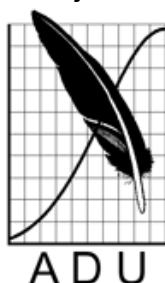


Ornithological Observations



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Ornithological Observations accepts papers containing faunistic information about birds. This includes descriptions of distribution, behaviour, breeding, foraging, food, movement, measurements, habitat and plumage. It will also consider for publication a variety of other interesting or relevant ornithological material: reports of projects and conferences, annotated checklists for a site or region, specialist bibliographies, and any other interesting or relevant material.

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AN ANNOTATED CHECKLIST OF BIRDS OF THE VILANCULOS COASTAL WILDLIFE SANCTUARY, SOUTHERN MOZAMBIQUE

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Abstract

The Vilanculos Coastal Wildlife Sanctuary (VCWS) lies on the San Sebastian Peninsula, Inhambane Province, southern Mozambique. The dominant terrestrial habitat is low miombo *Brachystegia* savanna. Less extensive terrestrial habitats include sand forest, dune forest, dune thicket, and open scrub. Freshwater wetlands form the area's most outstanding feature and include a large number of closed pans, permanent lakes, ephemeral and permanent marshes. Salt water habitats include large expanses of tidally-influenced sand-flats, salt marshes and mangroves in the Inhambane Estuary and along the northern and north-western shores of the peninsula. Based on three surveys (conducted in 2002, 2012 and 2013) and miscellaneous observations (2003 to 2013), a total of 285 species have been recorded, as well as an additional 23 unconfirmed species, giving a total species count of 308 species for the VCWS. Significant populations of Greater Flamingo, Crab Plover, Olive Bee-

eater, and Lemon-breasted Canary occur within the VCWS. Other noteworthy records include Wattled Crane, Greater Frigatebird, Cape Teal, Long-toed Plover, Southern Banded Snake Eagle, Sooty Tern, Gull-billed Tern, Common Black-headed Gull, and Green-backed Woodpecker, all species that are rare in southern Mozambique. New records for Sul do Save include Pallid Harrier, Lesser Noddy and Black-winged Bishop. Despite incomplete counts, it is evident that large numbers of Palaearctic charadriiforms and other waders are present in summer. Breeding evidence is confirmed for only 22 species, with equivocal evidence for another nine species, but notably includes large breeding colonies of Olive Bee-eater. The wetlands in the Sanctuary were inundated by Cyclone Leon-Eline in February 2000, Cyclone Japhet in March 2003 and Cyclone Favio in February 2007. A progressive drying out of the freshwater wetlands in the Sanctuary has been noticeable since the cyclonic inundation episodes with a associated decline in waterbird numbers. It is possible that episodic recharging of wetlands by tropical cyclones is an important and overlooked ecological factor in creating suitable habitat for breeding waterbirds in Mozambique. Miscellaneous behavioural and ecological notes are also included.

Introduction

The Vilanculos Coastal Wildlife Sanctuary (VCWS) is a privately managed, 25 000 ha conservation and fully protected area on the San Sebastian Peninsula of Inhambane Province, Mozambique. The Sanctuary extends from the northernmost point of the peninsula south to S22°20.545'. It lies approximately 19 km south-east of Vilanculos (Vilankulo) town and 13 km south of the Bazaruto Archipelago (Ilha Magaruque). Its north-western and northern boundaries border on the tidally-influenced Vilanculos Bay. Prior to its establishment as a protected area, the peninsula was thinly populated with subsistence farmers and fisherman. Several com-



munities are still present within the Sanctuary boundaries, particularly on the north-eastern side of the peninsula where there are several fishing communities.

Avifaunal surveys in southern Mozambique, particularly those concentrating on a specific area, remain sparse. Aside from the general accounts of Rosa Pinto and Lamm (1953, 1955, 1956, 1960), Clancey (1996) and Parker (1999), the only detailed site-specific bird studies for Sul do Save (that part of southern Mozambique south of the Save River) are the annotated check-lists for Maputo Elephant Park (Parker and de Boer 2000) and Banhine National Park (Pietersen and Pietersen 2010). In particular, our knowledge of numbers, seasonal fluctuations and distribution of waders along the southern Mozambican coastline is meagre, although it is obvious that there are sites of global and regional importance for waders in this sector (e.g. Koehler and Koehler 1996). Likewise, the waterfowl and associated freshwater birds of southern Mozambique remain poorly studied, although Milstein (1984) and Dutton (1987) identified significant freshwater wetlands for birds in southern Mozambique.

The current paper summarises existing knowledge of the Vilanculos Coastal Wildlife Sanctuary based on eleven years of intermittent observation in the Sanctuary by CR and brief surveys by WRT, MDA, GBPD and TAA. Our preliminary observations indicate the VCWS is an important locality for waders and episodically for other waterbirds. The general conservation importance of the San Sebastian Peninsula has also long been recognised (e.g. Tinley *et al.* 1976).

Study area

The predominant vegetation in the Sanctuary is low *Brachystegia spiciformis* (miombo) savanna growing on white, nutrient-poor sands.



Fig 1 - Southern part of Inhambane Estuary, Vilanculos Coastal Wildlife Sanctuary, San Sebastian Peninsula, with Indian Ocean in distance.

Other conspicuous savanna tree species include *Brachystegia torrei*, *Julbernardia globiflora*, *Albizia versicolor*, *Garcinia livingstonei*, *Balanites maughamii*, *Diospyros rotundiflora*, *Strychnos spinosa* and *Sclerocarya birrea*. The miombo savanna is generally of low stature (< 7 m) and is mostly a secondary formation, regenerating on old subsistence farmlands; there are some open grassy glades in the miombo savanna, often dotted with Lala palms *Hyphaene coriacea* and *Vachellia burkei*¹. In the early part of the study there were still cultivated fields present within the Sanctuary, where pioneer species have now regenerated as dense thickets. In many places the miombo savanna runs right down to the edge of Vilanculos Bay and

¹ *Vachellia burkei* previously known as *Acacia burkei* (Ed).



Fig 2 - View over Eastern Vlei (middle area) with mangrove forests and Inhambane Estuary in distance and open miombo savanna in foreground.

the Inhambane Estuary shore, with only occasional patches of dune thicket and even rarer dune forest still existing. In the northern part of the peninsula, the savanna opens up and becomes more scrubby in nature.

The Inhambane Estuary extends for approximately 25 km south to north in the eastern part of the Sanctuary dividing the peninsula from the Eastern Sand Spit (Fig. 1). The peninsula abuts large expanses of sand-flats that are tidally influenced; large areas of sand-flat (c. 2000-3000 ha) are exposed at low tide. Between the intertidal flats and savanna, are large expanses of mangrove forest comprising seven mangrove genera and dominated by the following species *Avicennia marina*, *Rhizophora mucronata* and *Bruguiera gym-norrhiza*. There are also salt marshes scattered along the edge of Vilanculos Bay with *Schoenoplectus littoralis*, *Brexia madagas-cariensis*, *Salicornia* and *Sarcocornia* species. Linene and

Chingonguene islands, c. 200 and 100 ha in size respectively, lie within the northern part of the Inhambane Estuary and are vegetated with *vachellia* scrub and low savanna. The small, c. 15 ha Banque (Bangwe) Island, lying 5.8 km north of the peninsula falls partially within the Sanctuary boundaries; the island largely consists of bare dunes but its central portion is sparsely vegetated with low (< 0.5 m) vegetation. Small embayments are present around the island's coastline.

Scattered in the western parts of the Sanctuary, below the 20 m asl contour, are approximately 35-40 ephemeral and permanent pans. In the communal area outside of the core Sanctuary boundaries is the large Lake Manhale (Manhali), a freshwater lake of approximately 250 ha in extent. The lake is largely an open sheet of water with bare or sparsely vegetated shores; there is little emergent growth except in a few small embayments. A large ephemeral wetland (Eastern Vlei) extends for approximately 8.5 km down the western margin of the Inhambane Estuary (Fig. 2). Following Cyclone Leon-Eline in February 2000 and Cyclone Japhet in March 2003 most of the freshwater wetlands on the peninsula became deeply flooded (Fig. 3) and attracted a wide range of waterbirds. Subsequently the pans have gradually dried out over the years with a associated decline in waterbird numbers, except for flooding following Cyclone Favio in February 2007. During the December 2012 survey, only Mukwe Pan, Noni Pan and Lake Manhale and the lake near Marape held open water; otherwise most of the other pans were dry and reed-choked. There are no rivers running through the Sanctuary and all fresh water is restricted to that found in pans and marshes.

In the east-central part of the Sanctuary is an ill-defined block of Dry Semi-deciduous Sand Forest with much denser undergrowth (including shrubs like *Croton pseudopulchellus* and climbers such as



Hugonia orientalis, *Uvaria caffra* and *Artrabotrys brachypetalus*) and taller trees (including *Azelia quanzensis*, *Ptaeroxylon obliquum*, and *Drypetes reticulata*) than the surrounding miombo savanna.

There are a few fishing subsistence communities on the north-eastern side of the peninsula, and in addition to these, there are a fairly large number of community members living south-west of the game fence who commute across the reserve to the estuary to fish and harvest other marine resources for subsistence reasons. A threat to the marine life is fishermen coming into Sanctuary waters from Vilanculos to commercially fish for resale in Vilanculos.

There is at present one commercial tourist lodge (Dugong), with residential housing sites on the northern Mazarette shore of the peninsula near Pelican Bay as well as the north-western margin of the peninsula. A network of narrow sand roads radiate throughout the Sanctuary. Outside of the core boundaries of the Sanctuary on the south-western side are communal lands densely populated with subsistence agricultural farmers.

The topography is flat to lightly undulating with the altitudinal range between 0-65 m asl, although most of the Sanctuary lies below 35 m asl. The predominant substrate is mostly white or reddish sands, except for the dark clays in the grassy vleis and ephemeral and permanent pans. Annual rainfall is quite low, with approximately 600-800 mm/annum, slightly higher in the south. Game animals have been re-introduced into the Sanctuary and currently species include small numbers of Sable *Hippotragus niger*, Giraffe *Giraffa camelopardalis*, Eland *Tragelaphus oryx livingstonii*, Kudu *Tragelaphus strepsiceros*, Nyala *Tragelaphus angasii*, Bushbuck *Tragelaphus scriptus*, Plains Zebra *Equus quagga*, Blue Wildbeest *Connochaetes taurinus*, Red Duiker *Cephalophus natalensis*, Common Duiker

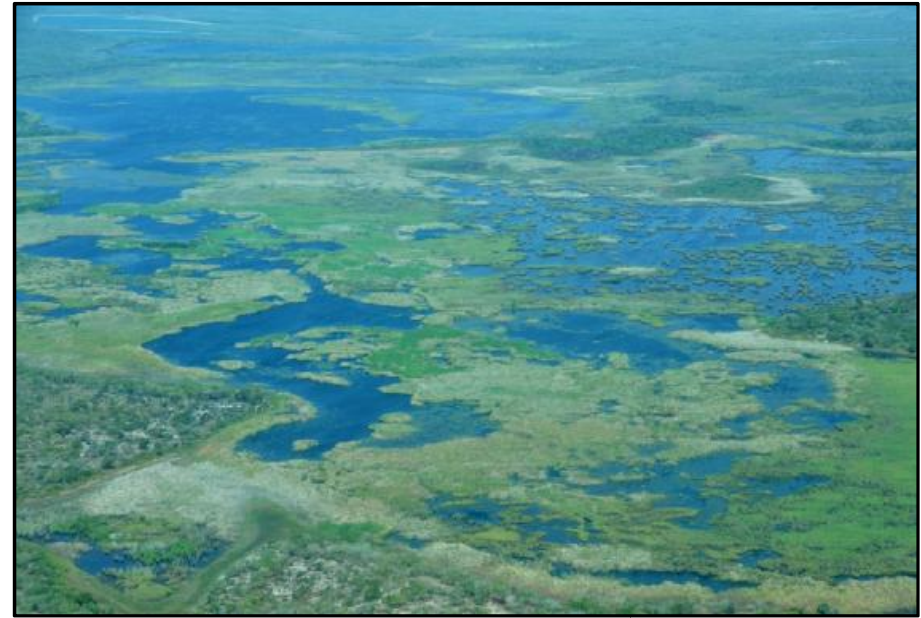


Fig 3 - View of inundated pans in the Vilanculos Coastal Wildlife Sanctuary following cyclonic rainfall.

Sylvicapra grimmia, Suni *Neotragus moschatus*, Steenbok *Raphicerus campestris*, Waterbuck *Kobus ellipsiprymnus*, Bushpig *Potamochoerus larvatus*, Baboon *Papio cynocephalus ursinus*, Vervet Monkey *Cercopithecus pygerythrus*, Samango Monkey *Cercopithecus mitis*, Thick-tailed Galago *Otolemur crassicaudatus*, Banded Mongoose *Mungos mungo*, and Common Large-spotted Genet *Genetta maculata*.

