First evidence of hunting of a Crested Indian Porcupine by an avian predator: The Eurasian Eagle Owl

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Abstract

Encounters between birds of prey and porcupines are rarely documented, and so far only in North America. At least 39% of such encounters lead to death of the attacker. We present first evidence for similar encounters between The Eurasian Eagle Owl and the Indian Crested Porcupine, suggesting that young porcupines may occasionally serve as potential prey for the owl.

Keywords

Israel; predation; quill; raptor

The Eurasian Eagle Owl (Bubo bubo) is widespread across most parts of Asia and Europe (Penteriani and del Mar Delgado 2019). Eagle Owls are generalist hunters, foraging in many habitats and landscapes, and feeding on a large variety of prey items from scorpions to birds and mammals up to their own size (Penteriani and del Mar Delgado 2019). Attacks on large prey such as cats, foxes, and nestlings or fledglings of large raptors are done mostly by females, which are larger than males (Mikkola and Tornberg 2014).

In Israel, The Eurasian Eagle Owl is a fairly common resident species throughout the Mediterranean and semi-desert zones (Shirihai 1996). In summer 2008, one of the authors (E.H.) monitored several Eagle Owl nests at the Judean Plains area, central Israel. Near one nest with two nestlings he found many quills of an adult Indian Crested Porcupine (Hystrix indica), which was probably attacked by a predator during the night. Attack by an Eagle Owl was not considered plausible at that point. However, a little while later, E.H. photographed the female Eagle Owl on a nearby tree. Checking the images on the computer screen he noticed two porcupine quills stuck in her talons (Fig. 1), indicating that she was the attacker. The porcupine’s burrow was located fairly close to the owl’s nest, and its nightly path likely crossed by the nest. Possibly, the female attacked the porcupine when it passed too close to the nest. On the next visit, a few days later, EH found broken quills in the nest, suggesting that the female managed at least to break them, if not to pull them out. She managed to feed her nestlings until they fledged.

Given its high body mass, it is unlikely that the porcupine was killed and brought to the nest as prey. The mass of adult porcupines measured in Israel can reach 14 kg (Alkon and Mitrani 1988), four times higher than a female Eagle Owl. However, monitoring other nests in the same area revealed that Eagle Owls do hunt young porcupines. Quills of young individuals were found in pellets collected in two out of the 43 studied nests (Fig. 2), suggesting that Eurasian Eagle Owls may occasionally hunt porcupines.

Porcupine-bird encounters were rarely documented, and so far only in North America (Ostoforoff 1959; Hodson 1968; Katzner et al. 2015). Most findings indicate severe damage to the birds (mostly birds of prey), and suggest that at least 39% of the cases lead to death of the predator. Most importantly, in all cases the birds were found with quills in their body after the encounter, with no real time documentation of the encounter. It is therefore not clear whether the birds attacked porcupines as prey or found road-killed porcupines. The case described here is similar, but two important differences should be noted: 1) porcupine remains at the nests and in the pellets suggest that Eagle Owls hunt young porcupines to feed their nestlings with. 2) As far as we know, this is the first evidence of a bird-porcupine encounter from the old world. All the above cases describe encounters with the North American Porcupine (Erethizon dorsatum). As Katzner et al. (2015) noted, old world porcupines have longer quills that are designed to break at their tip, thus more effective for defense. As the Indian Crested Porcupine is nocturnal, and given its size,
Figure 1. Close up on the female Eurasian Eagle Owl with two porcupine quills in her talons.

Figure 2. Crested Indian Porcupine remains found in two nests and pellets of Eurasian Eagle Owls.
the only large bird of prey it may encounter in Israel is the Eurasian Eagle Owl.

The only predator known to be able to hunt porcupines in Israel to date is the Arabian Leopard (Breitenmoser et al. 2006). In Israel, Eagle Owls are known to hunt fairly large mammals: Red Fox (*Vulpes vulpes*), Egyptian Mongoose (*Herpestes ichneumon*) and European Badger (*Meles meles*). The findings of the 2008 owl nest monitoring indicate that Porcupines may also be a potential prey item in the Eagle Owl diet list. They serve as the first evidence for hunting of the Indian Crested Porcupine by the Eurasian Eagle Owl.

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References