CLOACAL INSPECTION OR PECKING IN ALLEN'S HUMMINGBIRD

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Cloacal pecking, in which a male pecks at the cloaca of a female, causing her to void sperm, was first described in the Dunnock (*Prunella modularis*), a species with a very complex group-breeding system (Davies 1983). It has been interpreted as a mechanism whereby males ensure paternity of a female's offspring by eliminating the sperm of previous mates. Comparable behavior has been observed occasionally in other species of birds (N. Davies pers. comm.), but its taxonomic range and ecological context are not yet clear. On 14 April 2000 at approximately midday, I observed a somewhat similar behavior between two Allen's Hummingbirds (*Selasphorus sasin*) in a suburban backyard in Half Moon Bay, California. It was a bright sunny day, and the birds were observed from a window of the house from about 3 meters without binoculars. When I first noticed them, an adult male Allen's Hummingbird and what I took to be a female Allen's were interacting face to face and less than 30 cm apart about 3 to 4 meters above the ground. While I watched, the male flew to a position below the female and, facing her, and put the tip of his bill in the general area of her cloaca. The pair remained in this position while sinking slowly, in hovering flight, almost exactly vertically, until the male's tail was approximately 30 cm above the ground, at which point the male and female separated and flew into cover where I lost sight of them. The episode was prolonged, taking about 30 seconds, and appeared to require coordination between the two birds to allow the slow, sinking, vertical hovering flight. Allen's Hummingbird is a summer resident in central California, and the first adult male of the season that could be definitely identified as Allen's rather than the transient Rufous Hummingbird (*S. rufus*) was observed in this location on 19 March in 2000 and on 16 March in 1999. Both Allen's and Anna's (*Calypte anna*) Hummingbirds appear to establish breeding territories in or near the yard, although I have observed no nests.

There are several potential explanations for this behavior. The first would be a simple cloacal inspection by the male, which might serve to assess the reproductive condition and/or recent mating history of the female, serving a function analogous to the anogenital sniffing common in mammalian courtship and social behavior. The second would be to stimulate the female to void sperm from a previous mating, as in the Dunnock. No droplet of semen was observed but this might have been missed given the rapid movement of the male and female at the bottom of the descent. A third possibility, given the long tongue and characteristic feeding behavior of hummingbirds, is that the male might actually remove sperm from the reproductive tract of the female (Jeffrey R. Baylis pers. comm.). Physical removal of sperm by males was first demonstrated in damselflies (Waage 1979) and is known from other insects (Simmons and Siva-Jothy 1998). All of these explanations focus on the phenomenon of sperm competition, in which males continue to compete to fertilize a female's eggs even after mating (for birds see Birkhead 1998). The observations reported here suggest that novel mechanisms of sperm competition remain to be described in birds.

LITERATURE CITED

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Burrowing Owl