Methods

CR visited the Sanctuary every year (usually three/four times per year) from 2003 to 2013. During these visits notes were kept of birds seen, especially in the vicinity of site 9 – Curlew House; most of the Sanctuary was investigated during this time but detailed notes of



coverage were not kept. A week-long survey was conducted by WRT during June 2002 when 160 species were recorded in the Sanctuary, and that survey forms the basis of this paper. WRT covered most of the Sanctuary during his survey, and produced the first comprehensive annotated check list. In December 2012, CR, MDA, TA and GBPD undertook a six day survey of selected habitats in the Sanctuary. The miombo savanna in the northern part of the Sanctuary was traversed by foot and vehicle on two mornings and afternoons, including a short (30 min) walk through part of the Eastern Vlei, which was largely dry. A brief (c. 1.5 hrs) morning visit was made to the Sand Forest patch. On three afternoons and one morning the mangrove and bay fringes near Curlew House were explored by canoe and on foot. MDA and TA undertook a seven hour walk from Curlew House to just past the northernmost point of the peninsula counting all waterbirds, MA using a telescope to count and identify the waterbirds while TA scribed. The Inhambane Estuary mouth, Linene Island and Banque Island were surveyed from a motorboat at high tide on one morning. Coverage of Linene was very superficial, while a complete waterbird count was conducted at Banque. A full waterbird count at Lake Manhale was conducted on one morning, the entire perimeter of the lake being traversed in a 4x4 vehicle with the shoreline and lake surface being scanned with binoculars by all four observers. These observations by the authors were supplemented by the following additional data: (1) information obtained from the bird atlas for Sul do Save (Parker 1999), which listed 155 species (between 1994-1998) for 2235AB and 2235AD, the two quarter degree squares covering the peninsula, (2) sightings made by VCWS staff, visitors and site owners; these observers are identified by their initials in the species accounts which follow (C&NC – Charlotte and Neville Crosse; RH - Rod Humphris; MR – Mark Read; NJ – Neils Jacobsen; SK – Scotty Kyle; K&AL – Ken and Angela Lund; JE – Janica Ehlers; JN - Jenny Newenham; DS - Dave

Smart; and LR - Larry Routledge). Our observations are also compared against information published by Kohler and Kohler (1996) on the nearby Bazaruto Archipelago and Cizek (2008) in the vicinity of Vilanculos town where relevant. Common and scientific names follow the BirdLife South Africa checklist (Lotz 2013). Co-ordinates of localities mentioned in the text are provided in Appendix 1.

Noteworthy aspects of the birdlife of the Vilanculos Coastal Wildlife Sanctuary

The avifauna of the VCWS is diverse with 285 confirmed species and another 23 unconfirmed species. Significant records include sightings of Wattled Crane, Long-toed Plover, Saddle-billed Stork, Greater Frigatebird, Cape Teal, Southern Banded Snake Eagle, Sooty Tern, Gull-billed Tern, Common Black-headed Gull, and Green-backed Woodpecker, all species that are rare in Sul do Save (Clancey 1996; Parker 1999). New records for Sul do Save include Pallid Harrier, Lesser Noddy and Black-winged Bishop, these species having never been seen south of the Save River before (Clancey 1996; Parker 1999).

Further investigation will undoubtedly add more species to this list. Some likely candidates include Madagascar Pond Heron, Broad-billed Sandpiper, Arctic Tern, Black Coucal, Flappet Lark, Red-winged Warbler, Magpie Mannikin and Green Twinspot. As the miombo savanna matures and the overall stature of savanna increases, miombo savanna species like White-breasted Cuckoo-shrike and Mashona Hyliota, as yet unrecorded from the peninsula, may also be found.

No complete count has been made of the waders and associated waterbirds in the Inhambane Estuary or along the southern edge of Vilanculos Bay within the Sanctuary. Nonetheless as the figures in



Table 1 indicate, despite our incomplete counts in the December 2012 survey, the numbers of Charadriiformes are comparable to some of the most important tropical and sub-tropical wader localities along the east coast of southern Africa. This suggests that the VCWS is an important – possibly extremely important – 'wintering' locality for migratory waders and terns (see e.g. counts of Common Ringed Plover, Little Stint and Swift Tern; Table 1).

Especially noteworthy are the large numbers of Crab Plovers that occur on the peninsula (Fig. 4). The plovers are largely recorded from the shoreline of the Eastern Sand Spit, particularly along the Indian Ocean margins. It appears that approximately 200 Crab Plovers use the peninsula shorelines in summer. Hockey and Aspinall (1996) indicated that "... the total Mozambique population probably doesn't exceed 500 birds" while Parker (1999) estimated that there "may be up to 200 birds" in Sul do Save. If the latter figures are correct, then it suggests the San Sebastian Peninsula carries a very high percentage of the Mozambican population of this unusual wader. Aside from the incomplete December 2012 counts, significant numbers of Common Tern (>3000), Bar-tailed Godwit (>150) and Common Whimbrel (c. 200) have also been observed at other times (see respective species accounts). A comprehensive summer count of the waders and associated waterbirds in the Inhambane Estuary and southern edge of Vilanculos Bay is now one of the outstanding priorities for future ornithological work in the Sanctuary.

Only 22 species have been recorded breeding (nests, eggs, chicks) in the Sanctuary, with a further nine species with vague or circumstantial evidence of breeding (Table 2), but this is obviously too low a figure and further attention should be given to documenting nesting records in the VCWS. Especially significant from a breeding



Fig 4 - Flock of eight Crab Plovers on Eastern Sand Spit, VCWS.

perspective are the three known breeding colonies of Olive Bee-eater (Figs 5, 6). There appear to be few breeding records from the mainland of Mozambique, most colonies being known from the Bazaruto Archipelago. Clancey (1996) and Parker (1999) only recorded nesting in September and October, but during December 2012 and 2013 the colonies in the Sanctuary were still intensely active.

From about 2002-2004, the pans in the Sanctuary were extensively inundated following cyclonic rainfall. Although detailed notes were not kept, the pans have gradually dried out since then and the numbers of waterbirds has declined appreciably, except for the period following Cyclone Favio in February 2007. This suggests that episodic recharging of the pans by cyclones is possibly an important



Fig 5 – Active Olive-Bee-eater colony in a sandy embankment.



Fig 6 – Olive Bee-eaters at nest burrows.

ecological phenomenon on the peninsula. Such a view gains support from the observations by Robson and Horner (2012) on the Ozabeni coastal plain just north of Lake St Lucia, KwaZulu-Natal (approximately S27°40', E32°34'). Following extremely heavy rainfalls after Cyclone Domoina in late January 1984, many pans and wetlands in that area were inundated. Robson and Horner (2012: 91) noted that "[t]he extent of flooding was far in excess of anything in recent times. The study period [1985-1995] was characterized by a gradual drying out of the coastal plain ... [t]his was reflected by the large and widespread populations of both grassland and aquatic birds present in the early years gradually declining. Cyclonic flooding is recognised as an occasional phenomenon, and Domoina undoubtedly had a dramatic short-term beneficial effect to birds on the coastal plain by providing an increase in aquatic habitat, an influx of nutrients and

an abundance of food". The existing observations from San Sebastian Peninsula concur with those of Robson and Horner (2012). In the massive (c. 50 000 ha) closed Banhine wetland system in Gaza Province, southern Mozambique (approximately S22°36', E33°08'), Stalmans and Wishart (2005: 53) observed that "the right conditions [for inundation] mainly tend to occur when tropical cyclones move in over the [Banhine] catchment from the Mozambique Channel". When flooded, Banhine wetland is an important breeding site for waterbirds (Pietersen and Pietersen 2010).

Thus, cycles of 'boom-and-bust' mediated by periodic tropical cyclones and subsequent dry periods perhaps represent an under-appreciated ecological phenomenon on the tropical and sub-tropical



coasts of East and southern Africa, especially in creating temporarily suitable breeding habitat for waterfowl and other waterbirds.

ANNOTATED SPECIES CHECKLIST

Unconfirmed and doubtful records are given between the square parentheses, e.g. [species].

Observers are identified by their initials - (C&NC – Charlotte and Neville Crosse; RH – Rod Humphris; MR – Mark Read; NJ – Neils Jacobsen; SK – Scotty Kyle; K&AL – Ken and Angela Lund; JE – Janica Ehlers; JN – Jenny Newenham; DS – Dave Smart; and LR – Larry Routledge)

Little Grebe *Tachybaptus ruficollis*

Common in June 2002, when small numbers (maximum seven) were found on most freshwater pans and lakes (WRT). Numbers have declined subsequently as pans have dried out. In December 2012 several records: 1 at pan south of fence on road to lighthouse, 4 at Noni Pan, and 14 at Lake Manhale (MA *et al.*).

Indian Yellow-nosed Albatross *Thalassarche carteri*

One dead bird washed up on beach in front of lodge at Linene Island in summer 2011/2012 (K&AL).

[Great White Pelican *Pelecanus onocrotalus*

No confirmed record for Sanctuary, but occurrence in the area reported by DS and JN; also listed for 2235AB (Parker 1999).]

Pink-backed Pelican *Pelecanus rufescens*

Four seen at Palmerinha mangroves and 7 on Lake Manhale in June 2002 (WRT). Small numbers (< 5) recorded on most visits by CR between 2003 and 2012. In December 2012: 1 near northern point of Sanctuary, 2 at Pelican Bay, 2 at Lake Manhale, and 3 in Inhambane

Estuary (MA *et al.*), 7 in Estuary September 2013 (CR). Seen at Linene, December 2013 (NC &RH).

Brown Booby *Sula leucogaster*

Vagrant. Single bird in flight at Banque Island in August 2005 (CR).

Red-footed Booby *Sula sula*

Vagrant. Single bird observed fishing in front of lodge at Linene Island for two days in summer 2011/2012 (K&AL).

Cape Gannet *Morus capensis*

Vagrant. Exhausted immature individual observed close to Linene Island in summer 2011/2012 (K&AL).

White-breasted Cormorant *Phalacrocorax lucidus*

Fairly common in June 2002, seen on both coastal and inland water bodies; most seen on Lake Manhale where 22 were counted; breeding at this site (WRT). Regularly recorded between 2003 and 2012 (CR). In December 2012: 1 at Pelican Bay, 2 at Banque Island, 4 at Estuary, 4 at Noni Pan, and 38 at Lake Manhale (MA *et al.*), 20 seen in September 2013, and 36 Mazarette and Noni Pan December 2013 (CR).

Reed Cormorant *Phalacrocorax africanus*

Common in June 2002, mainly on freshwater lakes and pans, a few at sea; largest concentration was on Lake Manhale where 397 were counted; breeding at this site (WRT). Regularly recorded by CR, including 100 at Noni Pan in January 2004. In December 2012: 1 along beach north of Sanctuary, 1 at pan south of fence on road to lighthouse, 4 at Noni Pan, 13 in estuary and 123 at Lake Manhale (MA *et al.*), 12 at Curlew House mangroves in September 2013, and noted during December 2013 (CR).

**African Darter** *Anhinga rufa*

Common in June 2002; found in small numbers on most lakes and pans, with a very large concentration of 385 birds counted on Lake Manhale; breeding at this site with 53 old nests counted (WRT). Frequently recorded by CR between 2003 and 2012. In December 2012: 27 at Noni Pan and 29 at Lake Manhale (MA *et al.*), 8 were seen on Noni Pan in September 2013 (MA, CR), and again in December 2013 (CR).

Greater Frigatebird *Fregata minor*

Vagrant. One recorded in front of Dugong Lodge after a storm in September-October 2001 (LR). Also recorded at lighthouse in November 2010 (SK).

Grey Heron *Ardea cinerea*

Common in June 2002 and found in small numbers (1-5 birds), both along the coast and on inland water bodies (WRT). Frequently recorded between 2003 and 2012 (CR). In December 2012, 1 at Banque Island, 3 at Pelican Bay, 4 along beach north of Sanctuary, 4 south of Curlew House, 14 at Lake Manhale, and 12 at Inhambane Estuary (MA *et al.*), Breeding heronry with 15 adults, and 10 nests with young feeding north of Dugong Lodge along 'lower mangrove road' in September 2013 (CR). Heronry deserted in December 2013, but good numbers seen in Palmerinha mangroves and Noni Pan.

Goliath Heron *Ardea goliath*

Rare. Single bird at Lake Manhale in June 2002 (WRT). One on Eastern vlei in July 2008 (CR). Single bird seen at Marape pan December 2013.

Purple Heron *Ardea purpurea*

Common in June 2002, with single birds present on most freshwater

sedge- and reed-pans (WRT). Recorded at Mukwe Pan in August 2005 (CR). In December 2012: 1 at Noni Pan, 1 at the Community Gate Pan and 6 at Lake Manhale (MA *et al.*). Single bird seen, Community Pan, September 2013 (CR) and 2 seen same locality in December 2013 (CR).

Black Heron *Egretta ardesiaca*

Single bird flying over Noni Lake in December 2013 (CR, MR). No previous record.

Great Egret *Egretta alba*

Common in June 2002, with single birds or small numbers found on both inland and coastal waters (WRT). Frequently recorded between 2003 and 2012 (CR). Two at Lake Manhale and 1 at Noni Pan in December 2012 (MA *et al.*), 7 seen at Community Gate Pan September 2013, and in December 2013 at Marape, Community Gate and Noni pans (CR).

Little Egret *Egretta garzetta*

Common in June 2002, especially along shores of peninsula but also found on inland fresh waters. In December 2012: 10 along beach north of sanctuary, 11 at Inhambane Estuary, 2 at Community Gate Pan, 2 at small pan south of fence on lighthouse road, 3 at Noni Pan, 8 at Banque Island, 40 south of Curlew House and 40 at Lake Manhale (MA *et al.*). Common in September and December 2013 (CR).

