

Migratory connectivity analysis

by EURING Migration Atlas

Netta rufina (EURING code 01960)

1. Connectivity between individuals

The analysis evaluated 22 individuals (44 encounters) filtered from a total of 1042 records in the EURING databank which were considered for the Atlas. The species shows a significant connectivity from clustering, with a number of first-level clusters = 3 (Table 01960-1; Figure 01960-1).

Table 01960-1. Results from the migratory connectivity analysis. For each cluster, the degree of connectivity (r_M), its statistical significance (p-value) and 95% confidence interval limits are shown. When the p-value is less than or equal to 0.1, the degree of clustering structure (oasw) and the best number of clusters identified are reported.

Cluster name	Level of clustering	N individuals	Migratory connectivity (r_M)	p-value	Lower 95% confidence limit	Upper 95% confidence limit	Best number of clusters	oasw
0	0	22	0.737	0.001	0.371	0.873	3	0.751
1	1	14	-	-	-	-	-	-
2	1	6	-	-	-	-	-	-
3	1	2	-	-	-	-	-	-

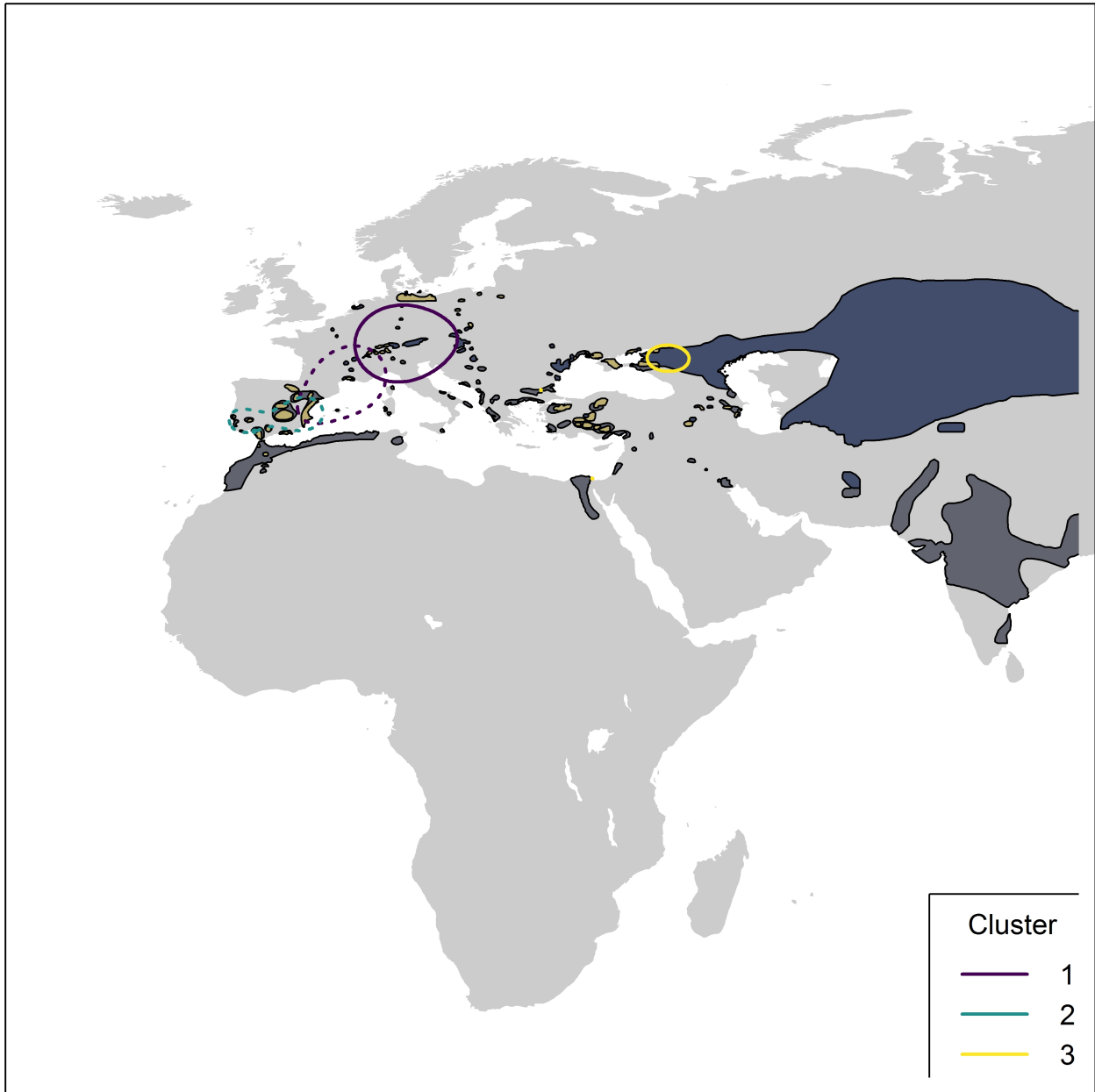


Figure 01960-1. Map showing 95% kernel contours of of first-level clusters identified by the migratory connectivity analysis, if any, or 95% kernel contours of all encounters, in case of no clustering structure. Solid lines indicate the clusters in the breeding range, dotted lines those in the non-breeding