

## **An Annotated Checklist of the Lizards of Kenya**

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## AN ANNOTATED CHECKLIST OF THE LIZARDS OF KENYA

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### ABSTRACT

This checklist records the 99 species of lizards known at present from Kenya, and which are divided amongst eight families: Gekkonidae 33 species, Agamidae seven, Chamaeleonidae 17, Scincidae 22, Lacertidae 12, Cordylidae five, Varanidae two, Amphisbaenidae one. Brief data on the distribution of all species is given, with some localities, details of habitat and (in some cases) status of subspecies. Some taxonomic notes on certain problematic species/genera are included, plus a brief discussion of the zoogeography of Kenya's lizards, and a gazetteer of localities.

### INTRODUCTION

There is no checklist that deals solely with Kenya's lizards. Loveridge's (1957) checklist listed all the reptiles and amphibians then recorded from Kenya, Tanzania and Uganda, and comprehensive checklists of the reptiles of Tanzania (Broadley & Howell, 1991) and Somalia (Lanza, 1990) now exist. This paper intends to update the nomenclature in that part of Loveridge's (1957) list that concerns the lizards of Kenya, and to extend the list to include all species now known to occur within the political boundaries of Kenya. Brief notes on the distribution of each species within Kenya are given, with representative localities; where the species is known only from a handful of specimens, all localities are listed. Since the taxonomy of lizards in eastern Africa is in a state of flux, the status of a number of species is still unclear and the known distribution patchy, we have chosen to deal only with full species, and ignore details of the status and distribution of subspecies, although some brief notes on subspecies are included.

Loveridge (1957) listed the following numbers of full lizard species from Kenya: geckoes 23, agamas five, chameleons seven, skinks 21, lacertids nine, cordylids five, monitor lizards two and amphisbaenians (worm lizards) one, a total of 73 species. The new list contains 33 geckoes, seven agamas, 17 chameleons, 22 skinks, 12 lacertids, five cordylids, two monitor lizards and one worm lizard, a total of 99 species. The increase is due to two factors. First, there are a number of genuine additions to the herpetofauna of Kenya, all of species that were known from elsewhere. Second, there have been a number of taxonomic revisions, which divided several species. For example what was formerly regarded as a single species of chameleon (*Chamaeleo bitaeniatus*) has now been split into five full species.

The distribution, and locality records, are based to a very large extent on specimens in the following collections:

The American Museum of Natural History, New York, U.S.A. (AMNH)  
The British Museum (Natural History), London, England (BMNH)  
The California Academy of Sciences, San Francisco, U.S.A. (CAS)  
The Field Museum of Natural History, Chicago, U.S.A. (FMNH)  
Museo Zoologico "La Specola" dell Università di Firenze (Florence), Italy (MZUF)  
The Museum of Comparative Zoology, Harvard, Massachusetts, U.S.A. (MCZ)  
The National Museum, Nairobi, Kenya (NMK)  
The United States National Museum, Washington, U.S.A. (USNM)

Where relevant (*e.g.* in species that are known from less than five specimens, or where a particularly unusual distribution record is concerned), we have given the museum acronym, indicating where the specimen is housed.

We hope that this paper will stimulate interest in Kenya's lizards, especially their natural history and distribution. The information we have given here is not the "last word"; indeed there will probably never be a last word! Despite the high level of interest in Kenya's fauna from naturalists and scientists, its reptiles, especially its lizards, are poorly studied, and little collecting has been done. The status and distribution of, for example, the geckoes of the genus *Hemidactylus* and *Lygodactylus* is still highly confused, many species are poorly defined and represented by only a handful of museum specimens, hence attempting to map their distribution accurately is at present almost impossible. It is important that herpetologists and naturalists get into the field and collect, and take their specimens to the National Museum, scientists there are always glad to receive specimens. Kenyan animals should be in Kenyan museums, and contributors will have the satisfaction of having added to our knowledge of Kenya's herpetology and consequently its biodiversity.

## ANNOTATED CHECKLIST

Subclass LEPIDOSAURA  
Supraorder SQUAMATA  
Order SAURIA

Infraorder GEKKOTA  
Superfamily GEKKONOIDEA

Family GEKKONIDAE  
Subfamily EUBLEPHARINAE

Genus *Holodactylus* Boettger

*Holodactylus africanus* Boettger Somali-Masai clawed gecko

Range: irregularly distributed across the dry savannah and semi-desert of north and eastern Kenya; localities include Lokori, Murri (BM), Manderu (CAS), Samburu Game Reserve, recently recorded at Elangata Wuas near Kajiado (both NMK), and recorded from Masai areas of central northern Tanzania (Mkomazi, Olduvai Gorge) (Drewes, 1971; Broadley & Howell, 1991).

