battered drum of petrol, which springs several leaks as it is rolled up the gangplank. Some sand is dumped aboard to soak up the spilled petrol and a deckhand sets to work with a piece of soap to temporarily stop up the leaks. I delay taking a seat, not realizing the excess demand until there are none left. Luckily I am offered a corner of the pilots cabin, probably the most comfortable seat on the barge.

Departure is delayed because the tide is not high enough to float the barge. After an hour, a tug that happens to be in the bay gives us a tow. In the process, the hull gets scraped. We then spend an hour bobbing about in the bay while the engineer bangs away below deck to hammer out the dents. Eventually we get under way and head slowly, very slowly, upstream. Once underway, I am assigned the duty of swatting the horseflies that enter the cabin, lest the pilot be painfully distracted by bites while he is concentrating on steering between hidden sandbars. He is perched on a wooden stool, gripping the wheel. On a rough wooden plank in front of him, scribbled in red biro, are the following instructions:

I. Avante
II. Ponto morte
III. Aré

(Translation: One beat of the spanner on the iron cabin wall instructs the engineer below: full speed ahead. Two beats: kill the engine. Three: reverse.)

Brown-throated Weavers make amazingly vivid flashes of yellow along the reed-lined banks. We frequently pass small groups of Yellow-billed Storks. On an open sandbank there is a densely packed flock of African Openbills, more than a thousand strong (a typical sight on the lower Zambezi). A little farther along is a similar sized flock of Collared Pratincoles. Some African Skimmers, about a dozen in all, are also seen, and then a flock of Greater Flamingos, about 40 strong. This is indeed a rare sighting for this region. Greater Flamingos are thought to migrate annually from Botswana to the east coast of southern Africa and then northward through Mozambique to East Africa. However, the scarcity of sightings of Greater Flamingo in central Mozambique (two or three sightings in the whole region in four years) casts serious doubt on this theory. Next, a pair of Red-billed Teal and a flock of Fulvous Duck are sighted. These are common birds elsewhere, but constitute rare sightings for this region.

Stops are made at a few riverside settlements. At each stop, a throng of vendors jostles vigorously to get near the barge to sell fruit to the passengers. On one of these occasions, a great uproar indicates that a felony has been attempted and a man flees, taking to the river. But he cannot fight the current for long and is dragged ashore. One of his captors beats him vigorously and repeatedly with the heel of a flimsy shoe and the fugitive is dragged away. He will be killed is the consensus of the deck-hands in the cabin. I guess they are exaggerating his plight, but I am not sure.

In preparation for this journey, I fasted the day before so that I would not need the bathroom while on the barge. There is a facility attached to the back of the barge, enclosed by zinc sheets and suspended over the river, but it is strictly for the agile and desperate.

Dusk finds us at Luabo, still 16 km short of our destination. The eyes and memory of the pilot are the only navigational instruments on board, so we will have to stop over night. Three other passengers and I are offered places for the night at the guest house which is part of a partially rehabilitated sugar estate. We stagger along in the dark for what seems like ages to reach the house, and then sit outside with the mosquitoes for hours while someone who knows where the keys are, is sought. Most of the passengers spend the night slumped in the same seats they have occupied all day. They are well attuned by now to the mixed odour of fish, diesel and sweat.

I have been informed that the barge will depart again at 6 in the morning. Having experienced the unhurried nature of previous departures of the same vessel, in another country one would have thought it safe to arrive by 6:30. I have been in Mozambique long enough to get up and stumble down to the river in the dark and arrive only just in time. The barge leaves at 5:30 and is on the water for another four hours before reaching Marromeu.

The Mozambique Bird Atlas Project has now completed a field survey of central Mozambique and an *Atlas of the Birds of Central Mozambique* is to be published shortly.

Cape Weaver population on Robben Island

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The natural vegetation on Robben Island is scrubby strandveld, so originally there would not have been nesting sites for weavers. After European occupancy of Robben Island in the 17th century, *Eucalyptus* and other exotic trees were introduced. Some of these were planted to provide shade for leper patients (1846–1931). Cape Weavers *Ploceus capensis* are now common breeders on Robben Island (Crawford & Dyer 2000) where they breed in exotic trees (pers. obs.). The initial population would have been established by weavers flying the 8-km stretch across the ocean. Unfortunately, no one seems to have recorded when Cape Weavers first started breeding here. An attempt is made here to estimate the current population of weavers on the island. For this one needs to estimate how closed the population is.

Methods

To discover if there are regular, or only occasional, movements between the mainland and the island, I started to ring weavers on Robben Island in 2000. A total of 143 have been handled (including retraps; Table 1). Most ringing was on two summer trips in 2003. Birds were caught with mistnets near colonies and in other areas. Nestlings in nests less than 3 m high were also ringed.

