

Oral Presentation: 2. General Biology & Behaviour

Antarctic Petrels and Southern Fulmars have different breeding strategies in short Antarctic summers

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Fulmarine petrels, a group of medium-sized procellariiforms, are highly adapted to the extreme polar conditions and are the most abundant birds in the Antarctic ecosystem. In Antarctica there is a short time window for breeding, which requires short breeding cycles. Antarctic Petrels and Southern Fulmars are closely-related fulmarine petrels with an apparent similar breeding biology. Both were studied during three seasons on Ardery Island (66°S 110°E, near Australian station Casey). They have a similar breeding cycle (96.6 days), but Antarctic Petrels started laying 13-16 days earlier than Southern Fulmars. Although the overall breeding success across seasons was equal, the timing of the breeding failures was different between both species. Antarctic Petrels have more early egg failures, whereas Southern Fulmars showed an increased chick mortality late in the season. In comparison to Antarctic Petrels, Southern Fulmars guard their chicks longer, and desert their chicks more gradually. Antarctic Petrels suffer therefore relatively high chick mortality in the early-chick period. Differences in chick attendance are probably related to different foraging strategies, with Antarctic Petrels having foraging trips to up to twice that of Southern Fulmars (despite a similar diet). Interspecific differences in wing moult patterns could also be related to different foraging strategies. Potential energetic benefits of earlier failures in Antarctic Petrels, because of more recuperation time till next breeding season might be offset by larger transport costs when foraging. Why Antarctic Petrels continue using relatively long foraging trips, even when sea-ice is minimal, remains unclear.