

THE OUTSTANDING MOVEMENTS THROUGH EUROPE AND WEST-AFRICA OF AN EURASIAN SPOONBILL (*Platalea leucorodia* L., 1758) MARKED IN THE DANUBE DELTA BIOSPHERE RESERVE, ROMANIA

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Abstract. In the Biosphere Reserve of the Danube Delta - Romania, in the period 2003-2006, a series of Eurasian Spoonbill (*Platalea leucorodia* L., 1758) markings took place in the north of the Razim lake, in the only colony in the reserve where these birds nest at ground level. 219 nestlings were marked with metallic and coloured plastic rings. The findings were reported in three articles in 2007 and 2019. This note analyses only the unusual route followed by the bird marked with SL-SL. This spoonbill did not follow the classic *Via Pontica* path traditionally used by south-eastern spoonbill population. Instead, it turned west, crossing the Central European spoonbill route, *Via Adriatica*. It then joined the flocks of spoonbills on the Atlantic coasts, following their migration routes and settling in Western Europe. This behaviour agrees with the theory that Eurasian Spoonbills do not form two or three distinct and rigidly delimited populations, but partially overlap and mix, outlining the theory of a non-homogeneous pan-European metapopulation.

Keywords: spoonbills, atlantic, central, south-eastern, populations, interferences.

Rezumat. Deplasările ieșite din comun, prin Europa și Vest-Africa, ale unui lopătar (*Platalea leucorodia* L., 1758) marcat în Rezervația Biosferei Delta Dunării, România. În Rezervația Biosferei Delta Dunării – România, în perioada 2003-2006, a avut loc o serie de marcări de lopătar (*Platalea leucorodia* L., 1758) în nordul lagunei Razim, în singura colonie din Rezervație, unde lopătarii cuibăresc la nivelul solului. Au fost marcați 219 pui. cu inele de plastic color și metalice. Despre regăsiri s-a relatat în trei lucrări, în 2007 și 2019. Prezenta notă analizează numai traseul neobișnuit urmat de pasărea marcată cu SL/SL. Acest lopătar nu a urmat calea clasică *Via Pontica* folosită în mod tradițional de lopătarilor sud-est europeni, ci s-a orientat către vest, trecând pe ruta lopătarilor central-europeni, *Via Adriatica*. Apoi s-a alăturat stolurilor de lopătari din coastele atlantice, urmând căile lor de migrațiune și stabilindu-se în Europa de Vest. Acest comportament poate argumenta teoria că lopătarilor europeni nu formează trei-patru populații distincte și rigid delimitate, ci se suprapun parțial și se amestecă, conturându-se teoria unei metapopulații paneuropene neomogenă.

Cuvinte cheie: lopătari, atlantic, central, sud-est, populații, interferențe.

Until the beginning of our century, there was little knowledge on the migration flyways and wintering grounds of the Eurasian Spoonbills (*Platalea leucorodia*) from Romania in general and the Danube Delta, in particular. From approximately 100 metal rings used to mark these birds, only half a dozen marked birds were recovered, which brought modest scientific information. The migration routes of spoonbills from Romania were apparently simple: apart from a single insignificant finding in neighbouring Ukraine, the rest of the marked birds started through the Balkan Peninsula, crossing the Mediterranean basin to the east, the entering western Asia Minor to Egypt and then the Nile Valley through Sudan, up to over 3750 km from the place of marking (BLANCHON et al. 2017; CĂTUNEANU, 1999; RADU, 1977; SMART et al., 2007). Significant results were obtained after the ringing actions with coloured plastic rings that started in 2003. The rings were provided by the Spoonbill Working Group from the Netherlands (SÁNDOR, 2003). The ringing actions took place in the Danube Delta Biosphere Reserve, in the north of the Sinoie Lagoon, where breeding has been monitored for 10 years. Nesting here was observed on a sandy island of about 120 × 140 m, partially covered with reed, which houses the only colony of spoonbills with nests at ground level in Romania. Here, in 2003-2006 219 nestlings were marked from a population that in RBDD in that period was estimated at 153-219 pairs (MUNTEANU, 2000; PLATTEEUW et al., 2001, 2004, 2006), approximately the same numbers as today (MARINOV et al. 2019). Later on, the visits to the colony and the ringing actions had to stop, because of the settlement on the island of a massive group of Caspian Gulls (*Larus cachinnans*) that attacked the nests of other species in the colony when human disturbance took place. The ringing would have not justified the massacre of the spoonbill chicks.

The results of the ring recoveries were published in several articles (KISS et al., 2007, 2019a, 2019b). For a better contextual understanding, here we summarise the obtained results. Over the time, 33 different individuals of Eurasian Spoonbill (15.7% of those marked) were resighted, some of them several times. These records were mostly reported on the basis of photographs or visual observations, from 3 continents and 10 countries, conforming an irregular polygon covering Italy, Croatia, Hungary, Romania, Ukraine, Bulgaria, Cyprus, Turkey, Oman, Israel and Tunisia. The maximum distance recorded for an individual from the ringing to retrieval (Romania-Oman) was 3814 km, and the longest time interval between the two events was 5815 days (15 years, 11 months, 14 days). Even with some remarkable findings, especially due to the relatively small number of marked specimens, the data obtained on the spatial dynamics of spoonbills are modest compared to information on the Atlantic population or the one breeding in the Carpathian Basin (SPINA et al., 2022).