**Genus *Stenodactylus* Fitzinger*****Stenodactylus sthenodactylus* (Lichtenstein) Elegant gecko, spotted gecko**

Range: a north African desert species, reaching the southernmost limits of its range in north-western Kenya, north of 2° N. Known only from a handful of localities in the dry savannah and semi-desert of the north, including Balesa Kulal, Marsabit (from the vicinity, not the mountain itself) (NMK), Lake Turkana and Kakuma (CAS).

Notes: Kenyan examples of this gecko belong to the nominate subspecies, *S. s. sthenodactylus*

**Subfamily GEKKONINAE****Genus *Cnemaspis* Strauch**

A group of 12 medium-sized geckoes, all associated with moist forest and/or hill ranges of tropical Africa. The exact status of some species (and hence their distribution) is unclear, despite recent attempts to sort out the taxonomy of the group (Perret, 1985, 1986). The occurrence within Kenya of the four-lined forest gecko (*Cnemaspis quattuorseriata*), listed by Loveridge (1947) from Mt Kenya, is said by Perret "to require confirmation" (our translation); he regards this species as being limited to eastern Zaire and Rwanda. Specimens in the British Museum from the Nyambeni Hills are probably Dickerson's forest gecko (*Cnemaspis dickersoni*), which Loveridge regarded as conspecific with *C. quattuorseriata*, and has been revived as a separate species by Perret (1986) and listed from "Kenya" but without any locality details.

***Cnemaspis africana* (Werner) Usambara forest gecko**

Range: forests and hill forests of south-eastern Kenya; localities include the Taita Hills (BM) and the Makadara Forest in the Shimba Hills (CAS). A British Museum specimen from "Athi Plains" is probably a mistaken locality, although it could conceivably refer to the woodland of the lower Athi (now the Galana) River.

Notes: Loveridge's (1947) record of this species from "Mt Kenya - Meru", is according to Perret (1986), "erroneous and due to confusion with Mount Meru, Tanzania" (our translation).

***Cnemaspis dickersoni* (Schmidt) Four-lined forest gecko**

Range: "Kenya" - Perret (1986), no further details. Known also from Ethiopia, Imatong Mountains in the Sudan, Uganda, Rwanda and eastern Zaire, also the Hanang and Udzungwa Mountains in Tanzania.

***Cnemaspis elgonensis* Loveridge Mt Elgon forest gecko**

Range: forests of western Kenya, known from Mt Elgon and Kakamega.

Notes: originally regarded as a subspecies of *C. africana*.

**Genus *Hemidactylus* Oken*****Hemidactylus bavazzanoi* Lanza Somali banded gecko**

Range: known only from Mandera, in the north-east corner of Kenya, the specimen was under a palm log in riverside bush.

Notes: collected in 1971 and deposited in the CAS collection, it was not described, and Lanza (1978) described the species from 20 km south-east of Lugh, in Somalia, 120 km south-east of Mandera (both specimens in MZUF).

***Hemidactylus brooki* (Gray) Brook's gecko**

Range: a species recorded from three continents. In Kenya, known from virtually throughout the country, in all types of habitat, from sea level to 1,600 m altitude,

often in association with humanity and buildings. Localities include Lake Baringo, Kibwezi, Kisumu, Kitui, Koobi Fora, Lokichoggio, Mandera, Mida Creek, Nairobi, Nairobi National Park, Nakuru and Wajir.

Notes: Kenyan specimens belong to the subspecies *H. b. angulatus*

***Hemidactylus frenatus* Dumeril & Bibron Pacific gecko**

Range: a waif species, widespread around the countries bordering on and the islands of the Indo-Pacific; known in Kenya from Lamu Island (Loveridge, 1957; in MCZ).

***Hemidactylus funaiolii* Lanza Archer's Post gecko**

Range: in Kenya, known only from Archer's post, where the first specimen was collected; subsequently recorded from Berdale in southern Somalia (Lanza, 1990—both specimens in MZUF), so theoretically widespread in NE Kenya.

***Hemidactylus isolepis* Boulenger Uniform-scaled gecko**

Range: widely distributed across the semi-desert of northern Kenya, north of 2° N, localities include Archer's Post, the Dida-Galgalu desert, the mouth of the Kaliokwell River, Lodwar, Loyengalani and Mandera. Outside of northern Kenya, a single record from Likoni, Kenya coast (BM).

