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SUPERNORMAL FORSTER'S TERN CLUTCH AT DELTA MARSH, MANITOBA

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Figure 1. Six-egg Forster's Tern clutch in nest on 20 June 2005 at 22 Bay, Delta Marsh, Manitoba.
Justin Rasmussen

A clutch of eggs that exceeds the average number of eggs by at least 50% has been described as a 'supernormal clutch'.³ Supernormal

clutches have been reported in several orders of birds: Procellariiformes,^{7,14,22} Pelecaniformes,¹⁹ Charadriiformes,^{4,5,10,17,18} and

Galliformes.⁶ Although regularly reported for species of the family Laridae, supernormal clutches appear to be rare in Forster's Terns.³ For example, six-egg Forster's Tern clutches have been reported only twice: one of 15 nests examined by Rockwell¹⁵ and one of 291 museum egg sets examined by Conover.³ Here, we report a supernormal Forster's Tern clutch with six eggs at Delta Marsh, Manitoba.

As part of the Delta Marsh Water Bird Survey, we conducted a preliminary nest survey at 22 Bay (N 50°12'18", W 98°12'30"), Black Fox Lake (N 50°11'57", W 98°11'53"), and Simpson Bay (N 50°11'17", W 98°12'42") on 20 and 22 June 2005, and Riley Bay (N 50°13'12", W 98°09'08") on 17 and 19 June 2005. We examined five Forster's Tern colonies, comprising a total of 211 nests. All nests were located on "islands" of emergent cattail (*Typha* sp.) growing in shallow water. Nest cup structures were constructed of cattail and were located on floating rafts of dead, year-old plants.

Of the 211 clutches we examined, all but one contained 1 to 4 eggs. This unusual clutch at 22 Bay contained six eggs on 20 June 2005 (Figure 1). In addition to the six eggs in the nest, we found a semi-submerged Forster's Tern egg approximately 75 cm from the nest. Two days later, on 22 June, one of the six eggs was missing (Figure 2) and we found no signs of it, although the semi-submerged egg was still present. At Delta Marsh, the modal clutch size of Forster's Terns is three eggs (n = 77) with a range of one to four eggs recorded per clutch.¹¹ According to Conover's³ definition, a clutch size of five or more would be considered supernormal for Forster's Terns, as they typically lay two or three

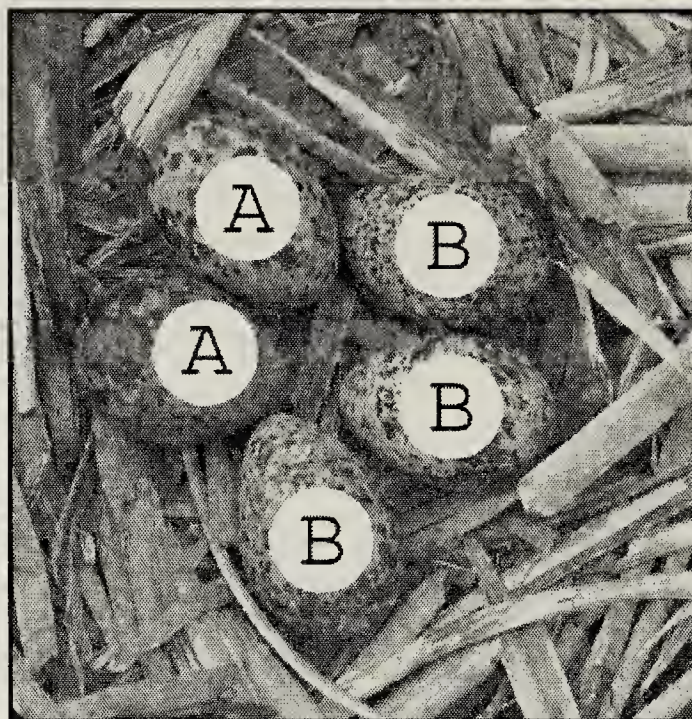


Figure 2. Six-egg Forster's Tern clutch reduced from 6 to 5 eggs, 22 June 2005, at 22 Bay, Delta Marsh, Manitoba. Todd Underwood

eggs.¹² Because we visited the colonies only twice, on June 20 and 22, we did not know whether clutches were complete. The "island" with the six-egg clutch was approximately 50 m x 20 m and contained 40 other Forster's Tern nests, as well as 9 Eared Grebe nests and 18 Western Grebe nests.

The size, stage of development (Table 1), ground color, and maculation patterns (Figures 1 and 2) of the eggs suggest that they were laid by 2 females. Similarities between certain eggs allowed us to identify two sets within the clutch: set A (eggs 1 and 2) and set B (eggs 3-5; Figure 2). To determine the stage of development, we used the egg flotation technique, first developed by Westerkov,²³ which has been validated for the Common Tern,⁹ a close relative of the Forster's Tern, and does not affect hatchability.¹ Eggs in set A floated, indicating that they were more developed. Eggs in set B were less developed and sank. The dimensions of eggs 1 and 2 were also similar to each other, as were the sizes

Table 1: Egg measurements for 5 of 6 eggs in a Forster's Tern clutch on 22 June 2005 when only 5 eggs remained.

Egg	Length (mm)	Width (mm)	Floated or Sank
1	41.7	31.1	Floated
2	41.4	31.3	Floated
3	43.3	29.8	Sank
4	43.7	29	Sank
5	42.7	29.7	Sank

of eggs 3, 4, and 5 (Table 1). These differences suggest the eggs were laid by two different females, however, confirmation of laying by two females would require genetic analyses.

Four hypotheses have been proposed to explain the origin of supernormal clutches: egg rolling, female-female pairing, brood parasitism and nest destruction. Supernormal clutch sizes in other larids, such as the Sooty Tern,² Caspian Tern,¹³ and Mew Gull,²¹ have resulted from rolling of nearby eggs into their nests. Female-female pairings, attributed to a DDT-induced feminization of male embryos in gulls,⁸ occur when two females lay in the same nest and this can result in supernormal clutch sizes. Brood parasitism, laying in another bird's nest to exploit the parental care of others, may produce supernormal clutches.²⁰ A female may also lay in another bird's nest because her own nest was destroyed the moment before laying.¹⁶ The circumstances that led to the formation of the six-egg clutch we observed are not known. We did not determine the fate of this supernormal clutch because we did not visit the colony after 22 June 2005.

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PLUMBEOUS VIREO SIGHT RECORD FOR SASKATCHEWAN IN 2004

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On 18 May 2004, the authors observed a bird fitting the description of a spring-plumaged Plumbeous Vireo at Val Marie, Saskatchewan. We watched the bird for over 25 minutes, starting at 0830h, in good light, using 10X binoculars and a variable power spotting scope (15-45X) from distances of 8-30 m, enabling us to check field marks several times and

from different angles. We made field notes and used the Sibley Guide to Birds⁹ as a direct reference during our observations. The sky was clear, the wind calm, and the temperature 12°C.

The bird was foraging in hybrid poplars approximately 15-20 m tall in a farmstead shelterbelt on the northeast corner of Val Marie, adjacent