From the database we have, our short note is limited only to the presentation of the postbreeding movements of a single Eurasian Spoonbill individual, which followed a significantly different itinerary from the common behavioural pattern of the rest of South-Eastern European spoonbill population.

Below is the summary of the known observations and performed route of the spoonbill marked with plastic rings lightgreen/lightgreen SL/SL (same ring on both legs) and metal H 000819, which was sighted at 24 locations in 7 countries in the period 10.06.2004 - 19.05.2013. Of the marked group, this one was the most frequently observed specimen in the most different areas, as presented in Table 1.

Table 1. Resightings and known trips of the Eurasian Spoonbill (*Platalea leucorodia* L., 1758) lightgreen/lightgreen SL/SL in the period 10.06. 2004 - 19.05.2013. (Based on the data kindly sent by Dr. Tamar Lok from Werkgroep Lepelaar/The Netherlands).

No. crt.	Place of the bird sighting	Geographic coordinates	Date	Elapsed time (days)	Travel distance (km)	Observer
1	Prundul cu Păsări, R.B.D.D., Romania	44.35N 28.49E	10.06.2004	0	0	Kiss J. Botond
2	Desa, Romania	43.80N 23.05E	14.07.2008	1495	468	Karca Klassch
3	Foggia, Zapponeta, Italy	41.57N 15.88E	22.11.2009	496	638	Alonso Ferri
4	Banc d'Arguin, Baie d'Arguin, Mauritania	20.35N 16.15E	10.12.2010	383	3810	Stef Waasdorp
5	Zürzach, Bottstein Switzerland	47.57N 8.22E	11.06.2011	183	3715	Daniel Stenz & coll.
6	Zürzach, Klingnau, Switzerland	47.57N 8.23E	13.06.2011	2	2	Marc Baumann
7	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	18.06.2011	5	188	Ulrich Mahler
8	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	23.06.2011	5	0	Remo Weck
9	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	23.06.2011	0	0	Uwe Speck
10	Hessen, Bingheimer Ried, Germany	50.37N 8.87E	04.07.2011	11	128	Stefan Stubing
11	Hessen, Bingheimer Ried, Germany	50.37N 8.87E	05.07.2011	1	0	Thomas Sacher
12	Hessen, Bingheimer Ried, Germany	50.37N 8.87E	11.07.2011	6	0	Thomas Sacher
13	Hessen, Bingheimer Ried, Germany	50.37N 8.87E	12.07.2011	1	0	Thomas Sacher
14	Hessen, Lampertheim, Germany	49.58N 8.45E	04.09.2011	54	0	Peter Erlemann
15	Franche-Comte, Granges-le-Bourg, France	47.55N 6.60E	12.05.2012	251	265	Emilien Vadam
16	Baden-Württemberg, Waghbachniederung, Germany	49.27N 8.52E	20.06.2012	39	238	Rainer Steinhausen
17	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	22.06.2012	2	12	Herr Friedler
18	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	26.06.2012	4	0	Stefan Albat
19	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	05.07.2012	9	0	Stefan Albat
20	Baden-Württemberg, Waghauzel, Germany	49.25N 8.52E	23.09.2012	80	0	Andreas Deissner
21	Albufera NP, Valencia, Spain	39.20N 0.20E	15.10.2012	22	1308	Toni Alcocer
22	Guadalhorce river, Málaga, Spain	36.42N 4.34E	19.10.2012	4	475	Jose Miguel Ramirez
23	Baden-Württemberg, Waghbachniederung, Germany	49.27N 8.52E	18.05.2013	211	1752	Andreas Deisner
24	Hessen, Bingheimer Ried, Germany	50.37N 8.87E	19.05.2013	1	130	Thomas Sacher & Co.

Based on the known points, the itinerary followed by this bird is sketched on the map in Fig. 1. We must note that the lines between the different points do not necessarily mark the true flight paths taken, but only the minimum distances between successive pairs of known positions.