Intermediate (Yellow-billed) Egret *Egretta intermedia*

Scarce in June 2002, with single birds seen at a few freshwater pans (WRT). No subsequent records until one bird seen at Eastern Vlei in December 2012 (MA *et al.*). Cizek (2013) reported near Vilanculos in January 2013.



[Western Cattle Egret *Bubulcus ibis*]

No confirmed records for the Sanctuary, but its occurrence in the area was reported by JN and it is also listed for 2235AD (Parker 1999).]

Squacco Heron *Ardeola ralloides*

Apparently scarce, being only once encountered during the June 2002 survey - a single bird on a sedge-marsh near the community harbour (WRT). Single bird at Msasa Pan in September 2004, single bird at Harrier Pan in December 2004, and five at Noni Pan in June 2009 (CR). In December 2012: 1 at Noni Pan, 4 at Community Gate Pan and 11 at Lake Manhale (MA *et al.*). Single birds seen at Noni and Community pans September 2013 (CR). Five at Noni Pan, 3 at Community Gate Pan and 2 at Marape Pan, December 2013 (CR).

Green-backed Heron *Butorides striatus*

Fairly common in June 2002, with single birds found both in mangrove swamps and on edges of freshwater lakes (WRT). Recorded below at Curlew House in November 2003 and December 2004, and at Noni Pan in January 2004 (CR). One individual at Lake Manhale in December 2012 (MA *et al.*). Single adult below Curlew House, December 2013 (CR). Seen at Linene, December 2013 (NC & RH).

Rufous-bellied Heron *Ardeola rufiventris*

Scarce in June 2002, with single birds seen on three occasions on sedge- and grass-marshes (WRT). Single bird at Mukwe Pan in March 2005 and a single bird at Eastern vlei in July 2008 (CR).

Black-crowned Night Heron *Nycticorax nycticorax*

Recorded in January 2004, June 2009 (4 at Pelican Bay) and November 2011 (CR). Occurrence in the area noted for 2235AD

(Parker 1999).

Hamerkop *Scopus umbretta*

Scarce in June 2002, with single birds encountered in a few places; also 1 disused nest found (WRT). Recorded in November 2003 and at Estuary vlei in July 2008 (CR).

Woolly-necked Stork *Ciconia episcopus*

Scarce in June 2002; single birds found in a few places; maximum of 4 birds seen on Estuary near lighthouse (WRT). Regularly recorded by CR, including juveniles in January 2004. Active nest along Mazarette road in 2011 (month unknown; CR). Two active nests (1 with two downy chicks and the other with incubating adult) in Sand Forest in December 2012. Seen foraging on exposed tidal mudflats in December 2012, including 1 at Banque Island, 1 at small pan south of fence on lighthouse road, and 9 at Pelican Bay (MA *et al.*). Three seen at site 12 September 2013 (CR). Nineteen seen at various pans in December 2013 (CR). Seen at Linene December 2013 (NC & RH).

African Openbill *Anastomus lamelligerus*

Fairly common in June 2002, with small numbers encountered on several freshwater pans. Regularly recorded year round by CR. In December 2012: 3 at Community Pan, 2 at Noni Pan, and 4 in Inhambane Estuary (MA *et al.*). Over 50 seen in September 2013 at the Community Gate Pan and Red Cliffs Pan (CR). Seen in small numbers at all pans in December 2013 (CR).

Saddle-billed Stork *Ephippiorhynchus senegalensis*

Fairly commonly encountered in June 2002, with a pair seen foraging in Inhambane Estuary near the lighthouse and single birds elsewhere on the peninsula (WRT). Subsequently, much rarer with 1 pair south



of lighthouse in November 2003 (CR) and a pair feeding in the Estuary approximately 1 km SW of Chingonguene Island in March 2013 (K&AL). One pair seen from helicopter south of Jane Marsh in September 2013 (CR). Pair seen on Lake Manhale in February 2014 (K&AL).

Yellow-billed Stork *Mycteria ibis*

Once recorded in June 2002, a flock of 21 birds seen fishing in a drying-up freshwater pan near the community harbour (WRT). Pair at Pelican Bay in June 2009, 6-8 at Inhambane Estuary in November 2008, and fair number of juveniles at pan near Sanctuary Workshop in January 2004 (CR). In December 2012: 2 at Pelican Bay, 5 in estuary and 24 at Lake Manhale (MA *et al.*). Single bird seen in September 2013 at Estuary (CR). Forty-five in Palmerinha mangroves, 8 at Mazarette and 48 at Noni during December 2013 (CR). Seen at Linene December 2013 (NC & RH).

African Sacred Ibis *Threskiornis aethiopicus*

Fairly common in June 2002, present in small numbers on the shoreline and on inland water bodies (WRT). Recorded in January 2004, September 2004, December 2004, January 2006, July 2008, November 2008, and June 2009 (CR). Seven in Inhambane Estuary near fisherman's village in December 2012 (MA *et al.*). Single bird seen in Community Gate Pan, September 2013 (CR). Fairly common on pans during December 2013 (CR).

Glossy Ibis *Plegadis falcinellus*

Rare. One bird at Noni Pan in December 2012, and a small flock recorded by CR in December 2013 flying over Marape Pan. Occurrence in the area also noted for 2235AD (Parker 1999).

Hadeda Ibis *Bostrychia hagedash*

Fairly commonly encountered but always in small numbers. Nine at Community Gate Pan, September 2013 (CR).

African Spoonbill *Platalea alba*

Scarce in June 2002, with a maximum of 7 birds seen fishing together in a drying-up freshwater pan near the community harbour (WRT). Recorded at Msasa Pan in September 2004, and on other undated occasions (CR). In December 2012, 14 were recorded at Lake Manhale (MA *et al.*).

Greater Flamingo *Phoenicopterus roseus*

Common in June 2002 and found in considerable numbers in the tidal flats on the west (500 counted), east (2 400 counted) and northern sides (2 500 counted) of the peninsula (WRT). Recorded in large numbers (100s) year round by CR, but few seen in January 2006. In December 2012: 883 between Pelican Point and Inhambane Estuary, 548 at Estuary, 66 at Banque Island, 15 at Lake Manhale, 4 at Pelican Bay, these numbers representing an undercount, as numbers probably larger (MA *et al.*). Approximately 2 000 in the estuary in September 2013 (CR, MA). Fifty in the shallows at Mazarette and large numbers in the estuary, December 2013 (CR). MA believes there is a possibility of establishing a nesting area. The tidal range may be a problem, but perhaps surmountable by building a moat.

Lesser Flamingo *Phoenicopterus minor*

Thirty-one birds (1 juvenile of between 1-3 years) seen and photographed with a flock of Greater flamingos by staff member JE in the upper reaches of the Estuary close to the Lighthouse in August 2013. These birds likely came from either Etosha or Sua, Namibia and not East Africa (MA).

**White-faced Whistling Duck** *Dendrocygna viduata*

Common in June 2002 and present in small numbers (maximum 25) on many freshwater lakes and pans (WRT). In December 2012: 390 at Community Gate Pan, 13 adults at Noni Pan (including pair with six ducklings), and 28 at Lake Manhale (MA *et al.*). 13 Noni Pan and 20 Community pan September 2013 (CR). 60 at Lake Noni with good numbers of juveniles and 20 at the Community Gate Pan, December 2013(CR).

Fulvous Whistling Duck *Dendrocygna bicolor*

Seen at Noni Pan during March 2005 (CR). A pair seen at Community Gate Pan, September 2013 (CR).

White-backed Duck *Thalassornis leuconotus*

Fairly common in June 2002 and present on several of the freshwater pans that were covered in Nymphaea; maximum of 10 birds counted at any one site (WRT). Four at Noni Pan in December 2004 (CR). Five at Lake Manhale and 3 at Community Gate Pan, December 2012 (MA *et al.*).

Egyptian Goose *Alopochen aegyptiaca*

Only once recorded in June 2002, a pair on a freshwater marsh just outside the Sanctuary boundaries in the south (Phase II area; WRT). Recorded by CR on two occasions (dates unrecorded). One bird at Eastern vlei in December 2012 (MA *et al.*).

Yellow-billed Duck *Anas undulata*

Scarce in June 2002, with 1-2 birds encountered at a few freshwater pans (WRT). Pair with chicks at Eastern vlei in July 2008 (CR). In December 2012 2 at Community Gate Pan, September 2013 (CR).

Cape Teal *Anas capensis*

One at small pan on southern side of Lake Manhale in December 2012 (MA *et al.*). One pair seen at Community Gate Pan, September 2013 (CR).

Hottentot Teal *Anas hottentota*

Recorded at Noni Pan in January 2004 and at Mukwe Pan in August 2005 (CR). Five at Lake Manhale in December 2012 (MA *et al.*). Occurrence in the area noted for 2235AB (Parker 1999). One pair at Lake Manhale, September 2013 (CR).

Red-billed Teal *Anas erythrorhyncha*

Fairly commonly encountered in small numbers (maximum of 10) in June 2002 on freshwater pans (WRT). Recorded at Noni Pan in January 2004 and Eastern vlei in July 2008 (CR). Eleven counted at Lake Manhale in December 2012 (MA *et al.*). Five seen at the Community Gate Pan September 2013. Seven recorded at the Community Gate Pan in December 2013 (CR).

Southern Pochard *Netta erythroptalma*

Recorded only once in June 2002 when a group of 4 birds was seen on a freshwater pan near the community harbour (WRT). Not recorded by CR or in our joint survey in December 2012. Cizek (2008) saw 2 males and a female on a pan near Vilanculos in March 2004.

African Pygmy Goose *Nettapus auritus*

Common in June 2002 and found widely in the area on freshwater pans covered with Nymphaea; most were in pairs and the maximum number seen on any one pan was 7 birds. Recorded by CR year round, including 2 pairs at Twee Panne in June 2009 and 4-5 pairs on Eastern vlei in July 2008. In December 2012: 5 at Noni Pan,



seven at Manhale Lake and 12 at Community Gate Pan (MA *et al.*). A few birds seen at several pans in December 2013 (CR).

Knob-billed Duck *Sarkidiornis melanotos*

Scarce in June 2002, being encountered only twice (2-3 birds) on freshwater pans (WRT). Fairly common in October 2003 (CR). No other records.

Spur-winged Goose *Plectropterus gambensis*

Scarce in June 2002, a few birds (maximum five birds) encountered on freshwater pans and marshes (WRT). One at Noni Pan in January 2004, 1 on Palmerinha sandbank in January 2006, a few birds at Estuary in July 2008, and pair flying over Curlew House in March 2009 (CR). Eight birds counted at Noni Pan in December 2012 (MA *et al.*). Eighteen seen in the community pan, and 9 in the Marape Pan September 2013 (CR). Forty-eight recorded at Marape Pan, 6 at the Community Gate Pan and 9 at Noni Pan, December 2013 (CR).

Yellow-billed Kite *Milvus aegyptius*

Common summer migrant and regular sight throughout the Sanctuary; probably the commonest raptor on the peninsula. Two pairs nesting on *Balanites maughamii* trees on Mazarette road, September 2013 (CR *et al.*). Common in December 2013 (CR).

Black-shouldered Kite *Elanus caeruleus*

Scarce in June 2002, with single birds encountered in open country near subsistence agricultural plots (WRT). No further records. One seen near on the Lighthouse fence road close to the estuary in December 2013 (CR).

African Cuckoo Hawk *Aviceda cuculoides*

Occurrence in the area noted by Parker (1999) for 2235AB and

2235AD; also reported from general area by DS (undated). Single bird seen in tall miombo on the eastern side of the Sanctuary in 2013 (K&AL).

European Honey Buzzard *Pernis apivorus*

Normal (barred) morph individual seen in March 2013 on western side of Sanctuary (K&AL).

Crowned Eagle *Stephanoaetus coronatus*

Seen in 2008 on the eastern side of Sanctuary, no further details available (K&AL).

Wahlberg's Eagle *Hieraaetus wahlbergi*

Surprisingly scarce. Single bird flying above Twee Panne in December 2012 (CR). Occurrence in the area noted for 2235AD (Parker 1999).

[Long-crested Eagle *Lophaetus occipitalis*

No confirmed records for Sanctuary but occurrence in the area noted for 2235AD (Parker 1999).]

African Fish Eagle *Haliaeetus vocifer*

Common in June 2002 and encountered widely across the peninsula, Inhambane Estuary and Lake Manhale, each had territorial pairs and it is likely that all there are 5-10 resident breeding pairs spread across the area (WRT). Recorded in all months of the year. In December 2012 1 at Noni Pan and 4 at Lake Manhale (MA *et al.*). Four seen across Sanctuary September 2013 (CR). Juvenile on Marape Pan, December 2013.

Ayres's Hawk Eagle *Hieraaetus ayresii*

Single bird at Noni Pan in December 2004 (CR).

**Black-chested Snake Eagle** *Circaetus gallicus*

Seen in August 2003, November 2003 (3 together), January 2004, December 2004, and October 2005 (CR). Also reported from Sanctuary by NJ and JN (undated, but pre-2003). Single bird near game enclosure, December 2013 (CR).

