

LOWER VERTEBRATES OF THE BONTEBOK NATIONAL PARK

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Abstract — This paper presents check-lists of reptiles, frogs and fish recorded in the Bontebok National Park, Republic of South Africa, during the period August 1961 to December 1977. Brief discussions on present status are given where possible.

Introduction

Routine surveys of the fauna and flora of the Bontebok National Park (BNP) Republic of South Africa, have been conducted since 1961 and in particular by the previous Warden, Mr. L. J. Van Zyl. Comparatively few of the results have been published. The purpose of this paper is to document the reptiles, amphibians and fish which have been recorded in this Park. The mammals have been dealt with in a separate publication (Stuart & Braack 1978).

The lower vertebrates of the BNP have received little attention over the years. Attention was focussed on aspects of the biology of larger mammals occurring in the BNP (De Graaff & Penzhorn 1976; De Graaff, Van der Walt & Van Zyl 1976a; De Graaff, Van der Walt & Van Zyl 1976b; Van der Walt, Van Zyl & De Graaff 1976; Van der Walt, De Graaff & Van Zyl 1976).

The physical environment and vegetation have been dealt with in some detail by Theron (1967) and Grobler & Marais (1967). The BNP covers an area of 2 786 ha, and is situated 5 km south of Swellendam. The altitude of the Park varies from 60 m to 200 m above sea-level. The vegetation is dominated by *Leucadendron* spp. and *Elytropappus rhinocerotis*, about a metre high, with *Themeda triandra* the most abundant grass. As a result of a burning programme initiated during 1975, the vegetation is gradually changing from shrubveld to grassland. Trees are largely confined to the banks of the Breede River, with scattered clumps of *Acacia karroo* elsewhere. There are no mountains or forest areas in the Park. The BNP is completely fenced and, apart from the southern boundary which is formed by the Breede River, is totally surrounded by agricultural land.

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The Breede River is the only perennial river flowing through the Park. Two other streams in the Park are small and flow intermittently during the autumn-winter months. They do, however, form pools which hold water for several months. There are a number of dams as well, both permanent and semi-permanent. During heavy rains several marshy areas are formed, as are larger pan areas in the eastern sandveld of the Park.

Although Swellendam is normally thought to be in the winter rainfall area, it has rain throughout the year. The BNP has an average annual rainfall of 511,2 mm (1962.01.01 to 1976.12.31), of which 59% falls during the autumn and winter months (1 April — 30 September) and 41% falls during the spring and summer months (1 October — 31 March). December, with an average rainfall of 14,3 mm, is the driest month, and August the wettest with an average of 74,9 millimetres. Snow does not occur within the Park though it regularly falls on the mountain ranges of the Langeberge, some 9 km to the north.

Prevailing winds are south-easterly in summer and north-westerly in winter.

Reptiles

Surveys so far have confirmed the presence of 18 snake, six lizard, three tortoise and one terrapin species in the Bontebok National Park. No more tortoise or terrapin species are expected to be found. It is, however, almost certain that the list of snakes and lizards is incomplete. One notable absentee amongst the snakes, at this stage, is the mole snake *Pseudaspis cana* which is fairly common in surrounding areas.

Systematic List

(Nomenclature after FitzSimons (1943 as amended) and FitzSimons (1962) as amended.)

Class Reptilia Superorder Squamata

Order Sauria (Lacertilia)

Family Gekkonidae

Genus *Pachydactylus* Wiegmann

Pachydactylus geitjje (Sparrman)

Ocellate or Eyed Gecko.

Fairly numerous in suitable rocky habitat. Also found among loose stones and dead vegetation at Ou Tuin in the Park.

Family Agamidae

Genus *Agama* Daudin

Agama atra Daudin

South African Rock Agama

Very agile and active. They are fairly often seen in suitable habitats. Distributed throughout the Park, particularly in rocky areas.

Family Scincidae

Genus *Mabuya* Fitzinger

Mabuya capensis (Gray)

Cape Three-striped Skink

Found throughout the Park and of fairly common occurrence. They appear to live under stones or in holes made amongst bushes. There are some fairly tame specimens living in the rockeries at the entrance office.

Genus *Acontias* Cuvier.

Acontias m. meleagris (Linnaeus)

Golden Sand Skink

Appears to be fairly common wherever suitable habitat conditions exist. Seem to prefer sandy soil which is mixed with a fair amount of vegetable matter.

Family Gerrhosauridae

Genus *Tetradactylus* Merrem

Tetradactylus t. tetradactylus (Lacépède)

Whip-Lizard

Found mainly in grassy areas near the Breede River. Extremely rapid serpentine movement through grass where they are difficult to catch.

Family Lacertidae

Genus *Eremias* Wiegmann

Eremias lineo-ocellata (Duméril & Bibron)

Ocellated Sand Lizard

A relatively less common species in the Park, but distributed throughout.

