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## Editorial

A new year has rolled around and at least we have enough material for an issue of our journal the *Lanioturdus*.

After good rains in October and November we then had a very long dry spell until the first week of January. More good rain then with up to 100 mm at some places but another dry spell into February. The poor birds have had their share this season of starts and stops as far as breeding has been going. The masked weavers have built nests but then they sit and wait for the females who are not quite in the mood. Wait until the next rain!

During the festive season we went to Alaska to see our children and grandchildren. We mainly stayed in the city of Anchorage where the weather was a bit like here with the starts and stops to winter. Instead of just being winter the weather brought freezing temperatures with snow and then it would warm up above freezing and rain. Watching the Bohemian Waxwings (family: *Bombycillidae*) they would huddle in the hundreds during the cold but then when it warmed up descend on the crab apples and other shrubs with berries and eat the defrosted fruit.

Once again I appeal to all members to help the club. If you want to keep the club viable you must also do your part and try and get new members to join.

200 m, the number of birds per km<sup>2</sup> of river was 490, and the number calculated for the entire 12 km stretch of river on the farm was about 1,180 Dusky Sunbirds. This very high density of Dusky Sunbirds attests to their highly nomadic lifestyle in an unpredictable and variable climate. It also illustrated the very high density of birds that may congregate at a good source of food, in this case a dense infestation of flowering mistletoe.

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### A dietary study of the Bank Cormorant (*Phalacrocorax neglectus*) at Ichaboe and Mercury Islands

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### Introduction

The Bank Cormorant *Phalacrocorax neglectus* has a regional distribution from about Walvis Bay to Cape Agulhas in South Africa. The total population is estimated in the vicinity of 18,000 birds (Maclean 1985) with two island sites situated off the west coast of Namibia – Ichaboe and Mercury Islands – supporting two-thirds of the entire population (Tarboton 2001). During 1980, Ichaboe and Mercury Islands, hosted an estimated 4500 breeding pairs (50% located at Ichaboe and 20% at Mercury Island) of Bank Cormorants. Since then their numbers decreased dramatically with currently only about 450 breeding pairs left on

Ichaboe Island indicating a 90% decrease. The breeding population at Mercury Island indicates a more stable condition according to numbers recorded.

The Bank Cormorant is confined to the Benguela system compared to the Cape Cormorants, which are endemic to Southern Africa, but disperse as far Congo. In the early 1970s the pelagic fish stocks crashed resulting in most of the predators, which were dependent on the fish, either declining (e.g. penguins & gannets) or changing their diet mainly to the Pelagic Goby *Sufflogobius bibarbatus*, which had become more abundant. This includes the Cape Fur Seal *Arctos* and the Bank Cormorant. In the mid 1990's, at the time of oceanographic anomalies (i.e. low oxygen event in 1994 and a Benguela Nino event in 1995), the pelagic fish stock crashed again. These events probably also affected the Pelagic Goby and about 350,000 Cape Fur Seals died of starvation between 1994 and 1995, while the Bank Cormorant population at Ichaboe Island decreased from about 4,500 pairs to less than 600 pairs between 1994 and 1998.

Bank Cormorant feed mainly on fish, crustaceans, cephalopods and molluscs (Maclean 1985).

Table 1 indicates the drop in Bank Cormorant numbers at Ichaboe and Mercury Islands, respectively.

**Table 1.** Numbers of active nests at the peak of the breeding season (equals estimate of numbers of breeding pairs) showing the decline at Ichaboe Island after 1993 and the subsequent recovery at Mercury Island.

	Mercury Island	Ichaboe Island
1978 – 1979	1986	4345
1993	No count	4391
1994	811	2625
1998	817	791
2000	1172	631
2002	1845	535

Recently the Bank Cormorant at Ichaboe Island has remained at a very low level while the population at Mercury Island has almost recovered to the level it was before 1990. As we suspect that food availability is involved in this difference, this study was initiated as a means to investigate the diet of Bank Cormorants and the possible differences in the diet between these birds at the two islands.

### Study Area

Ichaboe Island is small (6.5 ha), about 1.5 km offshore, 48 km north of Lüderitz, opposite the restricted diamond area (Sperrgebiet). This island is partly protected from thundering waves crashing into it by a reef, just to the west of the island. A group of seals live permanently on the reef, and although a few pups are born there every year, it is not strictly speaking a fully-fledged breeding colony. Ichaboe Island is managed by the Ministry of Fisheries and Marine Resources and is permanently staffed resulting in regular monitoring of the sea bird population on the island. Guano is harvested commercially every 4 years with 1,980 tonnes harvested between 2000-2004.

Mercury Island is also small (3 ha), about 1.5 km offshore, 100 km north of Lüderitz, in a similar setting. The island resembles a steep elongated pyramid with its highest point, Jupiter Peak, rising 35 m above the sea. Mercury Island is hollow and altogether has seven cave entrances, which meet in a large central cave below the island where waves crash into each other from all directions. In 1985 the island became a fully-fledged seal breeding colony which in turn resulted in the displacement of seabirds. During the early 1990's the seals were successfully chased off the island. The island does however support by far the largest breeding colony of penguins in Namibia (approximately 16,500 adult individuals) as well as the largest Bank Cormorant colony in Namibia, with 1,074 active nests at breeding peak recorded in 2001. It is uncertain how many birds this small island can accommodate. Owing to its sensitivity and limited accommodation, the public cannot visit Mercury Island.