Southern Banded Snake Eagle *Circaetus fasciolatus*

Single bird in miombo savanna on eastern side of peninsula in summer 2011/2012 (K&AL). Single bird perched in tall *Brachystegia* tree in December 2012 (CR). Further sighting in 2013 (K&AL).

Common Buzzard *Buteo buteo*

Rare, single bird seen in January 2006 (CR) and one seen soaring in southwest of Sanctuary in December 2012. Single bird seen in the community September 2013 (CR).

Lizard Buzzard *Kaupifalco monogrammicus*

Fairly common in miombo savanna throughout the Sanctuary.

Shikra *Accipiter badius*

Recorded at Marape in December 2003 and at Curlew House in December 2004 (CR). Also reported from the area by DS (undated but pre-2003).

African Goshawk *Accipiter tachiro*

Common in June 2002 and encountered daily; a bird called each morning at dawn near the Msasa Camp, and single birds were encountered widely in miombo savanna and around subsistence agricultural plots (WRT). Subsequently less common, 1 bird in August 2005 at Curlew House, pair flying with nesting material in June 2006 and 1 bird at Curlew House in June 2009 (CR). Single displaying bird over dune thicket in December 2012 (MA *et al.*).

Gabar Goshawk *Melierax gabar*

Once recorded in June 2002, a single adult bird perched in open miombo savanna east of Msasa Camp; the presence of this mainly thornveld-living bird was unexpected here, being 100-200 km east of its nearest occurrence (Parker 1999). One bird recorded in August 2003 (CR).

Dark Chanting Goshawk *Melierax metabates*

One seen south of Curlew House in June 2009 (CR) and in open miombo savanna in December 2012. Also reported from the area by JN and DS (undated, but pre-2003) and noted for 2235AB and 2235AD by Parker (1999). Single bird seen near Curlew House, September 2013 (CR). Regular sightings by K&AL.

African Marsh Harrier *Circus ranivorus*

Fairly common in June 2002, with single birds encountered widely in grass- and reed-swamps in the area (WRT). Subsequently, much scarcer on the peninsula. One to two birds recorded in January 2003, January, December 2004, July 2008 and June 2009 (CR). Two at Noni Pan and one at Lake Manhale in December 2012 (MA *et al.*).

Pallid Harrier *Circus macrourus*

Female seen quartering over Noni Pan in December 2013 with strong white rump and facial markings (C&MR). There are no previous records for Sul do Save (Parker 1999).

African Harrier Hawk *Polyboroides typus*

Seen at Curlew House in April 2004 and July 2004 (CR). Two birds seen in December 2012, 1 near Inhambane Estuary and the other near Pelican Bay (MA *et al.*).



Western Osprey *Pandion haliaetus*

Regular in small numbers (1-4 birds) in summer, including 1 juvenile in June 2009 (CR). Four adult birds seen at various localities in December 2012 (MA *et al.*). Pair in front of Curlew House September and December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Peregrine Falcon *Falco peregrinus*

Commonly seen in summer along Bay edge and in Estuary (CR); also seen on two occasions in December 2012 survey, 1 in mangroves near Curlew House and one in Estuary (MA *et al.*). Single adult seen southern end of Palmerinha mangroves, December 2013 (CR). These falcons are apparently hunting waders and terns on the exposed sand flats and may be attributable to the migratory Palaeartic *calidus* subspecies.

[Crested Francolin *Dendroperdix sephaena*

No confirmed records for the Sanctuary but reported from the area by DS and listed for 2235AB and 2235AD by Parker (1999).]

[Shelley's Francolin *Scleroptila shelleyi*

No confirmed records but occurrence noted for 2235AB and 2235AD by Parker (1999).]

Red-necked Spurfowl *Pternistis afer*

Fairly common, the characteristic gamebird of the Sanctuary, seen and heard throughout. These birds belong to the distinctive, white-and-red faced *swynnertoni* subspecies.

Harlequin Quail *Coturnix delegorguei*

Seen in long grass on eastern side of Sanctuary in March 2012 (CR).

Helmeted Guineafowl *Numida meleagris*

Fairly common in June 2002 and found widely in small groups (maximum of 16) throughout the area (WRT). Numbers have declined subsequently, but a few small flocks seen and heard in December 2012 (MA *et al.*). Pair seen on the lighthouse road in December 2013 (CR).

Crested Guineafowl *Guttera pucherani*

Once recorded in June 2002, a group of 15 birds in a thicket along the fence line south of Msasa Camp (WRT). Seen on unrecorded date in Mazarette area (CR). One flock heard calling in Sand Forest in December 2012 (MA *et al.*). Sixteen birds seen at the Community Gate, September 2013 (CR).

Common Buttonquail *Turnix sylvatica*

Rare. One record in June 2002 when a single bird flushed in open grassy savanna east of Msasa Camp (WRT). Single bird flushed along lighthouse road in March 2009 (CR).

Wattled Crane *Grus carunculatus*

Three birds were seen in a large marsh just outside the Sanctuary ('Phase II area') by JN in December 2001. The area was searched by WRT in June 2002 without success from the ground, and no Wattled Cranes were seen from the air during a flight over the marsh. An unknown number of Wattled Cranes were seen somewhere on the San Sebastian Peninsula in 2004 by R Beilfuss and C Bento, but unfortunately the observers cannot recall the specific details of these sightings (R Beilfuss, *in litt.*, 2013). No further records until a single adult was seen at the Community Gate Pan, 25 September 2013 calmly preening itself on a reed island along the eastern edge of the pan (CR *et al.*). In December 2013, possibly the same individual was seen among drying water lilies at the Community Gate Pan (C&MR).



There is also an old equivocal breeding record from the Save River mouth, c. 120 km N of the Sanctuary (Clancey 1996) and small numbers (<10) have been reported occasionally from Banhine National Park, c. 250 km W of the Sanctuary (Parker 1999; M Stalmans pers. comm., 2013). Evidently, in some wet summers, these cranes disperse south from their normal breeding grounds in the Zambezi Delta to occupy flooded wetlands in Sul do Save. There is also a slight possibility that there may be resident birds in some of the little-explored wetlands south of the Sanctuary.

Black Crane *Amauornis flavirostris*

Fairly common. Twice recorded in June 2002 from sedge- and reed-marshes near the community harbour (WRT). One at Community Gate Pan, 4 at Noni Pan and individual birds also seen at pans in Masasa camp area in December 2012 (MA *et al.*). Single bird seen at Noni pan September 2013 (CR). Single birds seen in drying fringes at Noni Pan and Community Gate Pan in December 2013 (CR).

Red-chested Flufftail *Sarothrura rufa*

Rare. At least four calling males in small sedge-marsh fed by a freshwater spring just east of Msasa Camp, June 2002 (WRT). Heard calling from pan below Curlew House, February 2003 (CR). No subsequent records.

African Purple Swamphen *Porphyrio madagascariensis*

Uncommon. One bird at Mukwe Pan in January 2003, 1 bird at Harrier Pan in December 2004, 1 adult and 2 juveniles at Mukwe Pan in August 2005 (CR). Pair recorded at Noni Pan and 3 at Community Gate Pan in December 2012 (MA *et al.*). Occurrence in the area noted by Parker (1999) for 2235AB. Single bird seen at Community Pan September 2013 (CR). Pair seen on the edge of a

bulrush clump, Community Gate Pan, December 2013 (CR).

Common Moorhen *Gallinula chloropus*

One heard at Twee Panne near Masasa Camp in December 2012 (MA *et al.*). Occurrence in the area noted for 2235AB (Parker 1999).

Black-bellied Bustard *Eupodotis melanogaster*

Scarce. Twice recorded in June 2002, single birds walking in the open miombo savanna northeast of Msasa Camp (WRT). Recorded in August 2005 and March 2009 (CR). One bird seen and 1 bird heard in open miombo savanna during December 2012 (MA *et al.*).

African Jacana *Actophilornis africanus*

Common in June 2002, and found widely on most freshwater pans and lakes where there was a good cover of *Nymphaea*; up to 50 birds present on larger wetlands (WRT). Seen in all years (CR). Three at Community Gate Pan, 4 at small pan south of fence on lighthouse road, 7 at Noni Pan, and 17 at Lake Manhale in December 2012 (MA *et al.*). Common at Community Gate Pan, September 2013 (CR). Approximately 200 counted at Marape Pan and 20 at Noni Pan including juveniles in December 2013 (C&MR).

Lesser Jacana *Microparra capensis*

Rare. Single birds recorded in June 2002 on two small pans near Msasa Camp (WRT). One bird in Eastern vlei in July 2008 (CR).

Eurasian Oystercatcher *Haematopus ostralegus*

Two birds seen on the Eastern Sand Spit in November 2005 (CR), and by K & A Lund 2005. Single bird on Rattray Point, Eastern Sand Spit, September 2013 (CR). Seen at Linene, December 2013 (NC&RH).



African Black Oystercatcher *Haematopus moquini*

SA Endemic, vagrant to Mozambique. Recorded July 2012 (K&AL).

Common Ringed Plover *Charadrius hiaticula*

Common in summer on edges of Vilanculos bay and estuarine fringes. In December 2012 following numbers counted: 4 at Lake Manhale, 6 south of Curlew House, 170 behind Dugong Lodge, and 185 along beach on northern side of sanctuary (MA *et al.*). Thirty counted at Marape Lake and several at Noni and the Community Gate pans including juveniles in December 2013 (CR).

White-fronted Plover *Charadrius marginatus*

Fairly common. Several birds (10+) were seen in June 2002 on the tidal sandbanks along the coast at Palmerinha and near the community harbour. In December 2012 following numbers counted: 2 at Inhambane Estuary, 3 at Banque Island, 8 at Manhale Lake, and 19 along beach on northern side of sanctuary (MA *et al.*). Small numbers in December 2013 (CR).

Chestnut-banded Plover *Charadrius pallidus*

Small numbers (about 10 birds) were seen in June 2002 on tidal sandbanks along the coast at Palmerinha (WRT). Seen in October 2002 and January 2006 at Palmerinha sandspit (CR). No subsequent records.

Kittlitz's Plover *Charadrius pecuarius*

Only records are 24 (including two chicks) at Lake Manhale and 2 at Noni Pan in December 2012 (MA *et al.*). Seen at Lake Manhale in small numbers, September 2013 (CR).

Three-banded Plover *Charadrius tricollaris*

Common in June 2002, both on the edges of freshwater pans and on

tidal sandbanks along the coast (WRT). Numbers subsequently declined dramatically. One bird in December 2012 survey at Lake Manhale (MA *et al.*).

Lesser Sand Plover *Charadrius mongolus*

Approximately 250 seen in the Estuary at Rattray Point, Eastern Sand Spit, September 2013 (MA, CR *et al.*). Seen at Linene, December 2013 (NC&RH).

Greater Sand Plover *Charadrius leschenaultii*

Fairly common summer visitor, occasionally overwintering. In December 2012 the following numbers counted: 9 on beach on northern side of peninsula and 32 at Banque Island (MA *et al.*). Ten at Rattray Point, Eastern Sand Spit, September 2013 (MA, CR *et al.*). Recorded along the estuary by K&AL and NC at various times.

Caspian Plover *Charadrius asiaticus*

Single bird seen in grassy fringe at Lake Manhale in December 2012 (MA *et al.*). Single bird seen at the Community Gate Pan in December 2013 (CR). No other records.

Grey Plover *Pluvialis squatarola*

Common summer visitor (particularly at Palmerinha sandspit) and occasionally overwintering. Two birds were seen on a tidal sandbank along the coast at Palmerinha in June 2002. In December 2012 the following numbers counted: 7 in estuary, 6 on beach on northern side of peninsula, 20 south of Curlew House, 11 at Banque Island (MA *et al.*). Approximately 80 seen in Estuary, September 2013 (CR). Eighteen seen flying at Palmerinha Bay in December 2013 (CR).



Blacksmith Lapwing *Vanellus armatus*

Two birds at pan just south of fence on lighthouse road and 1 at Lake Manhale in December 2012 (MA *et al.*). Single bird seen in Community Gate Pan, September 2013 (CR). Three at Community Gate Pan in December 2013 (CR).

Long-toed Lapwing *Vanellus crassirostris*

Once recorded in June 2002 just outside Sanctuary boundaries, a group of 5 birds on the edge of a large grass- and sedge-marsh ('Phase II area'). Also 2 birds reported in same area (2235AD) in 1996 (Parker 1999). Five seen on two occasions at community pan September 2013 (CR). Five seen at Community Gate Pan in December 2013 (CR).

Ruddy Turnstone *Arenaria interpres*

Small numbers (about 5 birds) were seen on tidal sandbanks west of the community harbour in June 2002. In December 2012, the following numbers were counted: 27 at Banque and six on beach on northern side of peninsula in December 2012 (MA *et al.*). Small numbers, September 2013 (CR). Recorded by K&AL and NC (undated).

Common Sandpiper *Actitis hypoleucos*

Single birds seen in the Sanctuary on unrecorded dates (CR). Three seen at Curlew jetty September 2013. Several seen below Curlew House, December 2013 (CR). Seen at Linene, December 2013 (NC&RH).

Terek Sandpiper *Xenus cinereus*

Fairly common summer visitor. In December 2012: 2 on beach on northern side of peninsula and 5 in mangroves southwest of Curlew House (MA *et al.*), probably a serious undercount given the large

amount of suitable looking habitat. Small numbers seen at Curlew House September 2013. Fifteen birds along Palmerinha bay December 2013 (CR). Seen at Linene, December 2013 (NC&RH).