A survey of the breeding colonies was done on two trips in the 2003 breeding season to estimate the population size. The trips in early September and October fell within the peak breeding season of August to November (Craig 1997). Nests were counted in each colony by walking under the colony. Males and females were counted by observing the colony from a car. When a non-breeding female arrives at a colony, the males display from one of their nests, making it easy to count them (if the whole colony is visible). Some males may be foraging at the time of female arrival, so several watches were conducted at different times. Breeding females can be counted by observing them flying in and out of active nests. Their behaviour is quite distinct from non-breeding females visiting the colony. Active nests can also be counted, but in practice it is difficult to tell if they are active, especially if they are quite high.

Results

Movements

There are two records of birds ringed on the mainland and found on the island. Immature male CC27773 was ringed on 20/08/1997 in Protea Valley, Tygerberg, by Margaret McCall. It was found a little over a year later as a skeleton on Robben Island by Mr J. Kieser. He found the ring on 02/12/1998 and sent it to SAFRING. The distance between

Table 1. Number of Cape Weavers ringed and retrapped on Robben Island.

	16–17 Oct 2000	6–7 Nov 2001	17–18 May 2002	28 Apr 2003	6 Jul 2003	5–7 Sep 2003	2–5 Oct 2003
Ringed	11	16	11	4	2	47	36
Retrapped	0	0	0	0	0	5	11
Total handled	**11**	**16**	**11**	**4**	**2**	**52**	**47**

ringing and recovery sites is 22 km. This is the first non-seabird recovery on Robben Island. An adult female (BD05154) was ringed at Melkbosstrand on 25/06/1996 by Jo Johnson. I retrapped it in the 'Workshop' colony on 07/09/2003, i.e., seven years after it was ringed, as a female with a clear brood patch. The distance between ringing and retrapping sites is 12 km.

About 5000 Cape Weavers have been ringed on the mainland around Durbanville over the past five years by Tygerberg ringers (SAFRING database), but none of these have been retrapped on the island, nor have any of my birds been retrapped by them, to date. The biometrics of the island population will be published in *Afring News*.

Population size

There was intensive ringing around the larger breeding colonies in early September 2003 and about one month later in October 2003. This allows the Petersen estimate (also known as the Lincoln Index) to be applied:

$$N = Mn/m$$

M = 46 free-flying birds caught in September, i.e., 41 birds ringed, plus 5 retraps from birds ringed previously, counted as ringed birds here.

N = 38 free-flying birds caught in October, i.e., 28 newly ringed plus 3 old retraps, plus 7 retraps from September.

M = 7 new retraps, in October, of September birds.

Thus the population estimate is $N = 46 \times 38/7 = 250$. Chicks are excluded in the above calculations, although including them gives a similar result.

Bailey (1952) suggested a better estimate as $N = M(n+1) / (m+1) = 224 \pm 67$.

Colony census

At each breeding colony, short watches of 10–20 minutes at a time were conducted to count the total number of nests, the number of adult males, and the number of breeding females (Table 2). The number of females was improved by nest checks in the Prison and Beach colonies, and by ringing in the Lighthouse colony.

Through regular searching, all active breeding colonies are believed to have been found. In September, there were six breeding colonies, and seven in October (Table 2). Colonies with old, inactive nests that were probably built by immature males, are excluded. The total number of nests was greater in October but there were fewer breeding females.

The number of males in each colony is believed to be accurate in most colonies, except Lighthouse and Workshop where the colonies were inside eucalypt stands with limited visibility of the colony.

The number of females in some colonies is close to correct, and under-estimated in others, as shown by ringing at the colony and nest checks. (Females are not thought to have come from other colonies, but this is possible.) Thus the colony watches need to be longer to ensure a comprehensive count. The total of females is based on colony watches,

Table 2. Counts of nests, males and females at each breeding colony on Robben Island on two dates. (mm = males; ff = females)

Colony	Total Nests	Adult males	Breeding females	Notes
7 September 2003				
Beach	17	3	6	7 nests checked
Club	1	1	0	
Fork S	6	2	2	
Fork N	1	1	0	
Harbour	5	1	0	
Lighthouse	32	3	2	mm underestimated
Penguin	5	2	0	
Prison	21	2	2	4 ff ringed
Prison road	1	1	0	
Quarry	8	3	1	
Workshop	33	2	1	8 ff ringed; mm underestimated
Total	**130**	**21**	**14**	
			24	**corrected female total**
5 October 2003				
Beach	23	6	3	5 nests checked
Club	1	0	0	
Fork S	8	1	0	
Fork N	8	3	1	
Harbour	3	1	0	
Lighthouse	42	3	3	4 ff ringed; mm underestimated
Peng	11	2	1	
Penguin S	2	0	0	
Prison	30	3	1	ff underestimated?
Prison road	1	0	0	
Quarry	13	2	1	
Quarry N	1	1	0	
Workshop	38	1	1	mm, ff underestimated
Total	**181**	**23**	**11**	
			14	**corrected female total**

but the second total in Table 2 includes knowledge from ringing and nest checks.

Immature males were observed and caught in colonies, but these were not observed to have their own nests in active colonies, and are thus excluded from the count of the breeding population. Five females were aged as immature, but all had brood patches and were thus included in the count of the breeding population.

