

THE NEST AND EGG OF THE BLACK SOLITARY EAGLE

ED N. HARRISON
AND
LLOYD F. KIFF

As for most neotropical birds of prey, details on the nidification of the rare, but widespread Black Solitary Eagle (*Harpohaliaetus solitarius*) are fragmentary. Brown and Amadon (Eagles, hawks and falcons of the world, McGraw-Hill, New York, 1968) provided a summary of the information available to them on the nesting of this species in Sonora, Mexico. This note clarifies and adds to their account.

The senior author and the late W. J. Sheffler spent the spring and summer of 1947 engaged in field work in the vicinity of Rancho Guirocoba, a well-known collection locality in southwestern Sonora. In early June, while visiting the small village of Mirasol (27°10'N; 108°60'W), about 25 km NE of Rancho Guirocoba, a local hunter described to them the nest of a very large bird of prey which he had found approximately 8 km E of Mirasol.

On 7 June, the senior author, accompanied by the hunter and several other local residents, traveled to the nest site on horseback. Because of an untimely illness, Mr. Sheffler was forced to remain in Mirasol. The site was reached after a half day's ride through exceedingly rough terrain in the foothills of the Sierra Madre Occidental to a region known locally as the "Tecorawi" Mountains.

The nest proved to be a huge affair located near the top of a Mexican yellow pine (*Pinus ponderosa*) growing on a steep slope overlooking a densely wooded canyon (fig. 1). As the party neared the nest tree, a large black bird flew from the vicinity of the nest and was immediately shot by a member of the party, Rodney Montgomery. Upon examination, it proved to be an adult female Black Solitary Eagle. This specimen and an adult male, which was obtained by Sheffler and A. J. van Rossem in the following year at a locality about 18 km N of the nest site, provided the basis for the description of a new race, *Harpohaliaetus solitarius sheffleri* (van Rossem, Proc. Biol. Soc. Wash. 61:67-68, 1948). The



FIGURE 1. Nest of Black Solitary Eagle.



FIGURE 2. Black Solitary Eagle nestling.

female (the holotype) is now at the Museum of Zoology of Louisiana State University (LSUMZ #39225).

With the aid of ropes, E. N. H. climbed to the nest and found that it measured about 1.5 m in diameter, being composed of large, coarse sticks and lined with smaller sticks and dead and fresh green leaves, including several sizable lengths of palm fronds. The nest was situated in a central crotch of the pine 27 m above the ground.

A single young eagle was in the nest. The nestling was old enough to sit upright on its tarsi and to adopt a somewhat threatening posture when alarmed. It was covered with a dense coat of woolly down which was dark grayish-black on the back, wings, and legs, and white on the entire head, ventral portion of the neck, breast, and abdomen (fig. 2).

The party returned to Mirasol for the night, but on the following day, equipped with cameras to document this unusual find, E. N. H. and an assistant rode back to the nest site. Another ascent to the nest was made, and the nestling was photographed. In mid-afternoon, motion pictures were made of the surviving parent (presumed at the time to be the male because of its smaller size) approaching the nest carrying a snake with the colorful banded pattern characteristic of certain species of king and coral snakes. Prior to leaving the area, the observers watched the snake being fed to the nestling by the parent.

Neither the adult nor the nestling was collected, but the outcome of the breeding attempt is not known, since it was impossible to visit the area again in 1947. Sheffler returned to the locality in the early summer of 1948, but he found no eagles in the vicinity, or signs that the nest was again being used.

In May 1958, another nest of this scarce species was reported to Sheffler, who was again at Rancho Guirocoba. The second nest was located on the southern exposure of Tablas Mountain, about 15 km SE of Rancho Guirocoba at an elevation of 1000 m. When Sheffler visited the site on 9 May 1958, he found that the nest was located in the main crotch of a tremendous fig tree (*Ficus* sp.) growing in a canyon bottom. Both members of the nesting pair were present, and the male was collected and subsequently deposited at the Western Foundation of Vertebrate Zoology (#13,818).

The nest contained a single egg, which was also

collected and is now at the Western Foundation (#11,250). The specimen is dull white with a heavily pitted, almost corrugated surface. The rough shell bears numerous small rounded granulations and excrescences. The egg is oval in shape and measures 75.71 x 57.45 mm. The empty shell weighs 11.251 g with a blowhole 4.6 mm in diameter. According to Sheffler's notes, the egg contained a half-developed embryo. To our knowledge, it is the only egg known for the species.