Wood Sandpiper *Tringa glareola*

Recorded without details from 2235AB by Cizek (2008). Single adult in the salt marsh behind Dugong Lodge on a spring tide and 2 birds seen at Noni Pan on receding shore in December 2013 (CR).

Marsh Sandpiper *Tringa stagnatilis*

A record of 1 bird at Lake Manhale in December 2012 (MA *et al.*). Single bird seen at Noni Pan on the receding shoreline, December 2013 (CR).

Common Greenshank *Tringa nebularia*

Common summer visitor, occasionally in winter (e.g. a single bird seen on a freshwater pan east of Msasa Camp in June 2002). In December 2012 the following numbers counted: 35 in estuary, 16 in Lake Manhale, 6 on beach on northern side of peninsula, 1 at Banque, and 23 in Pelican Bay (MA *et al.*). Pair below World's View and Lake Manhale, September 2013 (CR *et al.*). Approximately 250 at the southern end of Palmerinha Bay, December 2013 (MR).

Curlew Sandpiper *Calidris ferruginea*

Common summer visitor, occasionally in winter (e.g. 3-5 birds seen on tidal sandbanks along the coast at Palmerinha in June 2002). In December 2012, the following numbers counted: 1000+ at estuary, 39 on beach on southern side of peninsula, 6 in Pelican Bay, and 25 at Lake Manhale in December 2012 (MA *et al.*).

Little Stint *Calidris minuta*

Common summer visitor, and occasionally in winter (e.g. <10 on tidal



sandbanks along the coast at Palmerinha in June 2002). In December 2012, the following numbers counted: 39 in estuary, 635 near Rattray Point, 3 at Pelican Bay, and 1 at Banque Island in December 2012 (MA *et al.*). Single bird at Marape Pan and 3 at the Community Gate Pan, December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Sanderling *Calidris alba*

Three birds seen on tidal sandbanks along the coast at Palmerinha in June 2002 (WRT). Over 50 recorded at Rattray point in September 2013 by CR, and previously recorded by K & AL. No further records, but doubtless overlooked given the large amount of suitable habitat. Seen at Linene, December 2013 (NC &RH).

Ruff *Philomachus pugnax*

Seen in small numbers at Bangle in March 2012 (CR). K&AL confirmed small numbers, in northbound migration in autumn 2013.

Bar-tailed Godwit *Limosa lapponica*

A few birds in January 2006 and November 2008 at Palmerinha sandspit and 50+ in January 2003 at Estuary (CR). Four at Inyati Lodge and 1 at Banque Island in December 2012 (MA *et al.*). Flock of 166 on mudflats near Linene Island in March 2013 (K&AL). Single bird below Curlew House, December 2013 (CR). Seen at Linene, December 2013 (NC&RH). Very large numbers (>3700) were counted on the nearby Bazaruto Archipelago in January 1996 (Koehler and Koehler 1996).

Eurasian Curlew *Numenius arquata*

CR recorded single birds at Inhambane Estuary in November 2008 and at Banque Island in March 2012.

Common Whimbrel *Numenius phaeopus*

Common. Small numbers (<20 birds) present in June 2002 in the Inhambane Estuary, and along the coast from Palmerinha to the community harbour (WRT). During December 2012 the following numbers counted: 13 at Estuary, 21 on beach on northern end of peninsula, 30+ south of Curlew House, 30 at Banque Island, and 4 at Pelican Bay (MA *et al.*). Approximately 200 in Inhambane Estuary, September 2013 (CR, MA *et al.*).

Pied Avocet *Recurvirostra avosetta*

One bird at Curlew House in November 2008 (CR). Seventy-one counted at Lake Manhale and 117 counted in Estuary in December 2012 (MA *et al.*). Lake Manhale common September 2013 (CR). Two birds on Noni Pan on receding shoreline, December 2013 (CR). K&AL saw 3 on Lake Manhale February 2014.

Black-winged Stilt *Himantopus himantopus*

In December 2012, 86 birds at Lake Manhale (MA *et al.*). No other records for Sanctuary. Common on Lake Manhale, common, small numbers at Community Gate Pan September 2013 (CR). Eighteen birds on Noni Pan on a receding shore, December 2013 (CR).

Crab Plover *Dromas ardeola*

Regular in summer months, especially on the shores of the Eastern Sand Spit, with counts usually between 50-250 birds; occasionally also seen in winter. Specific records include a single bird in the mangroves at Palmerinha in June 2002; approximately 40 birds on an exposed sandbank in front of Dugong Lodge in January 2003, c. 250 at northern end of Eastern Sand spit in January 2004, c. 50 at the Estuary in November 2008 (CR), and a flock of 186 adult and juvenile birds seen on the sea-shore at the northern end of Eastern Sand spit on 2 December 2012 (MA *et al.*). Nine at Rattray Point,



Eastern Sand Spit, September 2013 (CR, MA *et al.*). Hockey and Aspinall (1996) reported a flock of 77 in April 1995 from San Sebastian Peninsula and Cizek (2008) made a particularly noteworthy observation of a large flock of approximately 360 birds on 22 March 2004 close to Banque Island ('Flamingo Point'). On 2 December 2012, the authors saw an adult Crab Plover overpowering and disembowelling a large white ghost crab on the Eastern Sand Spit.

Spotted Thick-knee *Burhinus capensis*

One bird seen in June 2009 (CR) and reported from the area by JN (undated but pre-2003).

Water Thick-knee *Burhinus vermiculatus*

Recorded at Curlew House in April and December 2004 and March and September 2012 (CR). One bird heard at Curlew House and one seen near Pelican Point in December 2012 (MA *et al.*). Noted below Curlew House, September 2013 (CR).

Collared Pratincole *Glareola pratincola*

Five adult birds and 3 chicks on south shore of Lake Manhale and one adult at Noni Pan in December 2012 (MA *et al.*). A pair at the Community Gate Pan September 2013 (CR). A single bird at Noni and Community Gate pans, and 2 on the community lake along the Lighthouse Road, December 2013 (CR).

African Skimmer *Rynchops flavirostris*

K&AL recorded a single bird on 12 January 2014 between Linene Island and Nyathi Lodge amongst an aggregation of thousands of terns. No other records. The nearest birds occur on the Save River (Parker 1999).

Grey-headed Gull *Chroicocephalus cirrocephalus*

Common in June 2002 and found widely, both on freshwater lakes and along the coast around the peninsula; the largest gathering was 12 birds on Lake Manhale (WRT). Subsequently, more localised. Seen at Curlew House in March 2012 (CR) and 84 counted at Lake Manhale in December 2012 (MA *et al.*). Common on Lake Manhale, September 2013 (CR).

Common Black-headed Gull *Chroicocephalus ridibundus*

CR recorded single birds at Marape village in January 2004, December 2004 and January 2006.

Gull-billed Tern *Gelochelidon nilotica*

Single birds seen at flooded pan in January 2003 (CR).

Caspian Tern *Hydroprogne caspia*

Common in June 2002, mostly encountered as single birds and both present on the larger freshwater lakes and along the coastline. Recorded in summer months by CR. Recorded in December 2012: 2 at Lake Manhale and 13 at Estuary mouth (MA *et al.*). Three seen at estuary September 2013 (CR, MA *et al.*). Seen at Linene, December 2013 (NC &RH).

Swift Tern *Thalasseus bergii*

Recorded by CR on many occasions from August 2003 to November 2009. In December 2012, 540 counted at Estuary mouth (MA *et al.*). Over 200 in estuary, September 2013 (CR, MA *et al.*). Seen at Linene, December 2013 (NC&RH).

Lesser Crested Tern *Thalasseus bengalensis*

Twenty-three recorded at estuary mouth in December 2012, but many more probably present in area (MA *et al.*). Seen at Linene



December 2013 (NC&RH). No other records, but probably overlooked.

Sandwich Tern *Thalasseus sandvicensis*

K&AL have seen them in small numbers (undated).

Common Tern *Sterna hirundo*

Common summer visitor. In December 2012 the following numbers counted: 4 at Lake Manhale, 98 at Estuary mouth and 1 at Site 7 jetty (MA *et al.*). Over 3000 in estuary, September 2013 (MA, CR *et al.*). Twenty birds on Vilanculos Bay en route to Sanctuary, December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Roseate Tern *Sterna dougallii*

Small flocks seen in summer 2011/2012 (K&AL). It is also known from the nearby Bazaruto Archipelago (Koehler & Koehler 1996; Tree 2005).

Little Tern *Sterna albifrons*

Recorded by CR in January 2004 (4), and January 2006 and November 2008 (on way to Banque Island). Not recorded in December 2012. Also known from Bazaruto Archipelago (Koehler & Koehler 1996). Common in estuary, September 2013 (CR, MA *et al.*). Seen at Linene, December 2013 (NC&RH).

Sooty Tern *Onychoprion fuscatus*

Single bird photographed in 2013 (month unknown) on beach near Linene Island (C&NC). Also known from Bazaruto Archipelago (Koehler & Koehler 1996; Parker 1999).

Whiskered Tern *Chlidonias hybrida*

Commonly encountered in June 2002, mostly as single birds, and

found on many freshwater lakes and pans; the largest concentration was about 10 birds on Lake Manhale (WRT). Numbers have declined subsequently. Recorded at Mukwe Pan in January 2003 and 2004 (20 birds) and December 2004 (CR). Six birds recorded at Lake Manhale in December 2012 (MA *et al.*). Several birds seen on Lake Manhale and Marape Pan, September 2013 (CR).

White-winged Tern *Chlidonias leucopterus*

Seen on Palmerinha sandbank on unrecorded date (CR).

Lesser Noddy *Anous tenuirostris*

Single birds in Estuary in November 2008 (CR) and in summer 2011/2012 (K&AL). There are no previous records for Sul do Save (Parker 1999).

Red-eyed Dove *Streptopelia semitorquata*

Common throughout the Sanctuary.

Cape Turtle Dove *Streptopelia capicola*

Very common throughout the Sanctuary.

[Laughing Dove *Streptopelia senegalensis*

Not yet recorded in the Sanctuary, but occurrence in the area noted for 2235AB (Parker 1999).]

[Namaqua Dove *Oena capensis*

Not yet recorded in the Sanctuary, but occurrence in the area noted for 2235AB (Parker 1999).]

Emerald-spotted Wood Dove *Turtur chalcospilos*

Very common throughout the Sanctuary.



African Green Pigeon *Treron calvus*

Fairly common in June 2002, with flocks of up to 15 birds found in several localities south and east of Msasa Camp (WRT). Possibly nesting at Office in December 2004 (CR). Many recorded in December 2003, December 2004 and March 2009. Surprisingly not recorded in December 2012. Several birds seen September 2013 (CR *et al.*) and a single bird seen on the new Lighthouse Road in December 2013 (CR). Numbers in Sanctuary probably fluctuate in sympathy with fruiting cycles of wild figs.

[Brown-headed Parrot *Poicephalus cryptoxanthus*

Not recorded for Sanctuary, but occurrence in the area noted 2235AB and 2235AD (Parker 1999).]

[Livingstone's Turaco *Tauraco livingstonii*

Not yet recorded in the Sanctuary, but occurrence in the area noted for 2235AB. It probably occurs in a patch of tall dune forest that is currently inaccessible on the east side of the peninsula.]

Purple-crested Turaco *Tauraco porphyreolophus*

Scarce in June 2002, with calling birds noted at a few localities south of Msasa Camp (WRT). Common in a variety of habitats in December 2012 (MA *et al.*). Heard calling on the Eastern Vlei road December 2013 (CR).

Common Cuckoo *Cuculus canorus*

Single bird on track to Estuary in January 2004 (CR).

Red-chested Cuckoo *Cuculus solitarius*

Fairly common in summer months.

Black Cuckoo *Cuculus clamosus*

One record of a bird calling in June 2002 close to Msasa Camp (WRT). Two heard calling in December 2012; 1 at the Eastern vlei and south of Curlew House (MA *et al.*). Calling below Curlew House in December 2013 (CR).

[Thick-billed Cuckoo *Pachycoccyx audeberti*

Not recorded by the authors, but reported from the area by DS. A brood parasite of Red-billed Helmetshrike.]

Klaas's Cuckoo *Chrysococcyx klaas*

Uncommon, recorded in October 2003, November 2003, January 2004, December 2004, January 2006 and November 2008 (CR). Two birds heard in December 2012 (MA *et al.*). One calling near Msasa, December 2013 (CR). Seen at Linene, December 2013 (NC&RH).

Diederik Cuckoo *Chrysococcyx caprius*

Fairly common summer visitor to the Sanctuary.

Green Malkoha *Ceuthmochares aereus*

Three unsubstantiated sightings at Dugong Lodge, including a juvenile, in 2008. Also reported from the area by DS. Probably occurs in tall dune forest that is currently inaccessible on the eastern side of the peninsula.

Burchell's Coucal *Centropus burchellii*

Common in Sanctuary, mainly on the fringes of sedge- and reed-marshes and pans.

Western Barn Owl *Tyto alba*

Scarce. Recorded in March 2005 (CR) and also reported by JN.

**African Wood Owl** *Strix woodfordii*

Uncommon. Twice recorded in June 2002 when single birds called briefly during the night near Msasa Camp (WRT). Recorded at Curlew House in May 2012 (CR).