***Hemidactylus mabouia* (Moreau de Jonnes) Tropical house gecko**

Range: throughout Kenya, from sea level to altitudes of 1,600 m, in all types of country.

Localities include Isiolo, Kisumu, Mombasa, Moyale, Nairobi and Voi.

Notes: like *H. brooki*, often in association with humanity and buildings, the niche difference between the two species is that this one lives on walls and trees, *H. brooki* on the ground.

***Hemidactylus modestus* (Gunther) Tana River gecko**

Range: endemic to Kenya, but known from two coastal records only: Ngatana (BM/MCZ) on the Tana delta and a possible record from Ukunda on the south coast (CAS).

***Hemidactylus platycephalus* Peters Baobab gecko**

Range: widely distributed across northern and eastern Kenya and the coast, mostly in areas where there are fairly large trees, localities include Gede, Kora, Malindi, Mandera, Moyale, Taita and Wajir.

Notes: Broadley (1977) pointed out that this large species had previously been miscalled "*H. mabouia*", while the smaller true *H. mabouia* had been known as *H. gardinieri* Boulenger or *H. mercatorius* Gray (see also Lanza, 1990). Apart from its large size (snout-vent length 70–94 mm), this species differs from *H. mabouia* in its smaller dorsal tubercles, more numerous preanofemoral pores in males (45–57 vs. 22–40) and more numerous transverse dorsal scale rows in a caudal verticil (10–16 vs. 7–12). The two species are sometimes sympatric on house walls.

***Hemidactylus puccioni* Calabresi Somali plain gecko**

Range: the only Kenya record is Mandera (CAS).

Notes: this species may be conspecific with *Hemidactylus turcicus*.

***Hemidactylus ruspolii* Boulenger Prince Ruspoli's gecko/Turnip-tailed black and yellow gecko**

Range: widely distributed across the dry savannah and semi-desert of northern and eastern Kenya; localities include Isiolo, Laisamis, Loyengalani, Mandera, Sankuri and Wajir; some Rift Valley records include Lakes Bogoria and Baringo, the Ngong Hills and a curious one from Kakamega (CAS), which may represent an undescribed species.

***Hemidactylus squamulatus* Tornier Nyika gecko**

Range: widespread in dry savannah and semi-desert across northern and eastern Kenya, including the coastal strip; localities include Eliye Springs, Kitui, Kora, Laisamis, Shimoni, Sultan Hamud, Voi and Wajir; also known from Amboseli in southern Kenya.

Notes: specimens from northern Kenya/north-central Tanzania are regarded as belonging to the nominate subspecies *H. s. squamulatus*, those from the coast to the subspecies *H. s. barbouri*.

***Hemidactylus tropidolepis* Mocquard Ogaden gecko**

Range: sporadically distributed in northern and eastern Kenya; localities include Laisamis, Voi and Wajir (CAS), and a single coast record from the Tana delta at Ngatana (MCZ).

Notes: previously regarded as a subspecies of *H. squamulatus*, but Lanza (1990) found both forms sympatrically.

***Hemidactylus turcicus* (Linnaeus) Turkish gecko**

Range: dry country of north-eastern Kenya; localities include Buna, Laisamis, Mandera, Wajir (all CAS); not recorded west of 37° E; the only records south of 1° N are Ngomeni (CAS) and Sankuri (AMNH).

Notes: Kenyan specimens are assigned to the subspecies *H. t. macropholis*, which Lanza (1990) regards as a full species.

**Genus *Lygodactylus* Gray**

This group of small diurnal geckoes, widely distributed in sub-Saharan Africa and Madagascar, has undergone considerable radiation and speciation, especially in the dry savannah and woodland of south-eastern Africa, and has recently been split into a large number of species and subspecies (*e.g.* Pasteur, 1964). However, many of the species are poorly defined, and the keys available have lead, within Kenya, to a bewildering diversity of records, with anomalous distribution patterns. The status and distribution of a number of forms is thus still unclear and their zoogeographic affinities tentatively assigned. Where usable, we have made use of Pasteur's (1964) definitions, but changes may be expected in the future when more specimens are available and the genus becomes better understood. These small geckoes are prone to accidental translocation by man, particularly in the egg form.

***Lygodactylus angolensis* Bocage Angolan dwarf gecko**

Range: a single Kenya record, from the Kedong Valley (AMNH).

