

A check list and notes on the birds of Sandvis, South West Africa

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1. INTRODUCTION

During the course of two years of bird population counts at Sandvis (previously also known as Sandwich Harbour) from July 1970 to June 1972 it was possible to compile a systematic list of the species. In addition, confirmed sightings made by visitors to the area since 1968 have been included. A previous record of species found at Sandvis exists (Prozesky 1963) and it has been referred to in the present paper when a species seen or collected at that time was not encountered during the period 1970-1972. Dixon (1970) has also collected some hitherto unrecorded species in the area. Prozesky (*op. cit.*) recorded 66 species of birds during the course of two visits to the area (May 1959 and January 1960). To date the number of species recorded is 113 and represents an exceptionally wide taxonomic variety when the isolated nature of the area is taken into account.

2. DESCRIPTION OF AREA

Sandvis (23°20'S, 14°30'E) covers an area of 20 km² and is approximately 10 km north-south by a maximum of 3 km east-west. It is isolated from the interior of South West Africa by the great sand dunes of the coastal Namib Desert and bounded by the Atlantic Ocean on the west (see map). The nearest other vegetation of any consequence is in the delta of the Kuiseb River, 25 km NE.

For the purpose of this paper the area is divided into five distinct biotopes and their classification follows Winterbottom (1971). They are:

- Salt water — sand seashore
- tidal mudflat
- salt marsh
- lagoon
- Fresh water — reed beds (surrounding brackish pools)

The vegetation of the salt marshes which fringe the main lagoon is mainly the creeping, succulent herb *Arthrocnemum natalensis*. Fresh water originating from the Kuiseb River seeps through under the dunes (van Zijl and Huyssen 1967). It forms pools which tend to be brackish due to the tidal influence of the main lagoon. The brackish pools are partially fringed by bulrushes *Typha capensis* and reeds *Phragmites australis*. Further from the water, coarse grasses *Sporobolus virginicus*, *Odysea paucinervis* and *Eragrostis cyperoides* intermingle. They and the sedge *Scirpus dioicus* cover large areas. The Narra plant *Acanthosicyos horrida* is found on the small dune humps fringing the grassy area.

There have been no permanent human inhabitants at Sandvis since 1969 although remnants of a whaling station exist at the foot of the dunes and several wooden buildings belonging to earlier guano collectors and fishermen still stand. The entire area

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falls within the boundaries of the Namib Desert Park, a nature reserve administered by the Division of Nature Conservation and Tourism, S.W.A.

3. METHOD

Fully representative sample areas of all the major biotopes at Sandvis were traversed by vehicle and on foot at least once a month (see map). The size of the total area in which counts were done kept one person fully occupied for a day. Small bird species were positively identified with 8x binoculars. Where individuals could be counted their number was recorded on hand tallies and transferred to count sheets. In the case of large flocks an estimate was made to the nearest 100 or 1 000 birds. Only species which could be positively identified were counted. Occasionally birds were sighted which could not be identified with certainty. They were tallied as unknowns. In total the unknowns during our count period numbered 53 individuals.

4. SYSTEMATIC LIST AND NOTES ON THE SPECIES

In the list, latin names are according to Winterbottom (1971) and the popular names and numbering of species follow McLachlan and Liversidge (1970). The biotope favoured by each species is given. A brief summary of the species' abundance, breeding and migration habits is included where these aspects have been observed.

All information obtained on breeding has been placed on nest record cards kept by this Division. Sightings of species not previously recorded in the area have been obtained from field cards of the Division.

The abundance of a species (based on the average number of sightings in a year's counts) is given as: rare (fewer than 3 specimens), uncommon (3-10), common (10-100) and abundant (more than 100). Accidentals or vagrants (3 specimens and fewer sighted during the six-year period 1968-1974) are listed separately.

The birds of Sandvis can be divided into four main groups: sea-birds, Palaearctic waders, inland water-birds and land-birds. Group numbers are graphed on a monthly basis in Figs. 1, 2, 3 and 4. Some species (i.e. White Pelican and White-breasted Cormorant) occur both on the coast and inland. In such cases they have been grouped with the inland water-birds. Flamingoes are also included in the graph of inland water-birds. Because their mass emigration during a breeding season greatly affects total numbers in the area, the flamingo counts have been shaded on the graph. The number of species and the total number of individuals present in the count area are graphed in Figs. 5 and 6 respectively.

Podiceps cristatus infuscatus Salv. Great Crested Grebe (4)

Found in the reed-lined, brackish pools and open lagoon. Small numbers (4-40) commonly seen, with the individuals associated in loosely-knit flocks when not breeding. Nesting and egg-laying during December; chicks found in January.

Podiceps nigricollis gurneyi (Roberts) Black-necked Grebe (5)

Preference for the open lagoon where tightly packed flocks of 1 000 individuals occur in winter. Breeding plumage is assumed in September when the flocks dwindle in number with small parties occurring in the reed-lined pools. Nests have not been found. Migration, probably to breed inland, takes place in January with the first returning influx in May. Flocks of several thousand individuals were sighted on saline pans in the Etosha National Park in January 1971, remaining until the water evaporated a few months later. The seasonal rainfall recorded at Okaukuejo, the nearest station to the pans, was 430 mm in 1970/71. This is slightly above the average of 419 mm. It is possible that migration occurs between the coast and the pans in the Etosha National Park during summer and autumn and that the species may breed on the temporary pans when good rains have fallen.

Podiceps ruficollis capensis Salv. Dabchick (6)

Uncommon but always present in the reed-lined pools. The highest number recorded was 14. Breeding not recorded.

