

The relationship between moult and breeding success in the Wandering Albatrosses on Marion Island

Osborne, AM

Percy FitzPatrick Institute of African Ornithology, DST-NRF Centre of Excellence, University of Cape Town, Rondebosch 7701, South Africa

lexisosborne@gmail.com

Moult is an energetically demanding process for birds, and the replacement of flight feathers impacts on flight performance. As a result, few birds overlap moult with other key activities such as breeding or migrating. Feather growth rates show little change in relation to body size, so large birds with long flight feathers take a long time to grow individual feathers, making their moult even more challenging. Unless these birds can afford to become flightless for several weeks while they replace all flight feathers simultaneously, they lack sufficient time in a single year to breed and replace all their wing feathers. As a result they have to develop complex moult strategies that replace a subset of feathers each year.

Albatrosses are prime examples of birds facing this challenge. Even immature albatrosses that lack the obligations of breeding, typically only replace about half of their primary flight feathers (by mass) each year. The number of primaries replaced by adults varies depending on the time available between successive breeding attempts. I report on moult patterns in the Wandering Albatross (*Diomedea exulans*), renowned as the bird with the largest wingspan. Previous studies describing patterns of adult primary moult have found that the extent of moult is related to the duration of the interbreeding period in females, but not males. There has been no attempt to explore patterns of secondary moult, even though the total length of secondaries is roughly twice that of primaries in this species. I test whether the number and/or mass of flight feathers (primaries and secondaries) moulted is determined by the time between breeding attempts in both males and females. I will also test whether moult status impacts breeding performance in this species. Recently it was reported that deferring moult to breed can impact on current breeding performance in some North Pacific albatrosses, but this has not been tested for the Wandering Albatross.