

There may be at least three advantages to terns in keeping coots away from nests or young. The use of similar nesting substrates makes coots potential nest site competitors (see below and Burger 1973). The clumsy manner in which coots land and take off, especially if frightened, may make their mere presence near a nest dangerous. Burger (1973) twice observed coots preying on gull eggs in Minnesota and reported other observations of egg predation by coots. In addition Lawrence (Chickadee Notes No. 596, Winnipeg Free Press, 4 Aug. 1932) reported a coot drowning a downy Canvasback (*Aythya valisineria*), and later (Chickadee Notes No. 796, Winnipeg Free Press, 26 June 1936) suspected them of killing young Franklin's Gulls, and Collins (Auk 61:299, 1944) observed a coot drowning a downy Mallard (*Anas platyrhynchos*).

Although coots have been observed to use muskrat houses for loafing, copulating, and brooding in other areas (Fredrickson, Wilson Bull. 82:445-457, 1970), on Forster's Bay they used only floating mats of dead *Scirpus* for these activities, and only those not used by terns for courtship or maintenance activities. This was true even in 1969 when several muskrat houses were not used for nesting by terns. The terns used all these structures for courtship activities before either the terns or coots were nesting, and this may have discouraged the coots from using them. This contrasts with Burger's observations on Franklin's Gulls in which approaching coots usually caused gulls to leave such sites, and occasionally coots even charged the gulls. I never observed a coot attack or threaten a tern, but Van Rossem (Condor 35:49-51, 1933) saw a coot chase a Forster's Tern away from the vicinity of the coot's nest, and Ryder (Auk 76:424-442, 1959) included Forster's Tern among birds threatened by coots when near coot young. As Forster's Terns have been reported to prey on eggs (Van Rossem 1933), it may be to the coot's advantage to keep the terns away.

Thus, a complex situation involving potential competition for nest sites, protection to coots from predators by nesting among aggressive terns, and potential predation by either species on the other may exist between Forster's Terns and American Coots similar to that reported by Segré et al. (Wilson Bull. 80:213-219, 1968) for Laughing Gulls (*Larus atricilla*) and Clapper Rails (*Rallus longirostris*).

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Mobbing and other interspecific aggression by Barn Swallows.—Hartley (Symp. Soc. Exp. Biol. No. 4:313-336, 1950) defines mobbing as a "demonstration made by a bird against a potential or supposed enemy belonging to another and more powerful species, it is initiated by the member of the weaker species, and is not a reaction to an attack upon the person, mate, nest, eggs, or young." We recognize mobbing as a form of interspecific aggression, but we do not recognize all forms of interspecific aggression as being synonymous with mobbing. Bent (U.S. Natl. Mus. Bull. 179, 1942), Cross (Wilson Bull. 62:39, 1950), Samuel (Wilson Bull. 83:296-297, 1971), and Beason (Int. Bird-Banding News 46:55-56, 1974) have reported instances of Barn Swallow (*Hirundo rustica*) mobbing behavior or other interspecific aggression directed toward a Sharp-shinned Hawk (*Accipiter striatus*), a Loggerhead Shrike (*Lanius ludovicianus*),

a Cliff Swallow (*Petrochelidon pyrrhonota*), and a Dickcissel (*Spiza americana*), respectively.

We observed interspecific aggression and mobbing by Barn Swallows between 14 May 1973 and 9 June 1974 in a population nesting under concrete and wooden bridges at Sabine National Wildlife Refuge, Cameron Parish, Louisiana.

On separate occasions, interspecific aggression was directed toward a Cliff Swallow and two Bank Swallows (*Riparia riparia*). These two species were harassed by single Barn Swallows when they flew beneath or near a bridge that supported nests containing eggs and/or young.

We saw extensive mobbing, involving large numbers of Barn Swallows, directed toward Snowy Egrets (*Egretta thula*) in three separate but similar incidents. In each instance of mobbing, the attack was initiated when the egret approached within 50 to 70 m of the nesting colony. The mobbing was directed to all parts of the egret's body. Two degrees of mobbing intensity were noted: one involved fewer than a dozen birds that alternately attacked the egret, while the other involved most or all members of the colony that simultaneously attacked the egret. The number of Barn Swallows actively participating in mobbing depended on the egret's distance from the bridge. All three incidents of mobbing lasted for approximately one hour. Physical contact between the two species was rare. During the diving attacks by single Barn Swallows, the egret ducked its head but did not show alarm unless a swallow came very close. A hit or near hit by the Barn Swallows stimulated the egret to snap its bill. This peculiar behavior produced a sound that was audible over distances of 30 to 40 m. Although the egret continued to forage at the water's edge, mobbing appeared to greatly diminish its food gathering efficiency. When the egret flew to a new feeding site under the bridge supporting the nesting colony, all members of the colony, including incubating and brooding birds, were summoned by the loud and persistent calls of the birds involved in the original mobbing. The colony's extensive attack was brief and then most of the swallows returned to their previous activities. The small number of birds that persisted alternated their attacks on the egret. In spite of the attacks, the egret wandered at will under the bridge while foraging and continued to duck and snap at the diving swallows.

