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**Red-shouldered Hawks in juvenile plumage nest successfully.**—On 10 March 1973 in a woodlot along the Chagrin River valley, eastern Cuyahoga County, Ohio, I found an uncompleted nest with Red-shouldered Hawks (*Buteo lineatus*) calling nearby. I flushed an incubating bird off the nest on 8 April; the bird sat tight and flew only when approached very closely. I climbed to the nest on 16 May and estimated that the two young were 10 days old. The nest depression was shallow and covered with greenery from wild black cherry (*Prunus serotina*). One of the parents, presumably the female, defended the nest by flying at me 6 times, coming as close as 2 to 3 m. At this time I determined that one parent was in juvenile plumage. I built a tree blind on 26 and 27 May and began watching from it on 31 May; I then discovered that both parents bore juvenile plumage. In the course of 7 hours of watching the parents brought 3 voles (*Microtus pennsylvanicus*), 2 chipmunks (*Tamias striatus*), and 1 frog (*Rana* sp.) to feed the young. A photograph of one of the parents at the nest appeared on the cover of *Bioscience* (December 1975). I believe that this is the first reported case of a pair of Red-shouldered Hawks breeding successfully in juvenile plumage.

Henny et al. (1973, *Ecology* 54: 551) reported the first recorded case of a juvenile (1-year-old) female nesting successfully near the Patuxent Wildlife Research Center, Laurel, Maryland. Henny (pers. comm.) stated that the male was in adult plumage. In Orange County, California, Wiley (1975, *Condor* 77: 135) found that 3 (10.3%) of 29 nesting Red-shoulder pairs had juvenile-plumage females breeding with adult-plumage males. Two of the three juvenile female nests fledged young. Wiley (pers. comm.) found no nesting cases in which both sexes were in juvenile plumage. In the spring of 1974 and 1975 I conducted a survey of Red-tailed (*Buteo jamaicensis*) and Red-shouldered Hawk populations and productivity in Geauga County, Ohio. In the 2 nesting seasons I found 5 pairs (8.9%) of yearling females paired with adult males among the 56 Red-shoulder nests located. In all 5 cases the pairs failed to raise young; nests were built but either the eggs were not produced (3 pairs) or the eggs were infertile (2 pairs).

Based on these findings it is apparent that a minor component of the Red-shouldered Hawk population is composed of yearling-female/adult-male pairs. The size and nesting success of this component varied between studies conducted in California, Maryland, and Ohio. The case of a pair of Red-shouldered Hawks in juvenile plumage nesting successfully is unique and should be considered a rarity in the breeding population.—VICTOR APANIUS, *P.O. Box 2672, Madison, Wisconsin 53701.* Accepted 10 Feb. 76.

**Uncommon natural injuries in hawks.**—On 16 November 1974 at Hawk Ridge, Duluth, Minnesota, I caught an adult male Goshawk (*Accipiter gentilis*) that had a stick protruding 4 cm from the skin about 2 cm caudal and 3 cm medial to the left leg. Parting the feathers revealed a moderate amount of dried blood and lymph at the surface of the puncture. I gently removed the stick and applied antiseptic to the wound. The stick extended about 6.5 cm upward along the inner body wall. Neither the stick nor the open wound gave any indication of punctured intestines. Banded with a USF&WS lock-on type band and released, the bird flew off with no apparent difficulty.

The stick, which was dead and brittle, was identified as either *Populus tremuloides* or *P. grandidentata*. The angle of penetration indicated that the puncture probably occurred as the pelvis and

legs were thrust forward during an attempt at prey capture. Goslow (1971, Auk 88: 815) measured the velocity of pelvis and leg thrust of various raptors during prey capture under laboratory conditions. Two female Goshawks had average foot velocities of 2250 cm/sec (50 mph) at the moment of impact with the tethered pigeons. The forward velocity of the pelvis was about 1980 cm/sec (44 mph). In the wild, Goshawks characteristically capture prey by short fast dashes from perches or while flying at considerable speed through the woods to surprise potential prey. Motivations of hunger and the excitement of the chase could conceivably result in much greater velocities of the feet and pelvis than those recorded under lab conditions. Goslow also recorded foot velocities of 1140 cm/sec for the Cooper's Hawk (*A. cooperii*) and 650 cm/sec for the Red-tailed Hawk (*Buteo jamaicensis*). As with the Goshawk, the pelvis velocity was about 15% less than the foot velocity. The potential for injury would appear to be considerably greater for the Goshawk given its mode of hunting, densely wooded habitat, and the velocities attained during prey capture.

