ZooNotes 265: 1-4 (2025)
www.zoonotes.bio.uni-plovdiv.bg
ISSN 1313-9916

DOI: 10.69085/zn20250265

They are heading south – new data from the distribution of the Eurasian beaver (*Castor fiber*) in Bulgaria

PAVLINA MARINOVA[1]*, CHAVDAR CHERNIKOV[2], NASKO PETKOV[1], NIKOLAY NEDYALKOV[3], NIKOLAY NATCHEV[1,4]

[1]*Department Biology, Faculty of Natural Sciences, Shumen University, Universitetska Str. 115, 9700 Shumen, Bulgaria*
[2]*Zoo Razgrad, Severen blv., 7200 Razgrad, Bulgaria*
[3]*Unaffiliated scientists, Varna, 9000, Bulgaria*
[4]*Unit for Integrative Zoology, Department of Evolutionary Biology, Faculty of Life Sciences, Vienna University, Djerassiplatz 1, A-1030 Vienna, Austria*

Abstract. We report on a case of a wild specimen of Eurasian beaver (*Castor fiber*) was detected south from the city of Razgrad (North East Bulgaria). To date this is the southernmost area on the River Beli Lom, where the newly established Bulgarian beaver population had been registered. One young adult female specimen was rescued from a shaft in the spring of 2025. The specimen was palpated and inspected via X-ray for sexing and full blood tests were performed. The female beaver was in general good condition. The river section, where the animal was captured, was observed in details for signs of habitation of beavers and a number of gnawed trees were found. We recorded both newly impacted stems, as well as much older teeth marks (probably one or more years back in the time). The investigated spot represents a bio-corridor for the beavers as more gnawed trees were detected further south on the stream of Beli Lom River. We propose that the Bulgarian beaver population may reach the watershed of Kamchia River and in the near feature the beavers may cross the lower Eastern Balkan ridges and will expand in south Bulgaria.

Key words: *distribution, zoogeography, radiation, Rodent, ecology, bio-corridor*

Introduction

In the early months of 2021, first data on recolonization of the Eurasian Beaver (*Castor fiber*) in Bulgaria were published (Kodzhabashev *et al.* 2021, Natchev *et al.* 2021). To date much more information was collected and the current distribution and origin of the Bulgarian beaver population was studied in more details (Kodzhabashev 2022; Kodzhabashev *et al.* 2023; Bobeva *et al.* 2025). The beavers seem to successfully colonies the tributaries of the Danube River and are radiating in the east-west direction, but also toward the Balkan mountain - e.g. Yantra River in the region of Byala (Kodzhabashev 2022; Kodzhabashev *et al.* 2023). In the present study we report the radiation of the species along the River Beli Lom from the region of Razgrad. Additionally, we provide some data concerning the status of a captured female specimen and the potential bio-corridor of the species toward the watershed of Kamchia and Provadiyska Rivers.

Material and Methods

On the 26.03.2025, after a signal from local people, one female specimen of *C. fiber* was rescued from a shaft south of the city of Razgrad by the team of the animal rescue

Received: 14.04.2025, Accepted: 16.05.2025, Published: 18.05.2025
Университетско издателство "Паисий Хилендарски"
Plovdiv University Press "Paisii Hilendarski"

center. The bever was transported to a suitable artificial habitat and was examined by a veterinary team. The specimen was photographed, palpated and X-rayed. The river section, where the specimen was captured was meticulously inspected for signs of habitation of beavers. We used also a drone “Mavic MINI” to inspect the river from the air for detection of fallen trees and beaver dams. GIS database of the findings was prepared and a map was created using a topographic base map of ESRI and 3 layers from the database under the JICA project (from 1999, updated in 2006). The layers are with an accuracy of M 1:100,000) - for rivers, lakes and watershed boundaries.

Results

The animal (Figure 1) was weighting 18.6 kg. and was active, but relatively calm. There was no information how many hours the beaver spent in the shaft, however the medical inspections reviled general good condition of the female.

Fig. 1. Female specimen of *Castor fiber* rescued from a shaft south of city of Razgrad in the spring of 2025.

The veterinary biochemical standard investigations reviled that only the “Crea” was slightly increased - 76.9 (17-70 normal), “AMY” at 2947 and the “BUN/CREA” at 91.039 were also high. The high level of creatinine and the low levels of phosphorus may indicate on stress reaction. All other parameters were normal. The hematological investigation showed that the “P-LCR“ at 10%, LYM#” at 1.09 and “LYM%” at 9% were low, ”GRA#” at 10.51 and “GRA%” at 86.9%, “MCH” at 33.4, “MCV” at 98.1 and “MPV” at 6.7 were high. All other parameters were in the norm. The hematological parameters indicated on regeneration phase after infection or stress.

