

LARGE NUMBERS OF CAPE VERDE SHEARWATERS *Calonectris edwardsii* OFF SANTO ANTÃO, CAPE VERDE ISLANDS, IN JULY 2005

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Horssen, P. van 2006. Large numbers of Cape Verde Shearwaters *Calonectris edwardsii* off Santo Antão, Cape Verde Islands, in July 2005. *Atlantic Seabirds* 7(3): 121-126. During systematic sea watching in the period 20–27 July 2005 at Ponta do Sol, Santo Antão, Cape Verde Islands, a total of 6653 Cape Verde Shearwaters *Calonectris edwardsii* were counted. Largest numbers were counted 2–2.5 hours before sunset. Main flight direction was east. Numbers of Cape Verde Shearwaters were low 1–1.5 hours after sunrise, with the main flight direction being west.

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INTRODUCTION

Breeding distribution of the Cape Verde Shearwater *Calonectris edwardsii* is confined to the Cape Verde Islands. In 1988-1993, the population was estimated at c. 10,000 pairs, with main breeding colonies situated on Branco, Raso and Brava, and smaller colonies on Santiago, São Nicolau, Boavista, and Sal (Hazevoet 1995, Hazevoet *et al.* 1996). Cape Verde Shearwater is listed as 'near threatened' on the IUCN Red List (Birdlife International 2005).

Cape Verde Shearwaters are absent from the breeding region from late November until late February (Hazevoet 1995). Birds arrive in the colonies from late February to early March, egg laying and incubation takes place in May-July, and young fledge from late September to November (Hazevoet 1995). Behaviour is poorly known, but many aspects are presumably as in Cory's Shearwater. Daily activity during the breeding period is also poorly known and very little numerical information is available from any moment in the life cycle of the Cape Verde Shearwater. This paper presents the results of systematic land based counts on Santo Antão during the period 20–27 July 2005.

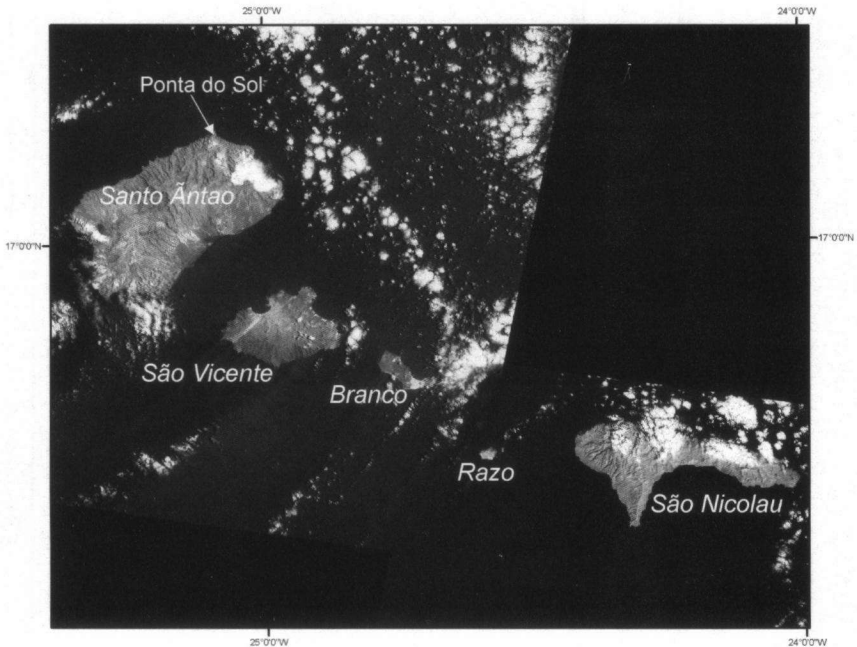


Figure 1. Location of Ponta do Sol, Santo Antão, Cape Verde Islands
Figuur 1. Ligging van Ponta do Sol, Santo Antão, Kaap Verdische Eilanden.

METHODS

Observations of passing Cape Verde Shearwaters were made from a vantage point at Ponta do Sol, Santo Antão ($17^{\circ}12'00''\text{N}$, $25^{\circ}05'23''\text{W}$). The observation point was located 500 m from the actual coastline at an altitude of c. 50 meters a.s.l. The village of Ponta do Sol is located on the northern coast of Santo Antão and constitutes the most northerly point of the Cape Verde Islands (Figure 1). Observations were made with 10x42 binoculars. All birds up to an estimated 750–1,500 m from the coastline were counted. Flight direction (either east or west) and behaviour (foraging, rafting, passing by) were noted. Nearly daily counts were made two hours after sunrise and three hours before sunset. Other hours of the day were subsequently sampled during the six day period, with 15 minute counts each hour (Table 1). Because of the banking behaviour in the northeast trade winds, birds flying east were more easily detected than birds flying west, who generally flew without banking.

