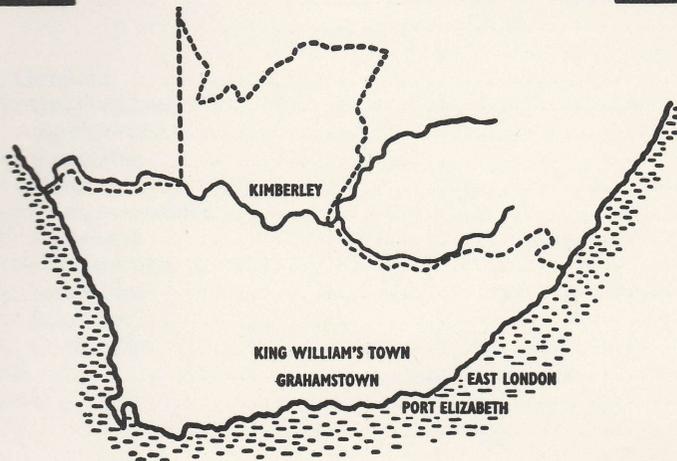


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An annotated checklist of the lizards of the Cape Province, South Africa

by

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ABSTRACT

A checklist of the lizards of the Cape Province, South Africa is presented. A total of 143 species and subspecies is recognized. The taxonomic status of no less than 84 (59,1%) of these has changed since the last review of the Cape lizards by FitzSimons (1943). Comments on the distribution and taxonomic status of problematic groups are included.

INTRODUCTION

Recent years have seen a burgeoning interest in the small vertebrate fauna of the Cape Province. This is coupled with the awareness of the uniqueness and zoogeographic importance of the Fynbos Biome and adjacent regions (Kruger, 1978). Studies on the herpetofauna of the Fynbos Biome are minimal, and hampered by poor taxonomy. This is particularly acute for

lizards, which present the greatest diversity among the reptiles. The suborder was last reviewed by Dr V. F. M. FitzSimons (1943) in his monograph on the "Lizards of South Africa." However, during the intervening 37 years numerous taxonomic changes at the familial, generic and specific level have occurred.

This review originated as a checklist of the lizards inhabiting the Fynbos Biome, incorporating all the diverse taxonomic changes that have occurred subsequent to FitzSimons' monograph (1943). However, accurate distribution maps exist for very few lizards inhabiting the Cape Province and this makes it impossible to identify all those species that may inhabit the Fynbos Biome. The scope of the review has thus been expanded to cover the total lizard fauna of the Province. The eastern border of the Cape Province remains in a state of political flux. As currently recognized, it consists of a wavy line running from East London to Lesotho. The only lizard affected by this is *Afroedura pondolia*, that reaches its western limit at Kentani (3228 AD) and thus no longer qualifies for Cape residence.

The taxonomy of a number of genera and species is now relatively well stabilized, but that of many remains confused. Some of these problem groups are currently under investigation, and the results of these studies will in due course affect this review. In addition the distributions of most species are only poorly known and will alter as the region becomes better collected. Subject to these limitations, 143 species and subspecies of lizards are known to occur in the Cape Province (Table 1). No less than 84 (59.1%) of these have been affected by some form of taxonomic change since FitzSimons' monograph (1943). However, only one new species and three new subspecies of lizard have been described from the Cape in this time, and it is evident that the alpha-phase of the taxonomy of South African lizards, in which new species are discovered, has all but passed. Future studies will, for the most part, refine our knowledge of the relationships of the known forms, and few new species can be expected.

CLASS: REPTILIA
ORDER: SQUAMATA
SUBORDER: SAURIA

There is still discussion concerning the ordinal classification of squamate reptiles. The extensive studies of Gans (see review 1978) have convincingly demonstrated that burrowing "worm lizards" differ from true lizards in many characteristics, and should be elevated to equivalent rank within the Squamata. The suborder Amphisbaenia is represented in southern Africa by only four genera; *Monopeltis*, *Dalophia*, *Chirindia* and *Zygaspis*. The species *Monopeltis capensis capensis*, *M. leonhardi*, *M. sphenorhynchus mauricei*, *Dalophia pistillum*, and *Zygaspis quadrifrons* all range into the northern Cape Province in the vicinity of the Kalahari Gemsbok National Park and Kimberley. The taxonomy of all these forms has recently been reviewed (Broadley, *et al.*, 1976; Saiff, 1970) but refinements can still be expected. Chromosome morphology indicates that *Monopeltis capensis rhodesianus*, at least, warrants specific recognition (Branch, unpublished observations).

