

SHORT COMMUNICATIONS

VARIATION AND INDIVIDUALITY IN DISPLAY-FLIGHT CALLS OF MALE PIPING PLOVERS

HA-CHEOL SUNG AND EDWARD H. MILLER<sup>1</sup>

*Biology Department, Memorial University, St. John's, NL, A1B 3X9, Canada*

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<sup>1</sup> Corresponding author. E-mail: [tmiller@mun.ca](mailto:tmiller@mun.ca)

*Abstract.* In this first study of vocal individuality in the Charadriidae, we describe vocal variation in the endangered Piping Plover (*Charadrius melodus*). We studied a long-distance advertisement call given by breeding males during aerial displays, because functionally similar vocalizations of scolopacids are known to be individualistic. We analyzed recordings of 10 breeding males on Prince Edward Island, Canada, made in 1998 and 1999. Calls varied substantially among males: variance among males (in one-way ANOVAs) averaged 61% of the total variance across variables, similar to two scolopacid species. Males were distinguishable from one another even on the basis of single calls. However, discrimination ability (classification success) improved substantially when multiple-call averages per male were used; this approach more realistically represents how plovers experience one another's calls. Calls of two males changed little over days to weeks. In future work, individual identification can be improved by using averages from multiple calls. To improve techniques for application to the Piping Plover, we recommend research on marked individuals of common related species, which share many acoustic homologies.

*Key words:* acoustic variation, individuality, Piping Plover, vocalization.