Pelecanus onocrotalus L. White Pelican (42)

Found throughout the area but most numerous in the channels leading from the reed-lined pools to the lagoon where they fish in closely packed groups. They are also opportunist scavengers and follow angling parties along the seashore. Common and sometimes abundant with as many as 450 present. The species does not breed in the area at present but we have traced photographic evidence (Bennette, pers. comm.) of successful breeding in 1947.

Sula bassana capensis (Licht.) Cape Gannet (44)

Although mainly an off-shore species it is sometimes found diving for fish or resting on the water of the open lagoon. Uncommon with only a few individuals observed at irregular intervals. A migration pattern exists along the west coast (Rand 1959) and in December/January numbers of dead adults are regularly washed up on Sandvis beach. A bird ringed at Ichaboe Island (26°17'S, 14°56'E) 330

km southwards on 13/x/58 was recovered at Swakopmund (22°40'S, 14°32'E) 70 km northwards on 6/i/71 (time elapsed: 12 years 3 months).

Phalacrocorax lucidus lucidus (Licht.)
White-breasted Cormorant (47)

Prefers the open lagoon. Common and sometimes abundant, but only a fraction of the numbers of the following species. Up to 174 individuals counted during a visit. An irregular breeder on temporary sand-bars at the lagoon mouth. The peak period is December. These breeding colonies may be abandoned either because the sand-bars become linked to the mainland, allowing jackals access to the nests or they may be washed over by spring tides. Local movement occurs: a bird ringed as a pullus at Sandvis on 11/i/71 was recovered at Henties Bay (22°06'S, 14°14'E) on 17/ix/71, a distance of 140 km.

Phalacrocorax capensis (Sparrm.)
Cape Cormorant (48)

On the open lagoon and seashore; sometimes in the channels leading from the brackish pools where they fish commensally with terns. Abundant, with influxes of swarms estimated at 200 000 to 300 000. The species is subject to local movement and long distance migrations, following the fish shoals. A bird ringed as a pullus at "Bird Rock" guano platform, Walvis Bay (22°50'S, 14°32'E) on 12/iii/71 was recovered 40 km north of Mocâmedes, Angola (15°00'S, 12°09'E) on 27/v/71 a distance of 930 km. A few breed among the nests of the previous species but the vast majority breed regularly in huge colonies on the artificial guano platforms at Walvis Bay, Swakopmund and Cape Cross.

Ardea cinerea cinerea L.
Grey Heron (54)

Inhabits the brackish water pools and sometimes occurs on the open lagoon shore and seashore. Common with a population of 30-50. Breeds singly and in colonies with *Egretta garzetta* in the bulrushes. Nesting commences in August and declines in January, with a peak in December. Juvenile, post-breeding dispersal must occur as the species' numbers remain fairly constant.

Ardea melanocephala Vig. and Childr.
Black-headed Heron (55)

Usually found in the grassy area near the brackish pools. Solitary and rare; two pairs were the most seen (October 1972). Only once seen on the nest by Jensen (date unrecorded) and breeding plumage was observed in September 1971.

Egretta alba melanorhynchos (Wagl.)
Great White Egret (58)

A single specimen was seen rarely, among flocks

of *Egretta garzetta garzetta* in the channels. Recorded eight times in 1970-72 and always from October to December.

Egretta garzetta garzetta (L.)
Little Egret (59)

Shows preference for the channels and at night roosts in the bulrushes. Common and more numerous than *A. cinerea* (maximum count 103). Breeding coincides with the latter. The peak population is found between January and March, three months after the breeding season, indicating that the juveniles do not disperse immediately.

Phoenicopterus roseus Pall.
Greater Flamingo (86)

Prefers the fringes and sand-banks of the open lagoon to the brackish pools. Up to 5 500 present in peak periods (September-October). When good rains fall in the interior, especially the Etosha Pan, most flamingoes leave the area to breed on the Pan (February-August 1971 and January-July 1974). In dry years they remain at Sandvis, although in smaller numbers (300-1 500).

Phoeniconaias minor Geoffr.
Lesser Flamingo (87)

In contrast to the previous species they frequent the brackish pools, channels and vegetated salt marshes. Abundant with a maximum of 1 500 present in October. Migration is similar to *P. roseus* during the breeding season.

Alopochen aegyptiacus (L.)
Egyptian Goose (89)

Found at the pools and vegetated areas, frequently amongst the grassy hillocks. The highest number present was 70, during August 1970 and included two albinos (the latter were resighted the following August). The species is always common with between 10-30 individuals present. Newly-hatched chicks found in January.

Tadorna cana (Gmel.)
South African Shelduck (90)

Always near vegetation and in small groups of up to five. Rare. The ratio of male to female was 1:2. Occasionally a pair was sighted flying high above the bordering dunes towards the south. Not recorded breeding.

Anas smithii (Hart.)
Cape Shoveler (94)

Confined to the brackish pools. Counts ranged between five and 80 with an average of 30-40 commonly present. Not found breeding. No migration tendency could be established.

Anas erythrorhyncha Gmel.
Red-bill Teal (97)

Only found at the brackish pools. Common with numbers reaching a maximum in early spring (35 in October) and declining towards autumn. The species was absent in the area from March to May of 1971 and in 1972 the numbers were lowest during the same period.

Anas capensis Gmel.
Cape Teal (98)

Most numerous on the reed-fringed pools but found throughout the area, including the open salt lagoon. Whilst *A. erythrorhyncha* is the commonest Anatid in S.W.A. (Winterbottom 1971), *A. capensis* is the most abundant at Sandvis. As many as 1 000 counted in October and 300-500 common. The species shows a migration corresponding to *A. erythrorhyncha*. An adult *A. capensis* ringed by us on 4/vii/71 at Swakopmund sewage ponds (75 km north) was recovered near Ondangwa in Owambo on 3/ii/73 (distance 540 km NE). Between March and June 1971 the numbers dropped to between 40-80. Numerous records of breeding (March to August). Average number of chicks 5 (range 1-8).

