

A LONGEVITY RECORD FOR THE WAVED ALBATROSS

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Abstract.—A longevity record of at least 38 yr was established for the Waved Albatross (*Diomedea irrorata*) on Isla Española, Galápagos Islands, Ecuador during a whole-island census for this species in 1994. This individual was among the first of its species ever banded. Life tables published for other albatross species suggest that a few individuals may survive to twice this age. Two other albatross species which breed on Pacific islands, the Laysan's Albatross and the Black-footed Albatross have longevity records of 46 and 43-yr-old, respectively.

REGISTRO DE LONGEVIDAD PARA UN INDIVIDUO DE *DIOMEDEA IRRORATA*

Sinopsis.—En el 1994, durante un censo, se estableció un nuevo registro de longevidad, de al menos 38 años, de un individuo de *Diomedea irrorata* que fue anillado en la Isla Española de las Galápagos. Las tablas de vida construidas para otras especies de albatros, sugieren que algunos individuos pueden sobrevivir el doble de esta edad. Otras dos especies, *D. immutabilis*, y *D. nigripes* tienen registros de longevidad de 46 y 43 años, respectivamente.

On 13 Jun. 1994, we trapped a female Waved Albatross *Diomedea irrorata* that was at least 38-yr-old at Punta Suárez, Isla Española, Galápagos Islands, Ecuador. This albatross bore a British Museum of Natural History monel band on its right leg that indicated an actual banded age of 33 years. It was originally banded on the nest at Punta Suárez by R. Lévêque on 9 Jun. 1961. It was probably at least five years old at that time, because approximately 50% of all birds commence breeding in their fifth year, and most of the remainder commence in their sixth year (Harris 1973). This establishes a minimum age of 38 years for the bird. The culmen of this individual measured 142.1 mm, which lies between the mean culmen lengths (\bar{x} = 141.88 mm \pm 4.55 SD, n = 13; \bar{x} = 142.5 mm \pm 3.1 SD, n = 20) reported for female Waved Albatrosses (Harris 1973, Rechten 1986). Males have larger culmens on average (\bar{x} = 153.4 mm \pm 3.75 SD, n = 7; \bar{x} = 151.0 mm \pm 3.80 SD, n = 29). This albatross had a brood patch, but we did not acquire any additional information concerning its reproductive status. After its initial banding, this bird was subsequently recorded with young on 7 Oct. 1969, with an egg in 1970–1973 and 1976, and as having bred in 1974. It was not recorded in censuses conducted in 1977, 1979, 1981, or 1982 (Servicio Parque Nacional Galápagos (SPNG) and Charles Darwin Research Station (CDRS), unpubl. census records).

We rebanded all of the Waved Albatrosses that we recaptured with US-FWS bands. This double banding was performed to estimate rates of band loss, and to replace old bands which were either becoming corroded or inflicting harm. Evidence of band loss was apparent at the Punta Suárez colony. Some old bands were found lying about the colony, while other bands were nearly coming off the birds' legs. We removed old bands that had become illegible and others which had cut into the legs of the albatrosses. Illegible bands were sent to the National Bird Banding Laboratory for processing.

The Waved Albatross is endemic to Ecuador. Nearly the entire world population, approximately 17,500 adult pairs (H. Douglas, unpubl. data) breed at Isla Española (1°22'S, 89°40'W), formerly known as Hood Island. A second small colony of Waved Albatrosses is located at Isla de la Plata (1°17'S, 81°3'W), 27 km from the mainland of Ecuador (Owre 1976). Ten breeding pairs were recorded there in 1990 (Ortiz-Crespo and Agnew 1992). The first record of a Waved Albatross occurring at Isla de la Plata was in November 1924 (Murphy 1936:309). Of particular concern is a report of some Waved Albatrosses being killed at Isla de la Plata during 1993–1994 by fishermen's dogs (J. Herrera, pers. comm.).

Lévêque (1963) conducted the first intensive census and banding of the Waved Albatross at Isla Española in 1961. In that year he banded 745 definite breeders, 636 possible non-breeders, and 518 chicks (Harris 1973). A banding and census program for the Waved Albatross was instituted by M. P. Harris in the late 1960s and early 1970s; this program was continued by SPNG until 1988. However, data collected by SPNG were not analyzed, and the census and banding efforts do not appear to have been carried out systematically. We recaptured a total of 1450 banded waved albatrosses (27 at Punta Cevallos, 1433 at Punta Suárez) during daily checks in late May, June, and early July. Our efforts were hampered by logistical problems, and some banded individuals were probably missed. No banded albatrosses were noted at the WWII radar site in the eastern interior of Isla Española. Banding records (SPNG and CDRS) indicate that banding occurred at the radar site, but it is not clear how many albatrosses were banded there. Apparently some of the banding records kept in Galápagos were lost or destroyed, while others kept in Scotland were destroyed by arson (M. P. Harris, pers. comm.). We obtained band numbers for which no banding records could be located. There are probably a number of banded Waved Albatrosses which are 30-yr.-old and older in the population at Isla Española.

The Waved Albatross, an annual breeder, may be intermediate in its survivorship between the great albatrosses, which are biennial breeders, and the smaller albatrosses (mollymawks) which are annual breeders. Survivorship in adult Waved Albatrosses averages 95% (Harris 1973). Inter-annual adult survivorship averages as high as 96% in the Wandering Albatross (*D. eluxans*), a great albatross, and as high as 93% in the Black-browed Albatross (*D. melanophris*), a mollymawk (Prince et al., 1994). Furthermore the survival rates of young Waved Albatrosses (for the period

1961–1970) do not differ significantly from adults (Harris 1973). This contrasts with other albatross species in which survival for subadults is significantly lower than that for adults.

Life tables published for a number of albatross species suggest that approximately 0.5–1.0% of an age class will reach the age of 80 years (Warham 1990). The Royal Albatross (*D. epomophora*) has the oldest record of a longevity at 61–62 years (estimated minimum age). A female Royal Albatross was banded as an adult in 1937 at Taiaroa Head, South Island, New Zealand and was last observed there in 1989 (Robertson 1993). The longevity records for Laysan's Albatross (*D. immutabilis*) and Black-footed Albatross (*D. nigripes*) are at least 46 years and 43 years, respectively (J. Ludwig, pers. comm.). The Laysan Albatross was banded as an adult in 1955, and the Black-footed Albatross was banded as an adult in 1956. Both were recaptured at Midway Atoll, Hawaiian Islands in 1994. Laysan's Albatross do not breed until they are 7 or 8-yr-old (Whittow 1993a), while Black-footed Albatross do not breed until 5-yr-old (Whittow 1993b). The Black-footed Albatross was not holding a breeding territory and had a late feather moult at the time of capture (J. Ludwig, pers. comm.).

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