

Food-dunking behaviour by a Eurasian Jay *Garrulus glandarius*

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INTRODUCTION

Dunking of food in water is an interesting but uncommon behaviour in animals. One of the best-known cases involves the apparent social transmission of food-washing behaviour by primates, in which Japanese macaques *Macaca fuscata* washed sand from sweet potatoes (Kawai 1965). Despite the spread of food-washing behaviour in that particular case, food dunking in a broader sense remains uncommon, performed predominantly by some species of primates and birds.

In both primates and birds, dunking food in water appears to serve one of two functions: washing food to remove unpalatable coatings, or softening food to make it easier to eat (Wheatley 1988, Visalberghi & Fragaszy 1990, Morand-Ferron *et al* 2004). Washing is most often associated with foods that have been obtained from muddy or sandy sources, such as Killdeer *Charadrius vociferus* eating frogs (Schardien & Jackson 1982) or crabeating macaques *Macaca fascicularis* eating fruit that researchers had deliberately coated with sand (Visalberghi & Fragaszy 1990). Softening has been reported most often for human-derived food items, such as wild Carrion Crows *Corvus corone* eating dry bread (Jones 1979) or captive monkeys eating pellets of commercial monkey chow (Visalberghi & Fragaszy 1990). The intention of these behaviours is generally not known but is instead inferred or assumed by observers.

Dunking behaviour has been reported from c40 species of birds, with disproportionate representation from the Icteridae (6 species reported) and Corvidae (8 species reported; Morand-Ferron *et al* 2004, Morand-Ferron 2005). Here, we describe an observation of food dunking by an additional corvid, the Eurasian Jay *Garrulus glandarius*.

BEHAVIOURAL OBSERVATION

At 12.45 pm local time on 5 April 2008, we observed a Eurasian Jay dunk and then eat an egg. In the Beit HaKerem residential neighbourhood of Jerusalem, Israel, an adult jay of unknown sex landed at a water dish on a balcony, c5 m away from us. The jay was carrying in its bill an immaculate white egg, ovoid in shape and c25–30 mm long. The egg was similar in size and appearance to a dove's, and Laughing Doves *Streptopelia senegalensis* were nesting in this neighbourhood.

Immediately upon arriving with the egg, the jay perched on a railing beside the water dish, leaned forward, and dunked the egg in the water twice. The bird's posture did not suggest that it was drinking from the water dish. The jay then promptly turned and flew c10 m to perch on a higher balcony, where it broke the egg open on a stone ledge and consumed the yolk and albumin. We used binoculars to watch the jay consume the egg, but our view of the stone ledge was partially blocked by the viewing angle. Thus, we could not determine whether the egg was broken open by initial contact with the stone ledge or by subsequent contact with the jay's bill. The egg appeared to be freshly laid or inviable, as there was no readily detectable embryo.

DISCUSSION

This observation of food dunking is noteworthy in two regards. First, this seems to be the only report of food dunking by a Eurasian Jay, adding to the corvids that perform this

behaviour. Crows, ravens, and jays might dunk food more often than other groups of birds, but they also might be more readily observed doing so because of their association with humans. Second, there are no reports of dunking eggs, though jays and other corvids are common nest predators (Andren 1992). Foods dunked by other species of birds include bread, pizza, crackers, potatoes, nuts, fruits, and dog food, plus an array of animals: worms, mollusks, crickets, frogs, rats, gophers, and birds (reviewed in Morand-Ferron *et al* 2004). In most of those cases, the authors suggested that the item was in need of softening or washing. In the case of crows, stickiness of the food item may be the cue that elicits dunking behaviour (Goodwin 1986). However, the egg that we observed did not appear to be cracked or covered with yolk, and it appeared clean. Furthermore, the jay broke the egg open before consuming the contents, *ie* the jay made no attempt to swallow the egg whole, though the egg may have been small enough to be consumed in this fashion. Thus, the function of egg dunking by this jay is unclear. Although this is a single incident, anecdotal observations of this type are useful to report because they facilitate the integration of disparate observations of rare behaviours into a comparative framework (*eg* Randler 2002, Morand-Ferron *et al* 2004).

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