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First Record of Scavenging by a Western Screech-Owl (*Megascops kennicottii*)

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ABSTRACT.—Scavenging is a common behavior in many animal species and can increase the fitness of individuals and populations. Scavenging has been documented more commonly in recent years with advances in technology, including in difficult to observe avian species. Four North American owl species have been documented scavenging, and here we relate the first documented scavenging by a Western Screech-Owl (*Megascops kennicottii*), which was video-documented with a motion-triggered camera. The screech-owl visited a Virginia Opossum (*Didelphus virginiana*) carcass seven times over an 11-hr period, with the longest visit lasting 7 mins (mean = $3.14 \pm \text{SD } 2.34$ mins); during the visits the owl actively fed on the carcass. The most common prey of Western

Screech-Owls are small mammals, insects, arthropods, and small birds. No mesocarnivore or large mammal has ever been detected in diet studies of screech-owls, though screech-owls have been shown to attack and kill prey larger than themselves. The importance of carrion in owl diets is largely unexplored, and the scavenging behavior of owls could be more significant than currently believed depending on its availability and the presence of competing scavengers. Further research is needed to establish the commonality of scavenging by owls, and its various ecological effects. *Received 10 November 2012. Accepted 2 February 2013.*

Key words: diet, *Megascops kennicottii*, motion-triggered cameras, owl, scavenging, Virginia opossum, Western Screech-Owl.

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Scavenging is a common behavior in many animal species and has been documented more

commonly in recent years with advances in technology (Wilmers et al. 2003, Selva et al. 2005, Allen 2013). Scavenging can increase the fitness of individuals and populations, and it is an important form of energy transfer between trophic levels (DeVault et al. 2003). Kleptoparasitism, where one animal steals already procured food from an intra- or interspecific individual, is the most common form of scavenging in avian species (Brockman and Barnard 1979). However, with recent advancements in technology, including motion-triggered cameras, scavenging behavior in difficult-to-observe avian taxa are increasingly documented (Bauer et al. 2005, Kapfer et al. 2011), contributing to our understanding of scavenging relationships.

Owls are carnivorous birds that have evolved to specialize in the capture of highly mobile prey. Generally nocturnal, many of their behaviors are difficult to observe; however, there have been several reports of scavenging in owl species. Four North American owl species have been documented scavenging including Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), Northern Hawk Owl (*Surnia ulula*), and Snowy Owl (*Bubo scandiacus*) (Duncan and Duncan 1998, Kostecke et al. 2001, Patterson 2007, Kapfer et al. 2011). Many incidents of scavenging by owls are likely unobserved, and it may be a more common behavior than is currently believed. Here, we relate an incident of scavenging by a Western Screech-Owl (*Megascops kennicottii*) which was video-documented with a motion-triggered camera.

METHODS

On 26 December 2011 as part of a larger study on scavenger guild dynamics, we placed a road-killed Virginia opossum (*Didelphus virginiana*) in Mendocino County, California outside of the town of Covelo, at a location of 39° 50' 51.4" N, 123° 05' 40.3" W and an elevation of 952 m. We placed the opossum carcass in a habitat dominated by Douglas-firs (*Pseudotsuga menziesii*) with a closed canopy; the canopy cover measured 95% with a spherical concave densiometer (Ben Meadows, Janesville, WI). We set up a motion-triggered video camera (Bushnell Scout-Cam, Overland Park, KS) to record and monitor scavenger behavior. We set the camera to record 1 min of video each time motion was detected, with a delay of 1 sec before beginning another video. On a tree near the opossum carcass, we

placed an auditory lure (FurFindR, Wasatch Wildlife Products, Magna, UT) and set the lure to emit a dying rabbit call every 5 min from sunset to sunrise with a light-activated sensor. We checked the camera batteries and downloaded the memory cards on a weekly basis.

OBSERVATIONS

A Western Screech-Owl first triggered the camera on the evening of 27 December, when it arrived to investigate the carcass before flying off. The owl returned for six more visits over an 11-hr period spanning 27–28 December, and scavenged for a total of 22 mins, with the longest visit lasting 7 mins (mean = 3.14 ± SD 2.34 mins). During the visits, the owl actively fed on the carcass. The camera was removed on 17 January, when little remained of the carcass that was edible.

DISCUSSION

This is the first observed incident of a Western Screech-Owl feeding on carrion, and includes direct video evidence. In addition, this observation also is the first evidence of the species feeding on medium-sized mammals, in this case an opossum. No mesocarnivore or large mammal has ever been detected in diet studies of screech-owls (Craighead and Craighead 1916, Munro 1925, Campbell 1934, Smith and Wilson 1971, Bent 1983, Hayward and Garton 1988, Johnsgard 2002), though screech-owls have been known to attack and kill prey larger than themselves (Sutton 1927). The diet of Western Screech-Owls varies greatly and reflects local prey compositions (Johnsgard 2002), but the most common prey are small mammals, insects, arthropods, and small birds (Craighead and Craighead 1916, Munro 1925, Campbell 1934, Smith and Wilson 1971, Bent 1983, Hayward and Garton 1988, Johnsgard 2002). The lack of evidence concerning the consumption of mesocarnivores or large mammals may be because of the small number of diet studies. For example, Hayward and Garton (1988) could not identify the remains of seven mammals from screech-owl pellets, and it is possible that other researchers did not notice or correctly identify the hair of large mammals or disregarded the evidence as coming from another source. When screech-owls scavenge on larger prey, they also may not ingest bones or large amounts of hair, instead eating soft tissue, which will not show up in pellet analysis.

The importance of carrion in owl diets is largely unexplored, and the scavenging behavior of owls could be more significant than currently believed.

Scavenging could be a significant source of food for some individuals (e.g., those whose territory includes a road). However, scavenging may also lead to increased mortality events, either through interspecific interactions at carcasses, from feeding along roadways, or by absorbing rodenticides through scavenging poison-killed small mammals. It is also worth noting that the auditory lure may have played a role in attracting the screech-owl to the opossum carcass. The auditory lure probably first alerted the owl to something being present in the area, causing it to thoroughly investigate the area and discover the opossum carcass. The addition of auditory lures at carcass bait stations may also result in further documentation of scavenging by owl species. Further research is needed to establish the commonality of scavenging by owls, and its various ecological effects.

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