

# Acoustic structure and individual identity in the distress and discomfort calls of neonate goitred gazelles and saiga antelopes



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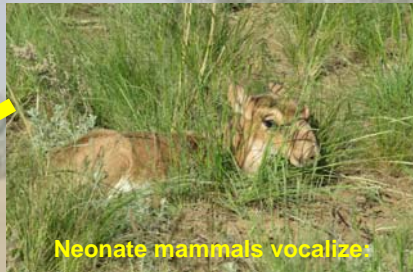


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## Goitred gazelle

## Saiga antelope



270 distress calls,  
36 neonates,  
manual recording



256 distress calls,  
25 neonates,  
(14 males, 11 females),  
manual recording

Uzbekistan,  
May 2008-2009,  
1-7-day neonates,  
oral calls



280 discomfort calls,  
24 neonates,  
(12 males, 12 females),  
manual recording

Kazakhstan,  
May 2014,  
1-2-day neonates,  
oral calls



196 discomfort calls,  
22 neonates,  
automated recording

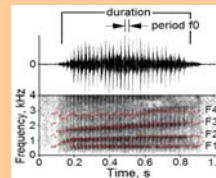
## Acoustics of distress and discomfort calls



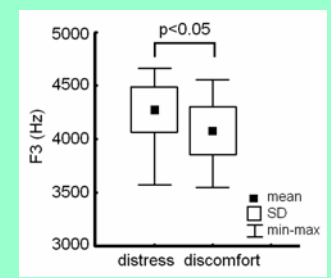
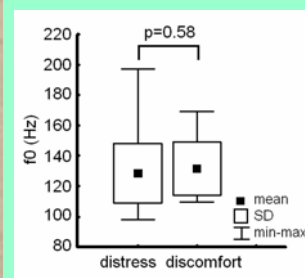
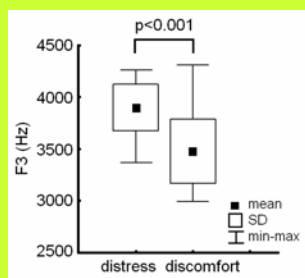
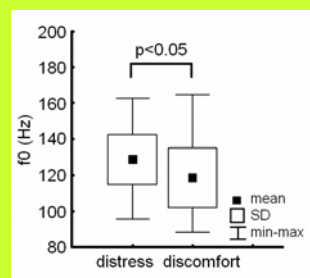
Avisoft-SASLab Pro



PRAAT



Duration,  
Mean f0  
Formants  
F1, F2, F3, F4

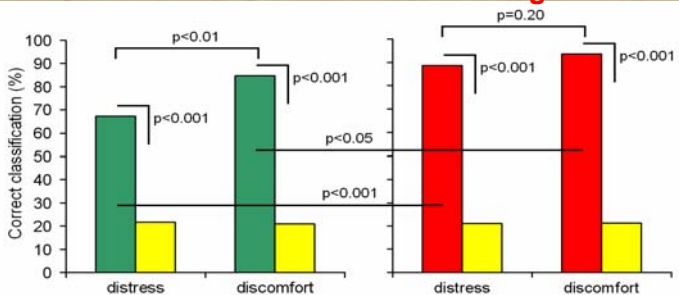


In gazelle, distress calls were higher in fundamental frequency (f0) and the 1st and 3rd formants than discomfort calls. In saiga, only the 3rd formant was higher in distress calls than in discomfort calls.

## Individuality of distress and discomfort calls (DFA)

Gazelle

Saiga



Actual value Random value

Higher vocal individuality in saiga neonates might result from their "follower" anti-predator strategy, as vocal individuality is crucial for mother-offspring communication in herds, whereas neonate goitred gazelle use a "hider" strategy that involves environmental cues.

In gazelle, calls were more individualistic at hunger than at capture. In saiga, individuality did not differ between capture and hunger contexts.