

## X. APPENDICES – FAUNA and FLORA

### Appendix Xb4. Fynbos habitat of De Hoop Vlei (archival)

# PORTRAIT OF A FYNBOS HABITAT EXTRAORDINARY DE HOOP VLEI

by C. J. Uys

AT the southern tip of the African continent, in the Bredasdorp district, lies De Hoop Vlei. This vlei with its environs is an enclave of largely unspoilt fynbos habitat rich in a specific flora and supporting a bird population remarkable even by African standards, both in total numbers and the variety of breeding and migrant species. The heart of the area is De Hoop Vlei. But adjacent to it are thousands of hectares of unique coastal fynbos. At the coastal perimeter of a district which is generally one of the most intensively developed agriculturally in South Africa with productive grainlands occupying all land that can be utilised, this area has remained relatively untouched by these activities. In part, this is because of the stony nature of the terrain, its low agricultural productivity and not least because of conservation measures applied for years by both landowners and the Cape Provincial Administration.

De Hoop Vlei is situated approximately 50 km east of Cape Agulhas and 30 km west of the Breede River mouth (at 34°26' S; 20°25' E). The vlei is landlocked and runs from north to south; it is about 15 km long and averages ½ km in width. It is fed by the Sout and Pottebergs rivers, two rivulets which have their origins respectively in the grainlands 100 km to the north near Jongensklip and in the Potberg. Flow is mostly restricted to the winter months, the period of maximum rainfall. The average annual rainfall of about 450 mm falls mostly between March and October. The southern extremity of the vlei reaches within a two and a half kilometres of the coast, being separated from the sea by a series of white sanddunes. The northern half of the vlei winds through a series of limestone ridges, locally referred to as "hardeduine", which run parallel to the coast.

A feature which adds to the scenic charm of the vlei here is the grotesquely eroded limestone cliff formation with its numerous caverns and caves. The cliffs picturesquely flank the vlei along its upper half. However, on the western shore the rocky ridges give way along the lower half of the vlei to a sandy shelving shore which is favoured by feeding and roosting water-birds. Deep tree-lined kloofs, some fed by strong perennial springs, run into the upper parts of the vlei and add to the wild beauty of the place. The water level of the vlei varies significantly from year to year, depending upon rainfall. This in turn has a notable influence on the numbers and variety of aquatic bird species that may occur.

In the past two decades the water level



De Hoop Vlei looking south towards the sea.

photo: Caps Dept. of Nature and Environmental Conservation

when the vlei overflowed and inundated many hectares of land forming part of the low-lying coastal plain. This event triggered off an explosion in aquatic bird numbers and breeding, with the first recorded *en masse* breeding of the greater flamingo in South Africa probably being the most notable event. The second was 18 years later in 1975 when the vlei dried up completely and one could drive a vehicle from one end to another unimpeded along its floor.

The water is normally brackish and there is a sparsity of sedge- and reedbeds, these being confined to sites where the kloofs debouch into the vlei and fresh spring water is delivered. In contrast, fen-

nel-leaved pondweed *Potamogeton pectinatus* covers the water surface in dense patches in the shallow area. These usually support large flocks of coot, duck, grebes, small waders, herons and egrets. On both sides the vlei is flanked by a strip of undisturbed riverine bush which can be up to one kilometre in width in some of the kloofs. A dominant tree in this bush is the white milkwood *Sideroxylon inerme* and indeed one of the appealing features of the district is the many magnificent spreading milkwoods, each probably many centuries old, which occur as isolated trees. Their enormous spreading branches in years past comfortably accommodated farm implements, vehicles