Order Serpentes (Ophidia)

Family Typhlopidae

Genus *Typhlops* Oppel

Typhlops lalandii Schlegel (Roux-Esteve)

Delalande's Blind Snake

Found mainly along the banks of the Breede River in suitable humus rich soils.

Family Leptotyphlopidae

Genus *Leptotyphlops* Fitzinger

Leptotyphlops nigricans Fitzinger

Black Worm-Snake

Distributed throughout the Park, these small snakes are often found under stones or amongst dead vegetable matter.

Family Colubridae

Subfamily Colubrinae

Genus *Lycodonomorphus* Fitzinger

Lycodonomorphus r. rufulus (Lichtenstein)

Olive-brown Water-Snake

In the Park, confined to the area along the Breede River. Appears to be fairly common in the district, particularly along the mountain stream above Swellendam.

Genus *Lamprophis* Fitzinger

Lamprophis inornatus Duméril & Bibron

Olive-brown House snake

Presence in the Park reported by Boycott (*in litt.*) No other information regarding this species in the Park.

Genus *Prosymna* Gray

Prosymna s. sundevallii (A. Smith)

Southern Shovel-snout

Only one specimen has been taken in the Park so far. It must here be regarded as rare.

Genus *Duberria* Fitzinger

Duberria l. lutrix (Linnaeus)

Southern Slug-eater

An extremely common snake in the Park, where it is found throughout. Found in a variety of habitats but particularly under stones and dead wood. Because of the peculiar habit it has of rolling itself up like a roll of tobacco, it is locally known as the "twak-rolletjie".

Subfamily Dasypeltinae

Genus *Dasypeltis* Wagler

Dasypeltis s. scabra (Linnaeus)

African Egg-eating Snake

Rare in the Park, where only a few specimens have been taken. Locally they are often confused with the Common Night-Adder and are needlessly killed.

Subfamily Boiginae

Genus *Crotaphopeltis* Fitzinger

Crotaphopeltis h. hotamboeia (Laurenti)

Herald Snake

Fairly common in the Park, where it has been recorded throughout the area.

Genus *Amplorhinus* A. Smith

Amplorhinus multimaculatus A. Smith

Cape Reed-Snake

A single observation only, by the author, along the Breede River. Fairly common along the Koringlangsrivier flowing through Swellendam and along the mountain streams above Swellendam.

Genus *Dispholidus* Duvernoy

Dispholidus typus (A. Smith)

Boomslang; Green Tree-Snake

Fairly common in dense riverine bush along the Breede River.

Genus *Psammophylax* Fitzinger

Psammophylax rhombeatus (Linnaeus)

Rhombic Skaapsteker

A common snake in the Park, and distributed over the entire area.

Genus *Psammophis* Boie

Psammophis notostictus Peters

Dapple-backed Sand-Snake

Only one specimen has so far been taken in the Park. This area is probably not entirely suitable for this species which prefers drier areas.

Psammophis crucifer (Daudin)

Cross-marked Grass-Snake

Common in the Park, and distributed throughout the area.

Family Elapidae

Genus *Elaps* Schneider

Elaps lacteus Linnaeus

Southern Dwarf Garter-Snake

Not very often seen in the Park, but probably more common than it is thought to be. Thus far it has only been found under stones.

Genus *Hemachatus* Flemming
Hemachatus haemachatus (Lacépède) South African Spitting Cobra;
Rinkals

Only one specimen has so far been taken, and that near the entrance office.

Genus *Naja* Laurenti
Naja nivea (Linnaeus) Cape Cobra

A common snake in the Park, and distributed throughout the area. Particularly common in the vicinity of the Breede River and along the deeply cut banks of the smaller streams.

Family Viperidae

Genus *Causus* Wagler
Causus rhombeatus (Lichtenstein) Common Night-Adder

This species has so far been collected from one locality only: at Lang Elsieskraal, near the camping site.

Genus *Bitis* Gray
Bitis a. arietans (Merrem) African Puff-Adder

A species which is fairly common in the sandveld along the banks of the Breede River.

Order Testudines (Chelonia) Suborder Cryptodira

Family Testudinidae

Genus *Geochelone* Fitzinger
Geochelone pardalis babcocki (Loveridge) Leopard Tortoise

Not a common tortoise in the Park, and possibly introduced. One of these tortoises, a large male, makes a nuisance of himself in the camping site by following visitors around and expecting to be fed.

Genus *Chersina* Gray
Chersina angulata (Schweigger) Angulate Tortoise

The common tortoise of the Park.

Genus *Homopus* Duméril & Bibron
Homopus areolatus (Thunberg) Parrot-beaked Tortoise; Padloper

This is another common tortoise in the Park. Unfortunately because of their small size, many of them are killed every year by motorists.

