

cupido). Such males may represent a segment of the population that display solitarily. Robel (op. cit.) noted that female aggressive behavior at leks may prevent mating of subordinate females. It is possible that non-lekking males and subordinate females contribute to the reproducing output of the population by mating off the lek. The incidence of such mating may be dependent on population and aggression levels as suggested by Robel (Proc. XV Int. Ornithol. Congr. 121-133, 1970).

These observations were made while I was engaged in studies of movements and habitat use of female Sharp-tailed Grouse. Financial support was provided by the Manitoba Department of Renewable Resources and Transportation Services. I thank S. G. Sealy and R. Wishart for constructive comments.—DONALD A. SEXTON, *Dept. of Zoology, Univ. of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2. Accepted 10 Apr. 1978.*

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Differences between nestlings and fledglings of Screaming and Bay-winged cowbirds.—Authors that have written about brood parasitism of Screaming Cowbirds (*Molothrus rufoaxillaris*) on Bay-winged Cowbirds (*M. badius*) have stated that the nestlings of both species are so similar in appearance, behavior, and vocalizations that they cannot be told apart. They also state that the resemblance of the 2 species persists through the post-fledgling period until the young Screaming Cowbird begin molting into the black adult plumage (Hudson, *Birds of La Plata*. Vol. 1, J. M. Dent and Sons, Ltd., London, 1920:105; Friedmann, *The Cowbirds*, C. C. Thomas, Springfield, Ill., 1929:52, 54; see also summary in Lack, *Ecological Adaptations for Breeding in Birds*. Methuen, London, 1968:94). Without denying the high degree of similarity between the juveniles of both species I will describe the differences that can be observed between the young of the host and the parasite.

All data reported here were collected near Lobos, Buenos Aires Province, Argentina. I have published a short preliminary account on both species (Fraga, *Auk* 89:447-449, 1972).

At hatching both species have a reddish skin color, but as soon as their skin has dried it can be noted that the skin of nestling bay-wings is orange. The bill is pinkish with a darker pigmented area around the white eggtooth. There is some variation in the size, shape, and color of this pigmented area but the subterminal dark tip of the bill is usually conspicuous upon close examination.

Nestling Screaming Cowbirds have pink or pale pink skins. The bill is also pinkish, but it lacks a dark pigmented area around the white eggtooth (Fig. 1).

I discovered these differences in the breeding season of 1971-1972. Since that time I have followed the development of 57 young birds that initially had orange skin and dark bill tips. These 57 juveniles, which I banded, survived at least 2 months after leaving the nest; 36 of these lived 1 year or more. All of these turned out to be bay-wings. Up to 1977 I also followed the development of 11 banded nestlings with pink skins and uniformly colored bills, and that survived for at least 45 days after leaving the nest; all of these turned out to be Screaming Cowbirds. The same differences were also detected in an additional sample of 31 nestlings of both species hatched from marked and measured eggs found in bay-wing nests. As a rule they confirmed my prior identification of the eggs. I do not know if the above mentioned differences in the coloration of the nestlings occur over the entire range of the species.



FIG. 1. A) Above, recently hatched nestling Screaming Cowbird with a uniformly colored bill. Below nestling bay-wing showing the dark pigmented area around the eggtooth. B) The same nestlings on day 4; the difference in bill coloration is conspicuous.

The difference in the hue of the skin does not usually persist through the whole nestling period and after day 4-5 I could no longer distinguish between nestlings of the 2 species. There is a possible difference in bill color between the 2 forms. Bills of older Screaming Cowbird nestlings seem paler than those of nestling bay-wings,



FIG. 2. Nestling Screaming Cowbird (right) with 3 bay-wing nestmates. The hatching interval between the parasitic nestling and the 2 following host nestlings was less than 7 h.

but this difference was noticed only in a sample of 11 nestlings. During the post-fledgling period the bills of young Screaming Cowbirds darken to black whereas young bay-wings retained dark brownish bills with lighter tips (cf. Friedmann, *op. cit.*:31-32) which slowly darkened to black in 2-3 months.

Of interest would be more information on the color of the nestlings of other species of icterids. For comparative purposes I will mention that nestling Shiny Cowbirds (*Molothrus bonariensis*) in my study area have basically orange skins, but they resemble nestling Screaming Cowbirds in having rather uniformly colored bills, in either the white or yellow flanged form (for further details on the appearance of Shiny Cowbird nestlings see Fraga, Wilson Bull. in press).