During banding operations at Hawk Ridge the fall of 1976 I caught three more hawks with sticks in them as follows: On 9 September an immature female Sharp-shinned Hawk (*Accipiter striatus*) had a twig roughly 120 mm long through the right patagium close to the body. On 21 October an immature Red-tailed Hawk (*Buteo jamaicensis*) sex unknown, had a stick about 210 mm long that entered just above the left side of the furculum, passed just left of the crop and neck, and out the back of the neck; it extended about 25 mm in front and 130 mm in back. On 25 October another immature, unsexed Red-tail had a stick 32 mm long in the left wing between the radius and ulna. All three birds seemed in good condition and flew with no apparent difficulty before capture. I removed the sticks and applied antiseptic to the wounds, none of which needed suturing, and the birds flew off handily after being banded.

I thank the Hawk Ridge Nature Reserve, Robert Rosenfield, and Donald Scheer for their contributions to the banding program.—DAVID L. EVANS, *Department of Zoology, North Dakota State University, Fargo, North Dakota 58102*. Accepted 11 Feb. 76.

**Jackass Penguins sunning at sea.**—I saw Jackass Penguins (*Spheniscus demersus*) sunning themselves at sea in the vicinity of the Cape Peninsula, South Africa, on 8–9 December 1975 during a cruise of the University of Cape Town's Research Vessel, *T. B. Davie*. The sea was calm and the sky was clear. Table 1 gives the number and percentage of birds sunning and number of birds seen at different times of the day. Sunning was noted commonly only in the first 2½ hours after sunrise by both adult and juvenile birds. Sunning behavior consisted of rotating the body approximately 45° around its long axis so that one flipper, held away from the body, and one foot, with a spread web, were above the water surface and exposed to the sun. Jackass Penguins use a similar posture in bathing groups at sea when preening their axillary region, but no preening was noted and the head was held in a forward position. Birds commonly altered their position relative to the sun to watch the boat, but I had an impression that the back of the flipper and body initially faced the sun in most cases.

Jackass Penguins are conspicuously marked birds with black backs and white fronts, this pattern being repeated in the flippers. The feet, unlike those of non-*Spheniscus* penguins, are black. It is suggested that exposing the black back, flipper, and foot to the sun results in a positive heat gain. Jackass Penguins have extensive arterio-venous associations in their flippers and feet that facilitate heat retention (Frost et al. 1975, *J. Zool.* 175: 231). On land, Jackass Penguins commonly orientate themselves relative to the sun to promote either heat gain or heat loss and the surface temperature of the back can exceed body temperature (Frost et al. 1976, *J. Zool.* 179: 165).

Sunning presumably helps the birds warm up after a night spent at sea. During the day heat gain probably

TABLE 1  
SUNNING OF JACKASS PENGUINS AT SEA

|                 | 8 December 1975 |           |           | 9 December 1975        |           |           |
|-----------------|-----------------|-----------|-----------|------------------------|-----------|-----------|
|                 | 1000–1100       | 1330–1515 | 1615–1800 | 0630–0730 <sup>1</sup> | 0730–0800 | 0800–1000 |
| No. sunning     | 0               | 0         | 0         | 7                      | 2         | 1         |
| Percent sunning | 0               | 0         | 0         | 78                     | 67        | 11        |
| No. observed    | 10              | 16        | 10        | 9                      | 3         | 9         |

<sup>1</sup> Time of sunrise 0528; time of sunset 1948.