

third attempt starting from a height of ca 2 m. The eagle then stood on the coot for about 30 sec before flying north for 50 m and accidentally dropping its prey in the water, where the coot was observed splashing in the water. The eagle immediately flew down, picked up the coot and flew to a fence post 50 m away and 3 min later began feeding.

Collopy (*Auk* 100:747-749, 1983) found that Golden Eagles typically orient into the wind, presumably to reduce flight speed and to at-

tack prey from close quarters. The same technique apparently was used by the eagle in this observation.

I thank M. Collopy, D. Garcelon and J. Houk for reviewing and commenting on the manuscript.

Malheur National Wildlife Refuge, P.O. Box 113, Burns, Ore. 97720. Present address: San Luis National Wildlife Refuge, P.O. Box 2176, Los Banos, Calif. 93635

Received 20 February 1986; Accepted 15 June 1986

Bilateral Bumblefoot in a Wild Red-Tailed Hawk

Kevin L. Ellis

Bumblefoot is the falconer's term for any abnormal enlargement of a raptor's foot or a portion thereof. It is the most common clinical condition associated with captive raptors (Riddle, K., *Recent Advances in the Study of Raptor Diseases*, London, 1980). Raptors with high wing-loading, such as the larger falconids, seem more prone to the condition than other hawks with lower wing-loading (Halliwell, W., *J. Zoo. Anim. Med.* 6 (4): 8-10 1975). Bumblefoot in captive raptors is most often management related; usually caused by improper perches (Riddle, 1980).

Bumblefoot often starts when the integument of the metatarsal pad is injured and inflammation results. Inflamed areas then may become infected resulting in formation of an abscess. Continued trauma to the infected area may cause the fissure of abscess material into surrounding uninfected areas. The disease will often continue to spread until much of the foot is infected. In many cases bumblefoot is followed by osteomyelitis and/or septicemia, endocarditis, and finally death (Riddle, 1980). Bumblefoot can also be directly caused if the foot is punctured by a talon or other sharp object. Bacterial agents associated with bumblefoot as secondary agents include *Staphylococcus* spp., *Escheria coli*, *Streptococcus* spp. and *Clostridium* spp. Fungi have also been associated with bumblefoot in-



Figure 1: Swollen metatarsal pad and digits on both feet.

fections (Cooper, J.E., *Veterinary Aspects of Captive Birds of Prey*, Standfast Press, England, 1978).

The condition may be unilateral or bilateral and in less severe cases can heal without clinical treatment if the underlying cause is removed. If the lesion becomes infected, however, surgical treatment is often necessary, and the success rate may be very high (Riddle, 1980).

To my knowledge no case of bumblefoot in a wild raptor is documented in the literature, however, it has been observed. Brian Cade and Clayton White (pers. comm.) banded a female nestling Peregrine Falcon (*Falco peregrinus*) on the Colville River, Alaska, in July that had severe bumblefoot. It was trapped on Holly Beach, Louisiana, in October of the same year. The trapper made no mention of its swollen feet at that time. Pat Redig (pers. comm.) has seen bumblefoot in wild Bald Eagles (*Haliaeetus leucocephalus*), 1 Prairie Falcon (*Falco mexicanus*), 1 Rough-legged Hawk (*Buteo lagopus*), and Red-tailed Hawks (*Buteo jamaicensis*). In all cases the birds had an injury to the other leg; usually a missing foot from a trap. The purpose of this note is to report bilateral bumblefoot in a wild Red-tailed Hawk.

On 10 March 1985 I received a report of an injured hawk along the Pine River (La Plata County, Colorado). Upon arriving to the area, I located an adult Red-tailed Hawk which was barely able to fly. Upon capturing the bird, I noted that the metatarsal pad, as well as all digits, of the bird's feet were severely swollen (Figure 1). The right foot had a scabbed over puncture wound above and between digits III and IV. The hawk was severely emaciated and could not move the digits of either foot. Immediately after euthanasia, I made an incision into the metatarsal pad of the right foot. A large amount of casious exudate was located around the tendon. Culturing of this material yielded *E. Coli*. Although not known for sure, it is probable that the infection entered through the aforementioned puncture wound and spread to other areas, becoming so acute that the bird was unable to catch prey items and thus its physical condition deteriorated.

ACKNOWLEDGEMENTS

I wish to thank Clayton White and Pat Redig for their comments on the manuscript. Linda Eskridge and Dixie Simmons also provided assistance.

Colorado Division of Wildlife, 151 E. 16th St., Durango, CO. 81301

Received 15 April 1986; Accepted 1 September 1986.

NEWS AND REVIEWS

Report — 1st International Symposium on the Golden Eagle. On 14-15 June 1986, the 1st International Symposium on the Golden Eagle was held in Brunissard, French Alps. It was organized by The Alpine Research Centre for Vertebrates, the Queyras Regional Nature Park, the Ecrins National Park, and the Mercantour National Park. The organizing committee was chaired by Samuel Michel from the Alpine Research Centre for Vertebrates.

In France, the concern about the Golden Eagle has lasted since several years ago, and in 1981, during a meeting in Montpellier, an Interregional Working Group was formed, with Roger Mathieu as a chairman. The Group accepted a common research programme, adopted standardized methods and terminology, and established contacts between Golden Eagle specialists from neighbouring countries—Italy, Spain and Switzerland.

The aim of this year's meeting was to discuss the present situation of the Golden Eagle in Europe and to widen the contacts within European countries. About 200 people arrived in Brunissard. France was represented most numerously, and a fairly large group arrived from Italy. There were also representatives from Great Britain, Yugoslavia, Poland, Spain and Switzerland. The audience listened to 26 lectures, 14 of which were from France, 3 from Italy, 2 each from Great Britain and Switzerland, and 1 each from Yugoslavia, Poland and Spain. Additionally, 2 communications were read, having been sent from Austria and Norway. The organizers plan to publish the proceedings in the languages in which the papers were presented during symposium (4 in English, the rest in French). Anyone interested in this publication should contact Samuel Michel, Le Coin, 05390 Molines en Queyras, France.