

BIRDS OF THE TSITSIKAMMA FOREST AND COASTAL NATIONAL PARK, 1966

By

C. J. SKEAD,

Field Research Officer, Percy FitzPatrick Institute of African Ornithology

and

R. LIVERSIDGE, B.Sc.

*Nature Conservator, Tsitsikamma (until June 1966);
Director, McGregor Memorial Museum, Kimberley, thereafter.*

INTRODUCTION.

This little park, oddly shaped though it is both in contour and in plan, offers three main media of interest, good forest, variable macchia (or fynbos) and sea, and although environments of this nature are seldom individually rich in birds, their collective effect in this park makes a most useful contribution of something like 210 species in surroundings of great beauty and charm. Of these, 175 are land birds (with no more than about 35 of them occurring inside the true forests) and 35 are sea birds. Yet this list is by no means exhaustive. It is a preliminary one to which additions will accrue as more and more eyes are brought to bear, given a greater influx of critical visitors. It would have been possible now to add another score of species on the basis of their known occurrences to east and west of the park but, except in a few special cases, this has not been done because of the park's peculiar status in dimension, habitats and rainfall, facets which are discussed later in the text and which are not yet fully understood.

Paradoxically, the list contains, firstly, five species which the visitor is unlikely to see, species which are included only on the past records of their occurrence (to-day they have receded from the Tsitsikamma) and, secondly, one about which much controversy reigns.

The unlikely five are the Cape Vulture (106); the Long-crested Eagle (138); the Lammergeyer, or Bearded Vulture (150); the Bateleur Eagle (151); and the Trumpeter Hornbill (422). What a tragedy that these fine and interesting species should not be there to increase the visitor's interest, although it is not outside the bounds of possibility that some vagrants within the Long-crested Eagles, the Cape Vultures and the Trumpeter Hornbills will see rare visitations to the area.

The controversial species is the Cape Parrot whose story is defined briefly in the text. The need now is for as many good and solid records to come from reliable observers who know the bird and who will record dates, times and places when, and if, they see parrots in the forests. The oft-used name of Knysna Parrot for this bird is certainly a misnomer.

If any of the species are to be selected as representing something to which the visitor should especially direct his attention in this park, something not seen readily in the other parks or nature reserves, these are the Knysna Scrub Warbler, *Bradypterus sylvaticus* (611) and Victorin's Scrub Warbler, *Bradypterus victorinii* (612). Furthermore, this is a good park for the Cape Sugarbird (749), the Mountain Buzzard (154a), and the Cape Siskin (855).

Other species which the casual visitors should look for are given below even though they can be found generally elsewhere. The bracketed numbers beside each refer to their numbers in the text which follows, and to Roberts 'Birds of South Africa'.

Cuckoo Falcon (127);
Rameron Pigeon (312);
Cinnamon Dove (322);
Knysna Loerie (336);
Emerald Cuckoo (350);
Wood Owl (362);
Narina Trogon (393);
Scaly-throated Honeyguide (441);
Knysna Woodpecker (448);
Olive Woodpecker (452);
Black Rough-winged Swallow (511);
Grey Cuckoo-shrike (516);
Black-headed Oriole (521);
Terrestrial Bulbul (546);
Chorister Robin (578);
Starred Robin (589);
Yellow-throated Warbler (671);
Blue-mantled Flycatcher (680);
Puff-backed Shrike (712);
Olive Shrike (717);
Lesser Double-collared Sunbird (760);
Forest Canary (858).

THE BACKGROUND

Looked at in diagrammatic cross-section the park occurs as a steep south-facing mountain slope dropping to a plateau about three miles wide whose southern seaward edge drops abruptly some 400 feet to a rockgirt and almost beachless coastline.

Looked at in plan, the reserve runs firstly in a narrow belt, seldom more than half-a-mile wide, for about 37 miles along the coast from Groot River estuary (Knysna Division) in the west (i.e. at Nature's Valley but not including the village) to another but lesser Groot River (Humansdorp Division) in the east. The narrowness of this belt is caused by the imposed limitation of the 400 foot contour as the park's inland boundary. Therefore, the steep and sudden rise of the slope from the rocky foreshore to the plateau-edge automatically constricts the boundaries.

In order to describe briefly the rest of the park, i.e. the more inland and forested sector, it is convenient to start at Storm's River Mouth, for many years a well-known angling resort, and to follow the narrow steep-sided gorge of the river up to the Paul Sauer Bridge on the National Road. Within its deep ravine the river runs through the good forest patches known for so long in the past to travellers through the old Storm's River Pass. The sides of the gorges are covered at the less well-endowed places with a weaker growth of light scrub and bush, especially along its upper reaches.

Immediately north and west of the Paul Sauer Bridge and between the present National Road and the mountain, the 'forest' character of the park takes its form from a large area of true tall forest known as 'De Plaat' in the south western corner of which is the 'Big Tree', a Yellowwood, *Podocarpus falcatus*, now of tourist interest. The portion of De Plaat forest owned by the National Parks Board is about 1,000 acres in extent or about half of its total 2,840 acres, or 6 square miles, a most valuable asset as a start in the task of preserving this type of fast-disappearing vegetation, and the bird-life that goes with it.

It must be emphasized, however, that bird observation in forest is always frustrating. This habitat is not as rich in bird-life as is bushveld, and the close-growing nature of the trees and undergrowth restricts a clear frontal view at eye-level. Also, those bird species which move in the overhead canopy have the light of the sky above them giving the observer a view of shadowy forms without clues of colour or markings on the underside. Such being the case a knowledge of bird-voice is a great asset, and as most of the forest species occur also in the bushy areas where they can be more easily seen and known, this prior knowledge of their forms and voices can be carried into a study of the forest species as a guide to identification.

Covering the southerly slopes of the Tsitsikamma Mountains which form a backdrop to the scene is the local form of South-west Cape flora, known sometimes as Macchia, or as Fynbos, where erica heaths are common and where proteas grow here and there. Patches of this type of veld occur on the plateau, sometimes in dense tall thickets eight feet tall and more, or as lower-growing thickets of varying densities. Here, then, is another habitat for birds, if an impoverished one but one unfortunately which is too easily exposed to the hazards of fire and its baleful consequences.

Despite the above awkwardness of the park's physical and official boundaries, the visitor, when moving from one part of the park to another, say from

the Big Tree in the De Plaat forest to the rocky shore of the Storm's River Mouth, must of necessity pass through a chequer-board pattern of vegetational types which belong to other vested interests, mostly to the Department of Forestry. Thus, gum plantations (*Eucalyptus*), as fire-breaks, follow pine plantations (*Pinus*) which may be separated from Blackwood thickets *Acacia melanoxylon*, R. Br. by open grassy grazing areas (themselves perhaps dotted with heaths) or by sawmills or shopping centres with their attendant human activities, each of which has its effect upon bird-life. Roadsides may be well covered with dense macchia plants, some tall, some short, or they may be undergoing their seasonal slashing and clearing by either the roads or forestry departments. Thus, change is ever present, and, although these last-named areas fall outside many of the park's official boundaries, their bird-life has been included here because, paradoxically, their very nature, and their greater accessibility by road, give the visitor of limited time good opportunities of seeing and learning the birds of the area.

The commercial plantations of gums and pines are not of great concern to bird-life, but the equally alien Blackwood, often growing in fair-sized thickets, plays an important role in that birds do not avoid it as they do the pines and gums. A good food supply is to be found in its canopy, in its branches and on the ground below, added to which the forest character of the thickets is sufficient to induce most forest species, even the shy Chorister Robin, to enter, and to live there. Of the other alien trees, the Eucalypts (and especially those which stand alone, such as the Blue Gums), attract the local sunbirds and white-eyes, even the sugarbirds, when the nectar-flow is strong.

It is unnecessary to try to reconstruct fully the past forest glories of the Tsitsikamma and to compare them with the area's present disturbed state, indeed it is impossible to go far in the matter anyhow because so little of the printed word has come down to us. It is probably true to say that, because of the difficulty of penetrating the forests and fording the deep and treacherous gorges that cross the plateau from north to south between the mountains and the sea, the Tsitsikamma was breached only within comparatively recent times, apart from harmless tracks made and used by early Bushman, Hottentot and, later, European hunters.

