



From roar to bugle: variation of red deer (*Cervus elaphus*) rutting calls across native populations

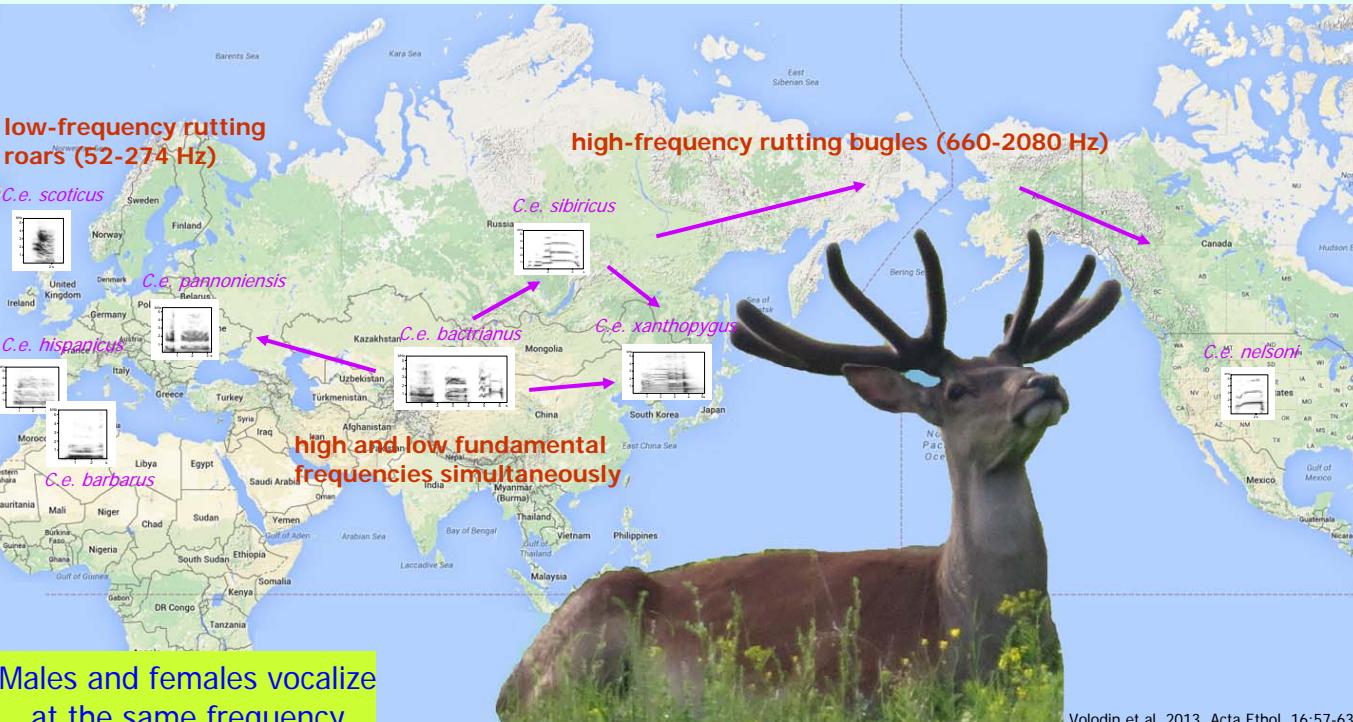


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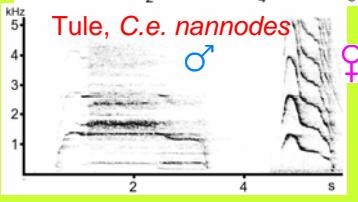
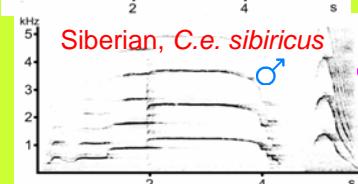
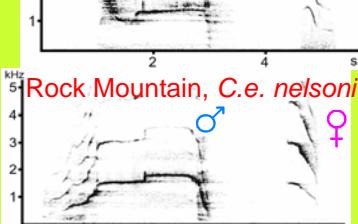
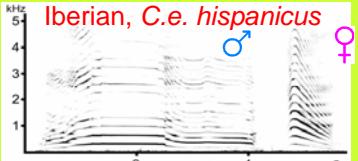
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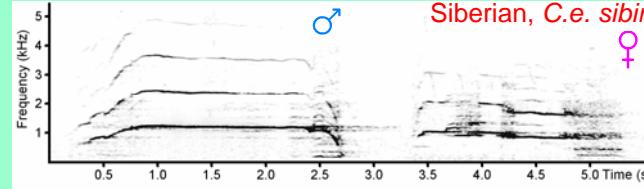
Males and females vocalize at the same frequency



Volodin et al. 2015, Acta Ethol. 18:19-29

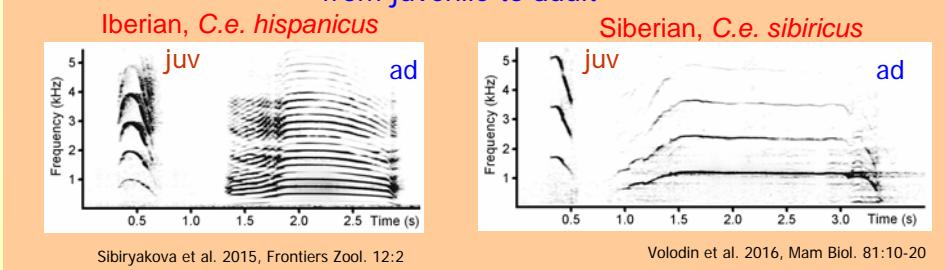


Females produce bugles, and males produce contact calls



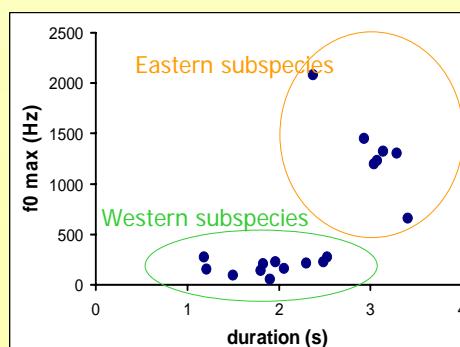
+ Rock Mountain, *C.e. nelsoni* (Feighny et al. 2006, J Mammal. 87:1082-1087) Volodin et al. 2016, Mam Biol. 81:10-20

Different ontogenetic pathways between Eastern and Western subspecies:
descending f0 from juvenile to adult non-descending f0



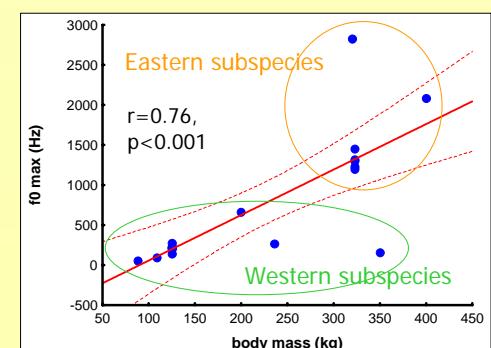
Sibiryakova et al. 2015, Frontiers Zool. 12:2

Volodin et al. 2016, Mam Biol. 81:10-20



Rutting calls of Eastern subspecies are higher and longer than in Western subspecies

Unusual for mammals,
body mass correlates positively
with fundamental frequency



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