

MOOSE BEHAVIOR AT SALT LICKS

Irene A. Filus

Altai State Reserve, 659564, Yaylu, Russia

ABSTRACT: At a natural salt lick, moose were dominant in relation to marals; they occupied the best sites near the sources. Moose spent from 8 to 48 minutes at the salt lick; certain animals visited the salt lick up to 4 times a day and several times for a number of days. In spring and autumn, moose aggregated at the salt lick in large groups (up to 6 moose and 20 marals). They dispersed among 4 sources.

ALCES SUPPLEMENT 2: 49-51 (2002)

Key words: *Alces alces*, Kamga River, marals, minerals, salts, Teletskoye Lake basin, threat displays

The behavior of moose (*Alces alces*) at a natural salt lick was studied in 1978–1990. A mineral source is used by moose and marals (*Cervus elaphus*) throughout the year, particularly in April, June, and October.

STUDY AREA

The salt lick observed is situated at the left bank of the Kamga River (the Teletskoye Lake basin). The water of the springs has a high content of carbon dioxide (25.7 mg/l), which accumulates from deep underground sources. The water is fresh, hydrocarbonic chloride of the magnesium group, and, strictly speaking, is not salt lick water. The water attracts the attention of the animals by an increased content of dissolved salts.

METHODS

The animals visiting the salt licks were counted every 15 minutes in daytime, mainly in spring and summer. We recorded the number of adults, males, females, yearlings, and calves. Moose were individually recognized by coloration, molt stage, shape of antlers, and other characteristics. This method has an advantage over marking, which causes trauma and changes in behavior. During intervals between cen-

suses, behaviors were described. A 15-minute interval was assumed to be a single observation; we made 983 observations.

RESULTS AND DISCUSSION

Moose and marals visited the salt lick; the ratio of these species in the regions adjacent to the salt lick was 1:3, respectively. Paths cross the salt licks in various directions and are used by other animals. Ungulates use the salt lick throughout the year. The peak of moose activity occurs during spring through early summer in the transition to feeding on green plants and in summer during the rut. In late June, the number of visits by moose sharply decreased and remained low until the beginning of September (Fig. 1). During the daytime April–June, moose visitations to the salt lick increased from 1000 to 1100 hours (Fig. 2). Moose approached the salt lick fairly quickly and pricked up their ears for a short time, unlike the marals. The latter would wait for a long time, making sure there was no danger. Conflicts occurred only rarely when the animals approached each other at a distance of 0.5 meters, and they were resolved by threat displays (lowering of ears, approach, a sharp advance, and very rarely by flights). An episode was described when

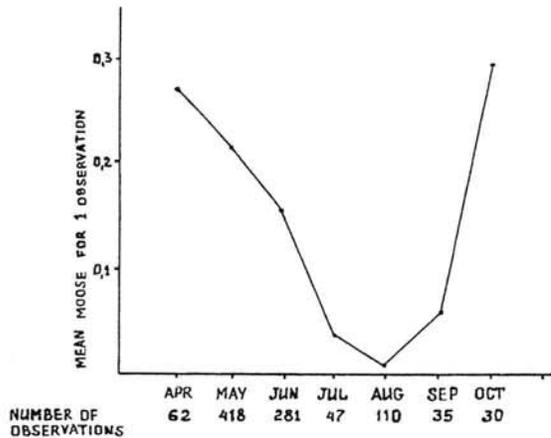


Fig. 1. The attendance of salt licks by moose in different seasons of the year (1978-1990).

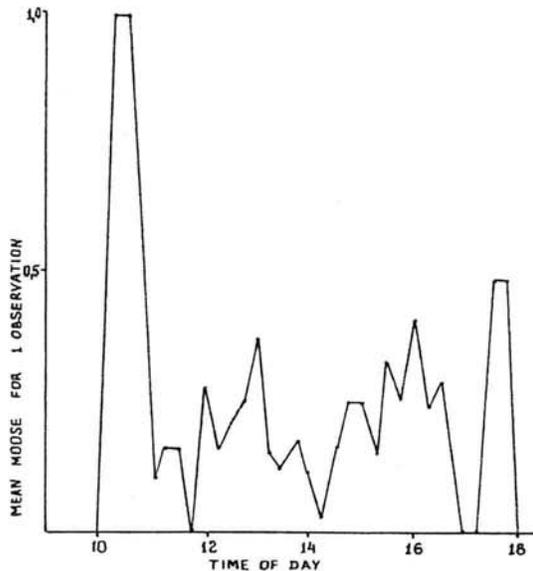


Fig. 2. The attendance of salt licks by moose during day-time (April-June, 1978-1990).

a bull moose went to the salt lick, followed by a group of marals, and did not respond to the marals that had sighted danger and escaped. The bull moose approached the source and started drinking.

At the salt lick, moose drink the water from the sources and have not been seen eating the earth. They depended on their sense of smell to find the water. As they approached the salt lick, they lowered their head and smelled the water while on the

move. The most preferable for moose were the plots where the spring water emerged out of the surface. Some moose drank the water from several sources. The main posture of the animals when licking was standing with their heads lowered. The moose would bend their legs very rarely. The animals would mainly drink in small sips and less often would lap. They spent 8–48 minutes ($n = 7$) at the salt lick. Some animals, after they had finished salt licking, did not leave the salt lick but bedded and fed at the bog and in the vicinity.

Certain moose visited the salt lick 2–4 times. Some cases were also recorded of animals visiting the salt lick for a long period. For instance, a 1-year-old male visited the salt lick between 2 and 26 March 1982. In 49 observations the salt lick was visited by 2 or more moose (the greatest number was 6), occurring randomly in 34 aggregations of animals. The constant groups of moose were mainly familial, including cows and young of the year, females with 1-year-old calves, and 1-year-old and 2-year-old calves of the same litter. Such groups also included a male, female, and 2 adult males. Conflicts occurred rarely (3 cases) when the animals approached 0–5 m. Threat displays (lowering of the ears, approach, or a sharp advance) of one animal was normally enough for the other moose to retreat several meters. Only in one case did moose in a group (a cow with a 1-year-old) drive away an individual male with a kick of the front leg; the individual moose had to move over to a neighboring plot. In some very rare cases, the fights between moose at the salt lick led to very serious consequences. An adult moose injured a 1-year-old male visiting the salt lick regularly in May 1982, inflicting heavy trauma to the vertebrae column. The young animal was found at the salt lick with his leg paralyzed. He was moving about with difficulty and subsequently was killed by a

bear.

In 33 observations, moose and marals were concurrently present at the salt lick, the greatest numbers being 11 marals, 6 moose and 20 marals, and 4 moose. Despite such aggregations, there were few conflicts between the animals (6 cases). To maintain an individual distance between moose and marals, a threat display on the part of a male was normally enough. A kick by the front leg normally followed if the deer approached the moose at a close distance. There were no cases of marals leaving the source when moose appeared or of waiting until moose left the salt lick. However, moose dominated at the salt lick; in fact, in the presence of moose, marals retreated to the least convenient plots of the salt lick. Only in 1 case did a 1-year-old adult male moose retreat from the source at the appearance of an adult maral male. Moose, dominant in relation to marals, occupied the best sites near the sources.