Thus, Forbes (1965:75) refers to early bridle tracks but cannot indicate when this difficult terrain was first traversed by road, except to suggest from the scanty records that it might have been soon after 1888. He mentions Hendrik Swellengrebel coming down through the Kareedouw pass from the Langkloof on to an unforested plateau east of the Tsitsikamma on 26 November 1776, and Andrew Sparrman, the Swedish explorer, preceding him there in 1775. In those days, because the Tsitsikamma was impenetrable to wheeled transport, it was the practice for waggoners travelling from the western to the eastern Cape to cross either the Outeniqua mountains near the present town of George, or the Tsitsikamma mountains at a point to the west of the Keurbooms River, and then to travel along the Langkloof to the open veld in the east.

Although the plateau forests would then have been far more extensive than they are now, it is safe to assume that even then they had their open treeless spaces covered with heath-veld, or fynbos. The mountain slopes, too, would have been covered with fynbos while having patches of forest here and there, and especially in the gullies. In other words the appearance of open spaces, and the general destruction, has not been the work only of the European traveller and settler. He has merely helped accelerate the process.

This supposition is based on a knowledge of the way in which fire affects vegetation. Phillips (1960:89-93) describes how fires, probably started by Hottentots, would sweep down the mountainside driven by bergwinds, and eat into the verges of the forests, each successive fire opening a further gap unless the intervals between fires had been great enough to help the forest recuperate. Fynbos scrub is notoriously inflammable, and fire fanned by hot berg-winds, so prevalent in the southern Cape coastal belt, builds up in heat-intensity as it proceeds.

One devastating fire was the so-called Great Fire of February 1869, not 100 years ago. Starting near Knysna it swept relentlessly eastwards until checked by natural forces before entering the Tsitsikamma. All would have been well there had not a second fire, following almost immediately and driven by a strong berg-wind, come over the mountains from the Langkloof and destroyed much of this beautiful part of the world, even to the forest proper with its huge old trees. Although the numbers of bird species as such and the basic nature of the bird fauna may not have been affected throughout the ensuing years, the total bird population can only have declined as its extensive habitat dwindled around it, something which is happening all over South Africa, and not only in the forests. It is up to present and future generations to see that unnecessary habitat-destruction does not occur in the face not only of fire, which is still as much of a danger, but of growing human pressure.

Compared with adjacent areas to the immediate east, west and north (to the south is the sea) the Tsitsikamma forests enjoy an annual rainfall some 40 per cent higher than on the Humansdorp plains to the east and at Plettenberg Bay to the west, while it is about 250 per cent higher than in the Langkloof at the back of the mountains. This factor of higher rainfall is one that must be considered and tested during future ecological studies of the bird-life. It could account for the present puzzling weakness or absence of some species.

Rainfall figures, kindly supplied by the Weather Bureau in Pretoria, show that at Witelsbos, the Tsitsikamma has an annual precipitation of 1165.4 mm. (46 ins.) and that Storms River has one of 1112.7 mm., whereas Humansdorp in open country 35 miles to the east has 692.5 mm. (27 ins.) and Plettenberg Bay, 30 miles to the west, has 631.2 mm. Gouna Forest near Knysna has a rainfall of 932 mm. per annum, or about 180 mm. less than the Tsitsikamma. The influence of the mountain range behind the Tsitsikamma can be seen from the rainfall at Joubertina in the Langkloof where it is only 454.7 mm. (18 ins.) i.e. at a place only 10 miles to the north — a significant difference indeed.

Because of the park's two-phased character, that of both land and sea habitats, the bird list in this report has been compiled in two parts with Part 1 dealing with land birds and Part 2 with sea-birds. The offshore and deep-sea birds have been included purposely in Part 2 as a guide to any bird-loving angler who avails himself of the boating facilities at Storm's River Mouth. And by the same token, it should not be forgotten that research into marine bird-life will be assisted greatly by the reporting or handing to the warden of dead or dying sea-birds found along the sea-shore.

The somewhat forbidding seaboard is edged with a fairly uniform and narrow ledge of rocks backed by steep cliffs, or near-cliffs, of rock, or by equally steep slopes covered in fynbos, grass, or wind-blown bush-forest. Sandy, and even pebbly, beaches are at a minimum, as are estuaries of the order of the Keurbooms and Gamtoos Rivers to the west and east. Fortunately, the Groot River, debouching as it does from its narrow forest-clad gorge into the beautiful if restricted estuary, allows birds of this habitat to be included in the list, and a glance at Part 1 shows how greatly this estuary affects the tally of birds in the Park, while not influencing the waders to any great extent rather surprisingly. Strictly speaking, only the eastern shore of the estuary is within the park's borders but as no bird is likely to respect limitations of this sort, the visitor to the more readily accessible western bank at Nature's Valley need have no pang of conscience in including any birds seen there.

The shoreline rocks provide an interest with their gulls, cormorants and oyster-catchers; the waves, and just beyond them, have the many species of terns that work up and down the coast, fishing by diving.

A word of warning must here be interpolated against the practice of identifying 'positively' through field glasses, such species as Arctic and Common Terns. It is often difficult enough to identify these in the hand and a safe measure here is to be content with the identity of a species over which there need be no doubt, such as a Caspian or a Swift Tern. Out to sea will be the gannets and petrels, storm petrels, skuas and albatrosses, the distance from land depending on the habits of the species concerned.

By contrast, the fresh water facilities in the park are limited. Dams are few and small, ponds are infrequent. Therefore waders and wildfowl are not a feature of this park, although allowance has been made in the list for their passing incidence. Of fresh water as such there is no lack because each river and rivulet coming down from the mountains runs well for most of the year, but such waters are not likely to play a great role in local ecological distribution because of their confinement to the depths of the narrow gorges which are such a feature of the Tsitsikamma. However, species such as Black Duck and the African Finfoot naturally prefer quiet waters overhung with gallery forest, and here they are to be found if patience and luck are on the side of the visitor.

Many of these streams are choked in places with dense rush-like growths of Palmiet, *Prionum palmitum*, etc. which must influence the incidence of reed-warblers and crakes, both difficult groups to tackle.

Bold kranses face out to sea along the southern boundary, and the deepest gorges, e.g. at the Paul Sauer Bridge, have fine rocky ledges. But the mountain face is smooth, rounded and fynbos-covered.

PART I.

Represented by about 175 bird species, of which about 35 are true to the forests.

Basically these are as follows:—

1. FOREST, including both the dense bush-forests of about 20-30 feet in height, and the tall true forests, e.g. at De Plaat, of about 50-60 feet in height. The birds are not likely to differ. It is of interest that the coastal forests on the seaward slopes consist of over 100 species of trees whereas the taller plateau forests have only about 30 species.
2. SCRUB-BUSH and low shrub-scrub of the chasms and drier parts.
3. MACCHIA SCRUB (or Fynbos), with or without protea, both on the mountain slopes and on the plateau, in tall or low-growing forms, e.g. on roadsides and open spaces.
4. GRASSY AREAS, limited in extent to grazing paddocks often dotted with heath clumps. These occur on the plateau (influenced by man) or on the coastline, e.g. at Storm's River Mouth at the camp-site. Most of the grass is 'sour', with 'sweet' grass at the coast.
5. ALIEN TREES, either as parkland, as firebelts, or in plantations, e.g. Eucalyptus, Pinus, and Wattle.
6. FRESH WATER, either in the flowing 'tea-coloured' streams overgrown with gallery forest or in the few ponds and marshes.

BIRDS WITHIN THE PARK'S LAND BORDERS (I.E. EXCLUDING THE SEA AND SEA-SHORE BIRDS.)