We flushed an egret from beneath the bridge on two occasions. In each instance, the egret was violently attacked in flight by approximately 15 swallows in a fashion similar to that of a crow (*Corvus* spp.) being mobbed by Blue Jays (*Cyanocitta cristata*). At this time, many direct hits were made to the egret's body and this mobbing continued over a distance of about .75 km. The cause for the mobbing of the egrets was not clear, since both Green Herons (*Butorides virescens*) and Louisiana Herons (*Hydranassa tricolor*) frequently fed under or near the nesting colony, but were never attacked.

An Eastern Kingbird (*Tyrannus tyrannus*) and a male Red-winged Blackbird (*Agelaius phoeniceus*) were each mobbed once by single Barn Swallows as they flew within 10 to 20 m of a swallow colony. Many other Kingbirds and Red-wings flew unmolested near swallow colonies.

Boat-tailed Grackles (*Cassidix major*) were the most frequently mobbed or harassed of all observed species. On every occasion, only males were attacked, perhaps because their singing and plumage displays near bridges made them more obvious than the females. On four different occasions, single Barn Swallows made repeated dives at male Boat-tailed Grackles that had perched near a colony. In two other incidents, mated pairs attacked a grackle that had perched near their newly fledged young. All aggression was directed to the head or upper thoracic region of the grackle, eventually causing it to leave the immediate area. During our study, Boat-tailed Grackles were

never observed to prey on adults, nestlings, or eggs of the Barn Swallow. Bent (U.S. Natl. Mus. Bull. 211, 1958), however, reported that Great-tailed Grackles (*Cassidix mexicanus*) ate eggs and nestlings of other birds. McIlhenny (Auk 54:274-295, 1937) presented no evidence of Boat-tailed Grackle predation on the eggs and nestlings of other avian species in Louisiana.

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Clapper Rail feeding on water snake.—The ornithological literature makes no reference to reptiles as food of the Clapper Rail (*Rallus longirostris*). On 2 May 1974 I observed a Clapper Rail feeding in a salt marsh ditch about 50 m from open water in Buzzards Bay, Mattapoisett, Plymouth Co., Massachusetts. When I arrived, the bird was throwing from side to side a snake approximately 40 cm in length. I watched the bird for about one minute as it tore the entrails of this specimen. I flushed the bird and found a recently killed water snake (*Natrix sipedon*). Most of the entrails had been removed. I do not know exactly how the snake was killed or if it was killed by the Clapper Rail.—JAMES G. HOFF, *Southeastern Massachusetts Univ., Dartmouth, MA 02747. Accepted 2 Aug. 1974.*

An additional record of two Tree Swallow females using the same nest box.—Although the Tree Swallow (*Iridoprocne bicolor*) is normally a monogamous species, Farber (Wilson Bull. 84:204, 1972) reported an apparent case of polygyny in that species and Bent (U.S. Natl. Mus. Bull. 179, 1942) reports several instances of more than two adult Tree Swallows occupying the same nest site.

On 29 May 1974, I encountered a nest of Tree Swallows in a nest box near Washington, Macomb Co., Michigan, which contained 11 eggs. On that date I was able to capture and band three of four birds which remained near and defended the nest box. Two of the four birds were females; both had well-developed brood patches, although one was much duller than the other. A third bird was judged to be a male, as no brood patch was present. The fourth bird, thought to be a male, was more cautious and could not be trapped.

Hatching occurred on 8 or 9 June and was synchronized, since 11 young of about the same size were present on my subsequent visits on 12, 13, and 19 June. However, beginning on 19 June and continuing thereafter, only three adults were seen feeding and defending the nest; all were banded and thus excluded the fourth bird which I was never able to capture.

During a 1 hour period (1300-1400 EST) on 20 June I recorded 82 feedings by the three adults, 35 by the dull female and the remainder by the other two adults. Most feedings consisted of leafhoppers (Cercopidae: Homoptera). On 20 June I banded and measured the 11 young. Two of the three smallest young were missing (and presumably had died and been removed) on a visit on 27 June. All nine of these young fledged before my next visit on 6 July, when the nest was found with 2-3 cm of excrement atop the grasses.