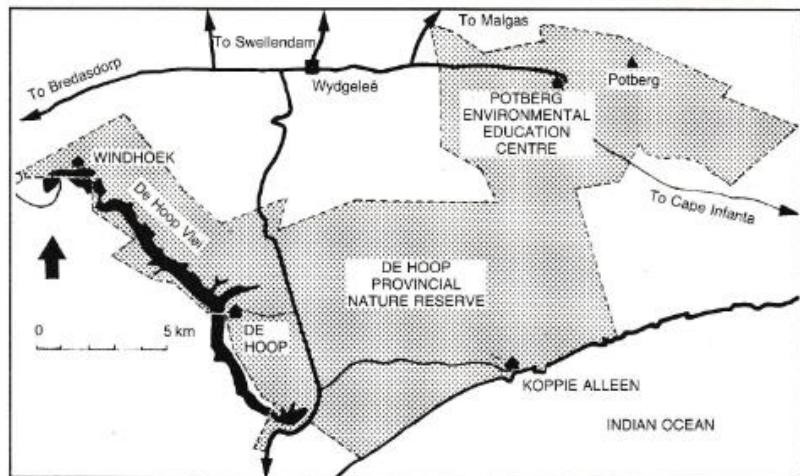
and wagons in their shade. The smaller milkwoods are included in dense thickets of dune crow-berry (or taibos) *Rhus crenata* and glossy currant *Rhus lucida*, candiewood (or kershout) *Pterocelastrus tricuspidatus*, num-num *Carissa bispinosa*, bastard olive *Olea exasperata*, sea guarri *Euclea racemosa* and Cape sumach (or pruimbos) *Croton compressum*. These are all well-known components of bush along the coast of the southern Cape.

Beyond the riverine bush for many kilometres the adjacent coastal plains and the "hardedune", in both of which limestone predominates, are clothed by fynbos which is unique in that many of the plant species are dependent upon limestone and thus occur only in this area (see page 30). Foremost amongst these are two protea species, the Bredasdorp sugarbush *Protea obtusifolia* (occurring in scarlet and pure white flower varieties) and the stinkleaf sugarbush *Protea susannae*, but there are also several species of leucadendron and a small orange pincushion *Leucospermum muiii*. *Ericas* also abound. There are several species of restionaceous reeds amongst which there is the tall "dekriet" *Thamnochortus insignis*, well known for its qualities as roof-thatching material. This vegetation still occurs as dense stands which top the height of the average man. In spring and early summer when most of the fynbos is in flower this area is one of the floral sights of the Cape. To this is added a diverse variety of smaller flowers which include several spectacular gladioli, particularly the rare and breath-taking Bredasdorp bluebell *Gladiolus rogersii*, gazanias, romuleas, tritonias, babianas, lachenalias and the brandlelle *Cyrtanthus ventricosus*.

Another distinctive species found only in this area is *Dymondia margaretae*. This is a member of the daisy family which grows as a tightly-knit, flat, lawn-like carpet, close to the shores of the vlei, and which produces a little yellow flower from autumn through to summer. Horticulturists in recent years have recognised the value of this species as a cover plant and it can now be seen growing between the stones of some of the cobbled paths in the famous Kirstenbosch Gardens.

Of the exotic acacias commonly found in the Cape, the rooikrans tree *Acacia cyclops* has been established here for many decades. Regrettably it has increased markedly in some parts and it now poses a distinct threat to the indigenous flora here as elsewhere. The spider gum *Eucalyptus lehmannii* is commonly used in the district as a wind-break and shade tree for stock. There are areas where it too has escaped from cultivation and if it is not effectively dealt with soon, it may prove to be a threat in years to come.

The disappearance of the larger animals, especially herbivores, from the whole of the western and the southern Cape, including this area, has been a historical fact for two centuries. Despite this the area still supports viable populations of smaller animals. Amongst the smaller antelopes the grey rheebuck still exists



De Hoop Provincial Nature Reserve on the south Cape coast.

adapted from a map by P. Slingsby (Mapcape)

in numbers for many years it has increased noticeably in the last five years. The duiker and steenbok are common. The grysbok, until about 20 years ago, was extremely numerous and then within a period of a few years almost disappeared. If anything, hunting pressure on this small buck had diminished at that time and thus could not be held responsible for the decline; nor was habitat destruction the cause. Many of the local farmers felt that the decline was due to predation by the caracal as it coincided with the appearance of this cat in increased numbers in the district. This explanation is however regarded as too simplistic by some biologists, who point out that both grysbok and caracal are now numerous, the grysbok having increased remarkably in recent years. The caracal is certainly still common and holds its own despite vigorous control measures.

The Cape fox still occurs, while the small-spotted genet, large-spotted genet, the striped polecat and Cape grey mongoose are also common. The wild cat is no longer common and a proportion of such individuals as are occasionally encountered are probably hybrids with feral

domestic cats. The yellow mongoose was unknown in the district until about 15 years ago when it first made its appearance. Since then it has increased markedly and is now common.

