

ELISHA PIDCOCK, SHERICE GEORGE, and RUTH A. CONLEY, Biology Department, Shepherd University, Shepherdstown, WV 25443. A Description of Broadband Hisses produced by *Princisia vanwaerbecki*.

Roaches of Tribe *Gromphadorhini* hiss during courtship and agonistic interactions. During agonistic interactions, hisses can convey an opponent's fighting ability, aggression level, and can establish dominance based on hiss frequency components (Clark and Moore, 1995). Courtship songs have been described as hisses in *G. portentosa* (Fraser and Nelson 1984) and as narrow band whistles in *Elliptorhina chopardi* (Suere and Aubin 2006) and *Aleuropoda insignis* (Comer and Conley 2016; Kanneh and Conley, 2013). In *G. portentosa*, those which did not hiss did not mate. Here we describe hisses of *Princisia vanwaerebeki*, which bear similarities & differences to those of *G. portentosa* and may indicate that properties of hisses are important for species recognition and mate choice. In this study, 10 male-female pairs of *Princisia vanwaerebeki* were audio-video recorded in a sound insulated booth during social behaviors, including courtship. Four pairs out of the 10 were observed as having successfully copulated. While a diversity of hisses were recorded, many hisses were found to be Broadband Noise (BBN). In this report, we focus on Broadband Noise (BBN) and Band-Limited Noise (BLN), some with frequency-modulated (FM) features. We measured duration, bandwidth, dominant frequency, and entropy. The sounds were categorized based on similar features throughout the sound (simple) or a change in features over time (compound). Most simple sounds were BBN. Compound sounds were primarily either a BLN-BBN or FM-BBN-FM. The FM-BBN-FM of the *P. vanwaerebeki* is similar to that of *G. portentosa*. Unique features to *P. vanwaerebeki* include the BLN-BBN and BBN with multiple distinct dominant frequencies. *This research was funded in part by a NASA Undergraduate Research Consortium of West Virginia Space Grant.*