Acknowledgments

Our study of the White-bellied Sea-Eagle is continuing and we would be grateful for reports of possible nest sites in the Gippsland Lakes region. We thank C. M. Beardsell for his identifications of vegetation at the nest sites; D. D. Evans and F. I. Norman for their comments on drafts of the manuscript; A. Withers and R. Medling for their help in the field; and the many people who provided information on possible locations of sea-eagle territories.

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EGG LAYING IN A TWENTY-EIGHT YEAR OLD GOLDEN EAGLE

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Longevity of wild and captive birds of prey has been reviewed by Brown and Amadon (1968) and Newton (1979), but little or no mention is made of duration of reproductive capacity in raptors. The only information existing in avicultural literature is the suggestion that the captive Bald Eagle (*Haliaeetus leucocephalus*) should have a productive life span of 20 to 30 years (Hancock 1973). At what age do birds of prey cease to produce eggs or sperm?

In 1981, a tethered captive 28-year old Golden Eagle (*Aquila chrysaetos*), originally taken as a nestling in 1953 at Watson Lake, Yukon by F. Remmler, produced 2 eggs. This bird was held captive since 1973 at the Raptor Research facilities, McGill University, Montreal. It had apparently produced eggs previously, but the owner did not keep any records. No eggs were laid at McGill University until 1977, when the eagle was handled regularly by the junior author. Courtship behaviour towards people and subsequent egg-laying without a normal mate strongly suggests that this eagle was imprinted on man. The eggs were generally removed within 1 or 2 days of laying.

The pigmentation, length (mean = 7.33 cm) and breadth (mean = 5.32 cm) of eggs were quite uniform and similar to that reported for eggs of this species by Reed (1965) and Brown and Amadon (1968). Eggs were generally laid in the first 2 weeks of April, 4 in 1977, none in 1978, 2 in 1979, and 3 in 1980.

The longevity records summarized in Table 47, p. 367, by Newton (1979) indicate that some raptors can survive at least up to 26 years in the wild and up to 55 years in captivity. He further reported that eggs from an aging Peregrine Falcon (*Falco peregrinus*) tended to be smaller and paler than the normal. We have also observed this in a very old captive Red-tailed Hawk (*Buteo jamaicensis*). However, the role of old age in the potential reproductive output of any avian species will not be clearly understood until further information becomes available from both banding and captive breeding programs.

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PORCUPINE QUILL AND BEETLES IN PEREGRINE CASTINGS, YUKON RIVER, ALASKA

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Many details regarding food habits of the Peregrine (*Falco peregrinus*) in interior Alaska are available. Prey have been identified by Osgood and Bishop (1900), Cade (1960), Cade et al. (1968), Enderson et al. (1972), and Ritchie (1979 unpubl. report to USFWS, Anchorage, Alaska). Traditionally these prey analyses have depended on species identification from uneaten parts.

In 1978 attempts to determine species consumed in dissected castings did not provide additional species identification. However, 2 items of interest did emerge from their dissection. First, insect parts, mainly elytra and disarticulated body parts, were found in 14% of the castings. Three species were identified including a long-horned beetle (family Cerambycidae), leaf beetle (*Calligrapha serpentina*), and a ground beetle (*Colosoma scrutator*). The latter is a ravenous carnivore (Lindroth 1969) and probably common at decaying prey near eyries. The other two are foliage and tissue feeders of plants (Borror and White 1970) but could easily be found in or adjacent to a perch or eyrie. These families have not been observed commonly in raptor nests, (Philips and Dindal 1977) and may represent prey of insectivorous birds eaten by Peregrine Falcons. Other data for Peregrine prey in Alaska do not include insects (Sherrod 1978). However, Bent (1950) and Fisher (1893) recorded beetles in the diet of peregrines. Snyder and Wiley (1976) determined that invertebrates represented 19.8% of all items in a sample of peregrine stomachs and grasshoppers and cicadas were recorded in food of Australian Peregrines (Pruett-Jones, et al., 1981).

Second, the quill of a porcupine (*Erethrizon dorsatum*) was painfully discovered in a casting. Porcupines have been identified in the diet of large raptors, such as the Golden Eagle (*Aquila chrysaetos*) (Olendorff 1976), but it is doubtful that Peregrines would pursue even a young porcupine. An accidental confrontation might explain its origin. Quills found in the foot of a Sharp-shinned Hawk (*Accipiter striatus*) probably occurred this way (Kelley and Kelley 1969). It is more likely, however, that this quill was acquired by the Peregrine in some indirect manner: (1) the quill was imbedded in a prey species which may have fed on porcupine carrion (e.g., Gray Jay [*Perisoreus canadensis*]); or (2) the quill was already in the eyrie and adhered to prey eaten at the nest.

The second speculation seems plausible since porcupines in interior Alaska are often observed on cliff areas used by Peregrines. They probably seek out overhangs and ledges associated with these cliffs for shelter (Vaughan 1972). More accessible eyries would provide temporary shelters. Porcupine scat has been observed in close proximity to Yukon River eyries. External injury by quills would be quite obvious (Kelley and Kelley 1969). Internal damage might be more significant and affect the bird long after ingestion.

These results suggest casting dissection should complement food studies based primarily on species identification from uneaten parts. It is a useful tool in the determination of unusual and often overlooked items ingested by raptors.

Robert "Skip" Ambrose and James A. Curatolo helped collect specimens. Data were gathered under contract with the USFWS, Anchorage, Alaska. Dr. Richard Werner, Research Entomologist, Institute of Northern Forestry, Fairbanks, assisted with beetle identification.