The black-backed jackal, an occasional predator of sheep, was ruthlessly persecuted and survived here until the late 1940s. It has apparently not re-established itself since then, although there are unconfirmed reports of its continued presence. The ratel (or honey badger) bowed out soon after the turn of the century also because of hunting pressure and then inexplicably re-established itself here in the late 1960s when several were killed in one year in predator control operations. It could of course have simply been overlooked in the intervening years. One is still aware of its presence. The water mongoose and clawless otter frequent the vlei-side and their numbers fluctuate with the water levels of the vlei. In the dry years they all but disappear, to re-appear again when the vlei fills up. This no doubt is determined by the availability of food items such as crabs and fish. An interesting addition to our faunal list in recent years has been the Egyptian (or large



grey) mongoose *Herpestes ichneumon*. It had not been accepted as occurring west of Knysna but an important population exists in the coastal area between Gansbaai and Cape Infanta (Stuart, 1981).

The maze of caves and crevices which permeate the limestone cliffs alongside the vlei, harbour large populations of hyrax (dassie) and porcupine, and the largest cave is well known for its enormous concentrations of bats (see p. 13). The commonest species is Schreiber's long-fingered bat, of which an estimated 100 000 individuals occur in the summer months; this species is largely absent during winter. Small numbers of four other insectivorous species are also to be found there. During the war years a rich deposit of bat guano was mined in the largest of these caves to support the dwindling supplies of fertiliser, a vital commodity in one of the country's main grain-growing areas.

Amongst the rodents, the striped mouse and the Cape gerbil are common, while the scrub hare *Lepus saxatilis* and the red rock hare are both secure.

No account of the mammals would be complete without mention of the chacma baboon. The relative isolation of the area, the preservation of the habitat with its natural food supplies, and the protection afforded by many inaccessible kloofs and kranes, are all factors which contribute to the well-being of this species. This is proved by the occurrence of several large troops which forage through the region.

In the reserve areas controlled by the Cape Provincial Administration some of the larger mammals found in the region in earlier days have been reintroduced with gratifying results. Notable amongst these are the bontebok, the eland and the mountain zebra.

Reptiles are represented at De Hoop by the puff-adder, Cape cobra and skaapstekker together with numerous other less obvious species. The angulate tortoise *Chersina angulata* is particularly common while the smaller "padloperjie" *Homopus areolatus* appears to have become much reduced in numbers.

However, the feature which makes De Hoop Vlei and its environs notable and which contributes to its outstanding value as a sanctuary area, is the rich and varied birdlife encountered there. Unfortunately due to lack of space I can give only a summary of the species occurring in this ornithologist's paradise.

Relative to the rest of South Africa, the western and south-west Cape has fewer bird species, only about 370 being recorded for the region. However, to date, 222 of these have been recorded in the De Hoop area, 104 as breeding species. Ornithologically the vlei may display many moods depending upon the water level and upon wetland conditions elsewhere in the country. When the water level is high, vast flocks of nomadic waterfowl are attracted to it, particularly if drought conditions exist in the hinterland. Flocks of coot numbering from 2 000–5 000 individuals are common (see p. 35). The Cape shoveler and yellow-billed duck are the

strong. South African shelduck are also strongly represented at times. Southern pochard, red-billed teal, Cape teal and maccoa duck are less common but on occasion can be seen in good numbers. Egyptian geese thrive here. At the end of the year, after the harvesting of wheat, oats and barley in the district, grain spilled on the stubble fields offers vast food reserves and attracts many thousands of these waterfowl to the vlei. These, as well as Cape shoveler, also gather here in large numbers during their post-nuptial moult in summer when they are temporarily flightless for a few weeks.

The vlei is also a stronghold of the three grebe species found in South Africa, these being the little grebe, black-necked grebe and great crested grebe. The latter is particularly abundant and loose breeding colonies of 50–60 nests of the species are not uncommon in the later summer months. Various heron species are also well-represented and in years past heronries have been established which included grey and black-headed herons, the little egret, the yellow-billed egret and cattle egret; the heronries also included white-breasted and reed cormorants, and even such species as the little bittern. During summer, migrant palearctic waders include the curlew sandpiper, ruff and little stint, while resident waders like Kittlitz's sandplover, three-banded sandplover and blacksmith plover are common. The water dikkop, a species often associated with the waterways and great lakes of Central and East Africa, is particularly common along the shores of the vlei. Spoonbills and white pelicans are also a common sight. Certain marine species such as the kelp gull and Caspian tern are attracted to the area and have also bred there in the past. A small population of grey-headed gulls is often present and indeed the first breeding record of this species in the western Cape was noted here in 1960.

