

BLACK-CAPPED PETRELS FLEE INTO CANADA BEFORE HURRICANE FRAN

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FRAN BECAME A TROPICAL DEPRESSION ON 24 August 1996 and threatened the Lesser Antilles as a weak hurricane on 29-30 August. After the storm center was relocated farther north than thought, Fran missed the Lesser Antilles, weakened to a tropical storm with winds of 105 kph (65 mph), then regained hurricane strength while traveling toward the Bahamas. Likewise the Bahamas were spared the worst when the center of Fran moved north of the archipelago during which time winds increased to 185 kph (115 mph) becoming the third "major" hurricane of the 1996 Atlantic hurricane season.

About 20:00 hr on 5 September Hurricane Fran made landfall on the North Carolina coast east of Cape Fear, with sustained winds of over 120 kph (75 mph) extending out as much as 225 km (140 miles) from its center (a "major" category 3 hurricane on the Saffir-Simpson damage potential scale). Among those fleeing before Fran's advance were Black-capped Petrels (*Pterodroma hasitata*), a seriously threatened West Indian species for which breeding populations are currently known on only one (Hispaniola) of the five historically documented breeding islands (Cuba, Dominica, Guadeloupe and Martinique). The extant breeding population on the island of Hispaniola (Dominican Republic and Haiti) are small, fragmented and currently believed to be declining, although the exact sizes, locations, and detailed chronologies of the breeding colonies remain poorly-studied (Lee 1993). A weakening Fran moved through North Carolina and Virginia sending spiraling rain bands and gale force winds over the Appalachian Mountains into Pennsylvania and finally over Lake Erie, on Canada's Ontario shoreline on 7 September, some 960 km (600 miles) from where it had made landfall. On 8 September it was reported that a Black-capped Petrel had been spotted over Lake Erie. Previous to this there were only three records of Black-capped Petrels from Canada (James 1991). Two of these records were from the 1800s, whereas the other was found dead at Morgan's Point, Welland County on 21 August 1955, a victim of Hurricane Connie. All three specimens had been hurricane victims.

On 13 September an emaciated individual was found dead by David Bostock and Chris Dunn on the beach close to the Long Point Bird Observatory's (LPBO) Old Cut field station where I was staying. It was noted that the bird appeared to have died recently. Measurements taken from this individual are presented in Table 1.

By 1 October, 23 specimens had been found. Twenty-two of these had been collected on the north shore of Lake Erie and one specimen was collected on the shoreline of Lake Ontario (in the area of Hamilton) on 18 September. Seventeen of the specimens were found by Bob Curry and John Olmsted, both of whom walked some 60 km (36 mi.) of beach during the days after the storm in search of storm kills. Curry

Table 1. Measurements of a female Black-capped Petrel found on Long Point Beach, due south of Old Cut Blvd., by D. Bostock and C. Dunn on 13 September 1996. Plumage not waterlogged, in good condition, and feathers still well-oiled, so the bird probably died on-shore. Ovaries were smooth. The bird was in molt (wing and tail).

Body part	Measurement (g or mm)
Weight after freezing (zero fat- emaciated)	370.9
Tarsal length	47.2
Middle toe length including claw	61.1
Wing length	291.0
Exposed culmen	35.2
Complete head measurement	86.2
Depth of bill at nostril below tube	12.1
Depth of bill at nostril from top of tube nose	16
Depth of tube nose	3.9

thought that most of the birds died from 13-16 September. The last specimen collected by him was a partially decomposed individual found on 28 September (pers comm). The last reported sighting of a Black-capped Petrel alive was on 23 September, when one was seen flying east over Hamlin Beach near Rochester on Lake Ontario. Based on the number of sightings and specimens found, it is estimated that at least 50 Black-capped Petrels might have been driven to Lake Erie by the storm, and in total far more (the number of which is difficult to estimate) must have been driven inland from the Atlantic.

Why did these birds get pushed 960 km through the interior of eastern North America unto Lake Erie? It is thought that after the birds become isolated from the Atlantic where they are fairly common along the edge of the Gulf Stream up to North Carolina from spring to late fall, they naturally concentrated over the first body of water they encountered. Lake Erie being the most southerly placed Great Lake was therefore the obvious choice. Here the petrels must have flown round and round in search of an outlet back into the Atlantic. Undoubtedly the petrels were faced with severe dietary problems on the lake because their natural diet is found in pelagic oceanic waters where they are crepuscular and nocturnal feeders adapted to feeding on various nektonic cephalopods (predominantly squid), fishes, and crustaceans which migrate towards the surface at night (Imber 1985). With their highly specialized, twisted gut design they absorb oils from their oil-rich prey converting it into stores of fat (Ehrlich et al. 1988). It must therefore be noted that it appears that the petrels survived the strenuous flight associated with the storm and for some 8-14 days (on average) afterwards

depending in their relatively large but nevertheless limited fat reserves until they eventually weakened and died of starvation.

On the United States side, 15 Black-capped Petrels were recorded from North Carolina northwards to New York from 6-9 September, some of which were found alive and rehabilitated. A few of these birds were reportedly attracted to United States reservoirs and lakes. Additionally one individual was picked up dying at Niagara Falls, New York on 15 September.

In all, 64 species of birds (including 9 other petrel and shearwater species) were described in association with the passage of Hurricane Fran. Ned Brinkley (pers. comm.) noted that not all of these species were storm-driven from the ocean; some were pushed into the lee shores of the Atlantic coast or of the Great Lakes, whereas others may have simply been deflected from their regular migratory routes and forced to cease their overland migration as a result of the storm. It has been noted that certain species such as Sooty Terns (*Sterna fuscata*) disperse into interior areas of North America during tropical cyclones much more widely than others with relatively greater representation in the near-shore western North Atlantic (like Bridled Terns, *S. anaethetus*) or in much greater numbers (Black-capped Petrels over all shearwaters combined). Brinkley suspects that this dispersal trend relates to:

- (1) abundance of the species in the areas traversed by the storm,
- (2) wing loading of each species as it relates to dispersal and foraging strategies at sea, and
- (3) possibly "storm-related behavior" — particular strategies for survival during storms and for re-orientation after displacement (such as attempting to out-fly or flying with high winds as opposed to staying between wave crests in troughs). Brinkley points out that this is not an area of behavior currently considered in the literature.

PRIMERA OBSERVACION DE *COEREBE FLAVEOLA* (LINNEO) (AVES: COEREBIDAE) PARA EL MACIZO MONTAÑOSO GUAMUHAYA, CUBA

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El 1RO DE MARZO DE 1994, se observaron dos individuos de la Reinita (*Coereba flaveola*) entre el follaje en el ecosistema boscoso de montaña presente en la localidad de Grau, zona de Topes de Collantes, Alturas de Trinidad, Macizo de Guamuhaya (comunmente conocido como Sierra del Escambray), Región Central de Cuba. Las aves fueron vistas durante 7 minutos con binoculares de 7x50, a una distancia de 6 m. Durante el tiempo transcurrido se pudieron distinguir con nitidés la forma y los colores del plumaje característicos

de la especie: dorso gris oscuro, casi negro; rabadilla amarilla; una estria superciliar blanca; otra zona blanca en las alas; garganta de gris blancuzca a negro pizarra y pico curvo.

Esta especie estaba difundida por Las Antillas, América Central y del Sur, excepto en Cuba. En marzo de 1965 fue colectada por primera vez en el territorio nacional, en Cayo Tío Pepe, al norte de Isabela de Sagua, provincia Villa Clara en el centro de Cuba.

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