6. LITTLE GREBE, *Podiceps ruficollis* (Pallas).
In upper reaches of Groot River estuary. Elsewhere there are no really suitable waters. Apparently breeds there.
47. WHITE-BREASTED CORMORANT, *Phalacrocorax carbo* (Linnaeus).
48. CAPE CORMORANT, *Phalacrocorax capensis* (Sparrman).
50. REED CORMORANT, *Phalacrocorax africanus* (Gmelin).
Referred to under sea birds but to be seen in the Groot River estuary.
52. AFRICAN DARTER, *Anhinga rufa* (Lacépède et Daudin).
In Groot River estuary.
54. GREY HERON, *Ardea cinerea* Linnaeus.
In Groot River estuary.
55. BLACK-HEADED HERON, *Ardea melanocephala* Vigors & Children.
Along roadsides, at marshy places, and along the verges of the estuary.
58. GREAT WHITE EGRET, *Casmerodius albus* (Linnaeus).
At Groot River estuary.

59. LITTLE EGRET, *Egretta garzetta* (Linnaeus).
In the Groot River estuary, and at rock-pools along the coast.
60. YELLOW-BILLED EGRET, *Mesophoyx intermedius* (Wagler).
In Groot River estuary. Uncommon.
61. CATTLE EGRET, *Bubulcus ibis* (Linnaeus).
On open grassy paddocks. Uncommon, usually only stragglers, not yet seen in flocks.
70. WHITE-BACKED NIGHT HERON, *Nycticorax leuconotos* (Wagler).
Uncommon. Roosts in gallery forest along Groot River, near the mouth, the most westerly record. Breeds.
72. HAMERKOP, *Scopus umbretta* Gmelin.
At marshy places and near open streams. Often flushed from tarred roads after rain.
80. WHITE STORK, *Ciconia ciconia* (Linnaeus).
In open spaces, in summer, but only in small numbers (2-5) although seen in large flocks near Humansdorp to the east.
84. HADEDASH IBIS, *Hagedashia hagedash* (Latham).
Not common, in open grassy paddocks. Small groups of 3-5 are very local and do not seem to be strictly resident anywhere yet.
86. GREATER FLAMINGO, *Phoenicopterus ruber* Linnaeus.
20-40 in Groot River estuary between 6-7 p.m. on 9 November 1965. Seen by Mr. Roy Siegfried, apparently as the first recorded instance of the species at this locality.
89. EGYPTIAN GOOSE, *Alopochen aegyptiacus* (Linnaeus).
Rather uncommon.
95. BLACK DUCK, *Anas sparsa* Eyton.
A fairly common species along sheltered streams, which suit its nesting habits too. Also found after rains along roadsides in standing pools; and in seepage pools just above high-water mark along the coast.
96. YELLOW-BILLED DUCK, *Anas undulata* Dubois.
Uncommon, but seen.
106. CAPE VULTURE, *Gyps coprotheres* (Forster).
Recorded from Humansdorp by Masterson (1916) but not now seen.
123. ROCK KESTREL, *Falco tinnunculus* Linnaeus.
Strangely rare. Only one seen in two years.
127. CUCKOO FALCON, *Aviceda cuculoides* Swainson.
Fairly common along the forest verges.
129. YELLOW-BILLED KITE, *Milvus aegyptus* (Gmelin).
Conditions not suitable, but bird occurs as a passage migrant at least, e.g. one seen at the time of the passage of Steppe Buzzards, v. No. 154b.

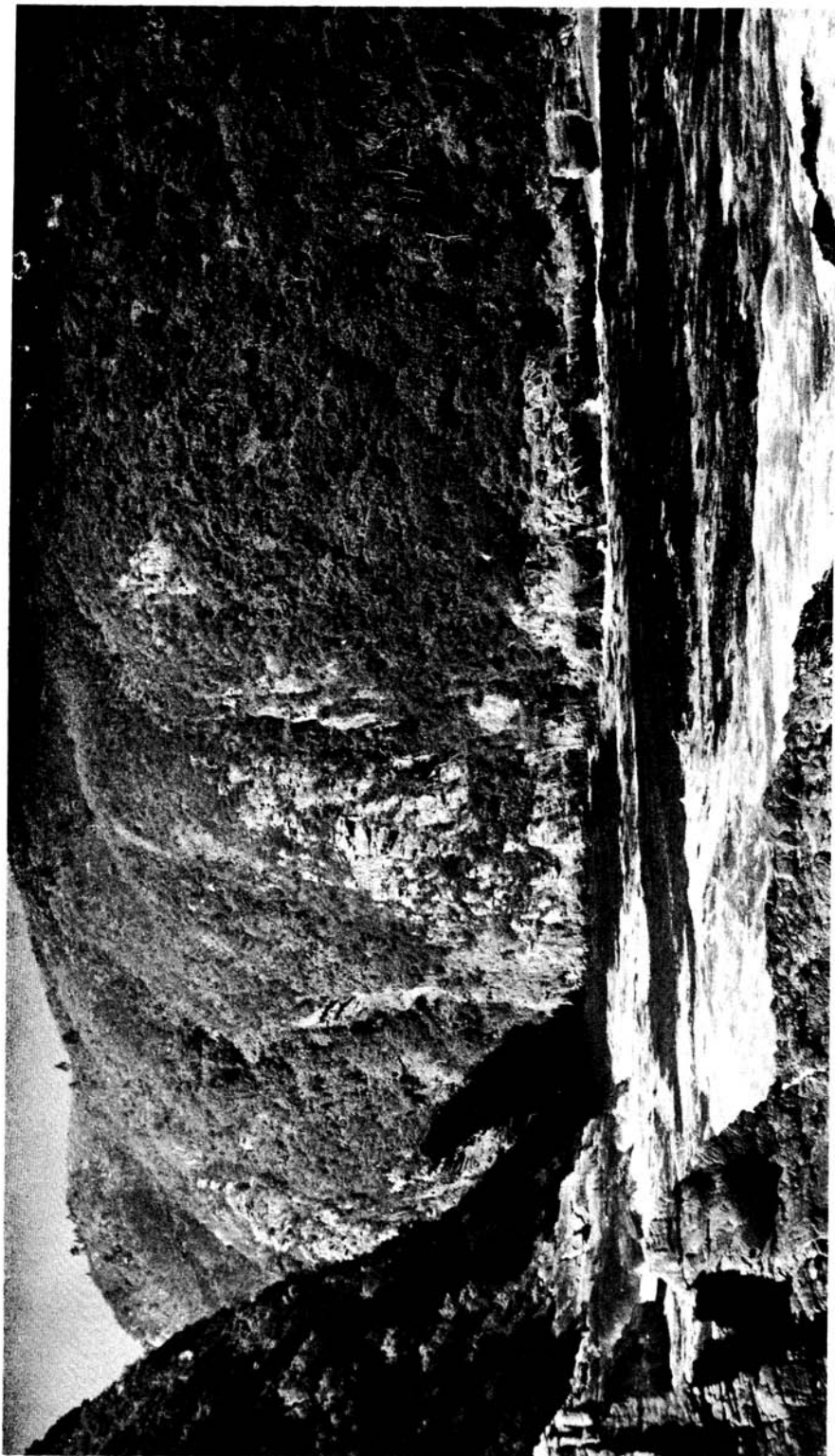


Photo No. 1 — The gorge at Storm's River Mouth with the sea rolling into the river. The hills in the background are covered with bush and scrub, and on the right, across the river, is a patch of bush-forest coming down to the rocks.

Photo: A. O. Zaayman



Photo No. 2 — Tall treed forest along the roadside near Storm's River Bridge. The forest has been opened for the building of the road, and the picture illustrates well the internal nature of the local forest with its overhead canopy and the bare trunks of the trees.