Spotted Eagle-Owl *Bubo africanus*

Common in the Sanctuary; a pair were resident in Msasa Camp, June 2002 (WRT). Heard most nights at Curlew House (CR), and at least six counted on night drive in December 2012 in northern part of peninsula (MA *et al.*). Single bird seen on road behind Curlew House, December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Fiery-necked Nightjar *Caprimulgus pectoralis*

Fairly common and recorded year-round (CR). Heard September 2013 around Curlew House (CR *et al.*).

Square-tailed Nightjar *Caprimulgus fossii*

Uncommon. One bird heard calling near Msasa Camp in June 2002 (WRT). Recorded in January 2003 and November 2008 (CR). One bird heard calling in December 2012 (MA *et al.*). Possibly more common in inaccessible dune scrub.

African Palm Swift *Cypsiurus parvus*

Scarce. Once recorded in June 2002, a group circling coconut palms near Lake Manhale (WRT). Recorded near airstrip, undated (CR). The paucity of tall palm trees in the Sanctuary possibly accounts for its rarity.

[Horus Swift *Apus horus*

Single bird seen "flying over the sandy cliffs to the north of Vilanculos" in March 2004 by Cizek (2008). Not yet recorded from

the Sanctuary, but there are suitable sandy cliffs that would be attractive to this swift in the Sanctuary and this species should be watched for.]

Speckled Mousebird *Colius striatus*

Uncommon. Once recorded in June 2002, 3 birds in thicket at Palmerinha (WRT). Recorded in December 2004 and January 2006 (CR). Only recorded in communal farmlands in December 2012 (MA *et al.*). Three birds at Mazarette, December 2013 (CR).

Red-faced Mousebird *Urocolius indicus*

Recorded in June 2002 (NJ), September 2003, August 2005 and July 2008 (CR). A species more typical of drier thorn savannas, possibly only a scarce winter visitor to the Sanctuary. Three seen along the community road in December 2013 (CR).

Narina Trogon *Apaloderma narina*

Status unclear. Single birds seen twice in June 2002 in miombo woodland (WRT). Seen in January 2006 on Lighthouse road and in July 2008 in woodland above estuary (CR). No other records.

Pied Kingfisher *Ceryle rudis*

Common at all water bodies, sea-edge and mangroves.

Giant Kingfisher *Megaceryle maxima*

CR recorded a single bird in April 2004 below Curlew House in mangroves.

Malachite Kingfisher *Alcedo cristata*

Fairly common at pans and upper parts of the Estuary. Five birds seen along eastern edge of Lake Manhale in December 2012 (MA *et al.*). Single bird seen at community lake along lighthouse road,



December 2013 (CR).

African Pygmy Kingfisher *Ispidina picta*

Scarce. Reported in summer from the area by JN. Recorded near offices in November 2003 and at Curlew House in August 2005 (CR).

Mangrove Kingfisher *Halcyon senegaloides*

Single birds seen near Palmerinha and at Msasa Camp in June 2002 (WRT). Pair among mangroves at Curlew House inlet in April 2004 and 2 pairs fishing at same inlet in August 2005 (CR). Also recorded at Curlew House in March and June 2009, and March 2010 (CR). One present and calling in Sand Forest far from water and another heard near southern shores of Lake Manhale in December 2012 (MA *et al.*). Possibly breeds in summer months in arboreal *Nasutitermes* (Isoptera) *termitaria* (see Davies *et al.* 2012).

Brown-hooded Kingfisher *Halcyon albiventris*

Common in a variety of habitats in the Sanctuary. A single bird was seen in a nest burrow in sandpit opposite the Workshop in December 2012 (MA *et al.*).

[Grey-headed Kingfisher *Halcyon leucocephala*

Reported in summer from the area by JN. No other records to date.]

Striped Kingfisher *Halcyon chelicuti*

Common in June 2002 and found widely in miombo savanna (WRT). Uncommon subsequently with only several records between 2003 and 2012 (CR). Uncommon in December 2012 (MA *et al.*).

European Bee-eater *Merops apiaster*

Recorded in January 2004 and January 2006 (CR). Uncommon in December 2012 (MA *et al.*). Heard on the Eastern Vlei road and

lighthouse area December 2013 (CR).

Olive Bee-eater *Merops superciliosus*

Very common summer visitor in Sanctuary, one of the most ubiquitous birds at this time of year. Apparently departing in winter. Breeding colonies in sandbanks at several localities in the Sanctuary (including at Workshop and Mazarette Cliffs); number of nesting birds not counted but probably in the 100s at each colony. An abandoned colony in quarry adjacent to boma road (S22°08.448' E35°27.405'); reasons for abandonment unclear. During December 2012, many birds seen carrying food, including one bird flying across Estuary to Linene Island (MA *et al.*). At Mazarette Cliffs colony, small boys seen catching 1-2 bee-eaters at their nest holes in December 2012. Over 100 pairs starting nesting at Office burrow pit (responding to freshly scraped soil), 13 pairs at Linene island sandbank, and over 100 pairs at World's View cliff site, September 2013 (CR, MA *et al.*). Some birds observed feeding chicks in nests in burrow pit near office, December 2013 (CR).

Blue-cheeked Bee-eater *Merops persicus*

Several birds at various localities, especially on eastern side of peninsula, during December 2012 (MA *et al.*). Also at Community Gate Pan in December 2012. Several birds at Noni Pan, December 2013 (CR). Seems to replace Olive Bee-eater where it occurs in the Sanctuary.

Southern Carmine Bee-eater *Merops nubicoides*

Uncommon. Reported from the area in summer by JN. Recorded by CR in January/February 2003, January 2004, January 2006, March 2009, and September 2012.

**Little Bee-eater** *Merops pusillus*

Common throughout sanctuary, particularly where there are glades and openings in the savanna. Pair suspected breeding below Curlew September 2013 (CR). Probably the same pair below Curlew House, December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Swallow-tailed Bee-eater *Merops hirundineus*

Reported from the area by JN. Pair in November 2003, and in January 2004. Single bird in October 2002 and a number of birds in September 2012 (CR). Several juvenile birds in open miombo woodland in December 2012 (MA *et al.*). Fairly common across sanctuary September 2013 (CR *et al.*) and a pair below Curlew House, December 2013 (CR).

Lilac-breasted Roller *Coracias caudatus*

Common in June 2002 and found widely throughout the area, especially on the verges of cultivated lands (WRT). Seen in January 2004, March 2009, September 2003 and July 2008 (CR). Three single birds seen in December 2012 (MA *et al.*). Fairly common in September 2013 (CR *et al.*). Single bird seen near Mukwe Pan, December 2013 (CR). Possibly becoming less common with miombo becoming mature on old cultivated lands.

European Roller *Coracias garrulous*

New record for the Sanctuary. Single adult bird seen at Mukwe pan December 2013 (CR).

Racket-tailed Roller *Coracias spatulatus*

A single bird seen on successive days close to Dugong Lodge in June 2002 (DG). No further records.

Purple Roller *Coracias naevius*

Fairly common in June 2002; single birds seen mostly in the open miombo savanna east of Msasa Camp (WRT). No subsequent records.

[Broad-billed Roller *Eurystomus glaucurus*

Not yet recorded in Sanctuary, but its occurrence in the area is noted for 2235AD (Parker 1999).]

African Hoopoe *Upupa africana*

Fairly common in December 2012 (MA *et al.*) and December 2013 (CR).

Green Wood Hoopoe *Phoeniculus purpureus*

Surprisingly scarce. One record in June 2002, a group of 5 birds in open miombo near the community harbour (WRT). Recorded in September 2003 and June 2009 (CR). Not recorded subsequently.

Common Scimitarbill *Rhinopomastus cyanomelas*

Scarce in June 2002; single birds seen in miombo woodland, usually in association with mixed species bird parties (WRT). CR recorded 1 bird in November 2008. One bird heard calling in miombo savanna in December 2012 (MA *et al.*). A single pair seen, September 2013 (CR). Also reported from 2135 CD in March 2004 by Cizek (2008).

Trumpeter Hornbill *Bycanistes bucinator*

Twice recorded in June 2002, both of pairs of birds seen close to large baobabs near Lake Manhale (WRT). Recorded year round in low numbers (CR). Not recorded in December 2012 survey.

African Grey Hornbill *Tockus nasutus*

Reported from the area by DS and one bird seen near Eastern vlei in



July 2008 (CR).

[Southern Yellow-billed Hornbill *Tockus leucomelas*

Reported from the area by JN. There is little suitable habitat for this conspicuous species on the Peninsula.]

Crowned Hornbill *Tockus alboterminatus*

Fairly common but rather localised in the Sanctuary. Six birds seen at Mazarette and at Curlew September 2013 (CR). Several birds at Mazarette and along the new lighthouse road, December 2013 (CR).

Black-collared Barbet *Lybius torquatus*

Fairly common throughout the Sanctuary.

[Crested Barbet *Trachyphonus vaillanti*

Reported from 2135CD by Cizek (2008) in March 2004]

Yellow-fronted Tinkerbird *Pogoniulus chrysoconus*

Fairly common throughout the Sanctuary in miombo savanna. Usually detected by call.

Yellow-rumped Tinkerbird *Pogoniulus bilineatus*

Common in Sanctuary where thicker and lush growth exists; has bred at Curlew House, undated (CR).

Greater Honeyguide *Indicator indicator*

Status unclear. Reported from the area by DS and one calling in communal lands in December 2012 (MA *et al.*).

Scaly-throated Honeyguide *Indicator variegatus*

Seen and heard on the western side of the Sanctuary in March 2013 (K&AL).

Lesser Honeyguide *Indicator minor*

Two birds heard calling, 1 in dune thicket above vlei on eastern side of peninsula and the other near Curlew House in December 2012 (MA *et al.*). Recorded on western side of Sanctuary in March 2013 (K&AL).

Golden-tailed Woodpecker *Campethera abingoni*

Common throughout the Sanctuary but easily overlooked as it calls infrequently. Heard in September and December 2013 (CR).

Green-backed Woodpecker *Campethera cailliautii*

A pair near Curlew House in miombo growing close to mangroves in January 2004 (CR). This pair was probably nesting in an arboreal *Nasutitermes* (Isoptera) termitarium, behaviour that has been recorded further north in Mozambique (Davies *et al.* 2012).

Cardinal Woodpecker *Dendropicos fuscescens*

Fairly common in miombo woodland and often in association with mixed species flocks in winter. Pair seen at workshop, September 2013 (MA, CR *et al.*).

Bearded Woodpecker *Dendropicos namaquus*

Only one record in June 2002 of a single bird in open miombo scrub south of Msasa Camp (WRT).

Rufous-naped Lark *Mirafra africana*

Not recorded in June 2002 (WRT) and recorded at old airstrip at Marape in January 2004 (CR). However, found to be common in open woodland in December 2012 (MA *et al.*), possibly having increased in recent years.



[Dusky Lark *Pinarocorys nigricans*

Not yet recorded in Sanctuary, but its occurrence in the area is noted for 2235AD (Parker 1999).]

Barn Swallow *Hirundo rustica*

Very common summer visitor in large flocks, roost sites not located but presumably exist somewhere in the wetlands of the peninsula. Seen at World's View, September 2013 (CR, MA *et al.*). Seen at Linene December 2013 (NC&RH).

White-throated Swallow *Hirundo albigularis*

A single bird in August 2003 over Curlew House (CR).

[Lesser Striped Swallow *Cecropis abyssinica*

Reported from the area by DS, surprisingly no other records.]

Grey-rumped Swallow *Pseudohirundo griseopyga*

A pair of birds (probably the same), seen on successive days on the saline flats behind Dugong Lodge in June 2002 (WRT). A pair hawking insects over grassy shoreline at Noni Pan, December 2013 (C&MR).

Sand Martin *Riparia riparia*

Two birds in flight over Curlew House in December 2012 (MA *et al.*). Also seen in September 2013, Curlew House (CR).

Mascarene Martin *Phedina borbonica*

A single sighting of three birds in June 2002; they were flying back and forth amongst the partly submerged trees at the south edge of Lake Manhale (WRT). Seen in winter of 2004 by CR at unrecorded locality in Sanctuary. No further records, probably overlooked winter migrant to the peninsula from Madagascar.

Common House Martin *Delichon urbicum*

One pair seen from World's View, September 2013 (MA, CR *et al.*). Reported from 2135CD in March 2004 by Cizek (2008).

Black Saw-wing *Psalidoprocne holomelaena*

Common in June 2002 and found widely throughout the area; small groups (2-6 birds) often associated with freshwater pans and lakes (WRT). Fairly common to common in December 2012 (MA *et al.*). Two large groups seen on road to neighbouring community area and in community lands, September 2013 (CR). The migratory status of this swallow in Mozambique remains poorly understood, but is likely that breeding birds are augmented by South African migrants in winter.

Black Cuckooshrike *Campephaga flava*

Fairly common in June 2002; single birds encountered widely in tree canopies in mature miombo savanna, usually in association with mixed species bird parties (WRT). CR recorded in December 2004 and June 2009. Inexplicably, not seen or heard since and has evidently declined since 2002.

Fork-tailed Drongo *Dicrurus adsimilis*

Fairly common throughout the Sanctuary.