***Lygodactylus angularis* Gunther Angulated dwarf gecko**

Range: known only from a single specimen from Mombasa (CAS), but the nominate subspecies (*L. a. angularis*) is widespread in south-western Tanzania.

***Lygodactylus capensis* A Smith Cape dwarf gecko**

Range: recorded from Makindu, Naivasha (both BM) and the Yatta Plateau (AMNH).

See our comments on *Lygodactylus scheffleri*!

***Lygodactylus grandisonae* Pasteur Bunt's dwarf gecko**

Range: known only from Murri (BM), on the northern border with Ethiopia.

***Lygodactylus keniensis* Parker Kenya dwarf gecko**

Range: most of northern Kenya, localities include Eliye Springs, Lodwar, Lokichoggio, Mandera and Ramu, also known from Lake Baringo, Lake Elmenteita, Kerio Valley (Marich Pass) and the Saka Bend on Tana River.

Notes: originally regarded as a subspecies of *L. picturatus*, *L. p. keniensis*.

***Lygodactylus laterimaculatus* Pasteur Side-spotted dwarf gecko**

Pasteur (1964) originally described this as subspecies of *L. scheffleri* from Mbuyuni (MCZ) but has now (Pasteur, 1995) elevated it to a full species inhabiting the Taita Hills westwards to the lower slopes of Kilimanjaro.

***Lygodactylus luteopicturatus* Pasteur Yellow-headed dwarf gecko**

Range: the south coast of Kenya (Broadley & Howell, 1991).

Notes: Kenyan examples belong to the subspecies *L. l. luteopicturatus*

***Lygodactylus manni* Loveridge Mann's dwarf gecko**

Range: known only from Lake Baringo (CAS).

***Lygodactylus picturatus* Peters White-headed dwarf gecko**

Range: the coastal plain, most of eastern Kenya, as far north as Meru National Park and Samburu Game Reserve; other localities include Hunter's Lodge, Lamu, Malindi, Tiwi, Voi and Watamu. Also recorded from Kisumu and other localities on the shore of Lake Victoria.

Notes: records from northern Kenya suggest confusion with *Lygodactylus keniensis*

***Lygodactylus scheffleri* Sternfeld Scheffler's dwarf gecko**

Range: a poorly defined species; the known locality records, Chemelil (CAS), Kibwezi (type locality) and Voi (NMK) are too widely separated to be able to make any definite statements about distribution.

***Lygodactylus somalicus* Loveridge Somali dwarf gecko**

Range: known from several localities in semi-desert north of 2° N, including Buna, Mt Kulal, Loyengalani, Mandera, Moyale, Ramu, and Sololo; also known from Wajir Bor, and two unusual records in the NMK collection from Magadi and the Ndoto Hills.

Notes: Kenyan specimens belong to the subspecies *L. s. battersbyi* Pasteur.

**Genus *Pachydactylus* Wiegmann*****Pachydactylus turneri* Gray Turner's thick-toed gecko**

Range: dry country of the southern Rift Valley, from just north of Olorgesaille down past Lake Magadi; localities include Elangata Wuas (NMK), 25 km west of Magadi (CAS), Lengamunge Ridge (BM) and Olorgesaille (NMK).

Notes: originally regarded as a subspecies of *P. bibronii*. Benyr (1995) used molecular taxonomy to show that *P. bibronii* is a south African temperate form, largely restricted to south of the Orange River, but extending into southern Namibia. The earliest available name for the tropical representative is *turneri* Gray 1864, described from Tete, Mozambique.

**Genus *Homopholis* Boulenger*****Homopholis fasciata* (Boulenger) Banded velvet gecko**

Range: sporadically distributed across northern and eastern Kenya and the coast, associated with large trees (especially figs) along river beds; localities include Laisamis, Lokitaung, Mbunyi, Mombasa, Murka, Ngare Ndari River and Voi.

**Genus *Pristurus* Rüppell*****Pristurus crucifer* (Valenciennes) Cross-marked sand gecko**

Range: known only from Mandera (NMK, CAS), in the north-east corner of Kenya, thence east and north through the Ogaden and Somalia.

**Genus *Phelsuma* Gray**

This genus of attractive, mostly green diurnal geckoes is associated with the islands of the western Indian Ocean, in particular Madagascar, the Comores, Mauritius and the Seychelles, but one species is known from the Andaman Islands in the bay of Bengal, another from the dry rocky coast of south-western Africa. Two species have colonised the East African coast, one of which is found in Kenya.