Photo: A. O. Zaayman

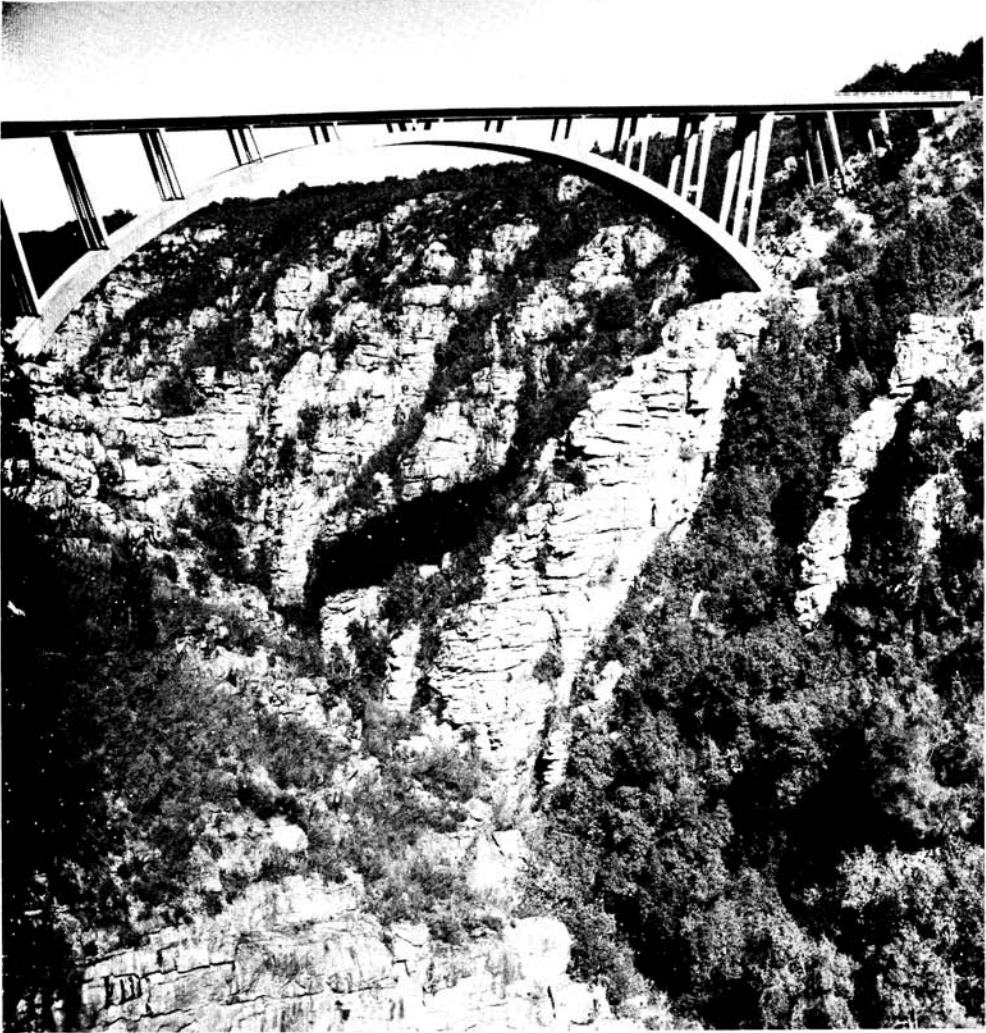


Photo No. 3 — Looking down the Storm's River gorge at the Paul Sauer Bridge on the National Road. The scrubby nature of the vegetation on the rocky ridges, and the light forest below, reveals the paucity of the plant-life on these rocky ridges.

Photo: A. O. Zaayman

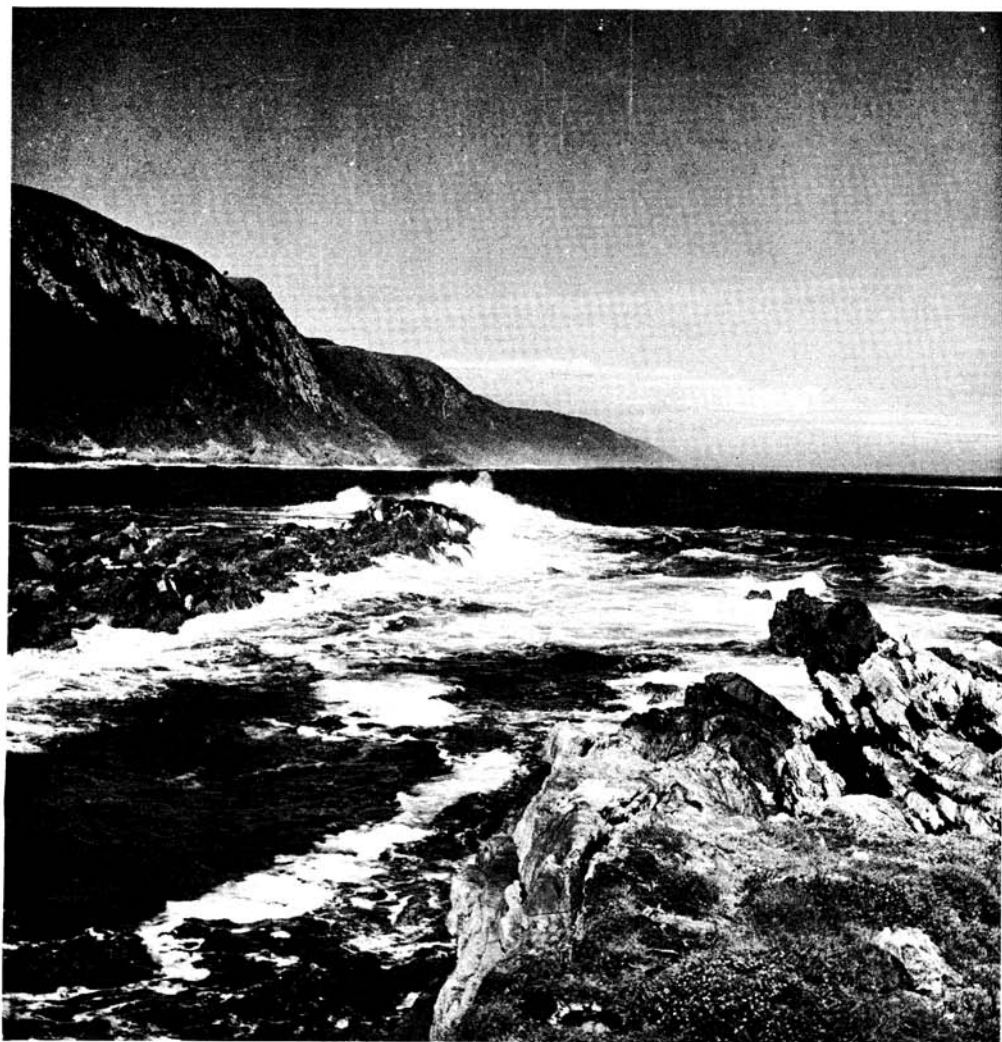


Photo No. 4 — The steep slopes of the southern seaboard looking eastwards from Storm's River Mouth. These slopes are covered, intermittently, with low scrub, with patches of forest and with grassy verges, where exposed rock is not prominent. Note the absence of sandy beaches along the rocky coastline.

