



Ministry of natural resources and environment of the Russian Federation

Voronezhsky State Nature Biosphere Reserve  
named after V. Peskov

# Beaver scent mounds – attractive objects for another mammals



Aleksandr Mishin

Voronezhsky reserve is located in the center of European Russia, 500 km from Moscow. Its territory covers an area of 31,053 ha in the northern part of Usmansky pine forest, which is a forest island amid steppe and agricultural landscapes.

The main beaver habitats in the reserve are small rivers and swamp.

There are 61 species of mammals, 223 species of birds, 16 species of amphibians and reptiles in the reserve. Some of these animals use the same habitats as beavers.



Beavers create scent marks on the mounds of mud and plant remains or uneven ground. There are two sources of scent – castoreum and anal gland secret (Zavyalov, 2013, 2015).

Lures from castoreum attract six species of mammals (Korytin, 1979): siberian weasel (*Mustela sibirica*), least weasel (*Mustela nivalis*), stoat (*Mustela erminea*), European polecat (*Mustela putorius*), European pine marten (*Martes martes*), red fox (*Vulpes vulpes*).



The study was conducted in April – May 2017 and April – June 2018. At this period beavers make scent mounds the most actively.

We used Bushnell camera traps to observation of scent mounds. Camera traps were placed in beavers settlements on two small rivers.



	<b>2017</b>	<b>2018</b>
Locations	5	6
Trap-nights	234	135
Videos with all animals	384	1066
Videos without beavers	218	304

Camera traps registered 11 species of mammals (except beavers):

- mouse (*Apodemus sp.*)
- muskrat (*Ondatra zibethicus*)
- American mink (*Neovison vison*)
- European pine marten (*Martes martes*)
- otter (*Lutra lutra*)
- European badger (*Meles meles*)
- red fox (*Vulpes vulpes*)
- wolf (*Canis lupus*)
- European roe deer (*Capreolus capreolus*)
- moose (*Alces alces*)
- red deer (*Cervus elaphus*)

Also a lizard (*Lacerta sp.*), passerines (*Passeriformes*), ducks (*Anatidae*), waders (*Charadriiformes*) and common crane (*Grus grus*) were registered.



Species of animals that reacted to the beaver scent mounds:

<b>Species</b>	<b>Quantity of registrations</b>	<b>Sniffing</b>	<b>Marking</b>
Muskrat	1	1	0
Otter	8	5	2
European badger	3	1	0
Red fox	16	3	2
Wolf	1	1	0
European roe deer	60	10	0
Red deer	13	4	0
Moose	17	3	0







## Conclusions

- Beaver scent mounds attracted almost all species of large and medium sized mammals in the Voronezhsky reserve.
- Only mammals reacted to beaver scent mounds.
- Otters and probably other semiaquatic mammals may use beaver scent mounds as attractive objects for mediated communication by scent mark.
- Canidae also may use beaver scent mounds for mediated communication by scent mark.
- Attractiveness of beaver scent mounds can be used for studying the species composition of mammals.

Thank you for attention!

