological Reviews* explains how eating feces (known as coprophagy) shapes wild [birds'](#) digestive tracts (gut biota), enabling them to absorb lost or deficient nutrients and adjust to [seasonal variations](#) in [food sources](#). The paper is titled, "Impacts of coprophagic foraging behavior on the avian gut microbiome."

This is especially important for long-migratory birds, which transition between fasting and fueling metabolic states as they fly around the world.

Lead author Dr. Barbara Drigo, a UniSA microbial ecologist, says consuming feces modifies bacteria and microbes in the birds' [digestive tract](#), allowing them to adapt to new environments.

There is also some evidence that ingesting feces could be a form of self-medication to fight infections in birds, although more research is needed to confirm this theory.

While coprophagy provides birds with [essential nutrients](#), it also has a downside, Dr. Drigo says, because birds can potentially harbor and transmit diseases to other birds and humans via their feces.

"Depending on their geographical range, behavior and interactions with other animals and environments, birds—especially migratory ones—can efficiently spread pathogens around the world.

"Eating bird feces may also increase their exposure to antimicrobials, particularly pesticides and cleaning products, which lead to antimicrobial

resistance," Dr. Drigo says.

And the reason why humans should never feed bread to birds is that it lowers diversity in their [gut microbiota](#), whereas if birds source food from natural sites, their digestive tract is much healthier.

"Birds foraging in human environments are exposed to chemicals and metals from waste, sewage and refuse, which can alter their microbiota, potentially leading to antimicrobial resistance."

Dr. Drigo says a healthy avian gut is essential for regulating birds' biological functions, and eating feces plays a significant role in this. However, while coprophagy is inherently beneficial, it can expose birds to harmful antimicrobial substances.

"There's an urgent need to thoroughly explore how various forms of coprophagy impact avian gut microbiomes, affecting bird health across their different life stages and environments," she says.

More information: Alice Dunbar et al, Impacts of coprophagic foraging behaviour on the avian gut microbiome, *Biological Reviews* (2023). [DOI: 10.1111/brv.13036](https://doi.org/10.1111/brv.13036)

Provided by University of South Australia

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