Nonoptimal propagation of advertisement calls of midwife toads in Iberian habitats

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This study compares the efficiency of transmission of the advertisement calls of two species of midwife toads, Alytes cisternasii and A. obstetricans, in both native and non-native habitats in the Iberian Peninsula. Recorded calls of both species and pure tones were broadcast at ten sites native to either the relatively small A. cisternasii or the larger A. obstetricans. A large variation in the patterns of excess attenuation between localities was observed for calls measured at distances of 0.5 to 8 m from a loudspeaker. However, attenuation rates were higher for calls of both species in habitats of A. obstetricans relative to habitats of A. cisternasii. The calls of A. obstetricans experienced lower attenuation rates than those of A. cisternasii in both conspecific and heterospecific localities. Thus, although A. cisternasii occupies habitats more favorable for sound transmission, its advertisement call spectrum is not optimized for these habitats; the calls of A. obstetricans suffer