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### EGGS OF THE ORANGE-BREASTED FALCON (*Falco deiroleucus*)

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Earlier, Boyce and Kiff (*Raptor Res.* 15:89-93, 1981) indicated there were probably no authentic egg specimens of the Orange-breasted Falcon (*Falco deiroleucus*) in museum collections. Recently, eggs laid by a captive female Orange-breasted Falcon at The Peregrine Fund, Inc., facility at Cornell University were deposited with the Western Foundation of Vertebrate Zoology (WVZ), thus enabling a description of the eggs of this poorly studied species.

The female which laid the eggs was taken as a nestling from a site near Tikal, El Peten, Guatemala, in April 1980. The sample includes 3 eggs (WVZ 140,454) laid in 1983, 4 eggs (WVZ 150,680) laid in 1984, and 3 eggs from 2 clutches (WVZ 150,679) laid in 1985 (Fig. 1A).

The eggs are typical of *Falco* in color, having a white ground color and markings of medium brown, reddish-brown and lilac. Markings vary greatly between years, as the clutch laid in 1984 is almost completely suffused with fine medium brown spots, whereas nearly all eggs laid in 1983 and 1985 are more boldly splotched with reddish-brown and lilac (Fig. 1A). The extreme range of variation in the egg markings is of interest, given traditional assumptions of oologists and falconers that particular female falcons tend to lay eggs with consistent markings from one year to the next (e.g., Ratcliffe, D. E., *The Peregrine Falcon*, Buteo Books, Vermillion, South Dakota, 1980). In general Orange-breasted Falcon egg coloration more closely resembles eggs of the Prairie Falcon (*Falco mexicanus*) and Aplomado Falcon (*F. femoralis*) than the generally darker-colored eggs of the Peregrine (*Falco peregrinus*) and Bat Falcon (*F. ruficularis*) (Fig. 1B). The eggs are short subelliptical (7) or subelliptical (3) in shape (Preston In Palmer, *Handbook of North American birds*, Vol. 1, Yale Univ. Press, New Haven, Connecticut, 1972).

Average measurements of the sample of 10 eggs are 49.09 (46.71-52.99) × 38.96 (37.07-39.92) mm, and the empty shell weights averaged 0.344 g. Mean eggshell thickness for 10 whole eggshells and 4 additional samples of shell fragments from other eggs laid in 1985 was 0.335 (0.297-0.368) mm. Eggs tended to become shorter (50.60 to 48.97 to 47.73 mm) and broader (38.39 to 38.97 to 39.50 mm) in successive years of laying. Based on egg size and female body weight relationships in the genus *Falco*, Boyce and Kiff (1981) predicted that Orange-breasted Falcon eggs should measure about 48.0 × 37.5 mm with 95% confidence intervals ranging from 44.0 to 52.1 mm (length) and 33.8 to 40.0 mm (breadth). Measurements of Orange-breasted Falcon eggs given here fall close to predicted measurements and within associated 95% confidence intervals, which provides further confirmation that the purported Orange-breasted Falcon egg measurements discussed by Boyce and Kiff (op. cit.) were not authentic.

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Figure 1. (A) Orange-breasted Falcon eggs laid in 1983 (top), 1984 (middle), and 1985 (bottom). (B) Eggs of American *Falco* species. Smallest to largest: American Kestrel (*F. sparverius*), Bat Falcon (*F. rufigularis*), Aplomado Falcon (*F. femoralis*), Orange-breasted Falcon (*F. deiroleucus*), Prairie Falcon (*F. mexicanus*), Peregrine Falcon (*F. peregrinus*), and Gyrfalcon (*F. rusticolus*).



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