Independence of evoked vocal responses from stimulus direction in burrowing frogs Eupsophus (Leptodactylidae)

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Localization of a sound source is important for animals in mating contexts: females generally orient towards signalling males, and males can estimate the position and quality of potential rivals. In anurans, the effect of sound direction on evoked vocal responses has been studied in males of Rana catesbeiana, which alter their vocal responses depending on the location of the stimulus. The current study explored the effects of sound direction in Eupsophus calcaratus, a frog that calls from inside burrows having resonance that would hinder the localization of incoming sounds. The vocal responses of 11 males to synthetic imitations of the conspecific advertisement call broadcast from loudspeakers positioned in front, to the right and left from the burrow openings were similar in terms of call rate, duration and latency. The invariance of the vocal responses indicates that for burrowing male frogs engaged in chorusing behaviour, the specific location of an opponent does not alter the persi