Where do you winter? Scientists map migrating birds' flexible overwintering patterns

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But in the animal kingdom, for species like the Antarctic skua, migrating as the seasons change is normal. What's more, it seems that these seabirds are pretty flexible in their flight routes - not only about where they pass the chilliest months, but also about the company they keep.

In a new study, a team of international researchers has discovered that although a large number of the South Polar skuas spend the Antarctic winter in the northern Atlantic, about one third of the same species overwinters - the practice of waiting out the winter season in regions where temperatures are warmer or food is more readily available - in the northern Pacific, tens of thousands of miles in the other direction.

The team, made up of scientists from Germany, Switzerland and the United Kingdom, and led by the polar ornithologist Dr Hans-Ulrich Peter from the Friedrich Schiller University of Jena in Germany, identified the birds' flight routes by equipping the South Polar skuas with geolocators in their breeding areas on King George Island, about 120 kilometres off the Antarctic mainland. This allowed them to screen their position data over several years.

'With the help of these data we can now for the first time definitely say that the South

Polar skuas are not overwintering, like their close relatives, the brown skuas, off the Argentine coast, but mainly in the northern hemisphere,' explains Dr Hans-Ulrich Peter.

Until now, any conclusions drawn about the birds' habits constituted pure speculation; these results provide some concrete evidence for scientists' theories. 'The observation of single birds led us to the assumption that they overwinter in the Atlantic. But so far it wasn't known that a great part of them stay as well in the middle of the Northern Pacific in the winter,' continues Dr Hans-Ulrich Peter.

The findings also show that despite the destination the birds are heading for, their flight routes are very similar. Flight routes from the north and the return travel to the south are always shaped like a slip knot that crosses over on the equator; on both flights, the birds fly in a big figure-of-eight formation.

For the skuas that overwinter in the Atlantic, the route first encompasses a wide corridor northwards along the east coast of South America; after passing the equator, the birds change direction and head towards the north-west. Towards the end of May, the birds arrive at their destination in the northern Atlantic. At the end of August, they head back to King George Island with a three-week 'layover' off the Patagonian coast to top up their body reserves.

Skuas opting for the north Pacific location follow a route that first leads them along the coast of South America before changing direction towards the north-west above the equator. The birds arrive at their destination in the Pacific in mid May, two weeks before their counterparts who overwinter in the Atlantic.

Their return route seems to take a wide curve in a south-western direction towards New Zealand, and finally turns in a south-easterly direction into Antarctica. Here, they rest for a few days before returning to their breeding site.

Whilst for humans, a layover between two flights typically involves waiting in a departure lounge and some duty-free shopping, the scientists believe that these rest periods allow the birds to recover from the strain of the long journey through the tropics where food is often scarce.

The team worked out that once the skuas have chosen an ocean for the winter, they will head towards the same destination in the following years as well; what remains a mystery is why the birds pick one winter destination over another.For more information, please visit:

Friedrich Schiller University Jena:
http://www.uni-jena.de/en/start_en.html

Countries

Germany

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