Midbrain auditory sensitivity in toads of the genus Bufo (amphibia - bufonidae) with different vocal repertoires

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South American male toads Bufo chilensis emit a release call in contact with other individuals and a soft amplectic call, B. spinulosus males emit a release call while isolated in breeding areas, and B. arenarum produces a release call plus an intense mating call. Release calls of the 3 species measure 72-86 dB SPL RMS at 20 cm in front of the animal and the mating call of B. arenarum is 84-87 dB SPL at 4 m. Audiograms obtained with multiunit recordings in the torus semicircularis (TS) show a low frequency region (LFR), centered at 352, 356 and 491 Hz, and a high frequency region (HFR), centered at 1199, 1161 and 1423 Hz, in B. chilensis, B. spinulosus and B. arenarum, respectively. Center frequencies (CFs) in the HFR are in gross correspondence with average dominant frequencies (DFs) of the vocalizations of these species. Best thresholds (BTs) in the HFR are similar between B. chilensis and B. arenarum while in B. spinulosus average BTs are 10.8 and 13.5 dB higher, respectively. The s