### Methods

Bank Cormorant regurgitated pellet samples (150 pellets) were collected on Ichaboe and Mercury Islands and analysed individually by cracking the pellet

with the index finger and thumb to open the samples. The contents were collected in a tray where after they were sorted and all the different contents separated and placed into different size plastic bags for further analysis. The objective was to separate the otoliths found in each pellet to identify the various fish prey species consumed. Otoliths are composed of calcium carbonate and are found in the head of a fish where they act as a balance mechanism. They perform the same function as the internal ear in humans. For each fish species otoliths are uniquely shaped and the size of the otolith is proportional to the length of the fish. Maximum otolith diameter was measured with vernier callipers to the nearest 0.05 mm.

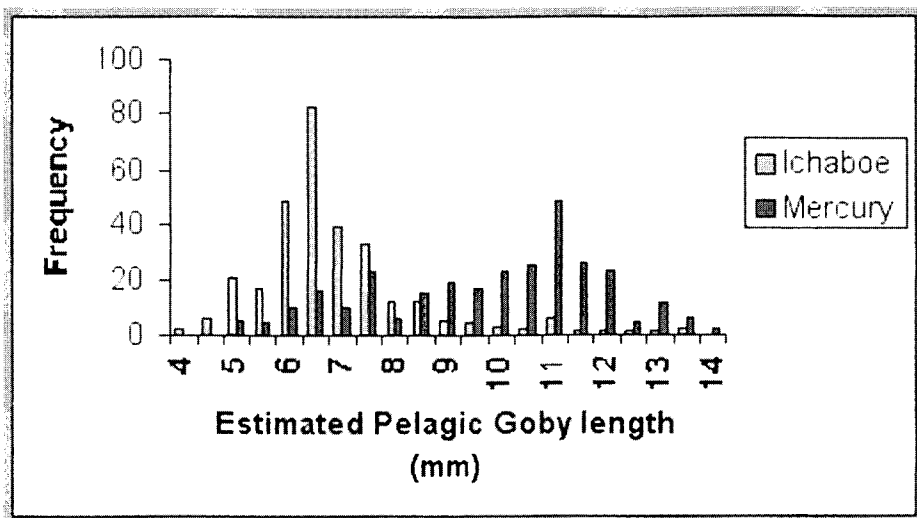
### Results

All 150 pellets contained Pelagic Goby otoliths. In only two instances were lobster carapace material found in a pellet. 100 Pelagic Goby otoliths were measured in 3 randomly selected pellets collected at Ichaboe and Mercury Islands between 25 and 27 December 2002, respectively. The 300 otolith measurements obtained for each island were then transformed into fish length according to the relationship, Otolith Diameter – Fish Total Length, suggested in Smale *et al.* (1995). At Ichaboe Island, the cormorants fed mostly on juvenile Pelagic Goby (total length range between 6-7 cm) while at Mercury Island they were feeding mostly on adult Pelagic Goby (total length range between 10-12 cm) (See Figure 1).

The overall mean number of active nests (including the “no count” for 1993 for Mercury Island) is 2219.7 (SD=1833) and 1326 (SD=560) while the mean number of active nests for 1994, 1998, 2000 and 2004 is 1145.5 (SD=992) and 1161.3 (SD=486) for Ichaboe and Mercury Islands, respectively. There is no major significant difference in total active nest numbers for all counts ( $P=0.33$ ,  $F=1.09$ ,  $df=1$ ) nor for the years 1994, 1998, 2000 & 2004 ( $P=0.98$ ,  $F=0.0008$ ,  $df=1$ ) for the islands, respectively.

### Discussion

According to Smith & Heemstra (1986) the Pelagic Goby occurs in shoals from shore to 90 m and can reach a length of 13 cm. Pelagic Gobies are included in all 150 pellets analysed indicating their importance as a source of food for the Bank Cormorant off the Namibian coast. Other than confirming the length for



**Figure 1.** Size frequency distribution (total length) of 300 Pelagic Goby estimated from otolith measurements from Ichaboe and Mercury Islands as collected from Bank Cormorant pellets on 25-27 December 2002.

Pelagic Gobies. Figure 1 also indicates the differences in range between the two sites with the Ichaboe Island fish generally being smaller than those taken at Mercury Island. This difference in Pelagic Goby length could possibly affect or contribute to the overall health of the Bank Cormorant population at Ichaboe Island. Bank Cormorants have a peak breeding period between May and July (Maclean 1984, Tarboton 2001). This smaller available food source during the critical breeding period could affect the birds negatively – i.e. they would have to catch more fish and thus spend more energy fishing to attain their dietary requirements and for those of their offspring. The birds at Mercury Island would possibly not have to fish as frequently resulting in an overall better health for this population. This hypothesis would, however, have to be tested more rigorously. The lack of a major significant difference in total nesting bird numbers between the two islands may indicate a long-term fluctuation in Bank Cormorant numbers. More complex variables affecting the breeding success of the Bank Cormorant is also not ruled out and it is therefore imperative that long-term monitoring of the species is encouraged.

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## Summary of the 2003 ringing year in Namibia

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The 2003 ringing year ended on 30 June 2004 and the following is a summary of ringing activities in Namibia for the period 1 July 2003 to 30 June 2004.

In total, 10426 birds were captured of which 9366 were "new" (Code 1) birds and 1060 were recaptures or controls. Dirk Heinrich ringed the most birds, followed by Ursula Franke, Tim Osborne and Mark Boorman (Table 1). The "new" birds represent 242 species and again Dirk heads the list of most species ringed (Table 2). The most common species ringed was Lark-like Bunting, followed by Cape Sparrow and Common Tern (Table 4). Birds were ringed at 314 localities (Table 9).

This year we were fortunate enough to be able to have a ringers' get-together, hosted by Renate and Werner Bader on the farm Wiese. Dieter Oschadleus and