Anas hottentota Eyton
Hottentot Teal (99)

Limited to the brackish water pools and always near the bulrushes or reeds. Recorded during 50% of the counts and few in number (10 maximum in July). Uncommonly seen on average. They appear to migrate before *A. erythrorhyncha* and *capensis* (January to May) and were not found at all during this period in 1971. Not recorded breeding.

Dendrocygna bicolor (Vieill.)
Fulvous Whistling Duck (101)

A single specimen was present throughout the period 1970-1972 and ranged along the brackish pools, never away from other Anatids. It kept company mostly with *A. aegyptiacus*. The range of the species is thus extended considerably westward (cf. McLachlan and Liversidge 1970) and it is the southernmost record for S.W.A. (cf. Winterbottom 1971).

Netta erythrophthalma brunnea (Eyton)
Red-eyed Pochard (102)

Commonly found only on the brackish pools. Male/female ratio mostly equal. The most recorded was 90 (September-November) and the numbers drop in winter. During 1971 none could be found from April to June, indicating a migration similar to *A. erythrorhyncha* and *capensis*. Not recorded breeding.

Oxyura punctata (Burch.)
Maccoa Duck (103)

Found on the brackish pools. Up to 80 counted

in December 1971 which is when the greatest number of males in breeding plumage (30) were seen. Commonly present with a minimum population between March and June (5-15 individuals). This corresponds with the migration pattern of several previously listed Anatid species in the area. Breeding not recorded at Sandvis but chicks found at Walvis Bay sewage ponds (40 km north) in April.

Thalassornis leuconotus Eyton
White-backed Duck (104)

The species has been sighted only once by us (five individuals in a brackish pool during April 1970). Prozesky (1963) found the species breeding during January but it is now considered rare in the area.

Meliërax canorus (Thunb.)
Chanting Goshawk (165)

Single birds seen infrequently (eight sightings) throughout the count period. They perched on the dune slopes. One of the specimens was partially in immature plumage. It is interesting to note that the species is recognized as a potential predator by the sea-birds and the goshawks were on several occasions mercilessly mobbed by flocks of screaming terns.

Circus ranivorus ranivorus (Daud.)
African Marsh Harrier (167)

A single bird was seen on nine occasions during counts and sat either on the dune slopes or perched atop the grassy hillocks between the brackish pools. It was also mobbed by terns. This bird could not be identified with absolute certainty, being in sub-adult plumage, and according to Jensen who also viewed it, the possibility exists of it being the European Marsh Harrier *C. aeruginosus* (vide Peterson *et al.* 1969).

Limnecorax flavirostra (Swains.)
Black Crake (203)

A pair is known to frequent the reeds in the northernmost brackish pool of Sandvis. They were present from 1970 to 1974.

Porphyrio porphyrio madagascariensis (Lath.)
Purple Gallinule (208)

Occurs typically among the reeds and bulrushes. Counts show that the species is a rarely seen resident although six individuals were the most observed during a visit. No records of breeding. The species probably migrates from the interior by following river courses through the Namib Desert. It sometimes gets blown off-course by the wind and as a result can be found in the desert. In August 1972 we found a specimen in an exhausted state in the open desert, 15 km from the coast, during typically hot and strong east wind conditions.

Gallinula chloropus meridionalis (Brehm)
Moorhen (210)

Found all along the brackish pools and sometimes ventures across the tidal mudflats fringing the open lagoon. Uncommon, but more frequently seen than the previous species with 13 the maximum number counted during a visit. Chicks found between February and May. Migration unrecorded locally.

Fulica cristata Gmel.
Red-knobbed Coot (212)

Throughout the area, especially the brackish pools. Abundant, with a maximum of 570 counted. Breeds, but mainly in the winter months. Average egg clutch is five. The coot has shown the most distinct decline of all the species at Sandvis and its status has dropped accordingly from abundant to common. In 1970 the count reached 570 and this has gradually lowered to 65 (final count of 1972). Breeding has also declined. There has probably been a mass movement away from the area rather than large scale mortality. This movement may be linked with vegetation changes which occurred at Sandvis during this period (viz, the die-off of large tracts of *Typha* and *Phragmites*).

Haematopus moquini Bp.
Black Oystercatcher (231)

Frequents the salt marshes and tidal mudflats; also found along the lagoon edge. The number recorded is probably the greatest for this species in southern Africa and it is considered common in the area. Twice a year big flocks are to be found (December/January and May/June). On one occasion 150 individuals were counted as they rested on the mudflats. A flock size of 130 is common. These are migrant flocks and the peaks may be linked to a mass breeding further south. They have been recorded breeding in large numbers (more than 50 nests) on Halifax Island near Luderitz in May 1972 (Fryer, pers. comm.). Completely absent from the area in March-April of 1971-72.

Arenaria interpres interpres (L.)
Turnstone (232)

Occur uncommonly on the tidal mudflats and not in large numbers. Maximum flock size was 25 and average number seen was less than 10. Breeding plumage was present in May and October of 1971 and 1972. Only absent from the area during March-April of both years.

Charadrius hiaticula tundrae (Lowe)
Ringed Plover (233)

Found on the tidal mudflats and salt marshes. Regularly seen (maximum 13) but rare on average during most of the year. Not recorded in May. Occurs singly, in loose association with other wader

flocks. Immatures (incomplete breast band) seen from October to March of 1971/72.

