SATELLITE TRACKING OF ALBATROSSES

Recovery rates of pelagic seabirds, such as albatrosses, away from their island breeding sites is very low, so the prospects of building composite pictures of their oceanic travels from ring returns are very poor. Remote sensing seems to be the obvious solution but obtaining satellite time has been a major constraint on this line of investigation. However, French ornithologists have managed to overcome this obstacle at a study in the Crozet Achipelago in the southwestern Indian Ocean, and provided a unique insight into the foraging movements of breeding albatrosses ('Satellite tracking of Wandering Albatrosses': Pierre Jouventin & Henri Weimerskirch, 1990. Nature 343: 746-748).

After initially fitting two birds with dummy transmitters to check that these did not interfere with their normal foraging behaviour as determined from weight gain while at sea, six Wandering Albatross males (weight 10-12 kg, wingspan 3,0-3,2 m) were fitted with 180 g transmitters during their incubating stints. The transmitters were recovered from the birds when they returned to the nest after foraging trips lasting 2-33 days.

A total of 1 561 locations were obtained, at an average rate of 11,8 locations per day per bird. These revealed that the birds covered between 3 664 and 15 200 km in a single foraging trip during their mate's incubation shifts. They only undertook long-distance travel in the daytime but even at night birds were never recorded as being stationary for more than 1,6 hours. Daytime flight distances of up to 936 km were recorded. Maximum flight speeds calculated between two locations were between 62,9 and 81 km/hr. The birds could sustain high average speeds over long distances, for example, up to 56,1 km/hr over 808 km. Birds tended to use leeward winds on outward journeys and tacked against lateral winds on the return journey. Birds almost never flew directly to windward and looped around the islands until they encountered favourable winds. High pressure (anti-cyclonic) systems acted as traps which immobilized the birds for 1-7 days.

The authors point out that the foraging zones of the Wandering Albatross lie in a region which is subject to stronger and more regular winds than in any other part of the world. The birds foraging strategy is based on the use of wind as the primary source of energy for their long foraging journeys. They conclude that the evolution and survival of the largest flying seabird has been possible only in the Southern Ocean.

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