European swallows in large numbers are attracted to the vlei and adjacent veld during the summer months. This is due to the swarms of chironomid lake flies which hatch in the brackish water of the vlei. In years when conditions are favourable, flocks of many thousands of swallows are to be seen roosting in the early morning on telephone wires, the perched birds sitting shoulder to shoulder weighing down the wires almost to breaking point. Other hirundinids such as the greater striped swallow, white-throated swallow, pearl-breasted swallow and African rock martin find many suitable nesting niches in the limestone cliffs flanking the vlei and are common.

No account of the vlei birds would be complete without mention of the fish eagles that occur there. Usually two to three pairs are resident along the length of the vlei and in most years two pairs will breed. Their nests are placed on the crowns of large milkwoods growing along the edge of the vlei. While they prey largely on the Mozambique tilapia *Oreochromis mossambicus*, which is an introduced species in the vlei, they also

feeding in the shallows on the fennel-leaved pondweed, immediately make for the safety of deep water where they are able to dive and escape the attentions of the eagle. They do this by a combination of paddling and flying low over the water which is so characteristic for the species. On a quiet day the roar thus produced by several thousand feet frantically paddling in unison is like distant thunder. The wild call of the eagle frustrated and missing his prey seems to add to the terror of the coot.

In the riverine bush may be found species which are uncommon for the western, and more usual for the eastern Cape. These include the tchagra, the fork-tailed drongo, and the Knysna woodpecker. The Cape bulbul, sombre bulbul, cardinal and olive woodpeckers, bar-throated apalis, rameron pigeon and fiery-necked nightjar are species not unusual for wooded areas along the coast, and which are particularly common here.

Away from the vlei and its bush, we enter the fynbos; this has a local character of its own, occupying most of the area under consideration. Here the predominating bird species are the ones that are common in the rest of the south-western Cape. These include the Cape sugarbird, lesser double-collared and orange-breasted sunbirds, pied and wattled starlings in enormous numbers, Cape bunting, white-throated seedeater, Cape bulbul, Karoo prinia, Cape robin, Cape and grey-wing francolins and feral ostriches. The rare black harrier can now be seen almost daily whereas a decade ago it was rare in the area.

The fynbos gives way to grass-covered flats where restiaceous reeds predominate with true grasses. Many of these areas were inundated by the floods of 1957-8 and have not yet been fully recolonised by fynbos. This is lark country, with the red-capped, long-billed, thick-billed and clapper larks being particularly obtrusive. On a windless morning the chorus of competing calls of the latter three species is a thrilling reminder of what our forebears must have encountered in much of the Cape veld in days gone by. Another species which happily still abounds here and whose raucous call is as characteristic of parts of the Cape veld as the protea or erica, is the black korhaan.

The majestic Stanley's bustard, second in size only to the kori bustard, is similarly common and breeds regularly, while at the periphery of the area the Karoo korhaan rather surprisingly also regularly occurs. The secretary bird, another vanishing species, still holds its own and several regularly used nest-sites are present which occur in the crowns of low milkwood trees. Namaqua sandgrouse, usually associated with more arid karoid habitat, are surprisingly common on these flats (occurring in flocks of 5–15 birds), where one is reminded to their presence by the familiar plaintive "kelkiewyn, kelkiewyn, kelkiewyn" call. This bird is no temporary visitor to the area from the arid regions to the north, as nests and young are regularly found during the dry summer

breeds in disused gerbil burrows, is the capped wheatear. The limestone cliffs of the upper reaches of the vlei are the regular nesting sites of rock kestrels, a pair of black eagles, white-necked ravens, hordes of rock pigeons, Cape siskins, red-winged starlings and spotted eagle owls. Lanner falcons, jackal buzzards and even the occasional martial eagle, are not unusual visitors to De Hoop and include the kranes in their hunting territory.

Ornithologically, in the last two decades, there have been several outstanding events which merit highlighting. Foremost probably is the massed breeding of the greater flamingo in 1960 when 800 pairs bred and reared about 350 young on inundated ground close to the vlei. Breeding was repeated on a lesser scale in 1961 and 1962 but due to predation was unsuccessful. The regular breeding of species with markedly disparate habitat requirements, within a relatively small geographical area, such as greater flamingo,

discovered in 1964 about 20 km south of Bredasdorp. Since then breeding has been confirmed annually, up to four nest-sites being recorded in some years.