Charadrius marginatus Vieill.
White-fronted Sandplover (235)

Usually on the drier sand above the tidal mark although also on the open mudflats. In pairs and small groups with flocking observed between June and August of 1971 and 1972 which may indicate a local movement (flock size 375). Common and always present with an average of 50 individuals seen during a visit. Breeds throughout the year with a definite peak in January.

Charadrius pallidus pallidus Strickl.
Chestnut-banded Sandplover (236)

Occurs commonly on the mudflats in numbers ranging from 10-100 (average 35). Usually loosely scattered among other waders but forms compact flocks during August. A seasonal visitor to the area (July to October), then notably absent. Not recorded breeding but an immature specimen was mist-netted in October.

Charadrius pecuarius Temm.
Kittlitz's Sandplover (237)

Very localised in the area and known to occur at only two places on the tidal mudflats. Occasionally scattered groups numbering up to 20 (March) but mostly uncommon, in twos and trios which remain within a small area. Only found breeding in September (two eggs per clutch).

Charadrius tricollaris tricollaris Vieill.
Three-banded Sandplover (238)

Found mainly at the fringes of the mudflats, on the edge of the *Arthrocnemum* clusters. Singly and in pairs. Maximum number counted 17 (July 1970) and no flocking seen. More numerous than *C. pecuarius* (average number present 7). Mating observed in June/July 1971. A resident species with no migration pattern evident.

Charadrius leschenaulti Less.
Great Sandplover (239)

A single specimen was recorded on two occasions (April/May 1970), on the mudflats, in the company of other waders. Jensen has four separate records from 1968-1971.

Pluvialis squatarola (L.)
Grey Plover (241)

Shows preference for the edges of the lagoon where it occurs singly and commonly. Also scattered on the tidal mudflats. A few are always present throughout the year with flocks (120 individuals) in February and again in August/September. De-

parting migrants exhibit partial breeding plumage in March and full breeding plumage is present as late as June. Arriving migrants observed in partial breeding plumage during September. At Langebaan Lagoon, SW Cape Province, which is also on the west coast, there are "two distinct waves of spring arrivals" (Liversidge *et al.* 1958) and one unusually large flock estimated to be 2 000 Grey Plovers was observed in August.

Vanellus armatus (Burch.)
Blacksmith Plover (245)

A total of eight specimens in 1970-71, of which four birds were found together (September 1971) in the grassy area surrounding the brackish pools.

Calidris ferruginea (Pontopp.)
Curlew Sandpiper (251)

Found in all parts of the area influenced by the tide. The most abundant and commonly seen wader at Sandvis with migrating flocks estimated at 5 000 which pass through in September. These large flocks remain noticeable for only a few days, indicating that they either break up and disperse in the area or are on passage. The species shows a regular, annual change into breeding plumage, partially apparent in March and fully so in April. These months coincide with the formation of departing flocks. A few individuals have been found in full breeding plumage throughout the winter. A bird ringed at Milnerton, Cape Province (33°50'S, 18°30'E) on 10/xii/71 was recaptured in a healthy condition at Sandvis on 24/i/73. Another bird, ringed at Sandvis on 8/iv/72 was also recaptured there on 24/i/73. Jensen sighted a single bird in the dunes of Tsondeb Valley, 50 km from the sea, south-east of Sandvis, during September 1973.

Calidris minuta (Leisl.)
Little Stint (253)

Found in the company of *C. ferruginea* and is the next most abundant wader to be seen on average (maximum count 550). Present throughout the year, reaching peaks during October through January and in May. Flocking not as noticeable as in the case of *C. ferruginea*. Breeding plumage was apparent from April through July, with overwintering individuals displaying intense rufous upper parts and streaking of the breast (cf. Peterson *et al.* 1969).

Calidris canutus canutus (L.)
Knot (254)

Prefers the open mudflats and tidally exposed sand banks of the lagoon. Commonly seen but few in number (15 and less) except when migrating flocks are on passage. During these periods it is abundant. Largest flock size observed was 1 300 and similar numbers have been counted from April through September. Traces of breeding plumage exist in March and a month later the full plumage can be

seen. The bird's upper parts are chestnut with a bold russet over the head and underparts (Peterson *et al.* 1969). In this state it is probably the most handsomely coloured wader to be seen at Sandvis.

Calidris alba (Pall.)
Sanderling (255)

Although most common along the open foreshore, the species can be found singly and in scatterings with other waders on the lagoon's mudflats. The foreshore groups number between 50-100 and two noticeable peaks occurred in February and July through August when flocks of 500 were encountered. In June and July a single specimen which was in full breeding plumage was observed in the flocks. The species has not been seen in the area during April and May.

Philomachus pugnax (L.)
Ruff (256)

Invariably common, in small flocks (25 and fewer) at the edge of vegetation surrounding the brackish pools. Absent during June and July.

Tringa hypoleucos L.
Common Sandpiper (258)

A rare visitor to the area from August to April. Seven records from 1970-1973. Found near vegetation of the tidal mudflats.

Tringa stagnitilis (Bechst.)
Marsh Sandpiper (262)

Rare at Sandvis. Eight summer records (October to April) of individual birds at the edge of the channels linking brackish pools to the lagoon. Three winter records (May to July).

Tringa nebularia (Gunnerus)
Greenshank (263)

Widely distributed in the area below the high tidal mark. Commonly seen in small groups and singly. Present throughout the year (10 and fewer seen) with flocks (up to 80) forming from October through April.