range. Different contour colours correspond to different clusters, as reported in legend. The species distribution range is also shown (breeding range: blue; non-breeding range: dark grey; resident range: beige; from BirdLife International, 2019).

2. Connectivity between pre-defined regions

The species shows high connectivity ($MC = 0.816$; $MC = 0.807$ when adjusted for absolute abundance) between 3 breeding regions and 4 non breeding regions (Table 01960-2; Figure 01960-6).

Table 01960-2. Transition probabilities between pre-defined regions. Estimated abundance (number of

individuals) in each breeding region is also reported.

Breeding region	Abundance	Non breeding region	Transition probability
Central Europe	3925	Central Europe	0.071
Central Europe	3925	South-west Europe	0.929
East Europe	35351	North Africa	0.500
East Europe	35351	South-east Europe	0.500
South-west Europe	15915	South-west Europe	1.000

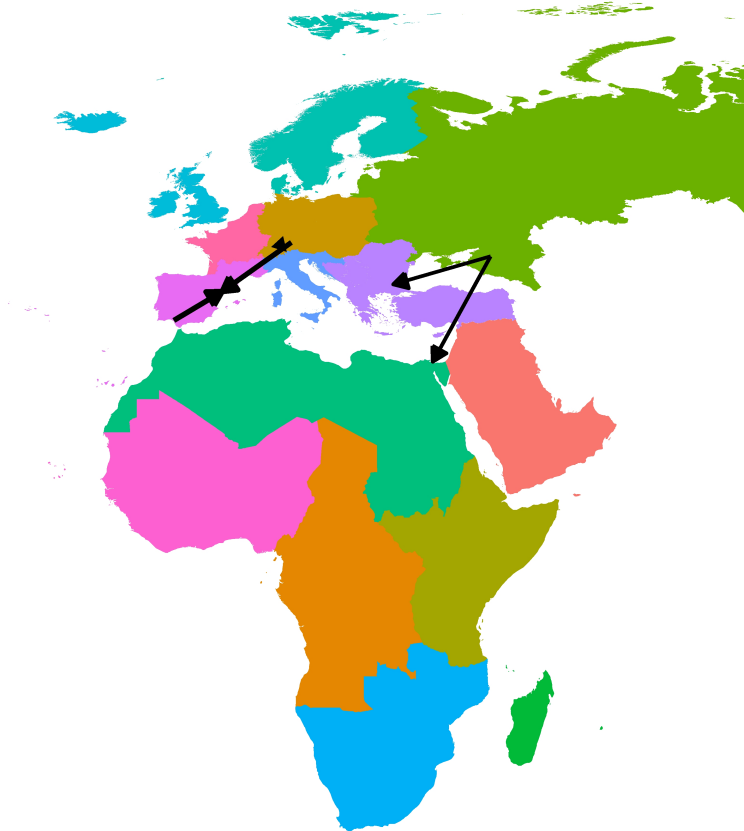


Figure 01960-6. Map showing pre-defined regions in different colours, with black arrows linking centroids of individual encounters in different regions. Arrow width is proportional to transition probability.

Reference

BirdLife International and Handbook of the Birds of the World (2019). Bird species distribution maps of the world. Version 2019.1. Available at <http://datazone.birdlife.org/species/requestdis>.