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Natural History Note: Anolis sagrei foraging on a patch of obvious prey

The uneven spatial distribution of food resources has led to a variety of strategies to optimize foraging behavior (Stephens and Krebs 1986). Theory predicts that an individual should continue to forage at a locality with abundant prey as long as there is a net energetic gain (MacArthur and Pianka 1966). Numerous factors determine prey abundance, but certain patches may attract and concentrate prey thus attracting foraging predators. Examples include lions hunting herbivorous mammals that congregate at water holes (Davidson et al. 2012), lizards feeding on insects attracted to vegetation (Durtsche 1995), and a variety of species that feed on the explosive emergence of winged termites (Dial and Vaughan 1987; Bauer et al. 1989). Here we report an *Anolis sagrei* foraging on flies attracted to canine feces.

We visited Deering Estate, in Palmetto Bay, Miami-Dade County, Florida on 19 March, 2018 around 2:00 PM where we observed an adult female *A. sagrei* near a pile of feces. The feces were in an open area, covered in leaf litter, and approximately 3 meters from the nearest tree trunk. Deposition likely occurred less than 12 hours previously as the pile was still moist. The feces appeared to be from a domestic dog or coyote. The anole moved near and on the feces (Fig 1A) for the 20 minutes of observation. Numerous flies (Muscidae) and yellowjackets (Vespidae) were attracted to the feces (Fig1B) and the anole made several attempts to catch the flies, although none of the observed attempts were successful.

Amphibians and reptiles foraging on congregating insects is well documented, including numerous examples of lizards feeding on insects attracted to night lights (Perry and Fisher 2006) and citations therein. However, associations of amphibians and reptiles eating insects attracted to feces are far less common. We could find only four examples: skinks (*Emoia*) eating flies congregated by an abundance of cattle dung (McCoid et al. 1995); salamanders (*Ambystoma*) eating insects attracted to prairie dog pellets (Kolbe et al. 2002); various frogs and lizards eating insects attracted to the abundance of feces in tortoise (*Gopherus*) burrows (Lips 1991); and *Ameiva exsul* eating insect larva from dried dog feces (Perez-Rivera and Molina-Opio 2008). While examples in the literature are sparse, we suspect this behavior may be fairly widespread and we encourage herpetologists to be alert for it — and to watch where they step.



Figure 1. A. Anolis sagrei
perched on canine feces in
Miami-Dade County, Florida,
USA. B. Anolis sagrei foraging
near canine feces. Arrows
indicate position of anole relative
to a fly perched on the feces.



Literature Cited

Bauer, A. M., A. P. Russell, and B. D. Edgar. 1989. Utilization of the termite *Hodotermes mossambicus* (Hagen) by gekkonid lizards near Keetmanshoop, South West Africa. S Afr J Zool 24:239–243.

Davidson, Z., M. Valeix, A. J. Loveridge, J. E. Hunt, P. J. Johnson, H. Madzikanda, and D. W. Macdonald. 2012. Environmental determinants of habitat and kill site selection in a large carnivore: Scale matters. J Mammal 93:677–685.

- Dial, K. and T. Vaughan. 1987. Opportunistic predation on alate termites in Kenya. Biotropica 19:185–187.
- Durtsche, R. D. 1995. Foraging ecology of the fringe-toed lizard, *Uma inornata*, during periods of high and low food abundance. Copeia 1995:915–926.
- Kolbe, J. J., B. E. Smith, and D. M. Browning. 2002. Burrow use by tiger salamanders (*Ambystoma tigrinum*) at a black-tailed prairie dog (*Cynomys ludovicianus*) town in southwestern South Dakota. Herpetologicla Review 33:95–99.
- Lips, K. R. 1991. Vertebrates associated with tortoise (*Gopherus polyphemus*) burrows in four habitats in south-central Florida. J Herpetol 25:477–481.
- MacArthur, R. H. and E. R. Pianka. 1966. On optimal use of a patchy environment. The American Naturalist 100:603–609.
- McCoid, M. J., G. H. Rodda, and T. H. Fritts. 1995. Distribution and abundance of *Emoia slevini* (Scincidae) in the Mariana Islands. Herpetol Rev 26:70–72.
- Perez-Rivera, R. A. and A. Molina-Opio. 2008. *Ameiva exsul* (Puerto Rican ground lizard). Diet. Herpetologicla Review 39:219–220.
- Perry, G. and R. N. Fisher. 2006. Night lights and reptiles: Observed and potential effects. Pp. 169–191 *in* C. Rich, and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Island Press, Washington, DC.
- Stephens, D. W. and J. R. Krebs. 1986. Foraging Theory. Princeton University Press.