

Lovette, I. J., G. Seutin, R. E. Ricklefs, and E. Bermingham. 1999. The assembly of an island fauna by natural invasion: Sources and temporal patterns in the avian colonization of Barbados. *Biological Invasions* 1, 33-41.

**Abstract:** By virtue of their isolation and depauperate faunas, oceanic islands offer unique opportunities to characterize the historical development of ecological communities derived from both natural and anthropogenic invasions. Barbados, an outlying island in the Lesser Antilles, was formed approximately 700,000 YBP by tectonic uplift and was then colonized by birds via natural invasion from the much older volcanic islands in the main Lesser Antillean arc. We investigated the timing and sources of the avian invasion of Barbados by determining levels of mitochondrial DNA (mtDNA) divergence between populations of eight bird species from Barbados and those on the nearby putative source islands of St. Lucia and St. Vincent. Although all Barbados populations appeared to be young relative to the geological age of the island, we found differences among species in their inferred times of colonization and we identified at least two sources of immigrants to Barbados. In contrast to these historical differences across species and populations, our characterization of the mitochondrial genotypes of 231 individual birds suggests that each island population represents the descendants of a single founding maternal lineage. Considered in concert, the results of this molecular survey indicate that the Barbados bird community is composed of species with different invasion histories, which in turn suggests that the island's community composition has changed repeatedly over its 700,000 year history.