Title:	Examining the behavioural and acoustic adaptations of free-flying horseshoe bats in response to jamming.
Authors:	Krishna, Aditya
Keywords:	behavioural acoustic adaptations free-flying bats
Issue Date:	May-2020
Publisher:	IISERM
Abstract:	Echolocating bats are often found to fly in dense groups of conspecifics or heterospecifics and the multiple sounds produced create a complex auditory scene where an individual bat receives not only the echoes of their calls but also echoes from the calls of other bats. However, while several mechanisms have been proposed on how bats producing frequency modulated calls deal with this perceptual problem, studies in horseshoe bats who produce calls of long duration and constant frequency have yielded contrasting results. Here we investigated the effect of group size on the echolocation call parameters in mixed-species groups of Rhinolophus Euryale and Rhinolophus mehelyi. We quantified how often bats experience masking by conspecifics and heterospecifics while flying in their natural habitat. We found that although bats fly alone most of the time, they may still experience jamming significantly. We also investigated the variation in flight parameters with group size as bats navigated in the constrained environment. Passing and trailing are the most common behaviours exhibited during multiple-bat situations. Preliminary analysis indicates that they do not change their call parameters as they fly in groups. The analysis is limited by the inability to extract reliable call parameters. An improved parameter extraction workflow has been built, which will enable us to conclude whether there is variation in call parameters while flying in groups.
URI:	http://hdl.handle.net/123456789/1404
Appears in Collections:	MS-15

Files in This Item:

File	Size	Format	
MS15055.pdf	1.36 MB	Adobe PDF	View/Open

Show full item record