Photo: A. O. Zaayman

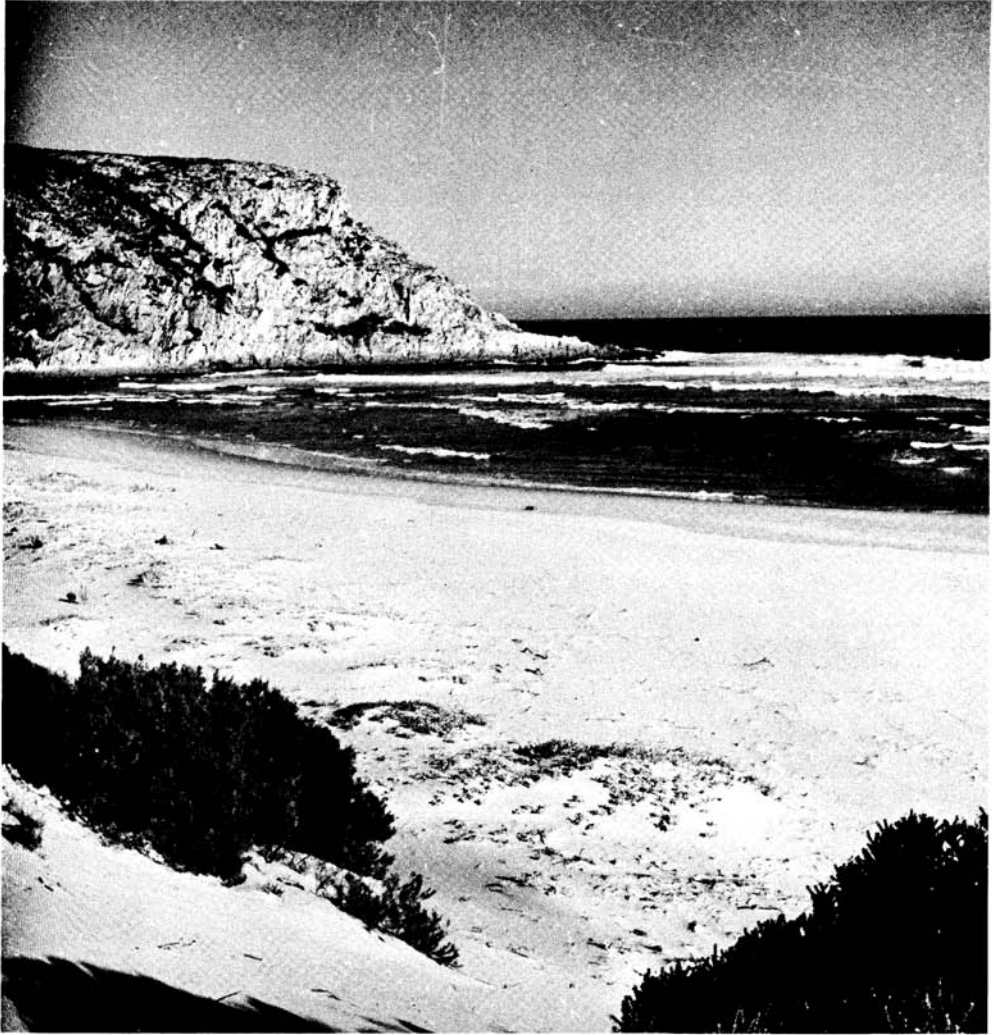


Photo No. 5 — The sandy beach at Groot River Mouth (Nature's Valley side) with the rocky headland at the western boundary of the Park. Beaches like this are not typical of the park as a whole. Familiar Chats and Rock Pigeons live on the rockiness here.

Photo: A. O. Zaayman

130. BLACK-SHOULDERED KITE, *Elanus caeruleus* (Desfontaines).
At open spaces and over short macchia, but uncommon.
138. LONG-CRESTED EAGLE, *Lophæëtus occipitalis* (Daudin).
A rarity mainly of the past, but vagrants may yet recur. This species seems to be receding eastwards so may not again be seen here.
142. MARTIAL EAGLE, *Polemaëtus bellicosus* (Daudin).
Not strictly resident in the park but comes over occasionally, probably from the Langkloof behind the mountain. Known from Plettenberg Bay in the west.
143. CROWNED EAGLE, *Stephanoaëtus coronatus* (Linnaeus).
Well represented in the forests by at least five birds, possibly by five pairs.
149. FISH EAGLE, *Haliaëtus vocifer* (Daudin).
Resident in the Groot River estuary, and one has often been seen at Storm's River Mouth and at Elandsrivier.
150. BEARDED VULTURE, *Gypaëtus barbatus* (Linnaeus).
Now extinct here; occurred in the 19th century. The type locality is given as Knysna.
151. BATELEUR EAGLE, *Terathopius ecaudatus* (Daudin).
Now extinct, but seems to have occurred in the 19th Century.
152. JACKAL BUZZARD, *Buteo rufofuscus* (Forster).
Fairly common on the mountain slopes and in the larger open spaces. Local lore still maintains that this bird changes into the Red-chested Cuckoo (or Piet-my-vrou), *Cuculus solitarius*, in summer!
- 154a. MOUNTAIN BUZZARD, *Buteo b. oreophilus* Hartert & Neumann.
Identified on its winter incidence and thus when it cannot be compared with 154 b., the Steppe Buzzard, which it resembles so closely. More attached to the forests than the Steppe Buzzard. Hunts there, mainly within the trees in summer. Nests in both indigenous and pine forests.
- 154b. STEPPE BUZZARD, *Buteo buteo* (Linnaeus).
Does not seem to stay in the park. The plateau between the sea and the mountain may well be a corridor along which these migratory birds travel, judging by the numbers seen at certain times, e.g. in Autumn, travelling eastwards.
156. RED-BREASTED SPARROWHAWK, *Accipiter rufiventris* A. Smith.
Occurs in the light forests and in plantations.
159. BLACK GOSHAWK, *Accipiter melanoleucus* A. Smith.
Seen beside the forests from time to time, and often in open plantations too.
160. AFRICAN GOSHAWK, *Accipiter tachiro* (Daudin).
In the forests and among the plantations.
167. AFRICAN MARSH HARRIER, *Circus ranivorus* (Daudin).
In marshy areas, of which there are few.

171. BANDED HARRIER-HAWK, *Polyboroides typus* A. Smith.
Visitor to the forests and plantations, may quite possibly be resident, even breeding.
178. RED-WINGED FRANCOLIN, *Francolinus levaillantii* (Valenciennes).
In light scrub, usually on the mountainside but also near marshes in open areas, e.g. Bloueliesbos Forest Station.
181. CAPE FRANCOLIN, *Francolinus capensis* (Gmelin).
In the light scrub and in the open pastures, but could provide a study in habitat preference.
188. RED-NECKED FRANCOLIN, *Pternistis afer* (Müller).
In both light and dense fynbos and also into the forests for a short distance. Frequently in open ground but often on foot paths at the forest edge or in tall fynbos.
189. AFRICAN QUAIL, *Coturnix coturnix* (Linnaeus).
A spring and summer visitor of irregular incidence. Conditions are not really suitable for the species but it nevertheless occurs on cultivated ground, and even on burnt ground.
192. CROWNED GUINEA-FOWL, *Numida meleagris* (Linnaeus).
Apparently introduced, and now adapted to the open spaces and light scrub, but not common.
202. BAILLON'S CRAKE, *Porzana pusilla* (Pallas).
Must occur in some marshes.
303. BLACK CRAKE, *Limnecorax flavirostra* (Swainson).
In the sedges, etc.; at Groot River Mouth.
205. RED-CHESTED FLUFFTAIL, *Sarothrura rufa* (Vieillot).
Been heard in long grass at the water-side of Groot River estuary. Generally common in marshy areas near forest and bush. Call well-known locally. Breeds in late summer.
212. RED-KNOBBED COOT, *Fulica cristata* Gmelin.
A few birds sometimes on the upper reaches of the Groot River estuary, near the forest.
213. AFRICAN FINFOOT, *Podica senegalensis* (Vieillot).
In the narrows of the Groot River estuary, up from the estuary and beside the protection of the gallery forests.
228. AFRICAN JACANA, *Actophilornis africanus* (Gmelin).
No suitable localities, but a dead still-warm specimen indicates some sort of passage.
235. WHITE-FRONTED PLOVER, *Charadrius marginatus* Vieillot.
Common along sand-dunes and beach at Groot River estuary.
238. THREE-BANDED PLOVER, *Charadrius tricollaris* Vieillot.
On mud beside ponds and rivers, which, however, are few and far between.

241. GREY PLOVER, *Squatarola squatarola* (Linnaeus).
Strangely not recorded from the estuary at Nature's Valley. Should be looked for.
242. CROWNED PLOVER, *Stephanibyx coronatus* (Boddaert).
On short grass in the open paddocks, and on newer burnt firebreaks. See also under No. 243.
243. BLACK-WINGED PLOVER, *Stephanibyx melanopterus* (Cretzschmar).
On short grass in the open paddocks and on newly burnt firebreaks often in flocks of up to 30 birds; irregularly during winter. Often in company of Crowned Plovers, No. 242.