Suborder Pleurodira Family Pelomedusidae

Genus *Pelomedusa* Wagler
Pelomedusa subrufa (Lacépède) Cape Terrapin

Not very common in the Park, but found in three dams as well as the Breede River.

Amphibians

Routine investigations have resulted in the discovery of ten frog species inhabiting the Park. The eleventh species, *Breviceps* sp., though included in the list, can only be regarded as a likely inhabitant at this stage.

Four distinctive frog habitats have been identified in the BNP thus:

1. The Breede River — frogs which occur here are:
Xenopus l. laevis
Bufo rangeri
Rana fuscigula
Rana g. grayi
2. Permanent and semi-permanent dams and pools, inhabited by:
Xenopus l. laevis
Bufo rangeri
Rana fuscigula
Rana g. grayi
Rana f. fasciata
Cacosternum boettgeri
Kassina wealei
3. Flooded veld, in which the following species have been recorded:
Xenopus l. laevis
Bufo angusticeps
Tomopterna d. delalandei
Rana fuscigula
Rana g. grayi
Cacosternum boettgeri
Cacosternum n. nanun
4. Sandveld along the Breede River:
? *Breviceps* sp.

Systematic List

The nomenclature followed in this report is that of Poynton (1964), as amended.

Order Anura

Suborder Opisthocoela

Family Pipidae

Genus *Xenopus* Wagner

Xenopus l. laevis (Daudin)

Common Platanna

This species has been found in all bodies of water, whether or not permanent, in the Park. Found at all times of the year, but appears to be most active during spring. It would appear that there are behavioural differences between this species in the Cape, and its conspecific in the Transvaal. Both here and in the Mountain Zebra National Park (Cradock), *X. l. laevis* have been seen sitting at the water's edge

from where they jump into the water at one's approach. Differences in call between Transvaal and Cape specimens have also been found, and an investigation of the ecology and status of this species is currently being conducted by the University of the Witwatersrand.

Suborder Procoela
Family Bufonidae

Genus *Bufo* Laurenti

Bufo angusticeps Smith

Cape or Sand Toad

Generally thought to be rather rare here, this species appears in hundreds during May and June when the veld is flooded, and breeding takes place during this time. The call is soft and not readily distinguishable. Once the mating period has been completed, the frogs appear to go into hiding again, and only occasionally is one of these frogs seen thereafter.

Bufo rangeri Hewitt

Raucous Toad

The most commonly recorded frog in the Park, it can very often be heard calling at the river and dams during spring and summer.

Suborder Diplasiochoela
Family Microhylidae
Subfamily Brevicipitinae

Genus *Breviceps* Merrem

Breviceps sp.

Blaasop sp. cf. Van Sons' Blaasop

No frogs of this genus have been collected in the Park. However, apparently several were seen though not collected prior to the arrival of H. H. Braack as Nature Conservator. From the description of both frog and locality, it would seem most likely that the frog seen was *B. rosei vansoni*, of which species a number were collected at Port Beaufort. It appears likely that these coastal frogs move as far inland as the BNP along the sandveld along the banks of the Breede River. Other *Breviceps* sp. collected in the Swellendam district are *B. acutirostris* and *B. fuscus*, but the Park has no habitat suitable to these frogs. Intensive recent collecting has revealed no *Breviceps*, nor has the author heard them calling.

Family Ranidae
Subfamily Raninae

Genus *Tomopterna* Duméril & Bibron

Tomopterna d. delalandei Tschudi

Striped Pyxie

Another very common frog in the Park, particularly in the sandveld regions. It appears to be most active during the spring when great choruses can be heard calling from flooded veld. It may, however, if weather conditions are right, call during all seasons of the year. These frogs are found foraging throughout the year and seem to prefer sandy soil where they can burrow with ease.

Genus *Rana* Linnaeus

Rana fuscigula Duméril & Bibron

Cape Rana

Common in all bodies of water in the Park, this species appears to be most active during spring and summer. It does not attain the great size here as those inhabiting the Langeberge mountain streams, a scant five km away, perhaps because of the greater number of predators here.

Rana g. grayi Smith Spotted Rana

Common along all waters of the Park. This species can be heard calling during all seasons of the year, but seems to be most active during autumn and winter.

Rana f. fasciata Smith's Striped or Longtoed Rana

A far less common species here than the previous two, this frog frequents the more permanent waters of the Park though it is not found along the Breede River. It seems to prefer quiet waters away from the main streams. Like *R.g. grayi*, it can be heard at all times of the year but is most active during autumn and winter.

