

**Conspecific nest takeovers and egg destruction by White Ibises.**— This report describes cases of conspecific nest usurpation seen in a breeding colony of White Ibises (*Eudocimus albus*) during four breeding seasons (1980-1983) on a 9 ha island in Winyah Bay, near Georgetown, South Carolina (33°16'30"N, 79°12'30"W). Between 6000 and 12,000 pairs of ibises nest there annually on clumps of needlerush (*Juncus roemarianus*), and nests are subject to occasional catastrophic washouts by high tides. My observations, which lasted 12-14 h a day, were made from a 3-m high blind set approximately 20 m from groups of 20-50 nesting pairs. Individuals could be identified reliably by facial characteristics, and sexes were determined by behavior and size (Kushlan, *Wilson Bull.* 89:92-98, 1977). Over the four seasons, 15,580 pair-h were spent observing 134 pairs during courtship, nestbuilding, egg laying, and occasionally early incubation. For a more detailed description of the study site and methods, see Frederick (Ph.D. diss., Univ. North Carolina, Chapel Hill, North Carolina, 1985).

During these observations, I saw eight cases of nest takeover, all of which involved a similar sequence of events. Without apparent warning, a pair that had built a nest would begin to jab with their bills at a lone female on a nearby nest (<3 m). The lone female (resident) would not attack the intruders, but instead she would spread her wings over the nest cup and lie prone with her head behind her wing. The attacks continued for 15-30 min, during which time the intruding pair jabbed the resident's head, back, neck, and wings hard enough to draw blood and remove contour feathers. The intruding female sometimes appeared to be jabbing underneath the prone resident. In one case a resident female appeared to have been beaten into an unconscious state after >30 min of attacks. The resident female was forced from her nest in five of the eight encounters.

If the resident was evicted, the intruders immediately occupied the nest; if eggs were present, the intruding female stabbed them with her bill and threw them out of the nest. The intruding pair usually rearranged the nesting material and in two cases copulated on the nest within 10 min of the eviction.

In all cases the mate of the resident female returned within 30 min of the eviction and attempted to chase off the intruders. He was always joined by his mate as soon as he returned. In the ensuing fight, males fought males and females fought females. Jabs were aimed at the head, and contestants frequently held each other's throats tightly clamped for several min at a time. The resident pair always chased off the intruding pair after a 20-30-min fight. Contested nests failed in all four of the cases in which their fates were followed.

All initial attacks were made by the intruding female, with her mate following. In two cases, the intruding female also remained fighting on the nest for at least 5 min after the intruding male had given up.

Interpretation of this behavior is difficult. Intruders may have been seeking a new nest site. The colony has a remarkably uniform nesting substrate, however, and nest sites did not appear to be limited, nor did contested nest sites appear to be safer or more productive. Washouts by high tides on the island accounted for a minimum of 75% nest mortality over the four seasons; low nests were a distinct liability. In five of the eight observed cases, however, the intruder's original nest site was higher than the victim's. In all cases, the intruder's nest appeared to be fully constructed and capable of holding eggs. It is unclear, then, why the intruders attempted to take over new nest sites.

The intruding female could have been trying to create an opportunity to dump eggs in the victim's nest. Conspecific egg dumping does occur in colonies of White Ibises (Frederick, 1985; Shields, M.S. thesis, Univ. North Carolina, Wilmington, North Carolina, 1985); however, eggs were never laid by the intruding females during attempted nest takeovers.

In all cases the intruding pair had not laid eggs at the time of the attempted eviction, and the residents had laid from one to three eggs. It is possible that the male or female intruder was infertile. In one case the intruders had been paired for at least 9 days, a longer than usual time before eggs are laid (pers. obs.). Pierotti (Am. Nat. 115, 290-300, 1980) suggested that conspecific chick destruction in Herring Gulls (*Larus argentatus*) was an attempt by unsuccessful nesters to increase their fitness by lowering the fitness of successful neighbors. Intruding pairs of ibis did not attempt to attack more than one nest, however, and the relative increase in the intruder's fitness as a result of only one attack in such a large population is infinitesimally small. Further, if egg destruction were the only purpose of the attacks, intruders should not have attempted to retain ownership of the nest.

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