WADERS. The conditions in the park are not conducive to good wader incidence but the undermentioned can be expected and should be looked for, more especially at the Groot River estuary. Of the eleven listed (Nos. 251-268) only the Greenshank can be seen with any regularity.

251. CURLEW SANDPIPER, *Calidris testacea* (Pallas).
253. LITTLE STINT, *Calidris minuta* (Leisler).
254. KNOT, *Calidris canutus* (Linnaeus).
255. SANDERLING, *Crocethia alba* (Pallas).
256. RUFF, *Philomachus pugnax* (Linnaeus).
258. COMMON SANDPIPER, *Actitis hypoleucos* (Linnaeus).
262. MARSH SANDPIPER, *Tringa stagnatilis* (Bechstein).
263. GREENSHANK, *Tringa nebularia* (Gunnerus). Often seen on Spring migration.
264. WOOD SANDPIPER, *Tringa glareola* Linnaeus.
267. CURLEW, *Numenius arquata* (Linnaeus).
268. WHIMBREL, *Numenius phaeopus* (Linnaeus).
274. WATER DIKKOP, *Burhinus vermiculatus* (Cabanis).
At the edge of the Groot River estuary and at other rivers, e.g. at the road crossing of the old Storm's River Pass, downstream from the Paul Sauer Bridge.
275. CAPE DIKKOP, *Burhinus capensis* (Lichtenstein).
On open paddocks.
311. ROCK PIGEON, *Columba guinea* Linnaeus.
Not common because of the dearth of rocky places and suitable open feeding grounds, but they occur on kranses at the river mouths, and on rocky islands such as Beyer Island, Geelhoutbosmond, and at Storm's River Bridge.
312. RAMERON PIGEON, *Columba arquatrix* Temminck and Knip.
Fairly common and always present, but movements dictated by the available food supplies of the moment. Occurs in flocks in winter. Apparently breeds in Autumn.

314. RED-EYED DOVE, *Streptopelia semitorquata* (Rüppell).
At the edges of plantations and the lesser forests.
316. CAPE TURTLE DOVE, *Streptopelia capicola* (Sundevall).
Fairly common generally.
317. LAUGHING DOVE, *Stigmatopelia senegalensis* (Linnaeus).
Fairly common but seems to keep to human habitations.
321. EMERALD-SPOTTED DOVE, *Turtur chalcospilos* (Wagler).
Occurs in the lighter bush-forest, e.g. on the road down to Storm's River Mouth.
322. CINNAMON DOVE, *Aplopelia larvata* (Temminck and Knip).
Lives deep in the forests and is seldom seen except as a shadowy figure. More often heard.
326. CAPE PARROT, *Poicephalus robustus* (Gmelin).
A controversial species in the Tsitsikamma and Knysna forests, not known to present foresters. Certainly not resident now and almost certainly not within the period of the white man's occupation. However, Mr. Peter Ginn has informed members of the Outeniqua Bird Club that he fairly often saw parrots flying over Nature's Valley in 1948 and later, but that he saw none after 1953/54. These can have been no more than vagrants from the Eastern Province forests where this parrot is resident, and from which it is known to wander. Although the Tsitsikamma forests should be able to provide the parrots with all their feeding and nesting requirements, their low altitude may be the factor preventing colonisation by this bird, which nests at about the 3,500-4,000 level in the Eastern Cape.
336. KNYSNA LOERIE, *Turacus corythaix* (Wagler).
Common in the forests; seen usually as a flashing form.
343. RED-CHESTED CUCKOO, *Cuculus solitarius* Stephens.
Fairly common in the forests in summer. Reputed by the foresters to steal chickens, obviously in mistaken identity for the Red-breasted Sparrowhawk, q. v. No. 156.
348. JACOBIN CUCKOO, *Clamator jacobinus* (Boddaert).
Occurs in summer in the open scrub and over the fynbos and at the edge of open forest.
350. EMERALD CUCKOO, *Chrysococcyx cupreus* (Shaw).
In the forests, chiefly, it seems, in the coastal forests or along the riverine forests.
351. KLAAS'S CUCKOO, *Chrysococcyx klaas* (Stephens).
In the light open forests and wattle plantations. Feeds extensively on a caterpillar found on *Psoralea* shrubs.
356. BURCHELL'S COUCAL, *Centropus superciliosus* Hemprich & Ehrenberg.
In the coarse rough vegetation along streams. Resident and breeding.
359. BARN OWL, *Tyto alba* (Scopoli).
At the edges of forests and plantations.

362. WOOD OWL, *Ciccaba woodfordii* (A. Smith).
In the forests.
373. SOUTH AFRICAN NIGHTJAR, *Caprimulgus pectoralis* Cuvier.
Fairly common in the open spaces, and in light scrub.
380. BLACK SWIFT, *Apus barbatus* (P. Sclater).
Over all veld types as an irregular vagrant.
383. WHITE-RUMPED SWIFT, *Apus caffer* (Lichtenstein).
Over all veld types as a summer resident.
386. ALPINE SWIFT, *Apus melba*, (Linnaeus).
Over all veld types as an irregular vagrant.
390. SPECKLED MOUSEBIRD, *Colius striatus* Gmelin.
Not common; in light bush and scrub.
393. NARINA TROGON, *Apaloderma narina* (Stephens).
In the forests. No doubt feeds in the wattle plantations and may even visit the pine plantations at times to feed on the larvae of the Pine Tree Emperor Moth *Nudaurelia cytherea*, as it has been found to do at George.
394. PIED KINGFISHER, *Ceryle rudis* (Linnaeus).
In Groot River estuary, and off-shore of the coast and rocks.
395. GIANT KINGFISHER, *Megaceryle maxima* (Pallas).
In Groot River estuary and off-shore of the coast and rocks.
396. HALF-COLLARED KINGFISHER, *Alcedo semitorquata* Swainson.
Along quiet streams, and even at coastal seepage pools above high-water mark. Seldom seen.
397. MALACHITE KINGFISHER, *Corythornis cristata* (Pallas).
In the estuary and along quiet streams.
418. AFRICAN HOOPOE, *Upupa africana* Bechstein.
Feeds on the open grassy paddocks, so far only in the more open eastern sector of the park.
419. RED-BILLED HOOPOE, *Phoeniculus purpureus* (Miller).
In the bushy areas and in the forests.
422. TRUMPETER HORNBILL, *Bycanistes buccinator* (Temminck).
Although Knysna is the type locality based on a specimen collected by Delalande (and now in the Paris Museum) the bird is not now known in the forests. Layard & Sharpe 1884 : 125, mention that the Swedish collector Victorin took it at Knysna in June and July. Today it is seldom, if ever, seen west of Langebos in the Alexandria district.
440. GREATER HONEYGUIDE, *Indicator indicator* (Sparman).
Not common; in wattle plantations and over the lighter scrub.
441. SCALY-THROATED HONEYGUIDE, *Indicator variegatus* Lesson.
Seldom seen but may be commoner than is known; a forest species. A call-site of ten known years' occupation (and certainly of very much