Table 1. Periods counted, cloud cover, wind direction, wind force and visibility (F = fully counted; - = no wind or direction; empty fields indicate missing values).

Tabel 1. Teltijden, bewolking, windrichting, windkracht en zicht (f = volledig geteld; - = geen wind of richting; lege velden geven ontbrekende waarden aan).

Date	from	until	n 15 min periods	Total (hours)	cloud cover	wind direction	wind force	visibility
20-07	12:30	16:00	8	2,0				
	16:45	19:00	F	2,25	8/8	NO	3/4	<1 km
21-07	6:00	7:30	F	1,5	8/8	NO	2/3	<2km
	14:00	14:15	1	0,25				
	16:57	19:00	F	2,05	1/8	NO	5/6	
22-07	6:00	7:00	F	1	8/8	NO	1/2	
	16:43	19:30	F	2,75	6/8	NO	3/4	<2km
23-07	9:07	9:22	F	0,25				
	13:57	14:07	F	0,25				
	16:00	19:30	F	3,5	8/8	N	3/4	<5km
24-07	6:00	7:30	F	1,5	6/8 > 7/8	-	-	<1km
	8:40	8:55	F	0,25	7/8	-	-	<1km
	12:15	14:15	2	0,5	6/8;4/8	NO	3/2;3/4	<1km
	17:25	19:15	F	1,83	1/8	NO	4/5	<2,5km
25-07	6:00	7:00	F	1	7/8	NO	0/1	<1km
	13:45	14:35	2	0,5	8/8	NO	1/2	<1km
	15:00	19:00	F	4,0	3/8	NO	4/5	<1km
26-07	6:00	7:45	F	1,75	8/8	N	2/3	3km
	8:30	8:45	1	0,25	8/8	N	1/2	3km
	16:30	19:20	F	2,84	2/8 > 7/8	NO	2/3	5km
27-07	6:00	7:00	F	1,0	2/8	NNO	2/3	5km
	10:15	13:30	3	0,75	3/8	N;N:NO	2/3;3/4;3/4	5km

Of all passing birds 99% were Cape Verde Shearwaters. The light underwing and belly of Cape Verde Shearwaters made it easy to distinguish the species from the occasional passing Cape Verde Petrel *Pterodroma feae*. One afternoon was spent at the coastline to examine shearwaters passing by at close range (< 25 m). Based on bill structure and plumage colour all birds examined were Cape Verde Shearwaters. The occurrence of the closely related and rather similar looking Cory's Shearwater *C. borealis* and Scopoli's Shearwater *C. diomedea* in Cape Verde waters is confined to the winter months (Hazevoet 1995).

Table 2. Numbers of Cape Verde Shearwaters and hours per day counted at Ponta do Sol, Santo Antão, Cape Verde Islands.

Tabel 2. Aantallen Kaapverdise Pijlstormvogels en aantal per dag getelde uren op Ponta do Sol, Santo Antão, Kaap Verdise Eilanden.

Date	Numbers	Hours counted
20-7	211	4,25
21-7	324	3,80
22-7	904	3,75
23-7	1247	4,00
24-7	1345	4,08
25-7	533	5,50
26-7	2088	4,84
27-7	1	1,75
Total	6653	31,97

RESULTS

The daily number of Cape Verde Shearwaters counted varied from 211 to 2088 birds (Table 2). Numbers counted during the first afternoon were approximately 10 % of those counted during the last afternoon. During the course of the afternoon, numbers of Cape Verde Shearwaters increased from c. 3.5 hours before sunset until dusk. The highest numbers, with a maximum of 152/15 min. period, occurred 1,5 hour before sunset (Figure 2). The main flight direction before sunset was east. The number of Cape Verde Shearwaters flying west before sunset was negligible, with the exception of the last 15 minutes before sunset, when numbers reached 55/15 min. (Figure 2). Numbers counted after sunrise were small (maximum 10/15 min.) and generally flew west. On one occasion, feeding behaviour of a small party of 15 birds was observed, ending in 30 minutes of rafting, after which the birds flew east. On another occasion, tens of birds associated with a group of Bottlenose Dolphins *Tursiops truncatus* passing west for a short period and then flew east.

DISCUSSION

Since counts were made by a single observer, numbers given are minimum estimates. Numbers counted at Ponta do Sol were high, with a maximum of nearly 2100 birds on the afternoon of 27 July. Given an estimated breeding population of 10,000 pairs, this implies that 10% of the world population was counted on a single evening.

