# About the impact of climate change on birds

Konstantin Redinov
"Kinburnska Kosa" Regional Landscape Park, Ochakiv, Ukraine,

Red Knot wintering on the Kinburn Spit. Photo by Z. Petrovich

The impact of climate change on bird species or populations is manifested as follows:

- ✓ shifting the timing of spring arrival to earlier dates;
- ✓ shifting the timing of autumn departure to later dates;
- ✓ shifting the boundaries of the nesting area in the direction of its expansion or contraction;
- ✓ shifting the boundaries of the winter range in the direction of its expansion;
- ✓ creating favorable conditions for wintering of individual individuals of species that did not winter before, etc.

During the 21st century, in the south of Ukraine, nesting Greater Flamingo (Phoenicopterus roseus), Cattle Egret (Bubulcus ibis), Spanish Sparrow (Passer hispaniolensis) etc.

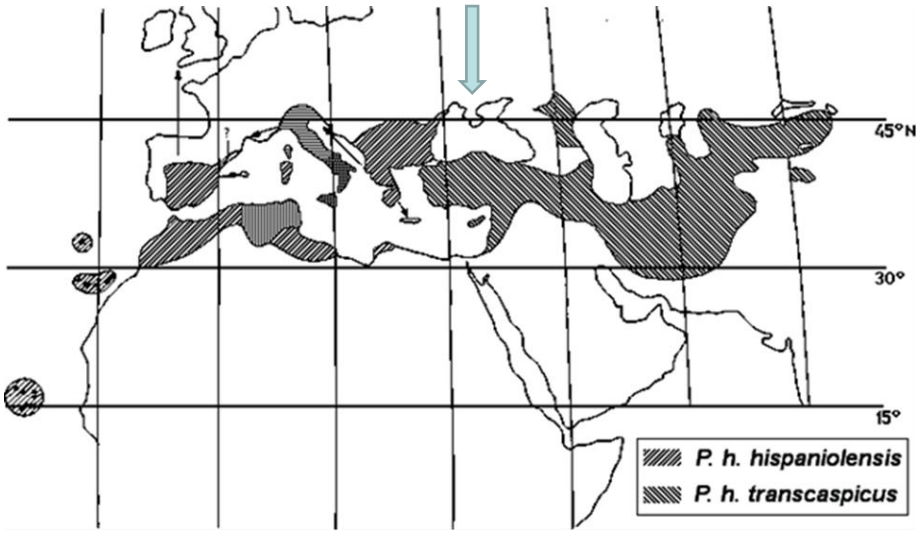
Greater Flamingo Photo by E. Chernolev; https://uabirds.org/

Spanish Sparrow
Photo by Z. Petrovich

Cattle Egret
Photo by African & Tagila; https://uabirds.org/

# Example with the Spanish Sparrow

Breeding range of the Black-breasted Sparrow (according to Denis Summers-Smith, 2010) with modifications concerning the distribution of the species in southern Russia.




Nesting range of the species in Ukraine by the end of 2017 (according to Panchenko et al., 2017)
1 – area with high nesting density initially populated; 2 – isolated nesting sites identified in recent years; 3 – encounters during the nesting period.

# Thank you for your attention!

**References**


O.I. Bronskov, I.T. Rusev, M.V. Yakovliev, O.M. Haidash, I.M. Vykhrystiuk. Nesting of the greater flamingo Phoenicopterus roseus in the Tuzlivski lymany national nature park, Ukraine. Biodiversity ecology and experimental biology. (2023) 25 (2): 43-49

E.A. Diadicheva, M.E. Zhmud. Changes in species composition, phenology and distribution of wintering waders in the Azov-Black sea region, Ukraine during the last 50 years. Branta (2013) 16: 7-25

J. Denis Summers-Smith. The Sparrows. A study of genus Passer. Calton: T & AD Poyser. (2010): 1-342.

V.N. Grishchenko. Changes in timing of bird migrations in the Kanev Nature Reserve. Branta (2011) 13: 33-39

E. Lehikoinen, T.H. Sparks, M. Zalakevicius. Arrival and departure dates. The effect of climate change on birds. Advances in ecol. res. - London: Academic Press. (2004) 35: 1-31

P. Panchenko, Redinov K., Formanyuk O. (2017): To the question of origin of Spanish Sparrows (*Passer hispaniolensis*) populated the Northern Black Sea Region and the Crimean peninsula.- Berkut. (2017) 26 (2): 152-155.

Z.O. Petrovich, K.A. Redinov. Breeding of the Cattle Egret (Bubulcus ibis) in Kherson region (South Ukraine). Berkut. (2021) 30 (1): 61-62

K.Redinov, Z.Petrovich. Sparrows in Mykolaiv region (South Ukraine). Berkut. (2023) 32 (1-2): 72-82

T. Shupova, V. Tytar. Long-term monitoring of the European roller (Coracias garrulus) in Ukraine: is climate behind the changes? GEO&BIO (2022) 23: 154-171