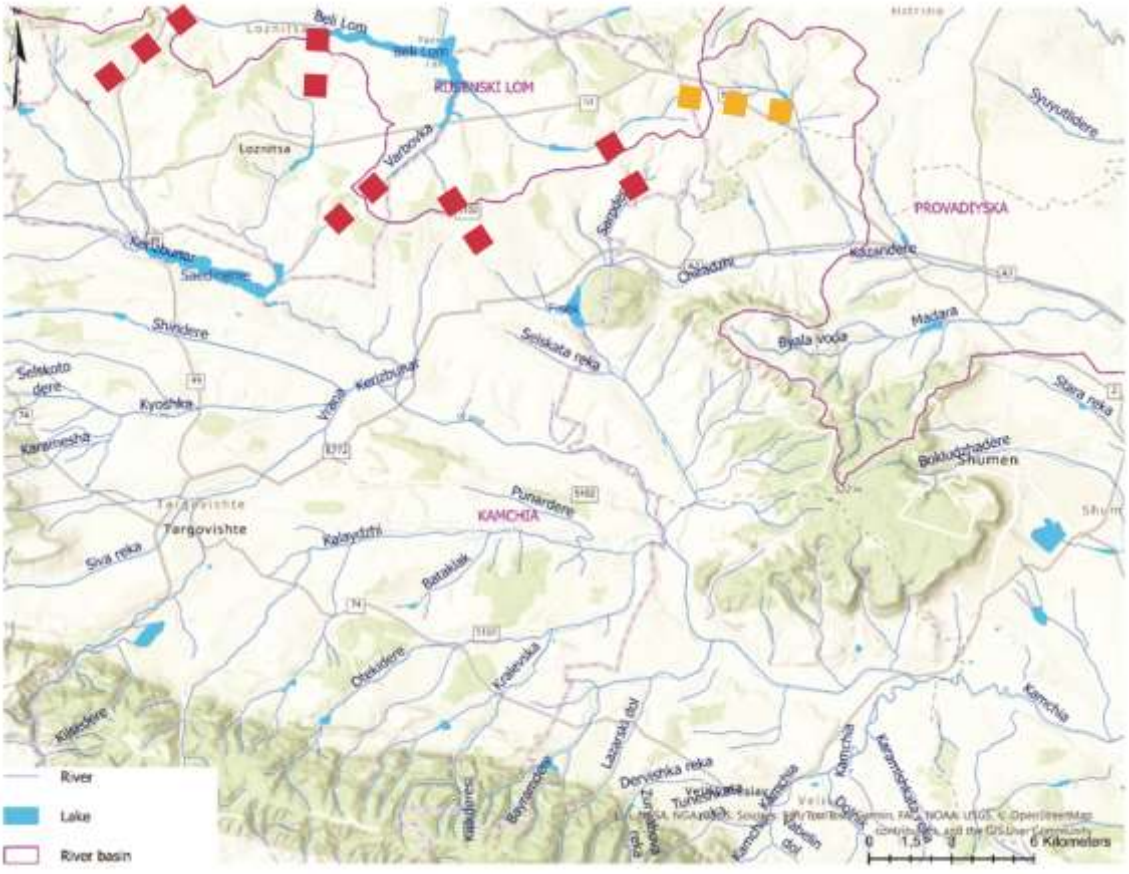

Fig. 2. Map of the watersheds of the Rivers Beli Lom, Provadiyska and Kamchia; red dotted lines indicate possible migration routes between the basin of Beli Lom and Provadyiska Rivers; red dotted lines indicate the possible migration routes between the basins of Beli Lom and Kamchia Rivers.

Discussion

The terrain investigation of the area, where the female beaver was rescued, showed that this section of Beli Lom River was used for long time from the rodents as bio-corridor. High number of very old (probably from years), but also rather fresh gnawing marks were detected and documented about 2 km. along the river, but no dams or other signs of permanent presence of the beavers were found. This indicates that the beavers inhabit areas which are position southern from the city of Razgrad. The map on Figure 2 is demonstrating that the tributaries of Beli Lom are in some areas only about several hundred meters away from the tributaries of Kamchia and Provadiyska River. We propose that in the near future the beavers will inhabit the watershed of Kamchia and this will allow for a migration in the watersheds of Aytoska and Tundja Rivers.

Acknowledgments. This work has been supported by the Bulgarian Ministry of Education and Science, Grant RD-08-113/05.02.2025.

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