

Recording the Eurasian lynx (*Lynx lynx*) vocalization sequences on Snežnik plateau, Slovenia

BELEŽENJE SEKVENC OGLAŠANJA
EVRAZIJSKEGA RISA (*LYNX LYNX*) NA
SNEŽNIŠKI PLANOTI

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Vocalization of the Eurasian lynx (*Lynx lynx*) in the wild is very poorly documented in the literature. For this reason we are presenting herewith the records of calling sequences recorded by one of the authors (M.K.) on Snežnik plateau in the Northern Dinaric Mountains in southern Slovenia during the lynx mating period in 2008. They were recorded during the monitoring of radio-collared female lynx, which had been equipped with VHF-GPS-GSM collar (Televilt, Sweden) three weeks earlier. At the time of capture, she weighed 18 kg and her age was estimated at 3-4 years (I. Kos et al., unpublished data).

Around midday on 24th February 2008, in sunny weather, several lynx calls were heard while searching for prey remains of the radio-collared female. On that day, the VHF transmitter was not working, and it could not be ascertained whether it was the radio-collared female that was calling or some other lynx. On 28th February 2008, a lynx was heard calling during the setting of a box-trap for lynx by one of the authors (M.K.). It was approximately 14:00, and within the next half hour 6 series of 5-10 mew calls were recorded. Although the author was relatively far away from the calling lynx (about 2 km), he could clearly hear the calls through the forest canopy. Afterwards, the author approached the lynx and made more detailed notes on the vocalization between 15:00 and 18:30. From the forest road about 250 meters from the lynx, the following sequences of lynx calling were recorded:

- 16:47 – 7 consecutive mew calls
- 16:51 – 5 consecutive mew calls
- 17:11 – 7 consecutive mew calls
- 17:14 – 8 consecutive mew calls
- 17:16 – 9 consecutive mew calls
- 17:18 – 11 consecutive mew calls
- 17:20 – 4 consecutive mew calls
- 17:22 – 7 consecutive mew calls

On average, the sequences lasted 7.25 calls and were repeated every 5 minutes. On this day, the VHF transmitter was activated and it could be determined that it was another lynx, probably a male, that was calling, and not the radiocollared female which, however, was present close by. This day was again clear and windless. 5 days later, in the afternoon, the author went back to the vicinity of the radio-collared female to record any additional vocalization. However, no lynx calls could have been heard until the nightfall. It was a rainy day. The radio-collared female gave birth to two cubs on 12th May 2008. Since the Eurasian lynx gestation period usually lasts 67-74 days (Breitenmoser et al., 2000), the successful mating must have taken place between 28th February and 6th March; this includes the day when the vocalization was recorded (28.2.), or in the following days.

According to the observations made in captivity, the Eurasian lynx acoustic repertoire includes about 10 – 12 signal types (Peters 1987). While most of the signal types are used in close range communication, the mew is a long-distance call. Peters (1987) argued that this type of vocalization occurs in various behavioural contexts, but that main calling activity is during the mating season, when it is used by males and females and serves to bring the partners together for mating. Such function can also be concluded on the basis of observations from the wild given above. Although very scant amount of data exists, it seems that such calling can be important for the partners to meet during the short oestrus period of females (which lasts for about three days – Kos et al., 2005). As also observed in our case, such calls are effective over distances of several kilometres. In this respect we have to draw attention to possible detrimental effects of artificial noise in the environment, such as from highways with heavy traffic, which could hamper intraspecific communication, and in combination with habitat fragmentation perhaps even affect the lynx's reproductive success.

Literature

- Breitenmoser U., Breitenmoser-Würsten Ch., Okarma H., Kaphegyi T., Kaphegyi-Wallmann U., Müller U.M. (2000): Action plan for the conservation of the Eurasian lynx in Europe (*Lynx lynx*). Council of Europe Publishing, Strasbourg, 69 pp.
- Kos I., Potočnik H., Skrbinšek T., Skrbinšek Majić A., Jonozovič M., Krofel M. (2005): Ris v Sloveniji: strokovna izhodišča za varstvo in upravljanje, 2. edition. Oddelek za biologijo, Biotehniška fakulteta, Ljubljana, 272 pp.
- Peters G. (1987): Acoustic communication in the genus *Lynx* (Mammalia: Felidae) – comparative survey and phylogenetic interpretation. Bonn. zool. Beitr. 38(4): 315-330.