Discussion

Of thousands of Cape Weavers ringed in the Cape Town-Durbanville-Koeberg area, and of 127 newly ringed on Robben Island, there are two records of movement to the island and none from the island to the mainland. Thus, Cape Weavers appear to remain on the island with occasional immigration from the mainland. The extent of emigration is un-

known. Other passerines on the island have other strategies. Cape Canaries are present in winter but move to the mainland to breed (V. Ward pers. obs.). Cape White-eyes and Malachite Sunbirds are species that could show movements, but are seen throughout the year on the island.

Bruce Dyer counted 168 Cape Weaver nests on Robben Island 28 July 1999 (pers. comm.), which is similar to my counts of 130 and 181 nests. This indicates that the Cape Weaver population has been approximately stable over the past few years. There was at least one Cape Weaver colony on 9 September 1992 (Dyer 1996).

The total breeding population estimate in September was at least 21 males and 24 females based on counts, i.e., 45 birds, but the number of males is known to be under-estimated. By October, a similar number of males was present in active colonies, but breeding activity had reduced to nearly 2/3 of females. Through the 2003 breeding season, more birds would have bred, but no attempt is made here to estimate this. The total population of free-flying birds on Robben Island, including immature birds, is estimated to be 224, based on Bailey's equation. Movement between the island and mainland is considered to be limited, although more data may lead to revision of this idea.

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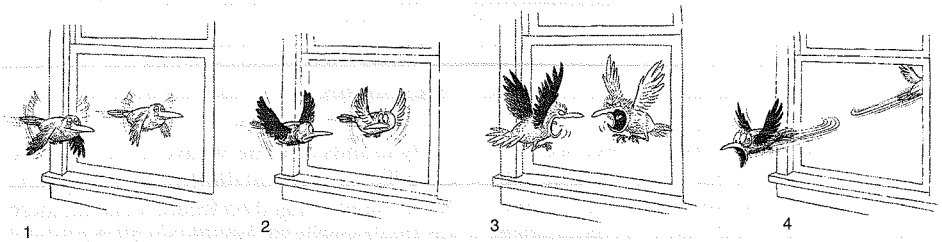

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Breeding success of Crowned Plovers, Blacksmith Plovers and Spotted Thick-knees in suburban areas

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The distributions of breeding birds in the families Charadriidae (Blacksmith Plovers *Vanellus armatus*; Crowned Plovers *Vanellus coronatus*) and Burhinidae (Cape Thick-knees *Burhinus vermiculatus*) are extensive, covering large parts of South Africa (ASAB1) The breeding seasons of these species vary greatly, from mid-winter to late summer, depending on the species. Blacksmith Plovers and Crowned Plovers prefer to nest in short grass. Blacksmith Plovers nest mostly near water on river or dam banks, whereas Crowned Plovers choose to nest in dryer habitats. Spotted Thick-knees choose to nest in leaf litter near bushes or under trees.

Owing to the spread of suburbia, these species' natural nesting habitats have, in many places, been altered and their choices of nest sites often results in their breeding on school properties, golf courses or in suburban gardens. Breeding attempts in suburbia are often disturbed by sporting events, people walking their dogs, playing with their children, or other activities. In many cases, the disturbance is a result of people being unaware of the breeding birds or how to respond to them. In addition to coping with disturbance, the breeding attempts of these birds are also subject to predation by domestic cats and dogs.

Although these birds breed in suburbia, very little is known about population sizes and breeding success. In Cape Town we monitored the success of breeding birds at Claremont Primary School, Diocesean College, Red Cross Hospital, UCT rugby field and cricket oval, Erinvale Golf Estate (Somerset West), and Mowbray Golf Course. Monitoring at Red Cross Hospital and Diocesean College took place over two breeding seasons; other sites were monitored for a single breeding season.

Nests were searched for regularly and, once found, were monitored at 3–4 day intervals until hatching. Chicks were similarly monitored, every 4–7 days, until fledging. Fledging was taken as the day from which chicks were able to fly well. This occurs around the age of five weeks, when the chicks are about two-thirds of adult body mass. All chicks and most adults in the study populations were ringed with individually numbered metal leg bands and a unique combination of coloured leg bands. We hope that these individually marked populations can become part of a long-term study on the breeding success of plovers and thick-knees in suburban areas.

Breeding success was determined for all these species at the different sites (Table 1). Sixteen clutches from nine pairs were monitored in the 2001–2002 breeding season and 48 clutches from 24 pairs in the 2002–2003 breeding season. Breeding attempts were successful in the first breeding season of the study: 25 hatchlings were produced from 31 eggs and 1.6 chicks fledged per pair. In the second season, 62 chicks hatched from 101 eggs but almost half of these chicks, 24–27, disappeared, probably predated, within two weeks of hatching. Thus the number of fledglings per pair produced in the 2002–2003 season was 0.73–0.79.

Plover and thick-knee chicks are precocial, meaning they leave the nest soon after hatching. Plover chicks feed themselves within hours of leaving the nest. Spotted