The osteological studies of McDowell and Bogert (1954) indicate that the Gerrhosauridae and Cordylidae are closely related, and best treated as subfamilies of the Cordylidae. The suborder Sauria is thus represented in southern Africa by only seven families out of the 17 families of Recent lizards currently recognized (Dowling and Duellman, 1978).

INFRAORDER: GEKKOTA

The Infraorder Gekkota contains two living families, Gekkonidae and Pygopodidae. The pygopodids are derived from geckos through elongation of the body and loss of limbs, and are restricted to the New Guinea—Australian region.

CHECKLIST OF CAPE LIZARDS

and Hillenius (1959) have discussed the taxonomy of the many described races of *C. dilepis*. All are of doubtful validity, with the exception of *C. d. ruspolii* Boettger from Somalia. Trinomials are thus retained.

Family: Agamidae

Represented in Africa by only two genera, *Uromastix* and *Agama*. *Uromastix* is terrestrial and restricted to Saharan Africa, whilst *Agama* has arboreal, rupicolous and terrestrial forms and ranges throughout most of the savannah regions of the continent.

Agama Daudin

Represented in the Cape Province by three species, although the taxonomy of one species, *A. hispida*, is chaotic and it may be polyphyletic.

Agama atra atra Daudin

One of the very few lizards the distribution of which encompasses the whole of the Cape Province. Trinomials are necessary as Mertens (1955) has transferred *knobeli* (known from Great Namaqualand) from *anchietae* to *atra*.

Agama anchietae Bocage

Similar in habits to *atra*, and extending from the north-western Cape Province into Namibia.

Agama hispida (Linnaeus)

FitzSimons (1943) recognized six subspecies of *hispida*, but many of these forms occur at the same localities. Broadley (1966) rejected all subspecies pending a full revision of the species. This is presently being undertaken by Dr G. McLachlan (South African Museum). It appears that *aculeata* is a full species and differs from *hispida* in having an enlarged ear hole. The relationship of the other forms to these two species requires further investigation (McLachlan, *per. comm.*).

INFRAORDER: SCINCOMORPHA

These lizards are almost cosmopolitan in distribution and diurnal in habit. The activity patterns of many fossorial forms, however, require investigation. Six families are included of which three families have representatives in southern Africa, i.e. the Lacertidae, Scincidae and Cordylidae.

Family: Lacertidae

A large family that is common in the Palaearctic region and is well represented in the arid and savannah areas of the Afro-tropical region. Six genera occur in the Cape Province.

"*Lacerta*" *australis* Hewitt

The rarest lizard in the Cape Province, known only from the type collected on the Matroosberg near Ceres. Arnold (1973) has suggested that this species and "*Lacerta*" *rupicola* FitzSimons from Lake Fundusi in the northern Transvaal are not congeneric with Palaearctic *Lacerta sensu stricta*. It is probable that a new genus will have to be erected to accommodate them. Their relationship to *Tropidosaura* is presently being investigated.

Tropidosaura Fitzinger

A small genus of terrestrial, montane lacertids that are endemic to southern Africa. Four species are currently recognized, two of which occur in the Cape Province.

Tropidosaura gularis Hewitt

A montane form that is now known to extend along the southern Cape Fold Mountains from Table Mountain to the Port Elizabeth District.

Tropidosaura montana montana (Gray)

A wide-ranging, but poorly-known lizard, with three recognized races. The typical race is distributed in the western and south-western Cape from Table Mountain north to the Cold Bokkeveld and east to Heidelberg.

