

# Papéis Avulsos de Zoologia

Museu de Zoologia da Universidade de São Paulo

Volume 54(19):293-298, 2014

[www.mz.usp.br/publicacoes](http://www.mz.usp.br/publicacoes)

[www.revistas.usp.br/paz](http://www.revistas.usp.br/paz)

[www.scielo.br/paz](http://www.scielo.br/paz)

ISSN impresso: 0031-1049

ISSN on-line: 1807-0205

## POTENTIAL GEOGRAPHIC DISTRIBUTION AND CONSERVATION OF AUDUBON'S SHEARWATER, *PUFFINUS LHERMINIERI* IN BRAZIL

ANA CECÍLIA P.A. LOPES<sup>1,2</sup>

MARCOS VINÍCIUS CARNEIRO VITAL<sup>3</sup>

MÁRCIO A. EFE<sup>1,2</sup>

### ABSTRACT

*Audubon's Shearwater* (*Puffinus lherminieri* Lesson 1839) is a tropical seabird occurring mainly between southern Canada and the southeast coast of Brazil. *Puffinus lherminieri* is considered Critically Endangered on the Brazilian Red List because it only occurs in two known localities, both of which contain very small populations. However, many offshore islands along the Brazilian coast are poorly known and the discovery of new colonies would be of considerable significance for the conservation of this species. The aim of this study was to estimate the potential geographic distribution of Audubon's Shearwater in Brazil, based on ecological niche model (ENM) using Maxent algorithm with layers obtained from AquaMaps environmental dataset. The ENM was based on 37 records for reproduction areas in North and South America. The model yielded a very broad potential distribution, covering most of the Atlantic coast ranging from Brazil to the US. When filtered for islands along the Brazilian coast, the model indicates higher levels of environmental suitability near the states of São Paulo, Rio de Janeiro, Espírito Santo and Bahia. However, *P. lherminieri* prefers islands in environments with warm saline water. Thus, based on the influence of currents that act on the Brazilian coast we can infer undiscovered colonies are most likely to occur on islands on coast of Bahia, Espírito Santo and extreme north of the Rio de Janeiro. These should be intensively surveyed while the islands south of Cabo Frio should be discarded. The existence of new populations would have profound effects on the conservation status of this enigmatic and rarely seen seabird.

KEY-WORDS: Audubon's Shearwater; Ecological niche model; Maxent; Brazilian coast.

### INTRODUCTION

Audubon's Shearwater, *Puffinus lherminieri* Lesson, 1839 is a tropical seabird, mainly distributed

across the Indian Ocean, throughout the northeast and central Pacific, including the Galapagos Islands (del Hoyo *et al.*, 1992). In western Atlantic, breeding in the island of the Caribbean Sea and Gulf of

<sup>1</sup> Programa de Pós-Graduação em Diversidade Biológica e Conservação nos Trópicos – ICBS/UFAL, Campus A.C. Simões. Avenida Lourival de Melo Mota, km 14, Cidade Universitária, CEP 57072-970, Maceió, AL, Brasil. E-mail: [aninha\\_verde@hotmail.com](mailto:aninha_verde@hotmail.com)

<sup>2</sup> Laboratório de Bioecologia e Conservação de Aves Neotropicais – ICBS/UFAL, Campus A.C. Simões. Avenida Lourival de Melo Mota, km 14, Cidade Universitária, CEP 57072-970, Maceió, AL, Brasil. E-mail: [marcio\\_efe@yahoo.com.br](mailto:marcio_efe@yahoo.com.br)

<sup>3</sup> Laboratório de Ecologia Quantitativa – ICBS/UFAL, Campus A.C. Simões. Avenida Lourival de Melo Mota, km 14, Cidade Universitária, CEP 57072-970, Maceió, AL, Brasil. E-mail: [marcosvital@gmail.com](mailto:marcosvital@gmail.com)