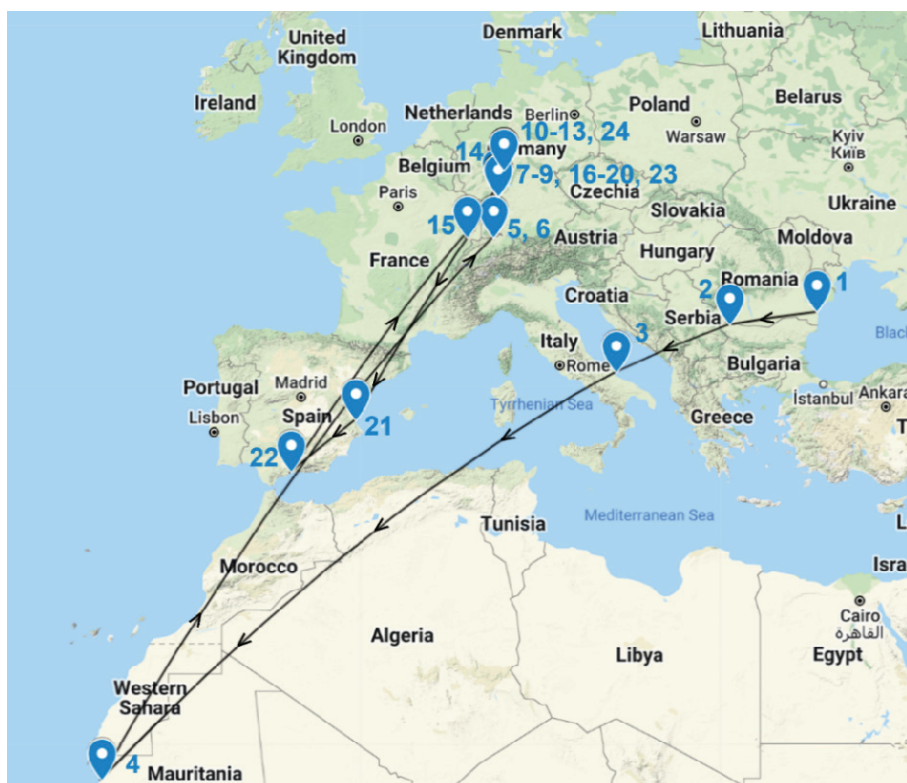


Figure 1. Itinerary followed by the spoonbill (*Platalea leucorodia* L., 1758) lightgreen/lightgreen SL/SL during the period 10.06.2004 - 19.05.2013. Arrows and lines symbolise minimum distances between successive observations, listed in Table 1. (Sources: Google Maps, processed Kiss Mózsi).

It is considered that Eurasian Spoonbills in Europe are divided into three somehow distinct populations, the East Atlantic, the Central/Southeast European one, and the Azov/Caspian population, these differing in their distribution and ecology, particularly during the breeding season, furthermore, most specimens in the different populations use quite different flyways and wintering areas as well. The delimitation is not exclusive, but allows certain intertwining for both subpopulations, especially in the wintering grounds, but accidentally also in the nesting area (TRIPLET et al., 2008). According to other authors there are four separate European breeding populations of spoonbills: the East Atlantic, the Central European, the Southeast European and the East European-Azov/Caspian population (SMART & AZAFZAF, 2010; PIGNICZKI et al., 2016). There has been a more pronounced rigidity of coastal populations in the Netherlands, which rarely penetrated in the interior of the continent (GLUTZ & BAUER, 1987) or into the Mediterranean (SMART et al., 2007). In recent decades however, these interferences seem to be more frequent (BLANCHON et al., 2017; DE LE COURT & AGUILERA, 1997; KISS et al., 2019; KRALJ et al., 2012; PIGNICZKI, 2017; PIGNICZKI & KARCZA, 2012; PIGNICZKI et al., 2016; SMART & AZAFZAF, 2010; SPIESS, 1933).

The extent of these exchanges is still unknown, but the existence of this phenomenon may indicate a possible geneflow between populations of Southeast Europe and, now that we discovered the unusual movements of this individual, also between populations from Southeastern to Western Europe. Our studied individual, followed also this trend. This bird ignored the traditional route of spoonbills from Eastern Europe (ei. the *Via Pontica* route), and headed west, entering the *Via Adriatica*, to use a mixed path later (LOK, 2013; LOK et al., 2015; LOK et al., 2017; TRIPLET et al., 2008), and probably settled in Western Europe, however, the areas, where it was observed are not indicated as breeding sites of spoonbills (EBBA2, 2022). This individual met spoonbills of other populations in wintering areas or in stopover sites.

The known movements of the monitored spoonbill do not follow the route outlined by the rest of specimens marked in Romania in the last century. Instead of the Balkan-circum-eastern-Mediterranean route (*Via Pontica*), it flew to the west, following the migration route of the Central European spoonbills (*Via Adriatica*) in 2008 and 2009 (see positions 1-2-3 in SW Romania and Italy). For at least one season, it spent the winter in Mauritania in 2010, the wintering ground frequently used by breeding spoonbills from the east-Atlantic coast of Europe (position 4). There is no information that in the spring he returned to his native Dobrogea area, so it probably joined the East Atlantic population. The idea that this individual bred at least once, possibly twice, in north-western Europe (positions 7-14) seems possible. It was observed along the route of the post-breeding migration of the East Atlantic population (positions 4, 21-22). All these aspects document a change of the phenology of the respective bird and the spectacular transition from the population of South-Eastern Europe to the East Atlantic one. Through the intertwining of populations and the following geneflow, the idea of two or three populations turns into the idea of one large metapopulation, with heterogenous

migratory patterns. Massive bird markings, deployment of satellite transmitters and/or genetic research is needed for edifying evidence of this situation.

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