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Daring crossing or cautious detour?

Contrasting transatlantic migration strategies in a small migratory bird breeding in the Canadian Arctic and wintering in Africa

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Transatlantic migration flyway

- Link between Canadian High Arctic and Europe or Africa
- Major **barriers** along the way: Greenland icecap and the Atlantic Ocean

Objective: investigate seasonal migration strategies of a Nearctic migrant confronted with major ecological barriers

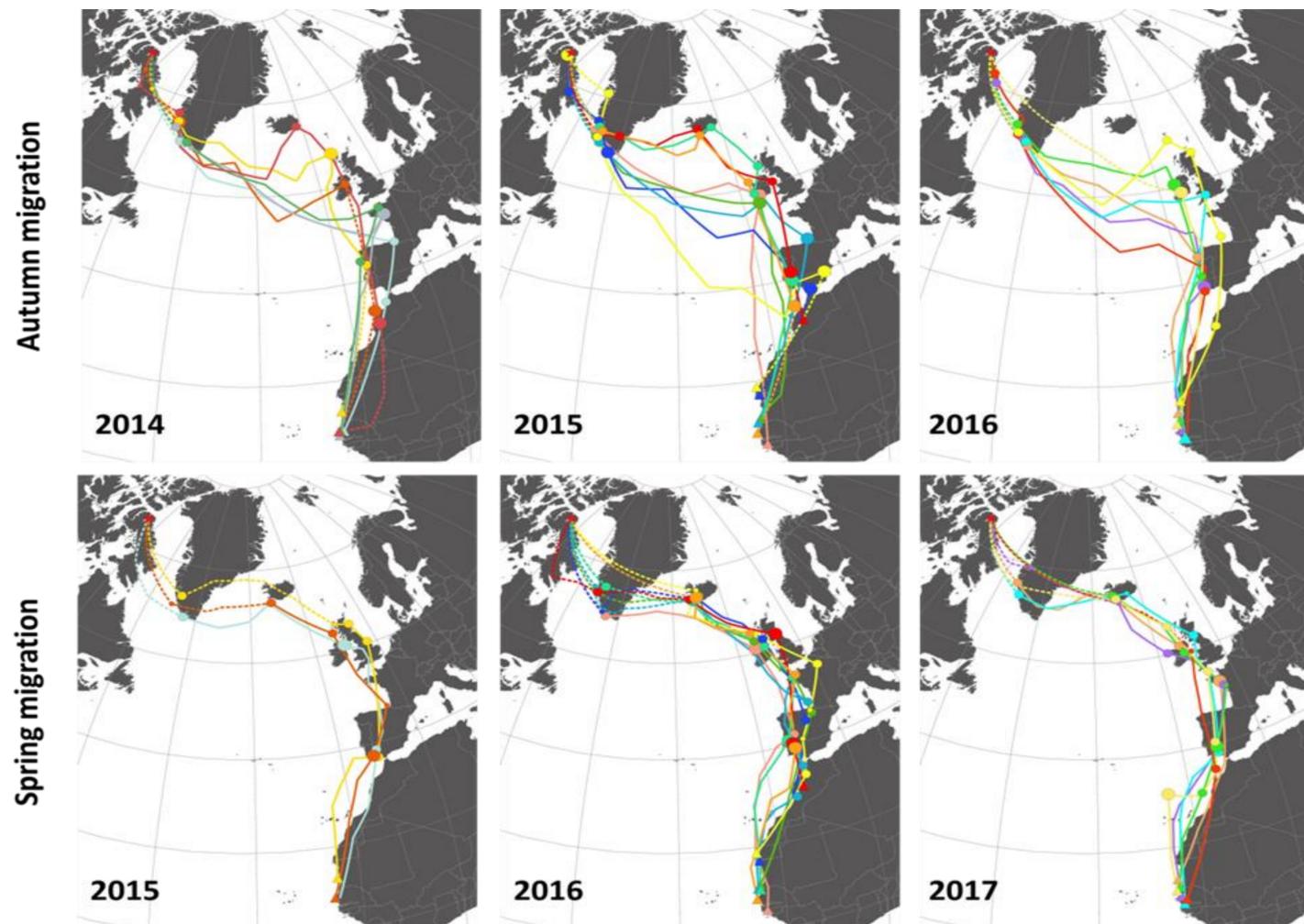


Fig. 1 - Migration paths of Ringed Plovers breeding on Bylot Island (★) and tracked during the autumn migration (upper panels, n = 20 individuals) and spring migration (lower panels, n = 17 individuals).

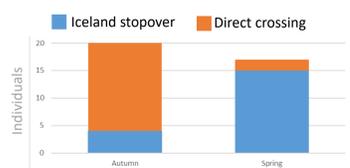


Fig. 3 – Proportion of individuals stopping in Iceland or crossing directly over the Atlantic Ocean

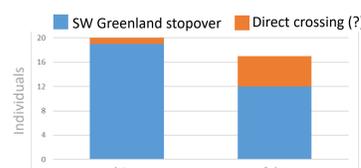


Fig. 4 – Proportion of individuals avoiding the icecap by stopping in SW Greenland

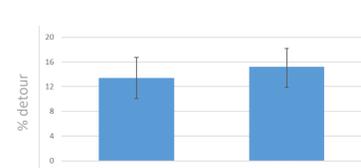


Fig. 4 – Total detour (%) during the autumn and spring migrations compared to a direct route

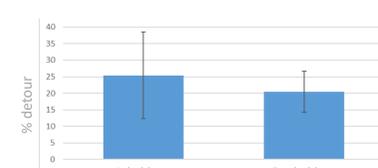


Fig. 4 – Detours (%) associated with 1) the stopover in Iceland compared to a direct flight to Spain and with 2) the stopover in SW Greenland compared to a direct flight across the icecap

Methods

- Study species: **Ringed Plover** (*Charadrius hiaticula*)
- Captured at the breeding site: Bylot Is (Nunavut, Canada)
- Geolocators (1g) attached on a leg band
- **Migrations tracks** recovered from 20 individuals



Fig. 2 – Timeline of stopovers and wintering sites used par Ringed Plovers during their annual cycle

Discussion

- Iceland is a crucial stopover site in spring
- Northerly migration route in spring
- Direct transoceanic flight in autumn only
- Inter-individual variability in strategies in autumn
- Related to prevailing wind pattern over the Atlantic

