Notes

Collapsing Burrow Causes Death of a Eurasian Beaver, *Castor fiber*

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The death of a Eurasian Beaver *Castor fiber* caused by a collapsing burrow in southeast Norway is reported. Two days of heavy rainfall had presumably caused the burrow to collapse, suffocating the animal.

Key Words: Beaver, *Castor fiber*, collapsing burrow, southeast Norway.

Several causes of death have been reported for Eurasian Beavers (*Castor fiber*) (Rosell et al. 1996; Nolet et al. 1997), but to our knowledge this is the first report of a beaver killed due to a collapsing burrow. The beaver was an adult solitary male (21.5 kg and 5 years old; age was determined by examining annual cementum and dentine layers of the first molar (van Nostrand and Stephenson 1964)). His mate died two months earlier, probably due to old age (18 years old). The animal was one of several radio tagged beavers that were followed during a field study in spring and summer 2000 in Telemark County, southeast Norway (59°25'N, 09°03'E) (see Campbell 2000). On the evening of 14 July 2000 it was noted that the pulse interval of the radio signal had increased. The signal is inversely related to the body temperature of the animal (Alterra 1999), thus a higher pulse interval indicated that the beaver had died. The dead beaver was located in the main part of a partly collapsed burrow (assessed to be relatively new), which was excavated four days later in order to find and retrieve the carcass (Figure 1).

Beavers dig burrows where banks are sufficiently high (Wilsson 1971; Żurowski 1992). A burrow usually consists of a single living chamber, a water basin, and a tunnel with exit below the water level (Wilsson 1971). The beaver was lying in the chamber (1 m long and 70 cm wide) of the collapsed burrow, facing towards the exit. The chamber was situated 210 cm from the water's edge, 80 cm below the surface of the riverbank, and 60 cm above the current water level. Apparently the ceiling of the chamber had collapsed on top of the beaver causing the death of the animal, presumably by suffocation. There was loose sand along the flanks of and underneath the body of the dead beaver. The last 10 cm of the beaver's tail was bent downwards into the sand and the right hind foot was crouched as if the beaver had been attempting to dig with it. The beaver had no external injuries and seemed to be in good condition.

FIGURE 1. The dead solitary adult beaver located in the chamber of a partly collapsed burrow.

The burrow was dug in sandy soil. In the week prior to the discovery of the beaver there had been two days with heavy rainfall in the area with 30.8 mm and 24.6 mm of rain, respectively (data from the Norwegian Meteorological Institute).

We conclude that the combination of heavy rainfall and a sandy soil had caused the burrow to collapse, therefore causing the death of the beaver. How prevalent this cause of death is in beavers is unknown. However, we expect that more field studies using radio telemetry, in areas where beavers dig burrows, could clarify this issue.

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