Limosa lapponica lapponica (L.)
Bar-tailed Godwit (266)

Limited to the lagoon where it is found in the shallows and on tidal sand-bars. Although McLachlan and Liversidge (1970) report very few wintering records for the species it has been present during all months at Sandvis. Lowest numbers recorded during June/July (2-3 individuals) with high influxes caused by flocks on passage during December through May and again in September (maximum count 1 800). Nearly full breeding plumage was present in 5 % of the May flocks and 15 % of the September flocks.

Numenius arquata (L.)
Curlew (267)

Found along the channels and edges of the lagoon. Recorded throughout the year with only a few individuals present during the winter months. Flocks of 55 and 100 on passage in March and August respectively. The species can occur at great distances into the dune area: on one occasion (September 1970) we sighted a Curlew on the dry Tsondeb Vlei, 110 km SE of Sandvis and 85 km from the sea.

Numenius phaeopus phaeopus (L.)
Whimbrel (268)

Distribution at Sandvis similar to *N. arquata*. Fewer in number and more solitary (average count 2). Flocks of 20-30 birds on passage in July and November. Present throughout the year.

Recurvirostra avosetta L.
Avocet (269)

Abundant in the brackish pools and channels leading to the lagoon. Mostly occurring in large flocks (up to 450) which are notably absent in February through April. To our knowledge the species does not breed at Sandvis.

Stercorarius parasiticus (L.)
Arctic Skua (284)

Commonly sighted over the open lagoon in summer. The most numerous of the skuas in this area (10-20 sighted during each summer count). Not seen from May to August.

Stercorarius pomarinus (Temm.)
Pomatorhine Skua (285)

Rarely sighted over the open lagoon (fewer than 3 individuals on average) and only in summer.

Larus dominicanus Licht.
Southern Black-backed Gull (287)

Congregates on the beach and at the lagoon. Abundant with 100-200 usually present. Breeding occurs in December/January and the species nests on the sand-bars at the lagoon mouth in the company of cormorants. Nests are more widely scattered than the cormorant nests. A total count of the species along 25 km of beach north of Sandvis gave a peak in March 1971 (1 420 adults: 877 immatures). Immatures form 40% of the population during October and March, indicating that more intensive breeding takes place elsewhere on the coast. One such area is the man-made salt pans 10 km north of Swakopmund. A bird ringed as a pullus at Sandvis on 20/xii/68 was recovered at Meob Bay (24°25'S, 14°34'E) 130 km south in May 1970. Another bird ringed as a pullus at Sandvis on 24/i/69 was recaptured there on 6/iv/72.

Larus cirrocephalus Vieill.
Grey-headed Gull (288)

They are invariably in the company of the next species and occur on the salt marshes more than *L. dominicanus*. A few birds nested (unsuccessfully) during December 1970 in the grass at the edge of brackish pools. Breeding plumage has been observed throughout the year. Although they are easily confused with *L.n. hartlaubi* when in non-breeding plumage, they are certainly far fewer in number than that species, and are considered uncommon on average.

Larus novaehollandiae hartlaubi (Bruch)
Hartlaub's Gull (289)

Mostly common on all the bodies of water in the area otherwise abundant, outnumbering *L. dominicanus* (flocks of 500 in September). They attempted to nest among a colony of coots in December 1970 but were unsuccessful. Predominant over *L. cirrocephalus* (sample counts of non-breeding birds give a ratio of 8:1) with which they commonly mix. At a mixed breeding colony of *L. n. hartlaubi* and *L. cirrocephalus* at Walvis Bay sewage ponds the ratio was 4:1.

Hydroprogne caspia (Pallas)
Caspian Tern (290)

Seen in flight over the open lagoon and roosts on its sandspits. Uncommon (3-10 seen on average) but present throughout the year. A flock of 50 was present in December 1970 and smaller flocks seen in August 1970 (breeding plumage evident in the latter month). The species has bred successfully at Swakopmund's salt pans in March 1973.

Sterna hirundo hirundo L.
Common Tern (291)

Mostly observed in flight over the lagoon, roosting on sandspits and at the lagoon mouth. For counting purposes, it and the next species could not be separated because they intermingled. They are an abundant species, numbering hundreds and sometimes thousands (January and February). The following recoveries of ringed *S. hirundo* have been made in the vicinity:

Ringing data	Recovery data
Pullus—16/vi/69 Mäntysaari, Finland (61°17'N, 28°19'E)	4/v/70 Walvis Bay (22°59'S, 14°31'E)
Pullus—21/vi/69 Kirveskari, Finland (60°18'N, 22°03'E)	12/iii/70 Walvis Bay
Pullus—6/vii/69 Hövåg, Norway, (58°12'N, 08°15'E)	28/v/70 Walvis Bay
Juvenile—1/xi/69 Kent, England (50°55'N, 00°59'E)	10/iv/70 Walvis Bay

Sterna paradisea Pontopp.
Arctic Tern (294)

See *S. h. hirundo*. Second in number only to the Cape Cormorant with flocks estimated at 10 000 — plus on passage from December to February 1970/71. In September of 1970 and 1971, up to 20 % of the arriving tern flocks displayed the grey underparts of *S. paradisea*. Some birds were noticeably grey on the breast, which at this time of the year indicates that moult from breeding plumage is not yet far advanced.

