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Wilson Bull., 106(4), 1994, pp. 770–771

Redirected copulation by male Boat-tailed Grackles.—Animals may direct activities toward an object or animal other than the usual releaser for the behavior (=“redirection”, Moynihan 1955), even though such a releaser may be available, at least in part (Ficken 1977). Redirected aggressive behavior has been reported frequently, but instances of redirection involving sexual tendencies are rare, usually involving captives (Ficken and Dilger 1960).

During observation periods totalling about 600 h in the breeding seasons of 1988–1993, I recorded four incidents of male Boat-tailed Grackles (*Quiscalus major*) copulating with objects other than female grackles. At Magnolia Gardens, South Carolina, on 15 June 1988, at 09:30 h EST, an unmarked adult (after second year) grackle copulated with a clump of dirt. The copulatory posture resembled that normally given by male Boat-tailed Grackles copulating with females: beak pointed down, wings spread and quivered, tail spread, plumage fluffed. The clump was roughly circular (ca 8 cm diameter). Between mounts, the grackle walked around the clump and assumed the cock-posture (Selander and Giller 1961). The male mounted the clump at least five times, but had difficulty in maintaining an upright position on the clump, because it rolled.

At Magnolia Gardens on 23 May 1991, at 08:19, a color-banded adult (3-yr-old) male copulated with a magnolia (*Magnolia grandiflora*) flower in the outer subcanopy of the tree, at about 15 m. The bird made ventral contact with the underside of the flower, which was made possible by the flower’s slightly inverted position on its stem. After dismounting, he left the tree, but returned 8 min later. He landed next to the same flower, sang, and again copulated with it for 2 sec. He then flew from the tree, and was intercepted (supplanted in flight; Post 1992) by a marked adult (≥ 5 -yr) male above him in the local dominance hierarchy. The dominant bird then landed directly on the same flower, and copulated with it for 3 sec, dismounted, sang, and then left the tree. He returned 29 min later and again landed directly on the same flower, copulated 3–4 sec, and then left to join a nearby group of feeding males.

On Sullivan’s Island, South Carolina, on 21 June 1993 at 10:00, an unbanded second-year male grackle attempted to copulate with a faded green tennis ball (diameter, 6.4 cm). Although the bird appeared to have his vent in contact with the ball, he was unable to

maintain his position for more than 1 sec because the ball rolled each time he mounted it. The grackle attempted copulation at least six times in 3 min. The bird did not vocalize. No other grackles were in view.

These instances of redirected copulation are similar to those described for other species in the wild. Simon (1940) reported that male Sage Grouse (*Centrocercus urophasianus*) frequently tread clods of earth. Young (1949) reported a case in which a male American Robin (*Turdus migratorius*) attempted to copulate with a dirt clump, after being repulsed in soliciting a female. In these cases, and those described for captive birds (Ficken and Dilger 1960), a common element is the presence of an appropriate sexual stimulus, but a thwarting of the sexual drive. Within a given area, many male Boat-tailed Grackles solicit females, but usually only a few high-ranking males actually copulate (Post 1992). Similarly, in the lek-breeding Sage Grouse, only a few males do most of the breeding (Wiley 1973). It is possible that redirected copulation such as described for Sage Grouse and Boat-tailed Grackles may be related to the limited mating opportunities of males.

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Received 6 Jan. 1994, accepted 15 Mar. 1994.