Tropidosaura montana rangeri Hewitt

Known from the tops of the Katberg and Amatola Mountains down to the sea cliffs at Hamburg in the Eastern Cape Province. The large distribution gaps between this race and the typical form in the west and *T. m. natalensis* (described by FitzSimons from the Natal Drakensberg in 1947) in the east are probably due to poor collecting and zones of intergradation (if any) have yet to be established.

Nucras Gray

Very secretive lacertids the taxonomy of which is confused due to the paucity of specimens and the great overlap in "diagnostic" characters in the genus. Broadley (1972) has reviewed the *tessellata* group and placed great emphasis on colour pattern.

Nucras lalandi (Milne-Edwards)

A large *Nucras* with a thick tail. Widely distributed in the eastern regions from Knysna to Natal and the Transvaal. Incorrectly called *N. delalandii* by FitzSimons (1943).

Nucras taeniolata taeniolata (A. Smith)

Erected to full specific status by Broadley (1972). Restricted to a small isolated, possibly relic population centred around Grahamstown in the Eastern Cape Province.

Nucras taeniolata ornata Gray

A wide-ranging race that shows considerable regional variation. In the Cape Province it enters the Kimberley region and reaches as far south as Burgersdorp. *Nucras intertexta holubi* and *N. i. damarana* are synonyms of *ornata* (Broadley, 1972).

Nucras intertexta (A. Smith)

A Kalahari species that extends into the northern Cape Province in the Kimberley region.

Nucras tessellata tessellata (A. Smith)

A western Cape form that extends from Namibia to Worcester. A rufous-grey colour variety (var *elegans*) occurs along the eastern border of this subspecies (i.e. Caledon, Marydale, Calvinia, etc.). A further colour variety (var. "T") shows affinities in its dorsal colour pattern to *taeniolata taeniolata* of the eastern Cape. As it occurs in sympatry with typical *tessellata* at Klipfontein and Steinkopf it cannot be treated as a distinct subspecies. Broadley (1972) has treated this form as a variety of typical *tessellata*, although he notes it may be a distinct species or a western subspecies of *taeniolata*. The problem remains unsolved.

Nucras tessellata livida (A. Smith)

Inhabiting the Karoo areas of the Cape Province, from Matjesfontein to Port Elizabeth. It separates the typical races of *tessellata* and *taeniolata* and obscures the relationship of *tessellata* var "T" (see above).

CHECKLIST OF CAPE LIZARDS

Eremias Wiegmann

A very wide ranging genus previously considered to extend throughout Africa into south-eastern Europe and through western and central Asia to China and Korea. Boulenger (1921) in his *Monograph of the Lacertidae* divided *Eremias* s.l. into 5 "Sections" (Subgenera). Those relevant to southern Africa are *Lampreremias* (including *lugubris*) and *Mesalina* (including *namaquensis*, *undata*, *lineocellata*, *laticeps* and *burchelli*). *Eremias* s.s. is restricted to south-east Europe and Asia. Scherbach (1975) treats Boulenger's "Sections" as full genera, belonging to the subfamily *Eremiinae*. Loveridge (1957) pointed out that the earliest available generic name for southern African "*Eremias*" is *Heliobolus* Fitzinger 1843 (type by original designation: *Lacerta lugubris*). At present it seems best to recognize *Heliobolus* and *Mesalina* as subgenera of *Eremias* pending an investigation of their relationships (*Broadley, pers. comm.*).

Eremias (Heliobolus) lugubris (A. Smith)

Distributed throughout the Kalahari and neighbouring regions and recently recorded in the Cape Province from near Vryburg and Tweerivieren.

Eremias (Mesalina) namaquensis Duméril and Bibron

Extending from Little Namaqualand across the northern regions of the Cape Province to Graaff-Reinet and Cradock in the eastern Cape.

Eremias (Mesalina) laticeps A. Smith

Extending across the karroid regions, from Graaff-Reinet to Little Namaqualand, and across the Orange River into Great Namaqualand. Mertens (1955) revived the name for *Lacerta capensis* (= *Eremias capensis*) as the name is preoccupied by *Lacerta capensis* Sparrmann 1783 (= *Varanus n. niloticus*).