***Phelsuma dubia* (Boettger) Dull green day gecko**

Range: the south coast, from Mombasa (NMK) southwards into Tanzania; also known from the north-west coast of Madagascar.

**Infraorder IGUANIA****Family AGAMIDAE****Genus *Agama* Daudin**

Taxonomic note: Baig & Bohme (1991, *Bonner zoologische Beitr.* 42: 275-281) have pointed out that *Stellio*, originally proposed as a generic name for the larger agamas of this genus (e.g. *A. agama*, *A. annectans*) is not available. *Acanthocerus* has thus been used in some modern literature for some of the larger species, but until this taxonomic point is cleared up, the generic name *Agama* is retained here.

***Agama agama* Linnaeus Red-headed rock agama**

Range: virtually throughout Kenya, but not recorded above 2,000 m altitude. Associated with trees and rock outcrops in dry country. Localities include Baringo, Garba Tula, Garissa, Isiolo, Kitui, Kora, Laisamis, Loyengalani, Malindi, Mandera, Maralal, Mombasa, Mtito Andei, Nairobi National Park (but not the city!), Namanga, Shimoni, Sololo, Thika, Voi, Wajir and Wamba.

Notes: Two subspecies occur in Kenya: *A. a. elgonensis* (slopes of Mt Elgon), and *A. a. lionotus* (all other specimens from Kenya).

***Agama annectans* Blanford Eritrean rock agama**

Range: an Ethiopian species, known from Dandu and Malka Murri (both BMNH) on the northern border with Ethiopia.

***Agama atricollis* Smith Blue-headed tree agama**

Range: wooded highlands and savannah of the southern half of Kenya, mostly above 1,400 m altitude; localities include Eldoret, Isiolo, Kakamega, Kitale, Nairobi, Naivasha and Narok; few records from northern Kenya, but localities include Maralal, Marsabit and Moyale. Unusual records from the coast (this species is rarely found where the low-altitude species *A. agama* occurs) include Gede and Mkonumbi.

***Agama caudospina* Meek Elmenteita rock agama**

Range: endemic to Kenya. Mostly in high rocky country and grassland of central and western Kenya; localities include Lake Elmenteita, Gilgil, Kakamega, Kedong Valley, Kisumu, Maralal, Moiben, Muranga, Nakuru, Nanyuki and Uasin Gishu.

***Agama cyanogaster* (Rüppell) Black-necked tree agama**

Notes: some authorities regard this species as conspecific with *A. atricollis*; in the field they appear to be the same. If they are separate, then records for *A. cyanogaster* include Kapsorok Valley, Kisii, Kisumu, Migori and Naivasha.

***Agama persimilis* Parker Somali painted agama**

Range: this attractive little desert agama is known from scattered localities in the semi-desert and dry savannah of north-east and eastern Kenya; localities include Mandera, Ngomeni, Tolotwa, Voi (BMNH) and Wajir Bor (all CAS).



***Agama ruppelli* Vaillant Rüppell's agama**

Range: dry savannah of northern and eastern Kenya, usually below 1,400 m altitude, but not recorded from the coast and apparently absent from Wajir and Mandera districts. Localities include Baringo, Isiolo, Laisamis, Lokitaung, Loyengalani, Mbunyi, Sultan Hamud and Voi.

Notes: specimens from northern Kenya are assigned to the subspecies *A. r. occidentalis*, those from eastern Kenya to *A. r. septentrionalis*. The dividing line between the two subspecies is not clear.

**Family CHAMAELEONIDAE****Genus *Chamaeleo* Laurenti**

Taxonomic note: D.G. Broadley (*in litt.*) is presently reviewing the African chameleon genera, and suggests that several Kenya species will be placed in the genus *Trioceros* Swainson; the species concerned are *C. bitaeniatus*, *C. ellioti*, *C. hoehneli*, *C. jacksoni*, *C. marsabitensis*, *C. rudis*, *C. schubotzi* and *C. tremperi*. For the time being, these species are listed under the genus *Chamaeleo*.

***Chamaeleo bitaeniatus* Fischer Side-striped chameleon**

Range: widespread in grassland and savannah of central and western Kenya, especially slightly dryer areas, usually between 1,000 and 2,000 m altitude; localities include Athi River, Gilgil, Kabluk, Kedong, Laikipia, Nairobi, Lake Nakuru, Ngong Hills, Njoro, Nyahururu and Subukia.

