

Green Balkans Track the Recovery of the Lesser Kestrel as a Breeder in Bulgaria Using 5g PTTs

Simeon Marin, Gradimir Gradev, and Pavlin Zhelev have been working for Green Balkans for years – one of Bulgaria’s biggest nature conservation NGOs. Simeon was one of the founders of Green Balkans, being an active member of the Organization since its establishment in 1988. Gradimir and Pavlin have been part of the society for more than 15 years – first as volunteers and later as members of the professional team of the Organization. Currently, the three of them are part of Green Balkans’ project “Lesser Kestrel Recovery,” implemented with the support of the LIFE program of the European Union.

The Lesser Kestrel (*Falco naumanni*) is one of the smallest falcon species found in Bulgaria and Europe. Although these graceful falcons were widespread in the mid-1990s, by the close of the century, their population in all European countries suffered a significant decline. Thus, the Lesser Kestrel went extinct as a breeding species in Bulgaria. The last confirmed breeding of Lesser Kestrels was recorded by Green Balkans in the late 1980s. Since then, there have been only sightings of vagrant and non-breeding individuals. Therefore, in the latest edition of the Red Data

Book of Bulgaria, the Lesser Kestrel is listed as a critically endangered species (CR) in accordance with the IUCN criteria.

Considering all of this, the conservationists from Green Balkans launched a program aimed at reinforcing and restoring the breeding of the species in Bulgaria. The applied approach

is based on translocation of ex-situ hatched juveniles from Spain. The subsequent release into the wild is done through a Lesser Kestrel Release and Adaptation Module (the so called "hacking facility"), developed according to the design elaborated by the Spanish organization DEMA – a partner within the project. Within a specialized project funded by the LIFE program of the European Union, more than 200 chicks were released into the wild in the period 2013–2015. Thus, the species recovered as a breeder in Bulgaria and the first colony seen in decades was recorded in Sakar SPA (BG0002021), part of the Natura 2000 Ecological Network.

Green Balkans tagged individuals with satellite transmitters to track the adaptation of the birds from the newly established colony and identify their hunting grounds, dispersal areas, roosting sites, migration routes, and wintering habitats. Given the small size of the Lesser Kestrels of only about 130–150 g, the team considered 5g Solar PTT backpacks to be the most suitable devices for tagging the individuals. These transmitters do not exceed 3–4% of the body weight of the birds tagged; hence, they do not affect the activity and the behavior of the tracked Lesser Kestrels. Such devices were used for the first time in Bulgaria, as these were the smallest birds tracked through satellite transmitters.

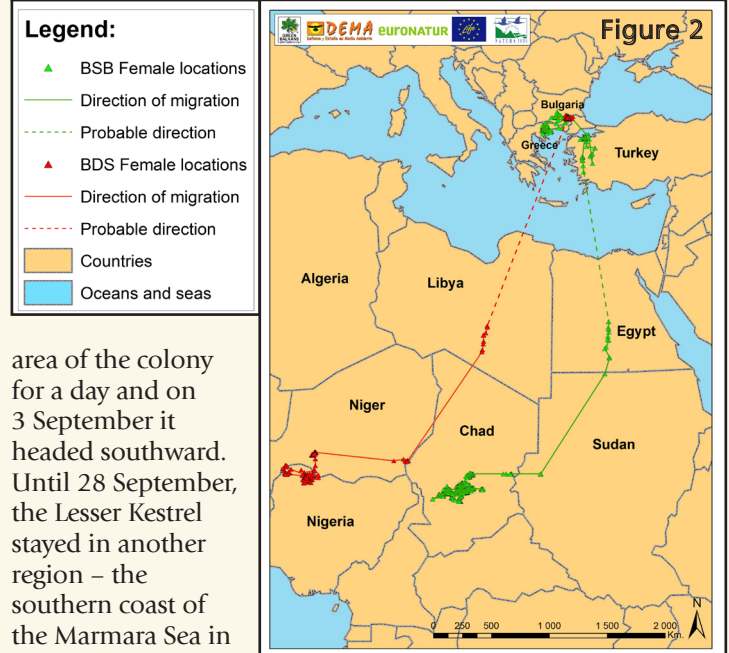
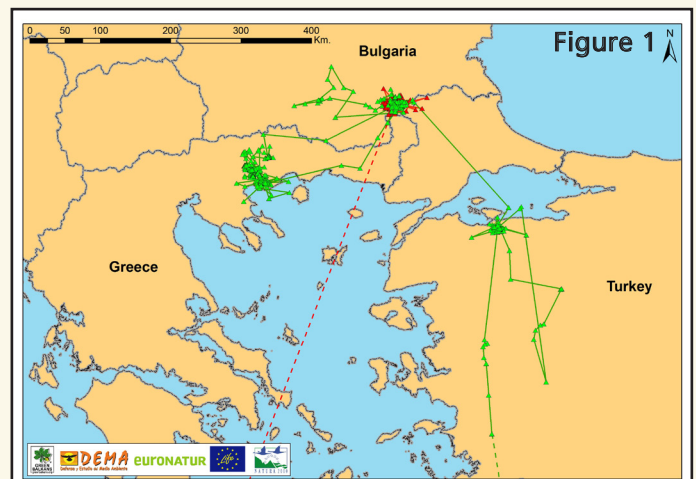
For the purpose of these studies, 4 PTTs were used in 2015. Detailed data were collected only for two of the birds tagged, providing information about the breeding period, pre-migration vagrancy, migration routes, and wintering

grounds. These were two female individuals from breeding pairs, banded with orange PVC rings with black inscriptions - BSB and BDS. In total, more than 2000 positions from various parts of the Balkan peninsula and Africa were recorded. The two birds demonstrated relatively different behavior in the post-breeding period.

BSB showed significant pre-migration vagrancy and left the colony relatively early, spending the period of 16 July – 2 September 2015 in northern Greece (Figure 1). On-site inspection carried out by the team recorded concentration of up to 10 more individuals of this species. The bird returned to the



A Lesser Kestrel banded with color and metal ornithological rings.



Legend:

- ▲ BSB Female locations
- Direction of migration
- Probable direction
- ▲ BDS Female locations
- Direction of migration
- Probable direction
- Country
- Oceans and seas

area of the colony for a day and on 3 September it headed southward. Until 28 September, the Lesser Kestrel stayed in another region – the southern coast of the Marmara Sea in Turkey, then headed to Africa (Figure 2). It settled to overwinter in Chad. The longest recorded distance traveled between two positions of this individual was 1307 km within 46 hours, during the period 28 – 30 September, when BSB migrated between Turkey and Egypt.

BDS launched its migration on 15 September heading directly southwards to Africa (Figure 2). Forty-nine hours later, the bird was already in Libya, 1921 km away from the location of the last recorded position. Perhaps the bird had traveled an even longer distance, but it cannot be confirmed if it had flown straight across the Mediterranean or followed the coastline. This bird overwintered in the border area of Nigeria and Niger.

Green Balkans is excited to continue the tracking project by tagging two more Lesser Kestrels in 2016.



Having done the calibration, now it's time for tagging.

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