At 0825 it surfaced with a fish in its bill and swam holding the fish, changing directions several times. At 0827 the loon flew from the lake with the fish, heading toward Diamond Lake. At 1550, a loon flying from Diamond landed in Jerseyfield and dove 8 times in 11 minutes, finally surfacing with a fish in its bill. At 1609 the loon flew with the fish toward Diamond. In all cases the fish appeared to be a 10–12 cm cyprinid with a fusiform body. Of the 3 species of fish caught at Jerseyfield the lake chub (*Couesius plumbeus*) best fits this description.

These observations are significant in view of the pH of Jerseyfield and Diamond lakes and the results of fish sampling efforts. Mean pH of surface water samples taken at Jerseyfield Lake in July and August 1984 was 4.99; mean pH of Diamond Lake was 4.65. Gill netting at Jerseyfield in 1984 yielded limited numbers of 3 species of fish. No fish were caught in gill nets or minnow traps at Diamond, suggesting the fish population had been eradicated.

The plasticity of the Common Loon's foraging behavior may allow reproduction on lakes that have become marginal due to acidification. The observed behavior was probably motivated by a need to feed the chick; the extremely small prey obtained at Diamond Lake seemed incapable of satiating the constantly begging chick. Although McIntyre (Ph.D. thesis, Univ. Minn., Minneapolis, 1975) found that juveniles raised in marginal areas move to better feeding grounds as soon as they can fly, juveniles raised on fishless lakes may have had limited opportunity to develop the predatory skills necessary for survival. This lack of experience combined with a new, unfamiliar habitat may put them at greater risk than those individuals which learned foraging techniques at their natal lakes.

I thank the owner of the Jerseyfield Preserve for access to the study lakes. Partial funding for the field work was provided by the North American Loon Fund.—KARL E. PARKER, *Department of Environmental and Forest Biology, SUNY College of Environmental Science and Forestry, Syracuse, New York 13210.* Received 15 Jan. 1985; accepted 4 Oct. 1985.

Intraspecific Food Piracy in White Ibis.—Food piracy is a common foraging strategy of several species of seabirds (Ashmole 1971) and raptors (Bildstein 1978), and usually involves harrying or squabbling over food at feeding sites away from breeding locations. Infrequently, intraspecific food piracy from feeding parents at the nest has been reported (Pierotti 1976, 1980). In these latter cases involving Herring Gulls (*Larus argentatus*), piracy was shown to be dangerous and inefficient for the pirate as a foraging strategy, and other functional explanations were offered. This note describes intraspecific food piracy from feeding parents and from recently fed young White Ibis (*Eudocimus albus*); in this case the behavior appears to be an efficient and safe behavior for the pirate.

Cases of food piracy were recorded incidentally during 4 breeding seasons while observing White Ibis on Pumpkinseed Island near Georgetown, S.C. (33°16′30″N, 79°12′30″W). This 9 ha estuarine colony of more than 7000 breeding pairs of White Ibis has a nearly uniform stand of spikerush (*Juncus roemerianus*) as nesting substrate. Visibility of the colony is excellent when the spikerush is matted down by the nesting birds. All observations were made from 20 m or more with 9 × 35 power binoculars from a 3 m high blind. A minimum of 15,180 pair-hours were spent in observation of mating behavior. All observations of food piracy were coincidental and not the focus of research at the time. For a more detailed description of the study site and methods, see Frederick (1985).

Food piracy occurred in 2 ways. First, when parents fed young older than 10 days, a "pirate" would stand nearly touching the parent as the young begged and the parent worked a bolus of food up its throat. Just as the parent opened its bill to regurgitate, the pirate would force its bill into the parent's gape, sometimes for the full length of the throat, pulling out and swallowing the bolus of food. If the pirate arrived during or just after a successful feeding, the pirate would force its bill into the gape and throat of the young and extract the food.

Pirates would also walk among unattended resting young (older than 10 days of age) and force their bills into the gapes of the young, extracting food from the crop. A pirate

using this method would frequently probe 10–12 young in a row; the behavior appeared remarkably similar to normal adults foraging among crayfish or crab burrows.

I observed 71 piracy sequences on 7 different days over 4 different seasons (1980–1984). These sequences involved a minimum of 14 male pirates and one female pirate, all individually recognizable from facial features (Frederick 1985). One male pirate was known to be breeding and had a partially completed clutch at the time; this particular male was seen pirating at least 26 times. However, adults in all stages of reproduction were present on the colony at times of food piracy and could have been involved. The nesting status of most of the pirates was unknown. As shown by Frederick (1985), male White Ibis in early nesting stages appear to be starving as a result of intensive nest and mate guarding. Nearby food sources could greatly increase their chances of extrapair mating success, while reducing their chances of being cuckolded.

Of 46 victims, 17 were resting juveniles (37%), 25 were feeding female parents (54%), and 4 were feeding male parents (9%). The low percentage of male parents vicitimized is probably a result of their reaction to piracy. In all male victim cases, the male parent fought off the pirate and in all these cases but one, pirates were unable to retrieve food. In contrast, female victims almost never attempted to drive off pirates and simply tried to move away from them. Male White Ibis are considerably larger than females, and usually more aggressive (Kushlan 1977), thus male pirates are probably more common than female pirates because they are able to overpower and intimidate their victims.

Reactions of young to pirates were always passive. Young never attempted to move away from pirates, even when the pirate was attempting to probe their gape or extracting food from nestmates.

In contrast to the reports in Herring Gulls, conspecific food piracy from feeding adults and young in White Ibis is efficient and not costly for the pirate. Neither pirates nor victims were ever injured and pirates appeared to obtain large amounts of food using this method. The method is particularly worthwhile when compared to a round trip of at least 40 km White Ibis must make to feeding areas away from the colony (pers. obs.).

Several circumstances are apparently necessary for the occurrence of this behavior. First, sexual size dimorphism allows male pirates to dominate female victims without physical injury. Second, the foraging behavior of this species and the size and shape of its bill seem uniquely suited for this kind of piracy. The benefits of this kind of piracy would probably be greatly reduced if ibis did not have a long enough bill to reach into the crop of victims. In light of the profitability of food piracy, it is surprising that so few males are food pirates, that females do not pirate regularly from young, and that young are so frequently left unguarded.

LITERATURE CITED

ASHMOLE, N. P. 1971. Sea bird ecology and the marine environment. Pp. 224–286 *in* D. S. Farner and J. R. King, eds. Avian Biology vol. 1. Academic Press, London.

BILDSTEIN, K. L. 1978. Behavioral ecology of Red-tailed Hawks, Rough-legged Hawks, Northern Harriers, American Kestrels and other raptorial birds wintering in south central Ohio. Ph.D. diss., Ohio State Univ., Columbus.

FREDERICK, P. C. 1985. Mating strategies of White Ibis (*Eudocimus albus*). Ph.D. diss., Univ. North Carolina, Chapel Hill.

KUSHLAN, J. A. 1977. Sexual size dimorphism in White Ibis. Wilson Bull. 89:92–98.

PIEROTTI, R. J. 1976. Sex roles, social structures and the role of the environment in the Western Gull. M.S. thesis, Calif. State Univ., Sacramento.

———. 1980. Spite and altruism in gulls. Am. Nat. 115:290–300.

PETER C. FREDERICK, *Department of Biology, University of North Carolina, Chapel Hill, North Carolina 27514.* Received 3 May 1985; accepted 17 Sept. 1985.