

Analysis of vocal rutting activity across populations of red deer (*Cervus elaphus*): effects of rut phase, time of day and ambient temperature



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IDEA:

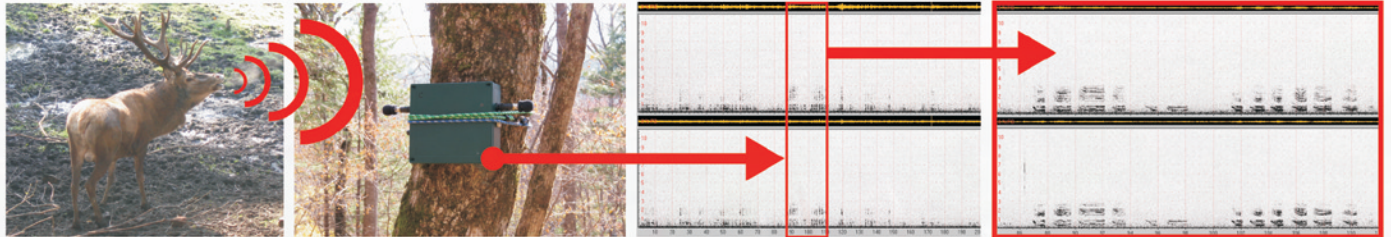
In polygynous red deer a prolonged male rutting vocal activity is a prominent part of reproductive behaviour.

We compare male vocal rutting activity in three populations and estimate effects of environmental factors on vocalization.

METHODS:

- September-October 2015
- 5 SongMeter 2+ automated recording devices
- 5 min/hour, 24 hours/day, 60-70 days per each device.
- three populations of red deer: Ussury (*C.e. xanthopygus*, 2 devices), Lipetsk, (*C.e. hippelaphus*, 1 device), Kostroma (*C.e. sibiricus*, 2 devices).

Coordinates of sites →

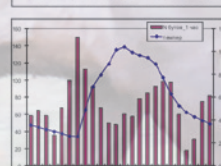
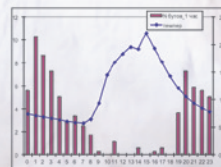
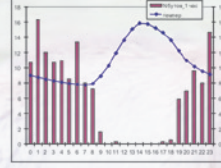
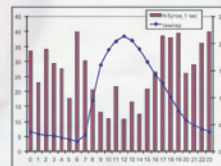


RESULTS:

Rut duration (Kostroma 1 sample)



Time of day effect



CONCLUSION:

In general, data of two different devices in the same population display very close results.

Rut period can be divided into 3 phases: beginning, active and end phase.

Environmental factors had:

- strong effects on vocal activity in Kostroma population (time of day, air temperature, humidity, cloud cover, atmosphere pressure);
- medium effects in Lipetsk population (temperature and humidity)
- the least in Ussury (time of day only).

Time of day had the strongest effect on vocal activity. Air temperature, humidity, cloud cover and atmosphere pressure had less effect on vocal activity. Precipitations and wind had no effect on vocal activity.

Factors, affecting vocal activity

