ID: 815

Primary Contact:
Bole Pan, Columbia University
New York, United States

All Authors:
Bole Pan, Columbia University **(Primary Presenter)**
Young Mi Kwon
Elizabeth "Bliss" Bagnato-Conlin, Columbia University
Darcy Kelley, Columbia University

Session Type:
Contributed Poster Presentations

Select the best divisional affiliation for this abstract:
DAB - Animal Behavior

Select Topic: DAB - Animal Behavior:
communication

Title:
Ethology and evolution of courtship vocalization in Xenopus

Abstract:

Effective communication requires coordinated exchanges of socially appropriate signals. Yet, little is understood of how these exchanges have evolved. Xenopus laevis engage in vocal duets during courtship, which is uncommon in anurans. Males produce advertisement calls composed of two trills differing in rate and duration to attract female. Sexually-receptive females respond with rapping, a series of clicks. Males answer by shortening the slower trill whose rate can overlap that of rapping, and intensifying and extending the faster trill. While males across the Xenopus genus produce species-specific advertisement calls, not all are biphasic. Apart from X. laevis South Africa, it is unknown whether other species in the Xenopus genus perform duets. Herein, we investigate the occurrence and structure of courtship duets across four species in the L clade (X. laevis South Africa and Malawi, X. petersii, X. victorianus, X. poweri) of the Xenopus genus. Through acoustic recordings, we quantitatively characterized male-female vocalizations during courtship. We observed that males differentially modify their advertisement calls in response to conspecific rapping. For monophasic callers, calls are faster and intensified. For biphasic callers, the faster trills are intensified and either extended or more frequent. Interestingly, we observe that female conspecifics of biphasic callers preferentially rap during one of the two calls. Results support a model in which sexual selection may have acted through vocal exchanges to promote speciation in Xenopus.

Are you a student?:
Yes

Do you want to compete for the Best Student Presentation competition?:

Yes

In person meeting and/or SICB+:
Both SICB and SICB+

Primarily Undergraduate Institution:
Yes

Sign up to be a session chair:
No