Square-tailed Drongo *Dicrurus ludwigii*

Present in the Sand Forest above the Eastern Vlei in December 2012 (MA *et al.*), also noted for 2235AB and 2235AD (Parker 1999). No other records.

Black-headed Oriole *Oriolus larvatus*

Status unclear. Fairly common in June 2002; mainly in mature miombo savanna (WRT). Found to be fairly common in December



2004, but only seen again in March 2009. During December 2012, only one bird seen crossing road in southern part of Sanctuary (MA *et al.*).

Pied Crow *Corvus albus*

Fairly common, especially near human habitation. Several inactive nests located in June 2002 (WRT) and pair at active nest in Casuarina tree in fishing village on north-east side of peninsula in December 2012 (MA *et al.*). Seen daily in front of Curlew House, September 2013 (CR).

Southern Black Tit *Parus niger*

Fairly common in miombo savanna, usually in small groups feeding alongside other species parties in tree canopies. Seen at Curlew House, September and December 2103 (CR).

Grey Penduline-Tit *Anthoscopus caroli*

Status unclear. Once recorded in June 2002, a pair associated with a mixed species bird flock in *Brachystegia* trees in Msasa Camp (WRT). Small flock in trees at saltpan behind Curlew House in January 2003 (CR). Not recorded in December 2012 (MA *et al.*). Cizek (2008) recorded it in March 2004 from 2235AB in "fairly open savanna parkland and adjacent mangrove".

Arrow-marked Babbler *Turdoides jardineii*

One record in June 2002, a flock of birds in miombo thicket 7 km south of Msasa Camp (WRT). Surprisingly, no other records.

Dark-capped Bulbul *Pycnonotus tricolor*

Very common and ubiquitous throughout the peninsula.

Terrestrial Brownbul *Phyllastrephus terrestris*

Fairly common but localised to dense thickets.

Sombre Greenbul *Andropadus importunus*

Very common, especially in dune scrub and thickets.

Yellow-bellied Greenbul *Chlorocichla flaviventris*

Fairly common in dense thickets and Sand Forest.

Eastern Nicator *Nicator gularis*

Common throughout Sanctuary, particularly where there are dense thickets, its loud call usually disclosing its presence. It does not sing in winter and is easily overlooked at that time of year.

Kurrichane Thrush *Turdus libonyanus*

Surprisingly uncommon in the Sanctuary, usually in isolated pairs.

Red-capped Robin-Chat *Cossypha natalensis*

Status unclear. One record in thickets close to the seafront at Palmerinha, June 2002 (WRT). Heard calling in dune thicket and woodland above estuary in December 2012 (MA *et al.*). Probably largely overlooked to date.

White-throated Robin-chat *Cossypha humeralis*

Status unclear. One bird in thickets at Curlew House and another further south in dune scrub, December 2012 (MA *et al.*). Single bird calling from low bush alongside hut at Community Gate Pan, December 2013 (CR). Also recorded from 2235AB in March 2004 without details by Cizek (2008).

White-browed Scrub Robin *Erythropygia leucophrys*

Fairly common in woodland habitats throughout the peninsula.

**Bearded Scrub Robin** *Erythropygia quadrivirgata*

Recorded at Linene during summer 2011/2012 (K&AL). One singing in dense woodland near Main Gate in December 2012 (MA *et al.*). Probably largely overlooked to date, but existing woodland generally too low and open for this species.

[Collared Palm Thrush *Cichladusa arquata*

Not yet recorded in the Sanctuary and suitable tall palm trees for nesting are scarce. Single bird seen in short miombo thicket on 17 March 2008 "along the road north of Vilanculos" (Cizek 2008).]

Icterine Warbler *Hippolais icterina*

Single undated record by CR from Sanctuary.

African Reed Warbler *Acrocephalus baeticatus*

Once recorded in June 2002, a single bird called up from a reed bed on pan close to Msasa Camp (WRT). Remarkably, no subsequent records, but probably largely overlooked.

Great Reed Warbler *Acrocephalus arundinaceus*

Single bird calling from the mangrove shoreline at the southern end of Palmerinha Bay, December 2013 (C&MR). No other records.

Lesser Swamp Warbler *Acrocephalus gracilirostris*

Fairly common in June 2002; detected by its call; found in reed-marshes, including the one just east of Msasa Camp (WRT). Heard calling at several wetlands (including Noni Pan) in December 2012 (MA *et al.*).

Little Rush Warbler *Bradypterus baboecala*

Fairly common in June 2002; detected by its call, and found in dense sedge-marshes, mostly along the Inhambane estuary (WRT).

Recorded in January and December 2004, July 2008 and June 2009 (CR). Not recorded in December 2012.

[Thrush Nightingale *Luscinia luscinia*

Heard singing from dense thickets at Baia do Paraíso, Vilanculos in March 2004 (Cizek 2008). This skulking warbler has not been recorded from the peninsula and its favoured habitat of dense, impenetrable thickets is localised, although it is possible it occurs in small numbers. It only becomes detectable in late summer when it begins singing before migrating north to Eurasia.]

Willow Warbler *Phylloscopus trochilus*

One bird singing and foraging in thick woodland on eastern side of peninsula in December 2012 (MA *et al.*). Surprisingly, no other records.

Yellow-breasted Apalis *Apalis flavida*

Common throughout the peninsula. Has been found breeding at Palmerinha, undated (CR).

Red-faced Crombec *Sylvietta whytii*

Fairly common in miombo savanna throughout the Sanctuary.

Long-billed Crombec *Sylvietta rufescens*

Once recorded in June 2002, a pair of birds associated with a mixed bird party (of batises, tits and others) in miombo savanna in 'Phase II' area (WRT). No subsequent records.

Green-capped Eremomela *Eremomela scotops*

Twice recorded in June 2002; both were of small groups (3-4 birds) found foraging in tree canopies in association with other species (batises, tits, etc.) in mixed bird parties (WRT). Seen at Curlew



House in August 2005 (CR). Two sightings in open miombo savanna in December 2012 (MA *et al.*).

Green-backed Camaroptera *Camaroptera brachyura*

Fairly common wherever thickets occur on the peninsula.

Zitting Cisticola *Cisticola juncidis*

Common in June 2002 and found widely in ones and twos along the grassy margins of freshwater wetlands; also in cultivated lands (WRT). Only one further record by CR in January 2004. Has clearly declined since 2002, probably due to cultivated lands and open areas regenerating as low miombo savanna.

Rattling Cisticola *Cisticola chiniana*

Fairly common in open woodland.

Rufous-winged Cisticola *Cisticola galactotes*

Common on the margins of sedge- and grass-marshes throughout the peninsula.

Croaking Cisticola *Cisticola natalensis*

Only record is a pair in March 2013 in a patch of flooded grassland near the Estuary (K&AL). Also listed by Parker (1999) for 2235AD.

Neddicky *Cisticola fulvicapilla*

Common in open woodland habitats. Pair alarm calling (possibly breeding) in northern part of VCWS in December 2012 (MA *et al.*).

Short-winged Cisticola *Cisticola brachyptera*

Recorded in miombo savanna in March 2013 (K&AL), probably otherwise overlooked in the Sanctuary. Has been recorded west of Vilanculos (Parker 1999).

Tawny-flanked Prinia *Prinia subflava*

Unaccountably scarce in the Sanctuary. Uncommon in communal lands and at Lake Manhale in December 2012 (MA *et al.*).

African Dusky Flycatcher *Muscicapa adusta*

Vagrant, one bird recorded in June 2009 (CR); an altitudinal migrant that may have dispersed from Mpumalanga escarpment or Zimbabwe highlands.

Spotted Flycatcher *Muscicapa striata*

One bird in open miombo savanna on western side of peninsula in December 2012 (MA *et al.*) and an individual along the community road, December 2013 (CR) are remarkably the only records to date.

Ashy Flycatcher *Muscicapa caerulescens*

One bird heard near in dense miombo south-west of Curlew House in December 2012 (MA *et al.*).

Grey Tit-Flycatcher *Myioparus plumbeus*

Scarce in June 2002, with single birds recorded a few times in mature miombo savanna in mixed species bird parties (WRT). Recorded at Curlew House in August 2005 (CR) and a few birds recorded in December 2012 (MA *et al.*). Calling behind Curlew House, December 2013 (CR).

Southern Black Flycatcher *Melaenornis pammelaina*

Fairly common in woodland throughout the Sanctuary.

Pale Flycatcher *Melaenornis pallidus*

Common in June 2002 and found widely; mostly in pairs and mainly in the open miombo savanna east of Msasa Camp (WRT). Uncommon in December 2012, with singletons at Pelican Point and



in communal lands (MA *et al.*). Near helipad, September 2013 (CR).

Pale Batis *Batis soror*

Common in woodland throughout the Sanctuary, often in association with other birds in mixed bird parties during winter. Often can be seen gleaning insects in mangroves.

Black-throated Wattle-eye *Platysteira peltata*

A pair recorded in June 2002 in mangroves at Palmerinha (WRT). An adult feeding young at Chilonguene village in January 2004 (CR). Male regularly seen at Curlew House in December 2012 (MA *et al.*). Female seen feeding youngster at Curlew House, youngster flying at approximately 14 days after hatching (CR). Seen at Linene, December 2013 (NC&RH).

African Paradise Flycatcher *Terpsiphone viridis*

Fairly common throughout the Sanctuary, especially around Curlew House (CR).

African Pied Wagtail *Motacilla aguimp*

Single sighting by K&AL, no date given.

Cape Wagtail *Motacilla capensis*

Single bird at Eastern Sand Spit in December 2012 (MA *et al.*).

Western Yellow Wagtail *Motacilla flava*

Three birds on muddy fringes of Lake Manhale (either *thunbergi* or *feldegg* subspecies) December 2012 (MA *et al.*).

African Pipit *Anthus cinnamomeus*

Fairly common on areas of open, bare ground, especially wetland edges. A single bird was undertaking display flights over very

sparsely vegetated dunes on the small Banque Island in December 2012 (MA *et al.*).

Yellow-throated Longclaw *Macronyx croceus*

Uncommon and restricted to wetland edges.

Lesser Grey Shrike *Lanius minor*

Single bird seen in November 2010 (CR).

Red-backed Shrike *Lanius collurio*

Recorded in February 2003, January 2004, and February 2005 (CR). Two birds (male and female) in communal lands in December 2012 (MA *et al.*).

Southern Boubou *Laniarius ferrugineus*

Common throughout the area in dense undergrowth and tangles.

Black-backed Puffback *Dryoscopus cubla*

Common throughout the Sanctuary in savanna and woodland; found singly or in pairs, often in association with mixed species bird parties in tree canopies.

Brubru *Nilaus afer*

Fairly common in miombo savanna, often in association with mixed species bird parties in tree canopies.

Brown-crowned Tchagra *Tchagra australis*

Fairly common throughout the Sanctuary.

Black-crowned Tchagra *Tchagra senegala*

Fairly common throughout the Sanctuary.

**Gorgeous Bush-Shrike** *Telophorus quadricolor*

Common throughout the Sanctuary, usually detected through its distinctive song. Good viewing of an individual in bushes along lighthouse road, December 2013 (C&MR).

Orange-breasted Bush-Shrike *Chlorophoneus sulfureopectus*

Several birds heard calling during in vicinity of Curlew House and Pelican Bay, December 2012 (MA *et al.*). Apparently no other records.

Grey-headed Bush-Shrike *Malaconotus blanchoti*

Status unclear. Scarce in June 2002; recorded most frequently in miombo savanna in the vicinity of Msasa Camp (WRT). Heard in December 2004 and January 2006 (CR). One bird calling in thick woodland in December 2012 (MA *et al.*). Recorded along community road, September 2013 (CR).

White Helmet-Shrike *Prionops plumatus*

Common in June 2002 and found widely in groups of 5-10 birds in all woodland types (WRT). Apparently less common in recent years. Seen by CR in April 2004 and January 2006. Two flocks seen in miombo savanna in December 2012 (MA *et al.*). Eight birds seen along community road, September 2013.

[Red-billed Helmet-Shrike *Prionops retzii*

Reported from the area by DS. No other records.]

Chestnut-fronted Helmet-Shrike *Prionops scopifrons*

Four seen in mixed bird party near Noni Pan, July 2012 by KL. Occurrence also noted for 2235AD by Parker (1999).

Violet-backed Starling *Cinnyricinclus leucogaster*

Fairly common summer visitor. Birds seen carrying food in vicinity of cavities in December 2012. Single winter record from June 2009 (CR). Seen at Linene, December 2013 (NC&RH).

Black-bellied Starling *Notopholia corruscus*

Uncommon and largely restricted to dune thickets and dune forest patches. Pair bathing in pond at Curlew House, December 2013 (CR). Seen at Linene, December 2013 (NC&RH).

Purple-banded Sunbird *Cinnyris bifasciatus*

Common throughout the Sanctuary. Recently fledged bird seen on 4 December 2012 (MA *et al.*). Female feeding newly fledged chick in eaves of Curlew House roof, December 2013 (CR).

[Neergaard's Sunbird *Cinnyris neergaardi*

Not yet recorded from Sanctuary, but is listed for 2235AD (Parker 1999). This sunbird is dependent on Usnea lichen for nesting and will only occur in woodland with significant growths of this epiphyte.]

Grey Sunbird *Cyanomitra veroxii*

Fairly common, especially in dune thickets around Curlew House.