Subfamily Phrynobatrachinae

Genus *Cacosternum* Boulenger

Cacosternum boettgeri (Boulenger) Common Dainty Frog

Very common in the Park in flooded veld and permanent and semi-permanent dams and streams, this species has not been found along the Breede River. It calls during all seasons of the year, particularly just after rain. This species here has a different call to that of conspecifics in the Kruger National Park, the normal call being preceded here by a "tch-tch", or sometimes the "tch-tch" being the only call. A different call again was heard in the Grootvadersbosch area by the author and Dr. N. Passmore. A comprehensive study of the ecology and status of this species would seem to be indicated.

Cacosternum n. nanun Boulenger Coastal Dainty Frog

Rather rare in the Park, though very common in nearby areas. The Park appears to lack the favoured habitat of this species. In the Park, it frequents flooded veld and semi-permanent pools, though not in great numbers. Appears to be most active here during spring.

Subfamily Hyperoliinae

Genus *Kassina* Girard

Kassina wealei Boulenger Long toed Running or Vlei Frog

As with the previous species, rather rare in the Park though common in nearby areas. Active during spring and summer, it here prefers more or less permanent waters. Secretive in habit, these frogs are betrayed by their loud call. On one's approach the calling male drops into the water and conceals itself in much the same manner as *K. maculata*.

Other frogs which have been collected in the district, but not in the Park are:

Heleophryne purcelli orientalis FitzSimons

Bufo rosei Hewitt

Bufo g. garipeensis Smith

Breviceps acutirostris Poynton

Breviceps rosei vansoni FitzSimons

Of these, the only frog that may possibly still be collected in the Park is *B. rosei vansoni*. Habitat conditions are at present not suitable for the other four species.

Fishes

Fishes of the BNP are naturally confined to the Breede River. A few specimens of *Sandelia capensis* were placed in the largest dam in the Park, in an attempt to establish them here. Fishlife in the Breede River here is totally dominated by exotic species, and it is quite a rarity to catch an indigenous fish. Angling in the BNP is generally good.

Systematic List

(Nomenclature after Jubb (1965) and Jackson (1975))

Family Cyprinidae

Genus *Barbus* Cuvier and Cloquet

Barbus andrewi Barnard

Witvis

Formally this splendid angling fish was a common species in the Breede River, but today it is rare because of changed habitat conditions and the overabundance of competing exotics.

Genus *Cyprinus* Linnaeus

Cyprinus carpio Linnaeus

Carp

A common fish in the river, and a favoured angling fish. Fish of up to 15 kg have been caught here. Exotic.

Genus *Tinca* Linnaeus

Tinca tinca Linnaeus

European tench

Fairly common in the river, where fish of up to two kg have been taken. Exotic.

Family Anguillidae

Genus *Anguilla* Shaw

Anguilla nebulosa labiata Peters

African mottled eel

Fairly common, and sought after for eating.

Anguilla mossambica Peters

Plain long-finned eel

As the previous species fairly common, and prized by many for its excellent flesh and taste.

Family Cichlidae

Genus *Tilapia* A. Smith

Tilapia sparrmanii A. Smith

Banded bream

Only occasionally taken by anglers, it can be considered rare here.

Family Anabantidae

Genus *Sandelia* Castelnau

Sandelia capensis (Cuvier & Valenciennes)

Cape Kurper

Not yet recorded in this part of the Breede River. It is common in the Koringlandsrivier which flows through Swellendam and is a tributary of the Breede. Several of these fish were released into a dam in the Park with hopes of re-establishing them here.

Family Salmonidae

Genus *Salmo* Linnaeus

Salmo trutta Linnaeus

Brown trout

Apparently five of these fish were caught here by a visitor during 1975. Unfortunately no specimens were kept. Their presence here must be regarded as doubtful until confirmed. Exotic.

Family Centrarchidae

Genus *Micropterus* Lacépède

Micropterus dolomieu Lacépède

Smallmouth bass

A much sought after angling fish, it is fairly numerous here. Specimens of up to two kg have been caught. Exotic.

Genus *Lepomis* Rafinesque

Lepomis macrochirus Rafinesque

Bluegill

Extremely abundant in the river here, it is a pest to anglers. Exotic.

Family Monodactylidae

Genus *Monodactylus* Linnaeus

Monodactylus falciformis Lacepede

Cape Moony

Occasionally caught here by anglers, it attains a length of about 15 cm.

Family Mugilidae

Genus *Mugil* Linnaeus

Mugil cephalus Linnaeus

Flathead Mullet

Rare in these waters.

Genus *Myxus* Günther

Myxus capensis (Valenciennes in C & V)

Freshwater Mullet

Fairly common here, it is occasionally also taken by anglers. Attains a mass of about ½ kg here.

Other fish known from the Breede River system, but not collected here yet include:

Galaxias zebratus Castelnau, which is common in the mountain streams above Swellendam; and *Barbus burchelli* A. Smith.

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