Sterna sandvicensis sandvicensis Latham
Sandwich Tern (296)

Intermingles with other terns. Relatively few in number but nevertheless common and sometimes abundant. At least 300 were counted in a migrating flock in December 1970. Breeding plumage observed in March 1972. The species is present throughout the year and Sandvis is probably an overwintering area for it. Recoveries of ringed *S. sandvicensis* in the vicinity are:

Ringling Data	Recovery date
Pullus — 18/vi/66 Hampshire, England (50°47'N, 01°23'W)	22/xii/71 Sandvis
Pullus — 13/vii/62 Lancashire, England (54°04'N, 03°09'W)	15/i/71 *off-shore from Pelican Point lighthouse, Walvis Bay (ca. 22°57'S, 14°28'E)
Pullus — 15/vi/69 Aberdeenshire, Scotland (57°20'N, 01°59'W)	15/i/71 * off-shore from Pelican Point lighthouse
Pullus — 20/vi/70 Wexford Harbour, Ireland (52°20'N, 06°25'W)	15/i/71 * off-shore from Pelican Point lighthouse

*The uniqueness of these recoveries should be pointed out. All three birds were shot (for a museum collection) consecutively and at random from a flock of thousands of terns engaged in fishing.

Sterna bergii bergii (Licht.)
Swift Tern (298)

They tend to keep separate from the other tern species when in flocks but singly they intermingle. Breeding plumage is present in May and the species is present throughout the year. Flocks of 25-30 birds were present in August 1970. For the remainder of the counting period 5 individuals were seen during a visit and on average it is considered uncommon.

Sterna balaenarum (Strickland)
Damara Tern (300)

Occurs commonly throughout the area and hunts separately from other tern species. During March their numbers reach up to 40 birds fishing in loose

association over the open lagoon. The breeding season is December-January and Clinning first four nests with pulli on the gravel flats of the coast: Namib about 50 km north of Swakopmund and 1-km from the beach. Subsequently we have observe that breeding is loosely gregarious. Breeding site have not been found at Sandvis but the typical courtship displays occur there. During courtship one partner will offer a small fish to its potential mate and this is interspersed by intensive calling in flight. The voice is diagnostic: an oft-repeated high tinnny "cheet-chit". Movement appears to be local and the species is present throughout the year.

Chlidonias leucoptera (Temm.)
White-winged Black Tern (304)

Occurs over the pools which it patrols repeatedly when hunting. Hawking of its food takes place mostly into the wind, enabling it to cover the area at a slow speed. Uncommon, with small parties of up to 10 patrolling the pools in close association with the next species, from which it can be distinguished in the field in winter plumage by the whitish rump (Peterson *et al.* 1969). A migrant to our summer.

Chlidonias hybrida sclateri Matthews and Iredale
Whiskered Tern (305)

Habits as for *C. leucoptera*. Not recorded breeding although we sighted it in almost full breeding plumage in May 1972. Migrates to our summer. Jensen saw it once in numbers during January 1971 when it mixed with a flock of about 20 000 *S. hirundo* and *paradisea*. On average it is considered rare in the area.

Chlidonias nigra nigra (L.)
Black Tern (305X)

Found over the open lagoon and more along the shoreline than *C. leucoptera* and *hybrida*. Frequently roosts on sandspits. Absent from the area during October-December, otherwise present in small numbers (5-15) throughout the year. During January/February 1971 flocks of several hundred passed through the area in the company of *S. sandvicensis*. During the same period we sighted a flock estimated to be 800 *C. nigra* at sea off Pelican Point, Walvis Bay. On average it is nevertheless considered uncommon at Sandvis. Jensen and Berry (1972) collected specimens at Sandvis which were identified as belonging to the European race *C. n. nigra*.

Tyto alba affinis (Blyth)
Barn Owl (359)

A single specimen was seen at regular intervals throughout the count period and frequented the derelict buildings where a large number of food pellets accumulated.

Hirundo rustica rustica L.
European Swallow (493)

The first migrants arrive in October and depart in April. Common during December and January when the flocks number 80-100, with many immatures present. Their habit is to skim along the dune slopes and over the marshes. They have also been observed sitting on the beach sandspits in daylight. A bird ringed as a pullus in Cheshire, England (53°07'N, 02°51'W) during July 1971 was recaptured on a fishing trawler near Sandvis during March 1972.

Hirundo dimidiata dimidiata Sund.
Pearl-breasted Swallow (498)

Rare. Up to four birds sighted over the pools during June to August, otherwise absent from the area. Prozesky (1963) collected specimens and subsequently identified the race as *H. d. dimidiata*. His sightings were in May and a single bird in January.

Hirundo spilodera spilodera Sund.
Cliff Swallow (504)

A party of six birds was sighted over the marshes during August and September 1970. In October of that year two birds were observed. One other undated record by Jensen. Absent throughout the remainder of the period and therefore a rare visitor.

Corvus albus Müller
Pied Crow (522)

A pair has inhabited the abandoned outbuildings and garden of the fishermen throughout the period. They have bred successfully between September and December of 1970-73. Up to three chicks were raised but never more than a pair of birds was present after the chicks had fledged. The crows scavenge along the whole area and have been observed feeding from Cape Fur-seal *Arctocephalus pusillus* carcasses on the beach. They once attacked and killed an injured Grey Plover. The heronry is also visited where they are opportunist predators of eggs and chicks.

Acrocephalus baeticatus hallae White
African Marsh Warbler (606)

A resident species found commonly in the reedbeds and bulrushes. It probably breeds in the area as old nest cups have been found. Due to its habit of flitting from stem to stem it is seen only momentarily. Heard more than seen and judging from the amount of calls it is fairly numerous.

Cisticola juncidis terrestris (Smith)
Fantail Cisticola (629)

Prozesky (1963) collected specimens which belong to this race. He suggests that they breed in the grass or sedge but although we encountered

cisticolas in the *Odyssea*, nests have not been found. Jensen found that the species was absent from 1968 to 1970. He recorded only a few individuals from 1972 onwards and is of the opinion that its numbers fluctuate greatly. Based on these observations it is considered uncommon in the area.