- longer, as is the habit of this species) is to be found about 100 yards east of the National Road bridge over the Groot River estuary.
442. LESSER HONEYGUIDE, *Indicator minor* Stephens.
Could occur. Layard and Sharpe 1884 : 169 give for Knysna.
 448. KNYSNA WOODPECKER, *Campepthera notata* (Lichtenstein).
Fairly common in the forests and forest edge.
 452. OLIVE WOODPECKER, *Mesopicos griseocephalus* (Boddaert).
Fairly common in the forests.
 493. EUROPEAN SWALLOW, *Hirundo rustica* Linnaeus.
A summer visitor over the grass and macchia. Present indications suggest a migratory movement in March-April about four times as strong in numbers as the October-November movement on arrival.
 495. WHITE-THROATED SWALLOW, *Hirundo albigularis* Strickland.
Common along the streams, over the paddocks, and around the houses, e.g. at Oakhurst.
 497. BLUE SWALLOW, *Hirundo atrocaerulea* Sundevall.
A single sight at Groot River estuary by Mrs. C. Niven. (Check List Bds. of Eastern Cape, 1958 : 71.)
 498. PEARL-BREASTED SWALLOW, *Hirundo dimidiata* Sundevall.
Should occur; known from Knysna. Certainly seen on Autumn migration.
 502. LARGER STRIPED SWALLOW, *Cecropis cucullata* (Boddaert).
Common generally.
 506. ROCK MARTIN, *Ptyonorogne fuligula* (Lichtenstein).
Common generally.
 509. AFRICAN SAND MARTIN, *Riparia paludicola* (Vieillot).
Fairly common, especially near the estuary.
 511. BLACK ROUGH-WINGED SWALLOW, *Psalidoprocne holomelaena* (Sundevall).
Small flocks feed along the outer verges of the forests and plantations.
 513. BLACK CUCKOO-SHRIKE, *Campephaga phoenicia* (Latham).
Fairly common in the bush, and among the wattle plantations.
 516. GREY CUCKOO-SHRIKE, *Coracina caesia* (Lichtenstein).
In the forests. Common. During winter often hunts in low-growing open vegetation along firebelts.
 517. FORK-TAILED DRONGO, *Dicrurus adsimilis* (Bechstein).
Fairly common in the open glades adjacent to forests and wattle plantations. Characteristically associated with domestic stock on which they perch.
 521. BLACK-HEADED ORIOLE, *Oriolus larvatus* Lichtenstein.
A common forest species that wanders into wattle plantations and over the macchia. Also enters pine forests where appears to eat larvae of Pine Emperor Moth, *Nudaurelia cytherea*.

524. WHITE-NECKED RAVEN, *Corvultur albicollis* (Latham).
In open spaces and over the mountains. Seeks food well down the roads through the forest passes.
543. CAPE BULBUL, *Pycnonotus capensis* (Linnaeus).
Nowhere very common. Occurs where the macchia is short and sparse; also in the more open scrub bush.
546. TERRESTRIAL BULBUL, *Phyllastrephus terrestris* Swainson.
Common, but not easily seen in the tangles of the forests and thickets where it lives.
551. SOMBRE BULBUL, *Andropadus importunus* (Vieillot).
Common in forest at all times.
553. CAPE THRUSH, *Turdus olivaceus* Linnaeus.
Common in forest and along forested streams. Also in wattle plantations, and in the dense tall macchia.
559. CAPE ROCK THRUSH, *Monticola rupestris* (Vieillot).
On rocky hill-tops above the plateau.
570. FAMILIAR CHAT, *Cercomela familiaris* (Stephens).
On the rocks at Groot River mouth; probably elsewhere but not common.
576. STONE CHAT, *Saxicola torquata* (Linnaeus).
On short macchia generally, often along roadsides, on hill slopes and along firebreaks.
578. CHORISTER ROBIN, *Cossypha dichroa* (Gmelin).
Common in the forests, but shy. Now also adapted to the wattle thickets.
581. CAPE ROBIN, *Cossypha caffra* (Linnaeus).
Common in the light scrub-bush of the chasms, in the light short macchia, in the edges of the forests, in the light short macchia, and in pine forests where there is some undergrowth.
589. STARRED ROBIN, *Pogonocichla stellata* (Vieillot).
Fairly common in the bush forests of the lower coastal strip and above the sea.
599. WILLOW WARBLER, *Phylloscopus trochilus* (Linnaeus).
A fairly common summer visitor to the wattles and open trees.
604. CAPE REED WARBLER, *Calamocichla gracilirostris* (Hartlaub).
In the reedy and marshy places, e.g. at Groot River.
606. AFRICAN MARSH WARBLER, *Acrocephalus baeticatus* (Vieillot).
In marshy areas in the neighbouring scrub vegetation.
609. AFRICAN SEDGE WARBLER, *Bradypterus babaeculus* (Vieillot).
Occurs at Groot River. The type locality is Knysna.
611. KNYSNA SCRUB WARBLER, *Bradypterus sylvaticus* Sundevall.
In the light thickets at the edge of the forests, and near streams in dense vegetation at sea level. Not common.

612. VICTORIN'S SCRUB WARBLER, *Bradypterus victorini* Sundevall.
Common in light and dense fynbos generally. Probably the commonest, and often the only bird found in the fynbos.
618. CAPE GRASSBIRD, *Sphenoeacus afer* (Gmelin).
In the light grass and short macchia, up the hill slopes, and on open firebreaks, but not common.
622. BAR-THROATED APALIS, *Apalis thoracica* (Shaw and Nodder).
Common in forest and bush generally.
627. BLEATING WARBLER, *Camaroptera brachyura* (Vieillot).
Fairly common in forest and bush.
637. NEDDICKY CISTICOLA, *Cisticola fulvicapilla* (Vieillot).
Fairly common at the edges of the open spaces beside some sort of bush or scrub.
638. GREY-BACKED CISTICOLA, *Cisticola subruficapilla* (A. Smith).
Common along road edges, firebreaks and in low-growing vegetation.
646. LE VAILLANT'S CISTICOLA, *Cisticola tinniens* (Lichtenstein).
In marshy places with long grass or reeds, e.g. at Groot River.
651. KAROO PRINIA, *Prinia maculosa* (Boddaert).
Not common; in light open macchia and in rough herbage.
655. DUSKY FLYCATCHER, *Muscicapa adusta* (Boie).
Fairly common at the outer verges of forests and wattles.
665. FISCAL FLYCATCHER, *Sigelus silens* (Shaw).
Not common, but is in light scrub at the edges of the open spaces.
671. YELLOW-THROATED WARBLER, *Seicercus ruficapilla* (Sundevall).
Common in the main forests, and especially so in the coastal bush-forests.
672. CAPE FLYCATCHER, *Batis capensis* (Linnaeus).
Common in the main forests.
680. BLUE-MANTLED FLYCATCHER, *Trochocercus cyanomelas* (Vieillot).
Within the true forests; not easily seen but common all through the year.
682. PARADISE FLYCATCHER, *Terpsiphone viridis* (Müller).
Fairly common along streams, and in forests where streams penetrate; also under trees beside the open spaces. In Summer only.
686. CAPE WAGTAIL, *Motacilla capensis* Linnaeus.
Beside the estuaries, on the rocks, in open spaces, in gardens, beside pools, etc.
694. PLAIN-BACKED PIPIT, *Anthus leucophrys* Vieillot.
On the short grass of the paddocks.
703. CAPE LONGCLAW, *Macronyx capensis* (Linnaeus).
Uncommon; in short macchia or long grass.
707. FISCAL SHRIKE, *Lanius collaris* Linnaeus.
Uncommon. In open paddocks if suitable shrubs nearby.

709. BOUBOU SHRIKE, *Laniarius ferrugineus* (Gmelin).
Common in the forests; also in the scrub and bush along streams. Enters wattle plantations too.
712. PUFF-BACKED SHRIKE, *Dryoscopus cubla* (Shaw).
Fairly common in the forests; also in wattles.
713. TCHAGRA SHRIKE, *Tchagra tchagra* (Vieillot).
In the coastal bush.
717. OLIVE SHRIKE, *Chlorophoneus olivaceus* (Shaw).
Common in the coastal forest belt.
722. BOKMAKIERIE SHRIKE, *Telophorus zeylonus* (Linnaeus).
On open paddocks and in light open macchia, but uncommon.
733. EUROPEAN STARLING, *Sturnus vulgaris* Linnaeus.
An introduced alien now well established; mostly attached to Man's activities.
740. BLACK-BELLIED STARLING, *Lamprocolius corruscus* (Nordmann).
In the light open bush and forest, in flocks of 20 or so.
745. RED-WINGED STARLING, *Onychognathus morio* (Linnaeus).
Fairly common over most habitats.
749. CAPE SUGARBIRD, *Promerops caffer* (Linnaeus).
Commonly seen from March to September (the breeding season) over and in the macchia (Fynbos) where there are proteas. Disperses thereafter with irregular return visits. Has accepted the nectar of the Eucalypts.
751. MALACHITE SUNBIRD, *Nectarinia famosa* (Linnaeus).
A bird of the macchia veld.
753. ORANGE-BREASTED SUNBIRD, *Nectarinia violacea* (Linnaeus).
Common in the macchia among proteas and ericas.
758. GREATER DOUBLE-COLLARED SUNBIRD, *Nectarinia afer* (Linnaeus).
Fairly common in the open macchia, at the open spaces, and at flowering trees; not inside the forest.
760. LESSER DOUBLE-COLLARED SUNBIRD, *Nectarinia chalybeus* (Linnaeus).
Fairly common in the large forests, over the open macchia and at flowering sources in gardens, etc.
771. COLLARED SUNBIRD, *Anthreptes collaris* (Vieillot).
Should occur, if uncommonly. The Outeniqua Bird Club Newsletter No. 10, p. 3, May 1963 reports the species between Nature's Valley and Storm's River and at Eastford, Knysna. Commander S. E. Jagger recorded the species a few miles west of Knysna on 7 May, 1956.
772. BLACK SUNBIRD, *Nectarinia amethystina* (Shaw).
Fairly common at trees and shrubs in the open areas, especially in flowering Eucalypts. Not in the forests.

