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Drinking methods in two species of bustards.—Most birds drink water by scooping it up with their beaks and tilting their head backwards, allowing the water to run down their throat. There are a few families of birds, however, such as the Columbidae (Wickler 1961), Estrildidae (Poulsen 1953), Spermestidae (Immelmann 1962), Coliidae (Cade and Greenwald 1966), Turnicidae (Fry 1978), and Otididae (Fisher et al. 1972) in which all or some of the species drink water using a sucking method. Suction drinking is believed to be an adaptation for obtaining water in arid climates. It is believed that by using this method the bird is able to utilize small amounts of water efficiently and quickly (Immelmann 1962). Since it is a rather quick method, Cade (1965) and Immelmann (1962) have suggested that it may be advantageous to the bird by reducing the amount of time at the water source, and hence, the likelihood of being attacked by predators. In this method, the beak is immersed in water, and the bird draws in water by pumping of the throat. There are also some species that employ a third and intermediate method of drinking, whereby water is sucked into the mouth using the same sucking action as described as above, followed by raising of the head in order to swallow. Members of the family Pteroclididae (Cade et al. 1966) and Dicruridae (Skead 1975) are reported to use this method. Two species of bustards, the Kori Bustard (*Ardeotis kori*), and the Buff-crested Bustard (*Lophotis ruficrista*) were observed drinking water and their drinking methods are reported in this paper.

At the National Zoological Park, where Kori Bustards are exhibited, drinking was observed on numerous occasions. Water is available at all times, and the birds were observed drinking water throughout the year. It is not unusual for a bird to drink for over two min at interrupted intervals. One position assumed by the birds when they drink is identical to that described by Fisher et al. (1972) for the Australian bustard, and by Ali and Rahmani (1981–1982) for the Great Indian Bustard (*Ardeotis nigriceps*). In this position, the bird sits down while drinking. Fisher et al. stated that the only other bird that sits in this position to drink is the Emu (*Dromiceius novaehollandiae*). Another common position observed is that the birds simply remain standing to drink. In both positions, it is clear that the birds were using a sucking action to obtain the water.

In the Buff-crested Bustard, drinking was observed on one occasion by a pair housed at the Baltimore Zoo. A video camera was used to observe the birds' drinking methods. In this species, an intermediate form of drinking was used, and the bird remained standing for the several bouts of drinking observed. It was the same method described by Skead for the Forktailed Drongo (*Dicrurus adsimilis*) where a sucking action was used to draw the water in, after which the head was tilted back to allow the water to run down the throat.

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Brown-headed Cowbirds fledged from Barn Swallow and American Robin nests.—

Brown-headed Cowbirds (*Molothrus ater*) have parasitized at least 220 species of birds, of which approximately 144 species have raised cowbird young (Friedmann and Kiff 1985, Lowther 1993). For several species, records of parasitism are rare or based on circumstantial evidence. Here I document two unlikely species, American Robin (*Turdus migratorius*) and Barn Swallow (*Hirundo rustica*), raising Brown-headed Cowbirds at least to fledging age.

There is only one reported case of Barn Swallows raising a young cowbird (Sutton 1967), but it was undetermined if the cowbird fledged. Other accounts of Barn Swallows being parasitized are rare. No parasitism was observed in 322 Barn Swallow nests found between 1963 and 1975 in Louisiana (Goertz 1977), nor 185 nests in Iowa (Lowther 1985, 1991), and Hill (1976) found no parasitism in 284 nests in Kansas. Friedmann (1929) cites a single report in Iowa with little detail. More recently, Friedmann (1963, 1971; Friedmann et al. 1977), in addition to citing the Oklahoma record, mentions three records of parasitized Barn Swallow nests from Pennsylvania, one from Maryland, one from Manitoba, two (0.1%) of 1977 from Ontario, "several" from Kansas, and none out of 3776 nest records in the Cornell Univ. files.

Out of 67 Barn Swallow nesting attempts I observed in Osage County, Oklahoma, two (same nest twice) were parasitized by cowbirds. The first nest, first active on 30 May 1992, contained one cowbird egg and five Barn Swallow eggs. The nest was checked twice weekly until all young fledged. By 19 June, the cowbird egg had hatched and the nestling was two or three days old. On 23 June, the Barn Swallow eggs had recently hatched. The cowbird chick was banded on 26 June and was very near fledging. On 30 June the cowbird chick was gone and four swallow chicks remained. The last Barn Swallow chick fledged on 14 July, at least 14 days after the cowbird had left the nest. The cowbird was never seen outside of the nest, so it is not known whether it survived to independence. In the second parasitized swallow nest (late July) the cowbird egg failed to hatch.

The American Robin is known to be a rejecter of cowbird eggs (e.g., Friedmann 1929, Rothstein 1975). However, Brown-headed Cowbird eggs occasionally appear in robin nests.