Corella, 1991, 15(2): 45–52

THE SHORT-TAILED SHEARWATER: A REVIEW OF ITS BIOLOGY

IRYNEJ SKIRA

Department of Parks, Wildlife and Heritage, 134 Macquarie St., Hobart, Tas 7000

Received 1 May 1990

The life history of the Short-tailed Shearwater *Puffinus tenuirostris* has been well documented since it first came to the attention of naturalists. Approximately 23 million birds breed in about 250 colonies in southeastern Australia from September to April. The Short-tailed Shearwater commences to breed when 4 to 15 years. During their completed lifetimes 27 per cent of all individuals produce no young and 19 per cent only one chick. Mortality is age-related with the median survival time for breeding being 9.3 years after first breeding. Many areas remain open for study, with a particular need for interdisciplinary research that includes oceanography.

INTRODUCTION

The Short-tailed Shearwater *Puffinus tenuirostris*, commonly known as the Tasmanian muttonbird, is one of about 100 species in the Procellariiformes. The diagnostic feature of the order is the external nostrils produced into tubes extending onto the bill. Other distinctive features are the hooked and plated bill, and the glandular part of the stomach which is greatly extended and produces the well known 'oil', actually wax esters (Warham 1977). Most members in this order have a distinctive musky odour.

The family Procellariidae is the most diverse group in the order and contains 61 species of petrels and shearwaters (Serventy *et al.* 1971). The majority are nocturnal and nest in holes, burrows or crevices, which serve to protect them and their young from predators. The genus *Puffinus* consists of 15 medium-sized species that are among the world's most numerous seabirds. Their high nesting densities and their fidelity to a particular site has meant that they are highly vulnerable to exploitation (Serventy *et al.* 1971). The harvesting of Short-tailed Shearwaters, or muttonbirding as it is known in Tasmania, is one of the best documented instances of seabird harvesting (Skira 1987, 1990).

The Short-tailed Shearwater was one of the first Australian birds to be banded in large numbers (Serventy 1957, 1961) and to be subjected to a long-term scientific study (Guiler *et al.* 1958). This study was commenced on Fisher Island in the Furneaux Group of Tasmania in March 1947 by Dominic Serventy formerly of the CSIRO (Serventy 1977) and continues to the present, 42 years later. Due to the long-term nature of the study together with the banding of some 92 000 birds in Australia, the life history of the Short-tailed Shearwater is one of the best documented in the world of any bird (Bradley *et al.* 1989, 1990; Serventy 1974; Serventy and Curry 1984; Wooller *et al.* 1988, 1989, 1990).

EVOLUTION

The Procellariiformes are an ancient group of birds that probably originated from aquatic birds present at the end of the Cretaceous, some 64 million years ago. The phylogenetic history of shearwaters is little known (Kuroda 1954). According to Olson (1985 p.211), 'most of the modern species-groups, or subgenera, of *Puffinus* were in existence by the Middle Miocene, and there has been very little morphological change within these lineages in 15 million years or so'.