Olive Sunbird *Cyanomitra olivacea*

Status unclear. Singing bird in dune thicket on eastern edge of Sanctuary in December 2012 (MA *et al.*).

Scarlet-chested Sunbird *Chalcomitra senegalensis*

Common and perhaps the most ubiquitous sunbird in the Sanctuary. Bred at Dugong Lodge in February 2003 (CR).



Amethyst Sunbird *Chalcomitra amethystina*

Scarce. One seen by CR in January 2006 (CR). Also reported from area by DS and JN and listed for 2235AB and 2235AD. Recorded along estuary road in September 2013 (CR).

Collared Sunbird *Hedydipna collaris*

Fairly common in December 2012, particularly where there are thickets or denser patches of woodland. Feeding fledged chick close to Inhambane Estuary in January 2004 (CR). Seen at Linene, December 2013 (NC&RH).

African Yellow White-eye *Zosterops senegalensis*

Remarkably scarce. Small group at Curlew House in September 2004 and June 2009 (CR). Also reported from area by DS.

House Sparrow *Passer domesticus*

Birds seen near human habitation at Dugong Lodge, Pelican Point and offices in December 2012 (MA *et al.*). Has possibly increased in abundance as not recorded by WRT in June 2002. Seen at Curlew House and Mazarette houses, September and December 2013 (CR *et al.*).

Southern Grey-headed Sparrow *Passer diffusus*

Scarce in June 2002; small parties seen in cultivated lands (WRT). Seen at Curlew House by CR in December 2009 (CR). One flushed from dead tree in mangroves south of Curlew House in December 2012, possibly using cavity for nesting (MA *et al.*). Seen near workshop, December 2013 (CR). Seen at Linene December 2013 (NC&RH).

Yellow-throated Petronia *Gymnoris superciliaris*

Scarce in June 2002 with single birds seen a few times in the open

miombo savanna east of Msasa Camp (WRT). One bird seen in Sand Forest in December 2012 (MA *et al.*).

Thick-billed Weaver *Ambylospiza albifrons*

Fairly common around some wetlands (e.g. Noni Pan) in Sanctuary.

Dark-backed Weaver *Ploceus bicolor*

Scarce and localised, with one pair seen in Sand Forest in December 2012 (MA *et al.*).

Spectacled Weaver *Ploceus ocularis*

Fairly common, particularly in thicker growth. Incomplete nest found in December 2012 (MA *et al.*). Nest on Mazarette road with Village Weaver nests September 2013 (CR). Pair seen on south road near community area (CR).

Village Weaver *Ploceus cucullatus*

Fairly common and breeding confirmed, including active colony in coconut-palm tree near Pelican Point, in December 2012. Nests seen on Mazarette road, September 2013 (CR *et al.*).

Southern Masked Weaver *Ploceus velatus*

Fairly common in June 2002, usually alongside other weavers and widows in flocks in cultivated lands (WRT). Only seen in cultivated areas in December 2012 (MA *et al.*).

Lesser Masked Weaver *Ploceus intermedius*

Fairly common and breeding in reed beds at small pans in December 2012 (MA *et al.*). Several near Curlew House, December 2013 (CR). Seen at Linene, December 2013 (NC&RH).

**Yellow Weaver** *Ploceus subaureus*

Common in a variety of habitats, and breeding in Phragmites reeds in vlei at eastern side of Sanctuary, December 2012 (MA *et al.*).

[Southern Brown-throated Weaver *Ploceus xanthopterus*

Single bird on 15 March 2008 north of Vilanculos (Cizek, 2008). Not yet reported from the Sanctuary.]

[Red-headed Weaver *Anaplectes rubriceps*

Not yet recorded from Sanctuary, but reported from the area by DS.]

Red-billed Quelea *Quelea quelea*

Seen by CR in December 2004. Several non-breeding birds in small flocks seen in a variety of habitats in December 2012 (MA *et al.*). A few birds seen in December 2013 (CR).

Southern Red Bishop *Euplectes orix*

Approximately 30 birds recorded at Marape Pan, December 2013 (CR).

Black-winged Bishop *Euplectes hordaceus*

Male seen by CR at Mukwe Pan in January 2004. This is the first record for Sul do Save as it is otherwise only known from north of the Save River (Clancey 1996; Parker 1999).

Fan-tailed Widowbird *Euplectes axillaris*

Fairly common in June 2002; in flocks of 20-50 birds, often associated with flocks of weavers; usually in cultivated lands (WRT). Seen by CR in January and December 2004. Several males at Eastern Vlei in December 2012 (MA *et al.*) and common near the Estuary in flooded grassland in March 2013 (K&AL). Twenty-fourty at Marape Pan, December 2013 (CR).

White-winged Widowbird *Euplectes albonotatus*

Once recorded in June 2002, a flock of birds in winter plumage were associating with Red-shouldered Widows in cultivated lands (WRT). No subsequent records.

Red-billed Firefinch *Lagonosticta senegala*

A pair of birds drinking water and bathing at Curlew House in December 2012 (MA *et al.*) and another pair seen in thicket along Mazarette road, September 2013 (CR).

Blue Waxbill *Uraeginthus angolensis*

Heard in communal near Lake Manhale in December 2012 and recorded from the area by NJ.

Common Waxbill *Estrilda astrild*

Common in June 2002 and found widely in small parties, mostly in cultivated lands or alongside sedge-marshes (WRT). Apparently decreased in abundance subsequently. Seen by CR in September 2003 and March 2009. Small flock at Eastern vlei in December 2012 (MA *et al.*). Small flock at Marape Pan, December 2013 (CR).

Grey Waxbill *Estrilda perreini*

Two sightings of a pair drinking and bathing at Curlew House in December 2012 (MA *et al.*). K&AL recorded them (at unknown locality) in 2011.

[Green-backed Pytilia *Pytilia melba*

One bird seen in March 2004 Baia do Paraiso, Vilanculos by Cizek (2008). Not yet reported from the peninsula, but likely in small numbers.]

**Bronze Mannikin** *Lonchura cucullata*

Very common in June 2002 and flocks were found widely, mostly in association with cultivated lands (WRT). Nesting in Balanites at Curlew House in January 2006 (CR). Also seen in January and December 2004, and March and June 2009 (CR). Common in communal lands south of Sanctuary gate, but uncommon in sanctuary, in December 2012 (MA *et al.*) and December 2103 (C&MR).

Red-backed Mannikin *Lonchura bicolor*

Twice recorded in June 2002, both times in mixed flocks alongside Bronze Mannikins in cultivated lands (WRT). CR recorded species in February 2003, January 2004 and January 2006. Several sightings in communal land south of Sanctuary entrance gate in December 2012 (MA *et al.*). Seen feeding in a *Combretum micropyllum* tree, Chilonzuene village, 2011 (K&AL).

Pin-tailed Whydah *Vidua macroura*

Once recorded in June 2002, a flock of 80 birds in winter plumage feeding in disturbed ground alongside a cultivated field (WRT). Recorded by CR in September 2003 and January and December 2004. Male in communal lands next to small pan south of Sanctuary entrance gate in December 2012 (MA *et al.*).

Yellow-fronted Canary *Crithagra mozambica*

Scarce in June 2002, with small parties recorded in cultivated lands south of Msasa Camp (WRT). Recorded in January 2004 and June 2009 (CR). Uncommon and recorded in open woodland, mangroves and other habitats in December 2012 (MA *et al.*). Seen at Linene, December 2013 (NC&RH)

Lemon-breasted Canary *Crithagra citrinipectus*

Fairly common in June 2002 and flocks of 20-30 birds were seen at two localities (WRT). Common and recorded year-round by CR (2003-2013). Fairly common in December 2012, with male displaying on *Hyphaene* palm (MA *et al.*). Cizek (2008) found a pair building a nest near Vilanculos in late March 2004.

Brimstone Canary *Crithagra sulphurata*

Scarce. Single record from Msasa Camp in August 2003 (CR). Also reported from the area by DS.

Black-eared Seed-eater *Crithagra mennelli*

Single bird in miombo savanna in January 2004 (CR).

Golden-breasted Bunting *Emberiza flaviventris*

Scarce in June 2002, with single birds recorded twice in open Msasa savanna east of Msasa Camp. Recorded in sanctuary in March 2003, and March and November 2009. Singing birds heard on two occasions during December 2012 (MA *et al.*).



The following are some of the "charismatic" species to the Sanctuary (i.e. spectacular and/or rare bird species that are characteristic of the Sanctuary, and which might act to attract birders to the peninsula):

- Pink-backed Pelican
- African Pygmy Goose
- Saddle-billed Stork
- Greater Flamingo
- Western Osprey
- Wattled Crane
- Lesser Jacana
- Long-toed Lapwing
- Crab Plover
- Terek Sandpiper
- Narina Trogon
- Olive Bee-eater
- Mangrove Kingfisher
- Mascarene Martin
- Gorgeous Bushshrike
- Southern Banded Snake Eagle
- Green-backed Woodpecker
- Lemon-breasted Canary

Table 1. Counts of selected Charadriiformes at east coast tropical and sub-tropical localities in Mozambique and South Africa. The Bazaruto Archipelago figures represent totals from counts undertaken in January 1996, the Inhambane Bay figures represent incomplete counts of c. 8.5% of mudflats in April 1999, the Inhaca Island counts are means from three summer counts (1995-97), and the St Lucia and Richards Bay figures are means from five summer counts (1992-97).

Species	San Sebastian Peninsula	Bazaruto Archipelago	Inhambane Bay	Inhaca Island	Lake St Lucia
	Dec 2012, incomplete counts S22°02'-22°18'	Koehler and Koehler 1996 S21°32'-21°37'	Bento and Rufino 2000 S23°45'-23°52'	De Boer 2002 S25°58'-26°04'	Taylor <i>et al.</i> 1999 S28°04'
Common Ringed Plover	365	145	41	94	147
White-fronted Plover	32	138	11	98	9
Greater Sand Plover	41	3	50+	57	0
Grey Plover	44	1221	178	693	10
Crab Plover	186	2	0	0	0
Terek Sandpiper	7	236	123	358	0
Common Greenshank	300	567	5	383	58
Curlew Sandpiper	1000+	2504	115	1513	1562
Little Stint	638	160	0	0	853
Sanderling	0	653	48	376	0
Bar-tailed Godwit	5	3735	15	80	0
Common Whimbrel	110+	2193	267	1681	10
Grey-headed Gull	84	215	-	33	158
Swift Tern	540	41	-	23	31
Lesser Crested Tern	23	298	-	86	12
Common Tern	103	>10,000	-	19	5



Table 2. Species for which there is reliable (nests, eggs, chicks) or circumstantial (e.g. carrying nest material or food) breeding evidence. An asterisk indicates those species for which the evidence is circumstantial. See respective species accounts for further details.

White-breasted Cormorant
 Reed Cormorant
 African Darter
 Grey Heron
 Hamerkop
 Woolly-necked Stork
 White-faced Whistling Duck
 Yellow-billed Kite
 *African Goshawk
 *African Purple Swamphen
 Kittlitz's Plover
 Collared Pratincole
 *African Green Pigeon
 *Green Malkoha
 Brown-hooded Kingfisher
 Olive Bee-eater
 *Little Bee-eater
 *Green-backed Woodpecker
 Yellow-breasted Apalis
 *Neddicky
 Black-throated Wattle-eye
 *Violet-backed Starling
 Purple-banded Sunbird
 Scarlet-chested Sunbird
 Collared Sunbird
 *Southern Grey-headed Sparrow
 Spectacled Weaver
 Village Weaver
 Lesser Masked Weaver
 Yellow Weaver
 Bronze Mannikin

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**Appendix 1.** Co-ordinates of localities mentioned in the text.

Banque (Bangwe) Island = S22°02.612' E35°27.472'
Chingonguene Island = S22°10.743' E35°31.328'
Community Gate Pan = S22°11.633' E35°26.957'
Community Harbour, Marape = S22°10.258' E35°25.163'
Curlew House = S22°08.118' E35°26.780'
Dugong Lodge = S22°07.938' E35°26.582'
Estuary Mouth = c. S22°08.060' E35°32.095'
Eastern Vlei = S22°08.788' E35°29.013'
Eastern Sand Spit = S22°08.137' E35°32.683'
Fishing village = S22°06.112' E35°29.012'
Harrier Pan = S22°08.205' E35°26.858'
Jane Marsh = S22°20.000' E35°31.500'
Linene Island = S22°08.675' E35°31.593'
Lighthouse = S22°16.175' E35°31.920'
Lake Manhale = S22°16.812' E35°27.353'
Main Gate = S22°10.493' E35°27.363'
Marape = S22°10.258' E35°25.163'
Mazarette Cliffs = S22°05.828' E35°28.298'
Msasa Pan = S22°08.113' E35°27.217'
Msasa Camp = S22°07.975' E35°26.898'
Mukwe Pan = S22°08.123' E35°27.253'
Noni Pan = S22°11.580' E35°28.587'
Nyati Lodge = S22°11.343' E35°32.063'
Palmerinha = S22°03.803' E35°30.090'
Pelican Bay = S22°06.128' E35°27.700'
Sand Forest = S22°09.277' E35°28.665'
Sanctuary Workshop = S22°07.638' E35°27.078'
Twee Panne = S22°07.752' E35°27.236'
World's View = S22°05.882' E35°28.447'