here it appears that a temporal component (the length of notes) may be important in individual recognition in this picine species. In this respect, Gila Woodpeckers appear to resemble larids and alcids (Beer, Adv. Study Behav. 3:27–74, 1970). These findings suggest that they may use an alternate means of individual recognition than is found in passerines and owls.

I am grateful to J. D. Ligon for his help with this study. I would also like to thank S. Alexander who was invaluable in helping to analyze sound spectrographs and J. A. King who read an earlier draft of this manuscript. This research was supported by grants from the Josselyn Van Tyne Fund of the American Ornithologists' Union and the Student Research Allocations Committee of the Graduate Student Association of the University of New Mexico.—GENE L. BRENOWITZ, *Dept. Anatomy, The Medical College of Pennsylvania, 3300 Henry Ave., Philadelphia, 19035.* *Accepted 11 Jan. 1977.*

Wilson Bull., 90(3), 1978, p. 455

An aggressive encounter between a Pintail with a brood and a Franklin Gull. —Gulls are known to prey upon waterfowl nests (Odin, Auk 74:185–202, 1957). Recent studies, however, have shown that insular nesting ducks have high hatching success but low fledging rates when nesting in association with larids (Vermeer, Wilson Bull. 80: 78–83, 1958; Dwernychuk and Boag, Can. J. Zool. 50:559–563, 1972). Dwernychuk and and Boag (op. cit.) suggested that gulls provide protection for nesting ducks by mobbing potential avian egg predators, but that adult gulls kill newly hatched ducklings when their young are able to consume prey of such size. Most predation occurs while young ducklings are on open water.

On 21 June 1976 we observed an aggressive encounter between a female Pintail (*Anas acuta*) with a brood and a Franklin Gull (*Larus pipixcan*) near Boissevain, Manitoba. The brood of 5 downy young swam from emergent cover onto a pond of about 15 ha. Other dabbling ducks were present as were about 200 Franklin Gulls. Our attention was diverted from the brood momentarily, and although we did not see a gull attack the brood, a fight ensued. The Pintail hen held the gull in her bill, beat it with her wings, and kept it partially submerged for about 5 min. Meanwhile, the brood swam to a group of adult ducks and remained there in a tight group. No gulls attacked the brood in the absence of the hen. The Pintail returned to her young at the end of the fight and they re-entered emergent cover. The Franklin Gull, although not dead, had difficulty swimming and appeared to have suffered a broken wing. We suggest that some individual ducks do recognize gulls as being dangerous and give this observation as evidence of brood defense.—GEORGE HOCHBAUM AND GARTH BALL, *Canadian Wildlife Service, 501 University Crescent, Winnipeg, Manitoba.* *Accepted 30 Mar. 1977.*

Wilson Bull., 90(3), 1978, pp. 455–456

Canada Goose-Great Blue Heron-Great Horned Owl nesting associations.— While conducting nesting studies of Great Basin Canada Geese (*Branta canadensis moffitti*) along Rufus Woods Reservoir on the Columbia River in Okanogan and Douglas counties, Washington, we witnessed an interesting series of successful displacements of nesting Great Blue Herons (*Ardea herodias*) by Canada Geese. This appears to be the first such account of nesting displacements between geese and herons, although Craighead and Stockstad (J. Wildl. Manage. 25:363–372, 1961) observed different amounts of tree nesting by Canada Geese between years and felt this difference was due to a

differing ability of Ospreys (*Pandion haliaetus*), eagles, herons, and Red-tailed Hawks (*Buteo jamaicensis*) to deter geese from using these sites.

A ponderosa pine (*Pinus ponderosa*) situated along the reservoir shoreline which contained 10 inactive Great Blue Heron nests experienced the following nesting regime. Nesting was initiated on 20 March 1975 by a pair of Great Horned Owls (*Bubo virginianus*) which nested in the top-most heron nest approximately 30 m above the ground. Within 2 days a pair of Canada Geese began nesting in an adjacent heron nest. On 28 March 2 pairs of Great Blue Herons occupied 2 more existing nests and at least one egg was laid. On 29 March these 2 Great Blue Heron nests were occupied by 2 additional pairs of geese. These geese displaced the heron egg(s) and laid eggs of their own. These nests were eventually deserted. The owls also deserted after incubating 4 infertile eggs for over 50 days. The first pair of geese successfully hatched a clutch of 5 eggs. The owl, goose, and heron nests occurring in this tree were within 9 m of each other. On several occasions the geese and owls were observed on their respective nests with no inter- or intraspecific strife observed.

On 30 March 2 pairs of Great Blue Herons constructed 2 nests in adjacent pines 5 km downstream from the above mentioned tree. The following day both heron nests had been usurped by Canada Geese. One pair of geese eventually hatched a clutch of 4 eggs; the other pair deserted. The latter nest was an extremely flimsy structure in a dead tree. The displacements of herons by geese occurred during a 1–2 day period although no interspecific interactions were actually observed. The herons subsequently left the area and no herons were seen again on the reservoir until several weeks later. D. A. Manuwal, W. H. Oliver, D. R. Paulson and J. B. Athearn were kind enough to read drafts of this paper and offer helpful criticisms.—RICHARD L. KNIGHT, *Washington Dept. of Game, 509 Fairview N., Seattle 98109; and* ALBERT W. ERICKSON, *Wildlife Science Group, College of Fisheries, Univ. of Washington, Seattle 98195.* *Accepted 12 May 1977.*

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Giant Canada goose incubates eggless nest.—On 9 May 1970, M. S. Phillips and I found a Giant Canada Goose (*Branta canadensis maxima*) incubating at a nest with no eggs in it. The nest was located on a small island on Seney National Wildlife Refuge in Michigan's Upper Peninsula. The goose allowed us to approach to within 5 to 6 m of the nest before flushing. Prior to flushing, she maintained the typical flattened, stretched out posture. The nest was well constructed, lined with a large amount of down, and typical of one that would normally contain 5 or 6 eggs. There was no sign of predation or anything else that might have resulted in the loss of the clutch. The goose quickly returned to the island and resumed her position on the nest upon our departure.

This bird was particularly interesting because she had been color-marked as an adult female on 3 July 1963. Thus, she was at least 8 years old when found on the eggless nest.

Because of the neck collar, she was earlier identified with a mate (sex unverified) on and around her nesting island. She remained on the nest for another week following my visit. About the peak of the refuge goose hatch, 16 May, she left her nest and was not seen again until 4 September, when she reappeared near the nesting island.

Refuge records since 1963 do not mention this bird being seen with a brood, although she was recorded on the refuge at least in 1967 and 1969. When captured in 1963, she was with a group of non-breeders. Further, nest records revealed that she had never