Differences in weight.—Differences in weight between nestling Bay-winged and Screaming cowbirds of the same or similar age depend on variables such as the order of hatching, the brood size and the number of attendant adult bay-wings. In favorable circumstances the parasitic nestlings outweigh their nestmates, but starving nestlings may belong to either species. In some nests the difference in size and weight was outstanding (Fig. 2).

Hudson (*op. cit.*:105) correctly pointed out a slight difference in size between fledgling Screaming Cowbirds and bay-wings. Sometimes this difference is really conspicuous in the field, as some fledgling Screaming Cowbirds visibly surpass in size the adult bay-wing attendants. Adult bay-wings in my study area weighed 39-51 g ($N = 24$; \bar{x} and SE: $44.48 \text{ g} \pm 0.65$, data up to 1976). The weights of 3 extremely large Screaming Cowbird fledglings were 59, 58, and 54 g.

Lowther (Wilson Bull. 87:481-495, 1975) among others, states that Screaming Cow-

birds are sexually monomorphic in size. Hudson (op. cit.: 96) correctly recorded a size difference between the sexes, which seems to occur at least in Buenos Aires Province, Argentina. In my study area Screaming Cowbirds are sexually dimorphic in size (weights of 4 males: 66, 64, 62 and 61 g; 5 females: 52, 51, 51, 49 and 48 g). Quite probably the overly large nestling and fledgling Screaming Cowbirds were males.

Differences in behavior and vocalizations.—There are several differences in behavior and vocalizations between Screaming Cowbirds and bay-wings, and some of these may be detected among the juveniles of both species. For instance, adult bay-wings practice allopreening, and fledgling bay-wings often beg preening by assuming the Allopreening Invitation Posture (described in Selander, *Auk* 81:394–402, 1964). I have not seen this posture among young or adult Screaming Cowbirds. Young Screaming Cowbirds may start to utter their unmistakable adult vocalizations in subdued versions when still in the juvenal, bay-wing-like plumage.—ROSENDO M. FRAGA, *Guido 1698, 16B, 1016, Buenos Aires, Argentina. Accepted 1 Mar. 1978.*

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Chimney Swift nest found in hollow tree.—On 3 August 1977 K. D. Blodgett discovered a Chimney Swift (*Chaetura pelagica*) nest in a live, hollow silver maple (*Acer saccharinum*) when he removed the tree to free power lines.

The most recent record we found of a Chimney Swift nesting in a tree was that reported by Hofslund in 1958 (*Wilson Bull.* 70:192) and fewer than 10 others have appeared in the last 100 years. The nest tree described here was in a quiet residential area in Kinderhook, Illinois, a small rural community on the eastern bluff overlooking a floodplain of the Mississippi River. There were 3 or 4 large silver maples and several smaller ornamental trees on the 0.2 ha lawn in the nest-site area. The crown of the nest tree was continuous on 1 side with that of another silver maple of similar size. The nest tree was about 1 m in diameter at the base, 70 cm diameter at the nest level, and 25 m tall. The inside of the tree cavity was about 50 cm in diameter at the nest level. While the tree was being cut, Blodgett saw a Chimney Swift ascend from a 25 cm opening in a broken stub that extended about 10 cm from the trunk at about 4 m above the ground—well below the canopy. The bird circled the tree about 1 min, flying within 4 m of the workmen using a chain saw. The bird's behavior and the excellent condition of the nest indicated that the nest was probably used in 1977. It was glued to the SE wall of the tree cavity about 3 m from the ground. It was identified by Edwin C. Franks and R. M. Zammuto and is preserved in the biological collections of Western Illinois University.—K. DOUGLAS BLODGETT AND RICHARD M. ZAMMUTO, *Dept. of Biological Sciences, Western Ill. Univ., Macomb, IL 61455. Accepted 10 Apr. 1978.*

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Notes on the reproductive behavior of the Yellow-billed Cuckoo.—On 20 May 1964, my Ornithology class and I were in open bottomland second growth forest along the Allegheny River near Allegany, Cattaraugus Co., New York, and observed a precopulatory display by a Yellow-billed Cuckoo (*Coccyzus americanus*). The bird was in a position that has been described by Hamilton and Hamilton (*Proc. Calif. Acad.*