In the spring of 1959, it was learned that the Tablas Mountain site was again being used by a pair of Solitary Black Eagles. R. G. Hannum was sent from Los Angeles to investigate the report, but

by the time he reached the remote locality, the nesting attempt had already met with failure. Local residents, who were able to look down into the nest from a nearby cliff, told him that ravens (*Corvus corax*) had broken and eaten the single egg which the nest had originally contained.

We thank Dean Amadon for suggesting this note and for commenting on an earlier draft. We also appreciate the assistance of George Lowery, Raymond Quigley, and Clark Sumida.

Western Foundation of Vertebrate Zoology, 1100 Glendon Avenue, Los Angeles, California 90024.
Accepted for publication 21 September 1976.

THE EGG OF THE CROWNED SOLITARY EAGLE, *HARPYHALIAETUS CORONATUS*

HELMUT SICK
AND

DANTE MARTINS TEIXEIRA

The Crowned Solitary Eagle (*Harpyhaliaetus coronatus*) formerly was seldom seen in captivity. Since the construction of Brasília and the exploration of the surrounding region, however, the bird is now seen regularly in Brazilian zoos, where it is brought from the State of Goiás. One such eagle in the zoo at Belo Horizonte, Minas Gerais, laid an egg in early October, 1974. This egg, acquired by the junior author for the Museu Nacional in Rio de Janeiro, seems to be the first well-documented one for the species.

The egg is a rounded oval with the ends similar in shape; it is unmarked, white, rough in texture,

and without gloss; one end bears a wart-like bump. Held against the light, the inside of the shell is blue-green, which is the normal inside color of accipitrid eggs (Schönwetter, Handb. der Oologie I:138, 1967). The egg measures 65.0 x 52.6 mm; its full weight was 100 g; the empty shell weighs 10.3 g.

An egg in the Nehr Korn collection from São Paulo, Brazil, possibly of this eagle (see Schönwetter, p. 145), differs from the present one in being larger (69.3 x 60.0 mm) and having some gloss. A larger bird of prey which may occur in São Paulo is the Harpy Eagle (*Harpia harpyja*). Its eggs are unmarked, but sometimes are so heavily nest-stained that they appear spotted (Bond, Auk 44:562, 1927).

We thank D. Amadon, H. Pelzl, E. O. Willis, and P. Stettenheim for their suggestions, and Antônio Caixetos, Director of the zoo in Belo Horizonte, for presenting the egg to our Museum.

Museu Nacional, Quinta da Boa Vista, Rio de Janeiro, RJ, Brazil. Accepted for publication 4 October 1976.

TEMPORAL PATTERNS IN LAYING, HATCHING AND INCUBATION OF SOOTY TERNS AND BROWN NODDIES

WILLIAM Y. BROWN

Temporal patterns in laying, hatching and incubation of wild birds are rarely studied in detail, probably because they are difficult to observe. However, these attributes are reasonably accessible for study in colonial sea birds, because such birds often lay near each other in the open and are tolerant of people.

In 1971 and 1972, I studied temporal patterns in laying, hatching and incubation of two species of colonial sea birds, the Sooty Tern (*Sterna fuscata*) and the Brown Noddy (*Anous stolidus*), on Manana Island, a 25-ha volcanic islet about 1 km north of the eastern tip of Oahu, Hawaii.

METHODS

In 1971, I painted a fluorescent line around a segment, roughly 100 m x 1 to 10 m, of the inner crater rim of Manana where Brown Noddies nest. During laying, I searched this area at 4-hr intervals for 48 hr. Each newly discovered egg was numbered and the same number painted by the nest. Beginning about one month later, I checked the marked eggs at 4-hr intervals from before any had hatched until after the last hatched. I moved rapidly, and the Brown Noddies nearly always returned to their nests within a few seconds after I passed. I followed a similar procedure in 1972 except that I searched an area about twice as long and checked for new eggs for 96 hr instead of 48 hr.

In 1972, I laid out 16 contiguous 18.9-m² plots in a sandy area of the Sooty Tern colony by tying 0.6-cm rope close to the ground between stakes. I checked for laying and hatching as previously described for the Brown Noddy, except that I placed a numbered rock beside each egg when discovered.