

Specific gravity of White Pelican eggs.—The specific gravity of fresh eggs is a useful constant for various indirect methods of calculating fresh egg weights from measurements of eggs in museum collections (Bergtold, Auk, 46: 466, 1929) and for the weight-loss method of computing incubation stages of eggs in nature (Westerskov, J. Wildl. Mgmt., 14: 56, 1950). Values for this constant have been published for several species (Bergtold, loc. cit.; Barth, Auk, 70: 151, 1953) but appear to be lacking for the White Pelican (*Pelecanus erythrorhynchos*). The following measurements for this species were obtained from 26 fresh eggs laid by a small group of pelicans that tried to nest within a colony of Herring Gulls (*Larus argentatus*) on an island in East Shoal Lake, Manitoba, in 1968.

Specific gravity was determined from egg weights, according to the relationship: Specific gravity = $W_1 / (W_1 - W_2)$, where W_1 = weight of egg in air to the nearest 0.1 g; W_2 = weight of egg in lake water to the nearest 0.1 g. The denominator, $W_1 - W_2$, also provides a measure of egg volume. W_2 was obtained by weighing a wire egg cradle immersed in water, then subtracting this weight from the combined weight in water of both egg and cradle. Deviation from unity in the specific gravity of lake water over a temperature range of from 0 to 18°C was found to have no measurable effect on the sample mean specific gravity, hence the density of lake water was taken as 1 g/ml. The average values obtained for egg weight, volume, and specific gravity, along with ranges and standard deviations, are listed in Table 1.

Using a formula incorporating egg length and maximum egg diameter, Worth (Auk, 57: 44, 1940) estimated the volume of White Pelican eggs to be 7.52 inches³ (123.2 cm³). This value is considerably smaller than the average value of 142.6 cm³ obtained in the present study, and is in fact smaller than the smallest egg (124.4 cm³) measured. As Barth (loc. cit.) points out, estimates of egg volume based on measurements of length and diameter are often unsatisfactory in that errors arise from variations in egg shape. The values listed in Table 1, which are based on weights and are therefore independent of egg shape, presumably provide a more accurate measure of egg volume for this species.

The degree of variation in specific gravity of the pelican egg sample was small (1.081 ± 0.009) compared to the variation in egg volume (142.6 ± 13.2). This suggests that specific gravity is affected only slightly, if at all, by intraspecific variation in egg size. A similar degree of independence between egg size and specific gravity may be inferred from the data Barth (loc. cit.) presents for the Common Gull (*L. canus*), in which the variation in egg specific gravity was also small (1.081 ± 0.0075) compared to that of fresh egg weights (53.3 ± 4.3). Because the surface area of an egg increases proportionately less than the volume for a given increase in linear dimensions, intraspecific variations in egg size might be expected to have a greater effect on specific gravity. In particular, size-dependent variations

TABLE 1
WEIGHT, VOLUME, AND SPECIFIC GRAVITY OF FRESHLY-LAID WHITE PELICAN EGGS
(n = 26)

	Mean	Range	SD
Weight (g)	154.2	134.5–187.2	14.5
Volume (cm ³)	142.6	124.4–172.6	13.2
Specific gravity	1.081	1.062–1.097	0.009

in the relative amount of egg shell might be expected to make specific gravity vary with egg size. That variation from differences in egg size need not occur is suggested by data on the domestic chicken, for which Romanoff and Romanoff (The avian egg, New York, Wiley & Sons, 1949) show that shell thickness increases with egg volume so that the proportion of the relatively dense shell in the total egg weight remains essentially constant for eggs of different volumes. A similar relationship between shell thickness and volume, if present in eggs of the White Pelican and Common Gull, would provide an explanation for the small degree of intra-specific variation in specific gravity obtained for fresh eggs of these species.

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Bald Eagle swimming in ocean with prey.—At 9:30 AM on 4 July 1964 I saw an adult Bald Eagle (*Haliaeetus leucocephalus*) leave Mitlenatch Island, 11 miles southeast of Campbell River, British Columbia, with a dark object in its talons, later identified as an adult Pelagic Cormorant (*Phalacrocorax pelagicus*). The cormorant appeared dead and was grasped by the lower breast and held rump forward, directly under and slightly forward of the eagle's body and parallel with it.

A few hundred yards from shore the eagle was attacked by another Bald Eagle and in the ensuing tussle the cormorant was dropped about 100 feet to the water below. The eagle swooped to retrieve its prey and, unable to raise it, was dragged into the rough water. With strong thrusting wing beats the eagle swam, towing the cormorant, approximately 150 yards to a small rocky islet. Through a 15-power telescope I watched the bird as it preened, flapped its wings, and shook its body vigorously for about 15 minutes, meanwhile holding the cormorant firmly in its right foot. The eagle then left, holding the cormorant in the same position, and flew laboriously low over the water northeastward towards Hernando Island 3 miles away.

Mitlenatch Island supports a large population of breeding seabirds. Glaucous-winged Gulls (*Larus glaucescens*) are the most numerous, about 2,500 pairs, Pelagic Cormorants, 500 pairs, and Pigeon Guillemots (*Cepphus columba*), 200 pairs. Northwestern Crows (*Corvus caurinus*), Song Sparrows (*Melospiza melodia*), Black Oystercatchers (*Haematopus bachmani*), and Red-winged Blackbirds (*Agelaius phoeniceus*) breed in smaller numbers. Several Bald Eagles visit the island almost daily throughout the summer, usually before noon. I have seen them feeding on the gulls (adults and young), crows, guillemots, and cormorants which they seem to prefer perhaps because they are easiest to catch. They usually kill and eviscerate adult gulls on the island, but carry other prey off over water to nearby islands before eating it.—R. WAYNE CAMPBELL, 5536 Hardwick Street, Burnaby 2, British Columbia, Canada.

Leg spurs on female wild Turkeys.¹—During the past 10 years the Florida Game and Fresh Water Fish Commission has captured about 4,000 wild Turkeys (*Meleagris gallopavo osceola*) for game management programs. Most of these were examined by wildlife biologists who took particular note of any physical anomalies.

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