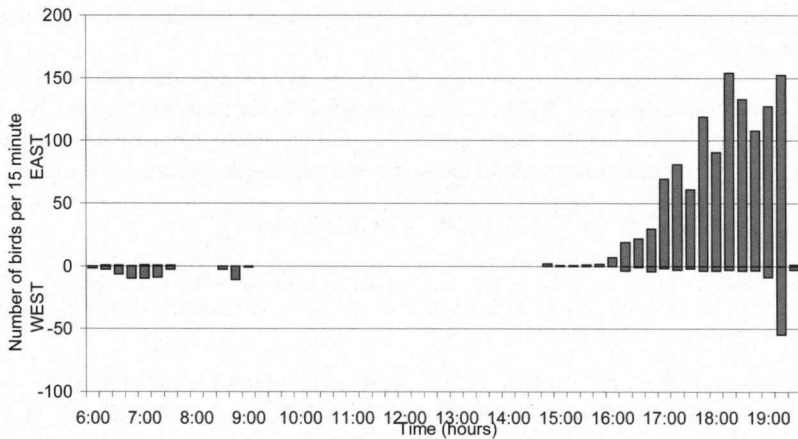


Figure 2. Mean numbers of Cape Verde Shearwaters per 15 minute period during the period 20–27 July 2005 at Ponta do Sol, Santo Antão, Cape Verde Islands. Sunrise at 6:14; sunset at 19:15; periods between 10:00 and 15:00 are given as 15 minute counts, others are completely counted.

Figuur 2. Gemiddelde aantallen Kaapverdise pijlstormvogels per kwartier, 20–27 juli 2005 op Ponta do Sol, Santo Antão, Kaapverdise Eilanden. Zonsopkomst 6:14; zons- ondergang 19:15; perioden tussen 10:00 en 15:00 zijn per kwartier geteld, andere zijn geheel geteld.

The nearest (and largest) colonies of Cape Verde Shearwater are situated on the islets of Branco and Razo, c. 75 km southeast of Ponta do Sol. Since Cape Verde Shearwaters are incubating in July, the large numbers flying east before sunset were presumably birds returning to the colonies. This resembles the behaviour of Cory's Shearwater in the East Atlantic (Azores, Madeira, Canary Islands), which arrive at the colonies after sunset (Hamer & Read 1987, Granadeiro *et al.* 1998a) and usually raft at sea while waiting for darkness.

Cory's Shearwater is known to make long (1–13 days; Granadeiro *et al.* 1998b) foraging trips to feeding grounds. Breeding Cory's Shearwaters at Selvagem Grande make foraging trips to the continental shelf of Morocco and Western Sahara, as recently established by satellite tracking (Zino *et al.* 2005). In the Azores, breeding Cory's Shearwater probably feeds close to the islands. Duration of foraging trips is probably related to the condition of the parent birds, chicks and local food availability (Babuini & Hyrenbach 2003). The feeding areas of Cape Verde Shearwater are presently unknown. To the west of Santo Antão there are a number of seamounts. These underwater mountains are known to be rich in marine life and to attract shearwaters in the southern part of the central North Atlantic (Skov *et al.* 1994). However, since observational effort in the seas around the Cape Verde Islands is lacking, no source area for

the high numbers of Cape Verde Shearwaters seen at Ponta do Sol can be given at present.

To date, there have been no published results of seawatching counts from the Cape Verde Islands. Systematic counts of seabirds from the various islands in the Cape Verde archipelago, as well as counts made from boats or planes should help to better understand behaviour and distribution of this seabird.

ACKNOWLEDGEMENTS

Many thanks to Martin Poot for inspiring discussions and valuable literature references. Kees Hazevoet kindly provided additional information on Cape Verde Shearwaters and helped to improve the English and structure of the paper.

HOGE AANTALLEN KAAPVERDISCHE PIJLSTORMVOGELS *CALONECTRIS EDWARDSII* BIJ SANTO ANTÃO, KAAPVERDISCHE EILANDEN, IN JULI 2005

Tijdens systematische zeetrekellingen in de periode 20–27 juli 2005 op Ponta do Sol, Santo Antão, Kaapverdische Eilanden, werden 6653 Kaapverdische Pijlstormvogels *Calonectris edwardsii* geteld. De hoogste aantallen werden 2–2.5 uur voor zonsopkomst gezien. De belangrijkste vliegrichting was oost. De aantallen waren 1–1.5 uur na zonsopkomst het laagst, met west als belangrijkste vliegrichting.

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