

First Known Case of a Passerine Presumably Returning a Dead Chick to the Nest

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Abstract: Nest sanitation is a well-documented behavior in birds, with benefits including less damage to eggs and chicks, lowering the risk of infection/infestation, and reduced nest detection by predators. Despite these clear benefits, here we report the first known documented case of a dead chick being placed back into a nest, presumably by a parent. We documented this behavior in a Field Sparrow (*Spizella pusilla*) as an incidental behavior observed as part of a larger multi-year provisioning study. Although the motivation behind returning a dead chick to a nest remains unclear, this is the first known reported case of such a behavior in any bird species.

Keywords: behavior, dead nestling, Field Sparrow, nestling, nest sanitation, *Spizella pusilla*

Many species of passerines engage in a variety of nest sanitation practices. Guigueno and Sealy (2012) reported 274 species of 40 families that engaged in some form of nest sanitation including the removal of debris such as twigs or other vegetation, foreign non-egg-shaped objects, cracked or broken eggs, unhatched eggs, egg shells, fecal sacs, and dead chicks. A clean nest may reduce parasitic infestations and olfaction- or vision-based detection by predators (Tinbergen et al. 1962, Petit et al. 1989). However, there has been limited recent experimental support for these potential adaptive values of nest sanitation (Ibáñez-Álamo et al. 2014, 2016).

The removal of sharp and abrasive objects may prevent damage to existing eggs. Sticks experimentally placed into nests were buried or removed from 100% of nests during incubation in the Great Reed Warbler (*Acrocephalus arundinaceus*) (Moskát et al. 2003). Furthermore, the removal of eggshells reduces the

within the shell of a previously hatched egg thus interfering with hatching

(Derrickson and Warkentin 1991). Cracked eggs can also leak their contents, potent

pairs and their nest sites. A video camera recorded parental provisioning rates at nests on approximately day three, five, and seven post-hatching.

OBSERVATIONS

Nest NF12FS2 was found on 19 May 2016 at 0806 EST with two live Field Sparrow chicks in the bowl and one dead chick on the nest rim, approximately 4 cm (1.6 in) from the center of the nest bowl. The chicks were all the same size and were determined to have hatched the day before based on small body size and limited feather development (MEG, pers. obs.). The nest was photographed by JMC (Figure 1) and the location was marked using a hand-held global positioning system (Garmin GPSMAP 62 receiver). A five-year-old male and four-year-old female attended the nest. Although both birds were present in the study area for the previous two years, this was their first nesting attempt as a mated pair. The open cup nest was built into the duff of cool season grasses and was 100% visible from above. Forty-five minutes later, MEG photographed three chicks in the nest, two living and one dead (Figure 2). Upon comparing the two photographs, we determined that the dead chick on the nest rim was subsequently placed back into the nest bowl with the living chicks. The dead chick was pale in color and easily distinguishable from its nestmates, suggesting it had been dead for several hours, but had no visible signs of injury. We removed the dead nestling and continued to monitor the nest. One of the two remaining chicks disappeared the following day. The surviving chick was

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