



December 8, 2023

Dear Editor of Methods in Ecology and Evolution,

I would like to submit the accompanying manuscript titled “baRulho: an R package to quantify degradation in animal acoustic signals”, for consideration as an Application in Methods in Ecology and Evolution. The R package described in this manuscript is available on CRAN and bioRxiv, but has not been submitted for publication elsewhere.

The package baRulho is the result of a collaborative discussion with many researchers who work in animal acoustic communication systems. In general, transmission of signals is regarded as an critical component of animal communication, but in practice is often left untested due to either the lack of appropriate software to analysis such data or confusion regarding theory behind the degradation metrics. The R package baRulho, described in our manuscript. is intended to simplify sound transmission experiments by providing open-source code as well as clear descriptions with visualizations and examples for every step of analysis. The most important contributions of the package include a complete workflow to facilitate sound transmission experiments including: 1) the ability to synthesize test sounds, 2) an objective means to manage sound recordings following field experiments, and 3) an analytical workflow to extract degradation measures of sounds. Therefore, this package combines all the computational tools researchers require to carry out sound transmission experiments.

I have submitted the package to rOpenSci and will received the reviews by december 31st. In addition, baRulho has undergone significant revision and checks on CRAN with multiple datasets, including the data we share in the supplemental materials. If considered for review, we suggest the manuscript could be evaluated by: Dr. Ole N. Larsen (onl@biology.sdu.dk), Dr. Lauryn Benedict (lauryn.benedict@unco.edu), and Darren Proppe (Darren.Proppe@tpwd.texas.gov).

Thank you for your consideration.

Kind regards,

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