INSIGHTS ON THE MATING STRATEGIES OF A VULNERABLE SEABIRD - MONTEIRO'S STORM-PETREL *HYDROBATES MONTEIROI* (ORDER PROCELLARIIFORMES)

Cristina Nava, Verónica Neves & Joël Bried
University of Azores

Mating strategies can have a major effect on the genetic variability and genetic structure of populations. In small and isolated populations, genetic diversity is expected to be low due to increased likelihood of inbreeding (occurring when pair mates are genetically related to each other). Populations with low genetic diversity have limited ability to deal with stochastic variability and, as a result, are more likely to be at risk of extinction. Therefore, the long-term conservation of vulnerable or threatened species requires an understanding of mating strategies in order to guarantee the success of protective measures (see e.g., in the case of translocations, Gregory *et al.* 2012).

Monteiro's Storm-petrel *Hydrobates monteiroi* on Praia Islet (Paulo Henrique Silva/SIARAM)

Having this in mind, last year, the seabird research team from the University of the Azores conducted a study aiming to assess population genetic structure and mating strategies of **Monteiro's Storm-petrel** *Hydrobates monteiroi*, to supplement the demographic survey conducted since 2000. Monteiro's Storm-petrel is a seabird endemic to the Azores archipelago. Although it was extremely abundant when the Portuguese settled in the Azores from the late 15th century onwards, human colonisation induced a strong demographic bottleneck (Monteiro *et al*. 1996). Current numbers are estimated at 250-300 pairs, known to breed only on two mammal-free islets - Praia and Baixo (Bolton *et al.* 2008). Breeding is also suspected on Flores and Corvo islands; birds have been heard prospecting and one adult has been observed in a cavity on Alagoa Islet (Flores), but proof of breeding is still lacking. For these reasons the species is classified as "Vulnerable" (BirdLife International 2016).

Installation of artificial nests on Praia Islet (Verónica Neves)

The study focused on Monteiro's Storm-petrels breeding on Praia Islet, the most important breeding colony for the species, holding at least 50% of the population. Fieldwork consisted of the identification of breeding pairs and their chicks each year, blood sampling for genetic analyses (molecular sexing and genotyping using microsatellite markers) and monitoring the breeding success, over a period of 16 years (2000-2015). This information was collected by different researchers and benefited from the financial support of a variety of organisations, including funding from the Seabird Group in 2015.

Based on these data, the extent of inbreeding and current levels of genetic diversity in the population of Monteiro's Storm-petrels was assessed. The results show that, even in strongly reduced populations, genetic diversity can be maintained and inbreeding does not necessarily occur. Monteiro's Storm-petrels pair randomly with respect to genetic relatedness and this strategy has no significant consequences for pair fecundity. Additional details of this research are given in a paper that is being prepared for publication in an international scientific journal.

A view of Praia Islet from Graciosa Island
(Paulo Henrique Silva/SIARAM)

The seabird research team from the University of the Azores would like to thank the Seabird Group for awarding the grant to CN in 2015. The Seabird Group funding also enabled the seabird team to install 14 additional artificial nests on Praia Islet; three of them were readily occupied by Madeiran Storm-petrels *Hydrobates castro* a few months later and hopefully Monteiro´s Storm-petrels will also start using them during the 2016 breeding season.

References

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