

ABSTRACT

The following study is part of a larger study examining techniques that might be of use in the release program of the Puerto Rican Parrot (*Amazona vittata*), including marking, capturing, and radio-tracking. The portion of the study reported here documents the vocal behavior of *A. vittata* during the reproductive season and examines the possibility of using vocalizations to identify individuals, determine the sex of individuals and determine the location of an individual's breeding territory. Objectives of this study included: 1) cataloguing and categorizing the vocal repertoire of *A. vittata*, 2) determining whether the vocal repertoire was sex-specific and region-specific and 3) determining if an individual's vocal repertoire could be used to identify it. The vocal repertoire was characterized using a hierarchical method and 147 calls were described. The repertoire was found contain a high percentage (76 %) of graded calls. Evolutionary strategies that may explain the complexity of such a repertoire are discussed.

The vocal repertoire was found to be both sex- and region-specific. Characteristics analyzed included time and frequency parameters of sonagrams. Three methods were used to determine the feasibility of vocal recognition of individuals. These methods included: bird-call pairing, sonographic analysis, and linear predictive coding. Sonographic analyses in combination with linear predictive coding techniques show the most promise as tools in voice recognition of the parrot, however, further research will be necessary to determine how reliable voice recognition may be as a method for identifying individuals in the field.