#### CONCLUSION:

There are several factors which contribute to the De Hoop area's unique status within the western Cape, and its value to conservationists and environmentalists.

It supports a characteristic fynbos vegetation which is largely limestone-dependent and includes floral species found nowhere else in the winter rainfall area. Peripherally, where it abuts on the Potberg Mountain, which is composed of Table Mountain sandstone, the fynbos of acidic soil occurs; this also contains specific endemic floral species.

The area is geographically well-defined and lies as an enclave between the coast and the intensively developed grain-lands of the south-western Cape. While a proportion of the area is controlled by the

mercial exploitation poses dangers which should be guarded against. Unenlightened development could prove to be as hazardous and detrimental as unenlightened farming methods. Another danger which has assumed alarming proportions in some areas over the past quarter of a century, but particularly during the last decade, is encroachment by alien plant species. The chief offender here is rooikrans whose dense forest-like thickets have replaced valuable indigenous flora. In the land under the control of the Cape Provincial Administration the spread of this exotic species is well-controlled and there are areas where it existed previously which have now been cleared. Unfortunately, the private landowners do not enjoy the same resources to combat its insidious erosion of natural habitat, and if the pace of spread is maintained, the fynbos on some farms will soon be completely eliminated and replaced by this acacia. This would be a disastrous event anywhere but when it occurs in a region which until recent times has remained relatively unscathed with a great potential for preservation in its near original state, the tragedy is compounded. Unfortunately, at the moment one is faced with the dilemma that there appears to be no solution to this problem. Even if one advocated complete acquisition of the whole area by the State, it is doubtful if the resources exist to make total eradication of alien vegetation possible. And were State acquisition possible, it would impinge on the traditional rights of owners, some of whom have, through successive generations, contributed significantly to the area being what it is. ■

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#### SUGGESTED FURTHER READING:

- STUART, C. T. 1981. Notes on the mammalian carnivores of the Cape Province, South Africa. *Bontebok* 1: 1-58.
- UYS, C. J., BROEKHUYSEN, G. J., MARTIN, J. & MACLEOD, J. G. R. 1961. Mass breeding of the greater flamingo *Phoenicopterus ruber* Linnaeus in the Bredasdorp district, South Africa. *Ostrich* 34: 129-146.
- UYS, C. J. & MACLEOD, J. G. R. 1967. The birds of the De Hoop Vlei region, Bredasdorp, and the effect of the 1957 inundation over a 10-year period (1957-1966) on the distribution of species, bird numbers and breeding. *Ostrich* 38 (4): 233-254.
- UYS, C. J. 1980. New listings for the De Hoop Vlei region, Bredasdorp. *Bokmakierie* 32: 21.

#### EDITOR'S NOTE:

This article was written in December 1982 and was received in the editorial office on 11 January 1983. It therefore pre-dates the news of the proposed De Hoop "takeover" by Armscor by two months. Had Professor Uys known of the plans for a missile-testing area, I have no doubt



Spoonbill *Platalea alba* feeding in the shallows.

photo: C. J. Uys

Namaqua sandgrouse, Stanley's bustard and rameron pigeon, is remarkable and surely not encountered in many other regions of South Africa. The presence on the periphery of the area in the Potberg of the southernmost breeding colony of the Cape vulture, is of outstanding conservation importance to South Africa. Here in a kloof of the Potberg mountains a declining colony of 50-60 Cape vultures exists precariously (see p. 39). This site now falls under the control of the Cape Provincial Administration, thus ensuring continued protection for the nesting birds. However, as elsewhere, the decline in available carrion in the adjacent intensively farmed areas is probably a greater threat to the existence of this colony than anything else.

Another unique occurrence in the annals of South African ornithology is the breeding, also on the periphery of the

Cape Provincial Administration as Provincial Nature Reserve, much of it is privately owned. Compared with much of the western Cape and in particular to the surrounding districts, the area is relatively unspoilt. This is due on the one hand to its poor agricultural potential and on the other to the conservation efforts of both landowners and the Cape Provincial Administration in the past and present. To these qualities must be added the further asset of a rich avifauna in which one has a rare combination of aquatic and terrestrial birds representative of much of the winter rainfall fynbos habit. As a sanctuary it ensures a significant reservoir of bird species, many of which have become depleted over the western Cape region due to habitat destruction.

Because De Hoop is within easy reach of Cape Town — a mere 180 km away — it has great potential as a regular recreation