Vocal behaviour of rutting male goitred gazelles (Gazella subgutturosa) reveals mate quality

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A nonhuman mammal with sexual dimorphism of enlarged and descended larynx

**MAIN IDEA:**

**Enlarged larynx**

**Enlarged vocal tract**

**Low call fundamental frequency**

**METHODS**

**Audio**

- 124 rutting calls: roars, growls and grunts

**Anatomy**

- 2 adult male specimens were dissected
- Morphological reconstruction was done

**RESULTS**

- 50% enlargement of the larynx during the rut
- The external larynx high in live captive animals:
  - 4-years-old male “Galamus”:
    - 75 mm (non rut) - 120 mm (rut)
  - 2-years-old “Bambi”:
    - 70 mm (non rut) - 100 mm (rut)

- 295±25.3 mm
- 434±33.6 mm

Three rutting call types: roars, growls, grunts, produces ate chasing females or rival males

**CALLS ARE VERY SOFT!**

Audible at close distance, of 10-15 m

**Male Quality Attributes**

**Descended larynx** – apparent body size exaggeration

- Goitred gazelles – NO
- Calls are short-distance, so both females and rivals can see real body size of the caller

**Enlarged larynx** – Indicates testosterone status

- Goitred gazelles – YES
- Calls are soft, so this is visual rather than vocal key to male quality

Humans – YES
Humans – YES (Vocal key)

Supported by RFBR grant 09-04-00416