is due to fluctuations of their food supplies, the relationship suggests that geographic and interspecific synchrony among tree-seed crops may be much more widespread than previously suspected.

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Mortality of Duckling Attributed to Separation from Mother and Subsequent Protracted Exposure to Low Ambient Temperature

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On 17 May 1981 I was observing the breeding behavior of dabbling ducks on the St. Lawrence River near Lancaster, Ontario. A female Mallard (*Anas platyrhynchos*) and her nine 1–2-day-old ducklings were feeding as they slowly moved along the marshy edge of St. Francis Island. At 1130, when they reached the point closest to Hamiltons Island (ca. 0.3 km away), the female called and swam into open water, followed by eight of the ducklings. The ducklings clustered together and stayed within 1 m of the female during the entire crossing; the female called frequently and kept her head close to her body. The shoreline where the female reached Hamiltons Island was rocky; to the south the shore remained rocky, but a cattail marsh was approximately 300 m to the north. The female (followed closely by the brood) swam to within 5 m of shore and then followed the shore to the marsh. She took the brood to shore, where I lost sight of them.

The ninth duckling left St. Francis Island at the same place about 5 min after the others and remained about 100 m behind them. It presumably saw the others depart, because it followed the same trajectory. The wind was blowing at 12–15 km/h from the northwest and 0.5-m-high waves of short interval buffetted the duckling. It reached Hamiltons Island about 8–10 min after the others; by this time, however, the brood presumably was out of sight of the lone duckling. It stayed there approximately 45 min but then swam to about 30 m offshore. It remained there in water 2 m deep, swimming in circles with its head continually dipping down. Within 60 min of separation from the female, it was dead.

Temperatures on this day were the lowest since 1944, and that night they were 0°C or below. Nighttime temperatures had dipped to 2°C for the two nights before this incident, and they were to 0°C for the two nights thereafter; wind velocity reached a steady 35–40 km/h the day after. When I first saw the brood, air temperature under bright sun was approximately 4°C and water temperature was approximately 3°C. This duckling appeared healthy and was dry when retrieved. It swam strongly, despite the wind from the northwest and a 10–12 km/h current flowing north between the two islands; it reached the island at exactly the same location as the female. Presumably the duckling was cold and could have conserved or even gained body heat had it gone to shore and sat on the stones in the sun. Periodic brooding by the female could potentially have provided an additional source of heat, which may have been why she took the young to shore as soon as she reached the marsh. The relatively short (about 5 min), but critically timed, separation from the female was apparently enough for the duckling to become lost and subsequently to succumb to exposure.

Dabbling ducks in this habitat nest on islands and move their newly hatched broods to marshy areas associated with islands. They frequently move broods between islands, presumably to new feeding areas. Movements of up to 2 km are common in Mallards, Black Ducks (*A. rubripes*), American Wigeon

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(*A. americana*), and Gadwall (*A. strepera*). There is considerable potential for ducklings to become separated from their mothers. Risk of exposure to adverse climatic conditions is great, especially early in the year when cold water and cold air often combine with rain and high wind. In addition, females that nest early in the season always risk having broods hatch when food is scarce or unavailable. This female must have begun egg laying during the first week of April, during an unusually mild early spring but cool and wet late spring. This incident is significant because it emphasizes the hazards associated with the timing of nesting for females and the consequences of even a brief lapse of attentiveness by young and/or females.

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Rockhopper Penquin (*Eudyptes chrysocome*) Record at Palmer Station, Antarctica

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An adult male Rockhopper Penquin (*Eudyptes chrysocome*) with a broken wing was collected on Cormorant Island near Palmer Station, off the south coast of Anvers Island, Antarctic Penninsula (64°8'S, 63°58'W) on 29 December 1980. The specimen is deposited at the Academy of Natural Sciences of Philadelphia (uncatalogued). This locality is approximately 1,100 km from the nearest breeding area of the species, the islands off Cape Horn. The bird was standing at the edge of a colony of nesting Adelie Penguins and appeared alert and in good condition except for its injury. Dissection and weighing produced the following wet weights: total, 2,532 g; pectoral muscles, 440.44 g; thigh muscles, 219.62 g; liver, 76.86 g; heart, 28.14 g; brain, 10.91 g; stomach, 18.45 g; the stomach was empty and there were no visible subcutaneous fat deposits. Both testes were present; they were 180 mm by 80 mm in length and width and, together, weighed 1.23 g. Color notes were made from life. The eyes were dull red, the feet whitish pink with black soles, and the bill reddish brown.

Male Rockhopper body weights on Macquarie Island average 2.7 kg (range, 2.1–3.2) (Warham 1963); the individual collected near Palmer Station was therefore well within the expected weight range. Unless this individual was taken onboard ship, transported, and then released, it most likely came from the Falkland Islands (G. E. Watson pers. comm.), where Rockhoppers breed abundantly (Pettingill 1960, Strange 1965). The facial characteristics and head plumes were consistent with the dark-faced form (*chrysocome*) expected for a bird from South America or the Falkland Islands (Carins 1974), although the underwing pattern was more like that of the subtropical form *moseleyi* (Prevost and Moughlin 1970).

The peak egg-laying date for Rockhoppers on the Falkland Islands is estimated to be 20 November (Warham 1972). If this individual were breeding, he might have recently been relieved by his mate (males usually incubate first, for approximately 25 days) and gone out to sea to feed, which would explain his occurrence far from the Falkland Islands. A broken wing might well have hindered his ability to return to the Falklands. This is the first record for this species at Palmer Station (confirmed by D. Parmelee).

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