Prinia flavicans (Vieill.)
Black-chested Prinia (650)

Only single birds sighted. Resident and rare among the tangled clumps of *Scirpus* and *Eragrostis*, also among dry, dead reeds. Breeding plumage has been observed between June and October.

Motacilla capensis L.
Cape Wagtail (686)

Prozesky (1963) reports that "the size of the population at Sandwich Harbour is enormous and is estimated at a few hundred pairs." The population is resident and maintains the most constant level of all bird species in the area. Our counts are lower than Prozesky's estimates and range from 50-70 for the entire period. Favoured habitat is the grass and sedge around the brackish pools. Sometimes found chasing insects on the open beach. One record of breeding in June 1971 with a clutch of 3 eggs.

Lanius collaris L.
Fiscal (707)

A single bird took up residence at the old cemetery towards the northern pools from June 1971 for a year, after which it was no longer seen.

Passer melanurus damarensis Rchw.
Cape Sparrow (786)

Commonly found among dead reeds and the Narra plants. Flocks of up to 75 were encountered in September, indicating a local movement between Sandvis and the Kuiseb delta. Resident with a few birds always seen. Not found breeding.

Ploceus velatus Vieill.
Masked Weaver (803)

Rarely present and then they frequent the greenest reedbeds and bulrushes. Not seen in parties of more than four. Although breeding plumage was assumed at various times of the year, especially October to December, a nest with eggs was found only in December 1973 by Jensen. Their absence for periods of several months suggests a local movement to the Kuiseb River where they are numerous.

Estrilda astrild (L.)
Common Waxbill (843)

Commonly seen in flocks of between 10 and 90 individuals which move continually through the

reedbeds and bulrushes, sometimes settling on the taller grass clumps. The biggest flocks appeared in October, after which their size rapidly diminished until only small groups occurred in January, an indication of breeding. Resident, but there is likely to be an exchange of individuals between Sandvis and the Kuiseb River.

VAGRANT SPECIES

Spheniscus demersus (L.)
Jackass Penguin (2)

Two sightings of immatures on the open foreshore (July 1970, January 1971). Apparently stragglers which ranged far north of the nearest islands on which they occur and breed (Hollamsbird and Mercury Islands, 150 km and 270 km south respectively). Two immatures, ringed in August and October 1972 on Dassen Island, were recovered in December 1972 at Walvis Bay and Swakopmund, a distance of 625 km and 650 km respectively.

Daption capense capense (L.)
Cape Pigeon (14)

One bird found on the open foreshore during December 1970 by Clinning.

Phalacrocorax africanus (Gmel.)
Reed Cormorant (50)

Recorded in 1959/60 by Prozesky (1963) but not observed during the period under review. The Crowned race of this species *P. a. coronatus* (Wahlb.) is known to occur regularly on "Bird Rock" guano platform in Walvis Bay (50 km northwards) and breeding has been observed from December to April (Berry 1974). Dean and Jensen sighted one *P. a. coronatus* at Sandvis in April 1973.

Anhinga rufa (Lacép. and Daud.)
Darter (52)

Jensen records a bird flying along the beach, 1 km from Sandvis, in April 1970.

Egretta intermedia brachyrhyncha (Brhm)
Yellow-billed Egret (60)

Immelmann records one bird at Sandvis in September 1969.

Ardeola ibis ibis (L.)
Cattle Egret (61)

Previously recorded by Prozesky (1963) and a single record in 1969 by Jensen. No longer found in the area, probably because the domestic animals were removed when people living at Sandvis moved away in 1969.

Nycticorax nycticorax nycticorax (L.)
Night Heron (69)

Two immatures were found together in the bulrushes during July and October 1972. Apparently not resident. This is a new record for the coast of S.W.A.

Platalea alba Scop.
Spoonbill (85)

A single specimen found among a flock of Lesser Flamingoes in March 1970. Again in April 1974 (Kahl). Not resident. This sighting extends the recorded range of the species to the desert coast of S.W.A. (cf. McLachlan and Liversidge 1970).

Falco peregrinus Tunstall
Peregrine (113)

One undated sighting in summer by Clinning.

Falco biarmicus biarmicus Temm.
Lanner (114)

One record by Dean and Jensen in April 1973.

Falco tinnunculus rupicolus Daud.
Rock Kestrel (123)

A single specimen found roosting by Prozesky (1963) in May. No sightings during the period under review.

Buteo rufofuscus (Forst.)
Jackal Buzzard (152)

A single bird sighted along the beach by Prozesky (1963) but not recorded since.

Rallus caerulescens Gmel.
Water Rail (197)

Not sighted during the 1970-74 period but Dixon (1970) collected an adult specimen at the brackish pools.

Porzana porzana (L.)
Spotted Crake (201)

A few uncertain sightings we made of this species were confirmed when Goussard found a dead bird inside one of the derelict buildings near a reed bed.

Porzana pusilla obscura Neum.
Baillon's Crake (202)

We have seen a single bird three times in one area, at the edge of the brackish pools among heavily matted vegetation.

Haematopus ostralegus L.
European Oystercatcher (231X)

A single bird has been recorded on at least three occasions in January (Prozesky 1963, Jensen in 1970, ourselves in 1971). It kept company with a small flock of *H. moquini* and was very shy.

Limicola falcinellus (Pontopp.)
Broad-billed Sandpiper

Not yet listed by McLachlan and Liversidge (1970) and recorded at Swakopmund as a Palaearctic vagrant (Winterbottom 1971). A single specimen was mist-netted at night on the mudflats by H.H.B. during January 1973 and subsequently identified (Becker *et al.* 1974). This is the first record for the species at Sandvis.