Eremias (Mesalina) undata undata (A. Smith)

Closely related to *E. namaquensis* and mainly restricted to Namibia, although it ranges into Little Namaqualand and the northwest Cape Province. A colour variety *inornata* was recognized by FitzSimons (1943) in the southern part of the range of *undata*. However, it occurs in a scattered pattern through the range of *undata* and cannot be considered as a valid subspecies. Trinomials are required, nonetheless, as Mertens (1955) has described two subspecies (*rubens* and *gaerdesi*) from the Waterberg and north-west regions of Namibia respectively.

Eremias (Mesalina) burchelli Duméril and Bibron

A montane form that extends across the southern Cape from Cape Agulhas and the Cedarberg to Queenstown and on to the Natal Drakensberg.

Eremias (Mesalina) lineocellata lineocellata Duméril and Bibron

A wide-ranging subspecies that enters the Cape Province in the northern regions around Kimberley.

Eremias (Mesalina) lineocellata pulchella Gray

The main subspecies in the Cape Province, extending in a wide belt from Little Namaqualand and the Western Cape Province, through the central and southern karroid areas to the Eastern Cape Province. Replaced in Great Namaqualand by the spot-less subspecies *inocellata* (Mertens, 1955).

Ichnotropis Peters

A small genus of rough-scaled, terrestrial lacertids, represented in southern Africa by three species.

Ichnotropis squamulosa Peters

Broadley (1976a) has shown that these lizards are very short-lived, hatching and growing to sexual maturity in six months and then dying soon after reproduction. *I. capensis* has a similar abbreviated life history, but the cycles of the two species are phased such that their eggs hatch at different times. This avoids competition for the same resources. Mainly distributed north of the Cape Province, it has recently been recorded from the Kalahari Gemsbok National Park (Pianka, 1971).

Meroles Gray

Mertens (1955) demonstrated that *Scaptira* Wiegmann, to which FitzSimons (1943) referred the following species, is restricted to Central Asia. The next available generic name is that of *Meroles* Gray 1938. Six monotypic species are recognized, of which four range into the Cape Province.

Meroles suborbitalis (Peters)

Extending from the central Karoo west and north through Little Namaqualand and Gordonia.

Meroles knoxii (Milne-Edwards)

A common lizard throughout its range which extends from the western Province northwards through Little Namaqualand to Namibia (Lüderitz). Haacke (1965) has demonstrated that the northern subspecies *pequensis* (Hewitt) is invalid.

Meroles ctenodactylus (A. Smith)

A larger, slower-moving species that extends from Little Namaqualand and the adjacent Karoo to just north of the Orange River. It reaches as far south as the Zout Rivier on the west coast (McLachlan, *in litt.*).

Meroles cuneirostris (Stauch)

A psammophilous species well adapted to life in the Namib Desert, the range of which just extends into Little Namaqualand (Brandkaros, Holgat River Mouth, etc.).

Family: Scincidae

Greer (1970a) has revised the family on the basis of osteological characters. Four subfamilies are recognized: Scincinae (with approximately 28+ genera, 182 species), Feylinae (2 genera, 4 species), Acontinae (3 genera, 16 species) and Lygosominae (40+ genera, 600+ species). The Scincinae are considered to have independently given rise to all three other subfamilies. The Acontinae and Feylinae are both viviparous, burrowing groups, whilst the Lygosominae is composed of the most numerous, diverse and advanced skinks. All subfamilies, with the exception of the Feylinae (which is restricted to west and central Africa), are found in the Cape Province.

Acontinae

Distributed throughout southern Africa, with an isolated population in south-east Kenya. Malagasy *Acontias* (*holomelas* and *hildebrandti*) were referred to the new scincine genus *Malaccontias* by Greer (1970a). Three genera are recognized in southern Africa; *Acontias* (7 species), *Typhlosaurus* (8 species) and the monotypic *Acontophiops*.

Acontias Cuvier

The genus was revised by Broadley and Greer (1969), who recognized seven species, all of which are found in the Cape Province.