775. CAPE-AND-GREEN WHITE-EYE, *Zosterops virens* Swainson.
The grey-bellied form is common in the forests, wattles, trees, shrubs
gardens; green-bellied form not recorded.
784. HOUSE SPARROW, *Passer domesticus* (Linnaeus).
Present at Coldstream since 1964. Also, a party known at Storm's
Mouth.
799. CAPE WEAVER, *Ploceus capensis* (Linnaeus).
Not common; odd winter flocks occur.
810. CAPE BISHOP-BIRD, *Coliuspasser capensis* (Linnaeus).
Common in the short macchia.
825. SWEE WAXBILL, *Coccygia melanotis* (Temminck).
Common in the light open macchia and in the light hillside scrub.
843. COMMON WAXBILL, *Estrilda astrild* (Linnaeus).
Fairly common in coarse shrubs and reeds along streams and are
marshy places.
846. PIN-TAILED WIDOW-BIRD, *Vidua macroura* (Pallas).
Not uncommon in certain areas, e.g. over open paddocks.
855. CAPE SISKIN, *Serinus totta* (Sparram).
Over light macchia and open hillside scrub, more so on the hi
ground.
857. CAPE CANARY, *Serinus canicollis* (Swainson).
Common in open spaces surrounded by trees, e.g. wattles, oaks, e
lypts. Not a forest species.
858. FOREST CANARY, *Serinus scotops* (Sundevall).
A common forest species which has adapted itself to wattles. Also e
the macchia near the forests.
863. BULY SEEDEATER, *Serinus sulphurata* (Linnaeus).
Fairly common over the bush forests and light macchia.

PART II.

THE SEA HABITATS.

Represented by about 35 species.

The zones are:—

1. The rocky shore-line and the very limited sandy or pebbly beach
gullies. Oyster-catchers, gulls, etc.
2. Within and just beyond the waves. Terns and cormorants, etc.
3. Off-shore. Gannets, petrels, skuas, etc.
4. Deep-sea, e.g. albatrosses, etc. etc.

PART II.

BIRDS OF THE SEA, SEA-SHORE AND ROCKS.

2. JACKASS PENGUIN, *Spheniscus demersus* Linnaeus.
Birds come ashore, or are washed ashore, occasionally, e.g. a deac
mature specimen at Groot River Mouth on 18.9.1965.

3. ROCKHOPPER PENGUIN, *Eudyptes chrysocome* (Forster).
Very rare but is possible at any time. Specimens have been taken at points between Cape Town and East London.
7. WANDERING ALBATROSS, *Diomedea exulans* Linnaeus.
8. BLACK-BROWED ALBATROSS, *Diomedea melanophris* Temminck.
10. YELLOW-NOSED ALBATROSS, *Diomedea chlororhynchos* Gmelin.
11. SHY ALBATROSS, *Diomedea cauta* Gould.
13. GIANT PETREL, *Macronectes giganteus* (Gmelin).
16. GREAT-WINGED PETREL, *Pterodroma macroptera* A. Smith.
21X. WHALE BIRD, *Pachyptila salvini* (Mathews).
22. DOVE PRION, *Pachyptila desolata* (Gmelin).
22X. FAIRY PRION, *Pachyptila turtur* (Kuhl).
23. CAPE HEN, *Procellaria aequinoctialis* Linnaeus.
At sea, and offshore following fishing boats.
24. GREAT GREY SHEARWATER, *Adamastor cinereus* (Gmelin).
At sea, but follows fishing boats.
25. GREAT SHEARWATER, *Puffinus gravis* O'Reilly.
Off-shore. Fairly common, sometimes in large flocks.
29. SOOTY SHEARWATER, *Puffinus griseus* (Gmelin).
Inshore; common; follows fishing boats.
30. STORM PETREL, *Hydrobates pelagicus* (Linnaeus).
Inshore and at sea. Common.
33. WILSON'S STORM PETREL, *Oceanites oceanicus* (Kuhl).
Inshore; the commonest Storm Petrel.
44. CAPE GANNET, *Morus capensis* (Lichtenstein).
Off-short; common.
47. WHITE-BREASTED CORMORANT, *Phalacrocorax carbo* (Linnaeus).
Common along the coastline, fishing beyond and in the breakers; also enters Groot River Estuary.
48. CAPE CORMORANT, *Phalacrocorax capensis* (Sparman).
Along the coastline, fishing in the breakers.
50. REED CORMORANT, *Phalacrocorax africanus* (Gmelin).
Along the coastline, and in Groot River Estuary.
172. OSPREY, *Pandion haliaëtus* (Linnaeus).
Along coastline and beach. Very uncommon.
231. BLACK OYSTERCATCHER, *Haematopus moquini* Bonaparte.
Common along the rocky coastline, and on the sands at Groot River estuary.
232. TURNSTONE, *Arenaria interpres* (Linnaeus).
On the rocky coastline.
233. RINGED PLOVER, *Charadrius hiaticula* Linnaeus.
On the beaches.

}
All
at
sea

235. WHITE-FRONTED SANDPLOVER, *Charadrius marginatus* Vieillot.
284. ARCTIC SKUA, *Stercorarius parasiticus* (Linnaeus).
Off-shore. Fairly common.
286. ANTARCTIC SKUA, *Catharacta antarctica* (Lesson).
At sea and off-shore.
287. BLACK-BACKED GULL, *Larus dominicanus* Lichtenstein.
On beach and rocks. Nests on islands off-shore.
290. CASPIAN TERN, *Sterna caspia* Pallas.
Not common. Fishes in and beyond the breakers.
291. COMMON TERN, *Sterna hirundo* Linnaeus.
Common, fishing in and beyond the breakers.
293. ROSEATE TERN, *Sterna dougallii* Montagu.
Fairly common in and beyond the breakers.
294. ARCTIC TERN, *Sterna macrura* Naumann.
Fairly common.
296. SANDWICH TERN, *Sterna sandvicensis* Latham.
Fairly common.
298. SWIFT TERN, *Sterna bergii* Lichtenstein.
Fairly common.

ACKNOWLEDGEMENTS:

For their kindness in assisting with the preparation of this paper we wish to thank: The Director of the Weather Bureau, Pretoria; Professor V. S. Forbes, Rhodes University, Grahamstown; Mr. W. Nichol; The FitzPatrick Memorial Trust, Mr. R. Siegfried.

REFERENCES

- Forbes, Vernon S. (1965) — Pioneer Travellers of South Africa. A. A. Balkema, Cape Town.
- Layard and Sharpe (1884) — The Birds of South Africa.
- Masterson, B. A. (1916) — Observations on the birds of the district of Humansdorp, C.P. Journ. S.A. Orn. Union XI : 119-142.
- Phillips, John (1960) — The Forests of George, Knysna and the Zitzikama. Bulletin 40. Government Printer, Pretoria.
- S.A.O.S. List Committee, 1963. Seventh Report. Ostrich 34 : 41.