

## NOTES

### FURTHER OBSERVATIONS OF HEAD-DOWN DISPLAYS BY BROWN-HEADED COWBIRDS

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Cowbirds sometimes appear to solicit preening both intra- and interspecifically; this head-down preening-invitation display has been well described by Chapman (1928), Selander and La Rue (1961), Selander (1964), Rothstein (1980), and Post and Wiley (1992). A Brown-headed Cowbird (*Molothrus ater*), for example, will approach another bird, point its bill downward, and freeze, presenting the crown and nape area. The recipient of this display may respond by ignoring, pecking at, fleeing from, or preening the Brown-headed Cowbird. A variety of explanations for the function of this behavior have been suggested, most of them dealing with assessing and establishing hierarchical social relationships such as subordination and dominance. Selander and La Rue (1961) hypothesized that head-down displays reduce aggression from potential host species. Scott and Grumstrup-Scott (1983) also proposed that head-down displays are for appeasement but benefit the displayer in feeding and roosting interactions. Rothstein (1980) concluded that the head-down display is itself aggressive, allowing the displayer to threaten or assess the status of other individuals. In this situation, the recipient may misinterpret the intent of the threat display as submissive, and respond inappropriately by preening the Brown-headed Cowbird (Rothstein 1980). Head-down displays may even have more than one function, depending on the context in which they are used. Other authors suggest that the head-down display may have no biological significance or functional value (Dow 1968, Friedmann 1963).

I observed head-down displays by both male and female Brown-headed Cowbirds directed toward a female Rusty Blackbird (*Euphagus carolinus*). The Rusty Blackbird was known to be present from 13 February through 1 March 1992 at King Salmon, Humboldt County, California (Yee et al. 1992). Rusty Blackbirds are casual in fall migration and accidental in winter in northwestern California (Harris 1991). The Rusty Blackbird and Brown-headed Cowbirds were feeding and loafing in and around a residential trailer park in a mixed flock of about 100 birds, including Red-winged Blackbirds (*Agelaius phoeniceus*) and Brewer's Blackbirds (*Euphagus cyanocephalus*). Between 14 and 25 February 1992 I watched this flock intermittently for a total of about 4 hours, observing the Rusty Blackbird specifically for 1.5 hours. I noted eight head-down displays, all by Brown-headed Cowbirds directed toward the Rusty Blackbird. Four of these displays resulted in allopreening, lasting from 1 to 4 seconds. All episodes ended when the Rusty Blackbird fled. I also observed the mixed flock, minus the Rusty Blackbird, for about 4 hours between 7 and 21 February 1993. I noted one head-down display by a female Brown-headed Cowbird directed toward and ignored by a male Brewer's Blackbird.

During studies of captive flocks, Selander and La Rue (1961) and Rothstein (1980) found that Brown-headed Cowbirds displayed more often to unfamiliar individuals. My observations of the mixed flock suggest the same is true for wild birds. This may be because new flock members are still being assessed and integrated (Scott and

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Grumstrup-Scott 1983). Another explanation is that resident members of a flock may eventually become habituated to the displays, while newcomers such as the Rusty Blackbird are unknowingly stimulated to participate in nonreciprocal allopreening. Thus, head-down displays may simply be an attempt to coax the recipient into preening or scratching a less accessible area of the body. This comfort or maintenance function may explain why the act of being preened acts as a stimulus for a Brown-headed Cowbird to display more (Scott and Grumstrup-Scott 1983). Still another explanation is that the Brown-headed Cowbirds were displaying more to the Rusty Blackbird because they were able to dominate this unusual newcomer (S. Rothstein pers. comm.). This hypothesis is supported by experimental evidence that frightened or submissive behavior (which I have observed in many vagrant birds) elicits head-down behavior by Brown-headed Cowbirds (Rothstein 1980).

While intraspecific allopreening is not common in Brown-headed Cowbirds and other icterines, several of these species are known to exhibit similar head-down behaviors that lead to intraspecific allopreening (Harrison 1965, Webber 1983, Post and Wiley 1992). This supports the idea that the interspecific head-down display had its origin as an intraspecific preening interaction (Webber 1983). Alternatively, the display may have originated as an intraspecific interaction not related to preening (S. Rothstein pers. comm.). Head-down displays by Brewer's Blackbirds followed by preening from Red-winged Blackbirds have also been documented (Verbeek et al. 1981).

Because interpreting animal behavior is difficult, the true significance of the head-down display remains open to conjecture. Increased observer awareness about this interesting behavior may encourage further investigation and reporting of head-down displays from a variety of situations. Brown-headed Cowbirds also perform other types of displays (Selander 1961, Orians 1985), however, so observers should exercise care in categorizing them.

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