quantification bases (ppm fresh carcass weight or dry weight or lipid weight). Inasmuch as lipid quantities vary widely from organ to organ and the chlorinated hydrocarbons are especially soluble in lipids, we feel that a lipid weight basis is the best quantification standard. The scattered literature contains total DDT values for various insectivorous birds ranging from 5–25 ppm fresh weight, and on a lipid weight basis these quantities would be much higher. Thus pesticide burdens in the migrating cuckoos appear to be quite low, a feature perhaps related to the cuckoos' specific insect foods or to their relatively high arboreal feeding positions.

We are indebted to Walter K. Taylor and Wilson W. Baker for procuring specimens from their respective television towers, WDBO near Orlando and WCTV near Tallahassee, Florida. A grant (GB 25872) from the National Science Foundation to the junior author helped to support this investigation.—DARLENE R. J. GROCKI and DAVID W. JOHNSTON, *Department of Zoology, University of Florida, Gainesville, Florida 32611.* Accepted 7 Sep. 73. (This paper was subsidized by the junior author.)

**Oldsquaw homing in winter.**—On 25 November 1972 J. Pawlowski shot at Presqu'ile Provincial Park, Ontario, an adult female Oldsquaw (*Clangula hyemalis*) I had banded as an adult 8 March 1972 less than 200 m from the recovery site. This is the first published North American recovery for an Oldsquaw banded on the wintering grounds. As no Oldsquaws remained at Presqu'ile during the summer of 1972, the bird apparently migrated to the breeding grounds after banding and then returned to the same wintering area occupied the previous year.

Homing to a particular breeding area is well-documented in many waterfowl species, but fidelity to a specific wintering area is less well-known. Probably fewer than 150 Oldsquaws have ever been banded in North America on the wintering grounds. Furthermore the species is not particularly sought out by hunters. Banding data are difficult to obtain and distribution theories must be based on small sample sizes. This particular recovery suggests a winter homing ability previously unknown in this species.—R. M. ALISON, *Ministry of Natural Resources, Toronto, Ontario, Canada.* Accepted 14 May 73.

**Aerial feeding by a shearwater.**—Most species of shearwaters obtain the bulk of their food from the upper few centimeters of the sea, feeding either by "pattering" or by "surface seizing" in Ashmole's classification (*in* Farner and King 1971, Avian biology vol. 1, New York, Academic Press). Some species, particularly those in the genus *Puffinus*, can also obtain food a meter or so below the surface by "pursuit diving" or "pursuit plunging." Gould (*in* Ashmole and Ashmole 1967, Peabody Mus. Bull. 24: 74) reported a Wedge-tailed Shearwater (*Puffinus pacificus*) catching flyingfish in midair, and it appears that at least one other species is able to exploit the aerial niche at least occasionally.

On 7 April 1973, 21 miles off the coast of Mexico and approximately 95 miles southeast of Acapulco, I noticed what appeared to be erratic behavior by a single Audubon's Shearwater (*Puffinus lherminieri*). The bird leaped a meter or so into the air, made a few vigorous flaps, then crash-landed on the surface 5 to 10 m from its starting point; it repeated this activity several times. Similar behavior is sometimes exhibited by this and other species of shearwaters when diving for food, but in this case the bird made no attempt to submerge, and it remained on the surface for only a second or so before repeating the performance.

On closer approach it became evident that the bird was actively chasing a small flyingfish through the air. I was able to watch four sequences of the pursuit flight at close range. As soon as the fish became airborne, the shearwater lunged after it, its beak sometimes coming within 2 to 3 cm before the fish reentered the water. On the fifth chase, the fish, perhaps caught by a gust of wind, seemed to soar slightly higher than usual, and the shearwater neatly plucked it from the air. The bird then landed, swallowed the fish, flapped its wings gently, and took off in a typical flight.

Schools of flyingfish 5 to 10 cm long were emerging commonly in the area, often in clusters, and it is possible that the shearwater was pursuing several fish sequentially rather than a single individual. Whether the bird's crash-landing behavior served to scare the fish into flight or was a consequence of the pursuit flight could not be established. In the entire day of almost continuous observation I saw only one additional Audubon's Shearwater.

This observation was made while I was participating in a research cruise of Scripps Institution of Oceanography. The precise locality was 15° 54′ N, 98° 31′ W; the surface water temperature was 27.8°C.—JOSEPH R. JEHL, JR., *Natural History Museum, P. O. Box 1390, San Diego, California 92112.* Accepted 10 May 1973.

**Individual differences in alarm calls of Canada Geese leading broods.**—The Canada Goose (*Branta canadensis*) is characterized by highly stable, interacting family groups (e.g. Raveling 1970). Observations of family group behavior suggest that goslings selectively respond to their own parents (Collias and Jahn 1959). In undisturbed situations, one basis of individual recognition of parents by goslings appears to be the low-pitched call given by both the parents when leading young (Cowan 1973). In an alarm situation, such as when the family party or group of family parties is approached on the breeding grounds by an intruder, the adult geese give high-pitched, loud alarm calls that also appear to elicit approach and following of the parent (pers. obs.). Goslings may therefore respond selectively to the alarm calls of their own parents. If so, the calls of parents must be individually distinctive (White and White 1970, Beer 1970). This possibility was examined by analyzing a large sample of alarm calls obtained from *B. c. interior* in the Churchill region, Manitoba, in 1971.

At Churchill after the young hatch, the geese desert their nesting grounds along the treeline and move toward the coast where they congregate in large flocks (Jehl and Smith 1970: 24). The flocks I studied were composed of one or more family parties and probable nonbreeders. By approaching and following individual family parties, I was able to record alarm calls from 11 different geese, each leading a brood of young goslings. The second parent, which by behavior and voice was apparently the male, nearly always separated early from the family party in a distraction attempt and its calls were not recorded. From 6 to 190 calls, a mean of 70 calls, were recorded for each brood-leading goose. All records were made with a Uher 4000 Report L tape recorder and Uher M 539 microphone. For analysis, six calls for each goose were selected randomly and converted to spectrograms using a Model 675 Kay Electric Missilyser (narrow band; flat shape). Visual inspection of spectrograms for shape difference was used to detect call variation (see Beer, 1970: 36, Thompson 1970).

Figure 1 shows five alarm calls from a single goose selected at random. These