

*On the Distribution of the Otter (*Lutra lutra* L.) in Nature Park "Strandzha" (Bulgaria)*

Dilian G. Georgiev^{*}

University of Plovdiv "Paisii Hilendarski", Faculty of Biology, Department of Ecology and Environmental Conservation, 24 Tzar Assen Str., BG-4000 Plovdiv, BULGARIA

*Corresponding author: diliangeorgiev@gmail.com

Abstract. A total of 18 transects near rivers and streams of different sizes in the area of "Strandzha" Nature Park were studied. The otter was found out in 92% of the studied transects of optimal habitats. It can be assumed that the total number of otters in "Strandzha" Nature Park is 60-70 individuals.

Key words: Otter, Balkans, distribution.

The mountain regions of Bulgaria are not so favorable areas for the European Otter (*Lutra lutra* L.) providing mainly temporary usable habitats to the species, and probably low food resources (Georgiev, 2005; 2006). However the region of Strandzha Mts. situated at SE Bulgaria is consisted of low elevated hilly areas close to the Black Sea Coast, and has very suitable river habitats usable for the otters throughout the year (Georgiev, 2005).

Two previous studies considering the otter distribution in the nature park were carried out: the first by Spassov (2007), and the second by Natchev et al. (2015). However first study was never published and the second was aimed mainly on the otter diet and did not use the "standard" monitoring method of Mason & Macdonald (1986).

This short note is aimed on providing current distributional data for this species in the protected area of the Nature Park "Strandzha" in Bulgaria as a base for future

monitoring proposing particular transect localities.

The study was carried out during early June of 2021 at the largest rivers in the area, providing permanently inhabitable habitats for the species. The "standard" otter monitoring method of Mason & Macdonald (1986) accepted and for Bulgaria was used. This method for otter population monitoring was developed for rivers where 600 m lengths (transects) of river bank are selected at intervals of 5-8 km and searched for evidence of otter presence. If otter presence is detected the transect walk is stopped. If there are no any signs of otter presence in the whole 600 m bank length, the sample is considered "negative". Otter signs (spraints, footprints, food remains) were localized using GPS receiver.

A total of 18 transects near rivers of different sizes in the area of "Strandzha" Nature Park were studied. Photos and GPS files for all studied areas, as well as an Excel

file with a description of the points were created as database and given to the nature park authorities.

The otter was found out in 12 of a total of 18 studied transects (Fig. 1) of running waters. These were 66% positive sites. However, some of these studied habitats in which the species has not been registered were secondary, temporarily inhabitable ones. These were: a small river in Ahtopol Town, a karst stream in the Kovach Area, a small stream near the village of Evrenozovo and a small river near the chapel of St. Panteleimon near the village of Brashlyan. If they are excluded, the otter was found out in 12 of the 13 studied transects of optimal habitats - 92% positive sites.

Registrations of the species in the respective transects with their GPS coordinates:

8.6.2021, Silistar River, spraints, N42 01 20.8 E27 59 57.0; 9.6.2021, Veleka River, west

of the bridge at Sinemorets, spraints, N42 03 36.7 E27 57 59.3; 10.6.2021, estuary between Ahtopol and Varvara, spraints, N42 06 38.8 E27 54 44.4; 10.6.2021, estuary north of Varvara, spraints, N42 08 04.6 E27 53 49.0; 10.6.2021, a small river near the village of Brodilovo, spraints, N42 05 15.6 E27 51 08.3; 10.6.2021, Veleka River near the village of Brodilovo, foot prints on sand and mud, N42 04 53.8 E27 51 36.9; 10.6.2021, a small river in the village of Kosti, spraints, N42 03 29.7 E27 46 52.0; 10.6.2021, Veleka River near the bridge east of Malko Tarnovo, spraints, N42 01 40.7 E27 37 18.3; 10.6.2021, small river south of the village of Stoilovo, spraints and food remains (crabs), N42 01 00.1 E27 30 16.1; 11.6.2021, Mladezhka River, at a road bridge, spraints, N42 08 15.4 E27 26 28.4; 11.6.2021, Mladezhka River, near the village of Mladezhko, spraints, N42 09 10.6 E27 22 21.9; 11.6.2021, Mladezhka River, near the Izvora Cave, spraints, N42 09 04.1 E27 21 31.7.

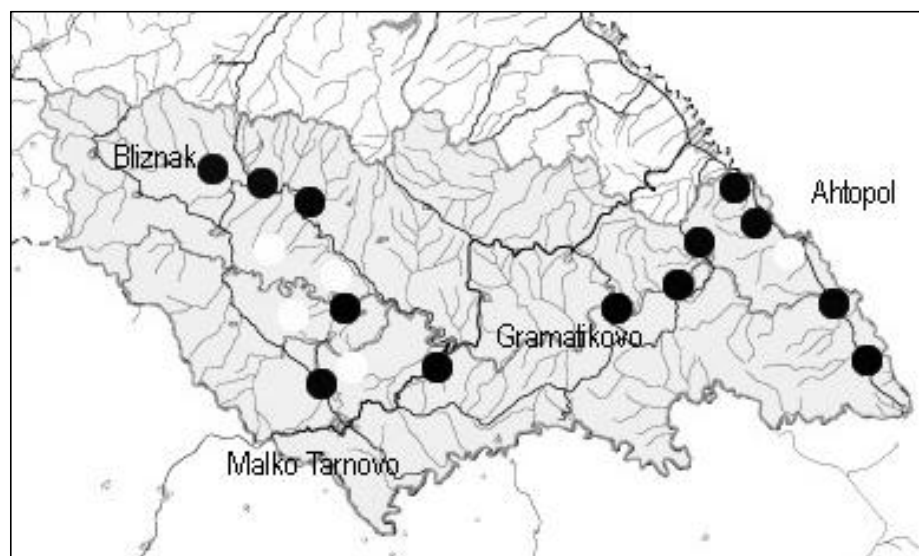


Fig. 1. Approximate transect position in "Strandzha" Nature Park during present study: black circles - positive transects, white circles - negative transects.

Species was not found at the Aidere River south of the village of Stoilovo. The possible reason could be the registered poaching: night fishing with nets and light. A report for these illegal activities was

submitted immediately to the "Strandzha" Nature Park authorities by the author.

According to the accepted methodology for monitoring of the species, its population in Strandzha Nature Park can

be considered as such in a very good condition, and extrapolate the maximum density of 0.3 individuals per kilometer of river section using the criteria of Georgiev (2008). On this base, the following number of specimens along the two large rivers in the park was calculated: Veleka River - 40-50 resident individuals and Mladezhka River - 10-15 resident individuals. If we add and the shorter river sections and small tributaries in the park, providing capacity for a permanent residence of otters, it can be assumed that the total number of otters in "Strandzha" Nature Park is 60-70 individuals.

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