Tringa terek (Lath.)
Terek Sandpiper (257)

Two single records (Jensen in 1969, ourselves in March 1972).

Tringa totanus (L.)
Redshank (261)

There are three single records (Vernon in 1968, Jensen in summer 1969, ourselves in August 1972). This is somewhat at variance with McLachlan and Liversidge (1970) who consider it not uncommon in the Walvis Bay region. The bird we sighted was by itself among the *Arthrocnemum* beds.

Tringa glareola L.
Wood Sandpiper (264)

One specimen recorded by us from a reed-fringed pool in August 1972. Another by Dean and Jensen in April 1973. Prozesky (1963) found the species during both his visits (May and January).

Himantopus himantopus himantopus (L.)
Stilt (270)

Three birds recorded in a brackish pool during July 1970. Not resident and appears to have declined in the area because Prozesky (1963) found small flocks and many immatures.

Phalaropus fulicarius (L.)
Grey Phalarope (271)

One specimen found dead on the beach by Clinning in December 1970.

Stercorarius skua (Brünnich)
Antarctic Skua (286)

Although common off-shore from Sandvis, there is only one record from the lagoon area by Immelmann in September 1969.

Larus sabini Sabine
Sabine's Gull (289X)

One specimen sighted on the beach during May 1971.

Pterocles namaqua (Gmel.)
Namaqua Sandgrouse (307)

Two adult females and one adult male were recorded flying over the area in April 1974, by Dixon.

Oena capensis anonyma (Oberh.)
Namaqua Dove (318)

Prozesky (1963) found a single female during May and in June 1971 we sighted another female. The species is definitely not resident and probably wanders from the Kuiseb riverine forest.

Bubo africanus africanus Smith
Spotted Eagle Owl (368)

Two night records (Jensen in 1969, ourselves in August 1970).

Hirundo cucullata Boddaert
Greater Striped Swallow (502)

Two records of a single bird (August-September 1970).

Riparia paludicola paludicola (Vieill.)
African Sand Martin (509)

One sighting of two birds over the marshes during August 1970.

Riparia cincta xerica Clancey and Irwin
Banded Sand Martin (510)

One undated sighting by Jensen.

Muscicapa striata (Pall.)
Spotted Flycatcher (654)

Two birds recorded at the brackish pools by Jensen in December 1973.

Motacilla flava flava L.
Yellow Wagtail (689)

A single bird was sighted on the open beach in May 1971. Identified as belonging to the grey-headed group (cf. McLachlan and Liversidge 1970) and according to the presence of an eye-stripe the race is *M. f. flava*. Prozesky (1963) collected a specimen of this race at Gobabeb, 60 km east of Sandvis, on the Kuiseb River (he states incorrectly that it was 80 miles from the Atlantic). Winterbottom (1971) lists *M. f. thunbergi* Billberg, also of the grey-headed group, but without an eye-stripe, as occurring at Sandvis.

Anthus novaeseelandiae (Gmel.)

Richard's Pipit (692)

One undated sighting by Jensen.

Creatophora cinerea (Meuschen)

Wattled Starling (735)

A group of three birds recorded by Jensen in April 1970.

Nectarinia fusca (Vieill.)

Dusky Sunbird (764)

A single female was recorded by Jensen in April 1970.

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6 REFERENCES

- BECKER, P., JENSEN, R. A. C. and BERRY, H. H.
1974 Broad-billed Sandpiper *Limicola falcinellus* in South West Africa *Madoqua* Ser. I, No. 8: 67-71.
- BERRY, H. H.
1974 The Crowned race of Reed Cormorant *Phalacrocorax africanus coronatus* breeding underneath Walvis Bay guano platform, South West Africa. *Madoqua* Ser. I, No. 8: 59-62.
- DIXON, J. E. W.
1970 Miscellaneous Notes on South West African Birds *Madoqua* No. 2: 45-47.
- JENSEN, R. A. C. and BERRY, H. H.
1972 The Black Tern *Chlidonias nigra* (L) in South West Africa. *Madoqua* Ser. I, No. 5: 53-56.
- LIVERSIDGE, R., BROEKHUYSEN, G. J. and THESEN, A. R.
1958 The birds of Langebaan Lagoon. *Ostrich* Vol. XXIX No. 3: 95-106.
- McLACHLAN, G. R. and LIVERSIDGE, R.
1970 *Roberts Birds of South Africa*. Trustees of the John Voelcker Bird Book Fund, Cape Town.
- PETERSON, R., MOUNTFORT, G. and HOLLAM, P. A. D.
1969 *A Field Guide to the Birds of Britain and Europe*. Collins, London.
- PROZESKY, O. P. M.
1963 Ornithological results of the Transvaal Museum Namib Expedition May 1959, and the subsequent trip to Sandwich Harbour during January, 1960. *Ostrich* Vol. XXXIV, No. 2: 78-91.
- RAND, R. W.
1959 The Distribution, Abundance and Feeding Habits of the Cape Gannet, *Morus capensis*, off the South Western Coast of the Cape Province. *Division of Fisheries Investigational Report* No. 39. The Government Printer, Pretoria.
- VAN ZIJL, L. S. and HUYSSSEN, R. M. J.
1967 'n Seismiese refraksie-opname van die deltag gebied van die Kuisebrivier. Verslag vir die Loodskomitee-vergadering.
- WINTERBOTTOM, J. M.
1971 *A Preliminary Check List of the Birds of South West Africa*. S.W.A. Scientific Society, Windhoek.