Notes: five former subspecies of this small hornless chameleon that occur in Kenya have now been elevated to full species, including the nominate subspecies; they are *C. bitaeniatus*, *C. ellioti*, *C. hoehneli*, *C. rudis* and *C. schubotzi*.

***Chamaeleo dilepis* Leach Flap-necked chameleon**

Range: savannah and woodland of most of south-eastern Kenya, including the coast, but usually below altitudes of 1,500 m, thus absent from Nairobi, and not recorded from the southern rift valley. No records from northern or north-eastern Kenya, where *Chamaeleo gracilis* occurs. Known localities include Gede, Kitui, Kwale, Machakos, Makindu, Mombasa, Namanga, Sultan Hamud and Voi. Two records from western Kenya, Kakamega and Kisumu.

Notes: coastal Kenya specimens have relatively large ear flaps, and the status of *C. quilensis* (usually regarded as a subspecies of *C. dilepis*, with small ear flaps) needs investigating. Lanza (1990) regards *C. quilensis* as a full species, widely distributed in Somalia; sympatry of adult specimens of this group with large and small ear flaps has been recorded. If subspecies are valid, then most Kenyan specimens belong to the nominate subspecies *C. d. dilepis*.

***Chamaeleo ellioti* Gunther Montane side-striped chameleon**

Range: wet highland areas of western Kenya, usually at altitudes over 1,400 m; localities include Cherangani Hills, Kakamega, Kapsabet, Kitale, North Nandi Forest and Saiwa Swamp.

***Chamaeleo gracilis* Hallowell Slender chameleon**

Range: quite widely distributed in northern, western, eastern and central Kenya, in savannah and semi-desert, usually at altitudes below 1,500 m. Localities include Buna, Eldoret, Isiolo, Kabluk, Kakamega, Kerio Valley, Kisumu, Kora, Mandera, Maua, Moyale, Sololo and Voi, and Longido in Tanzania.

Notes: Kenyan specimens belong to the subspecies *C. g. gracilis*.

***Chamaeleo hoehneli* Steindachner **Von Hohnel's chameleon****

Range: highlands of central and western Kenya, usually in bushy grassland at altitudes of 1,500 m and above, to over 3,000 m altitude on the mountains; localities include Aberdares, Cherangani Hills, Mt Elgon, Kaptagat, Kijabe, Kipkabus, Limuru, eastern Mau, Muranga, Nairobi, Naivasha, Nyeri and North Kinangop.

***Chamaeleo jacksoni* Boulenger **Jackson's chameleon****

Range: mid-altitude forest and woodland of central Kenya (rarely above 2,000 m or below 1,200 m) east of the rift valley, from Mt Kenya southwards to Nairobi National Park, then reappears across the border on Mt Meru, Tanzania. Localities include Chogoria, Chuka, Embu, Meru, Muranga, Nairobi and Sagana.

Notes: several subspecies (of doubtful validity) have been described from Kenya, one of which (*C. j. xantholopus*, from the vicinity of Meru) might be valid; the remainder are probably best assigned to *C. j. jacksoni*.

***Chamaeleo laevigatus* Gray **Smooth chameleon****

Range: a central African species, recorded from the south slopes of Mt Elgon and Kakamega in western Kenya (NMK as *Chamaeleo senegalensis*).

***Chamaeleo marsabitensis* Tilbury **Mt Marsabit chameleon****

Range: endemic to Kenya, recently described from the forest of Mt Marsabit, types in BMNH/NMK

***Chamaeleo rudis* Boulenger **Ruwenzori side-striped chameleon****

Range: may occur in the Aberdares and Mau escarpment (see Rand, 1963).

***Chamaeleo schubotzi* Sternfeld **Kenya side-striped chameleon****

Range: endemic to Kenya, and known only from the high moorlands of Mt Kenya, at altitudes over 3,000 m (NMK, BMNH).

***Chamaeleo tremperi* Necas **Eldama Ravine chameleon****

Range: a new endemic species, recently described from the vicinity of Eldama Ravine, north-west of Nakuru (types in Museum of Natural History, Vienna).

Note: Loveridge (1957) mentions the collection of a specimen of *Chamaeleo oustaleti* (a Madagascan species) in 1951 in the Ngong forest, SW side of Nairobi. Presumably introduced, the specimen is in the NMK collection but no further examples have turned up, so the population is now probably extinct.

**Genus *Bradypodion* Fitzinger*****Bradypodion excubitor* Barbour **Mt Kenya hornless chameleon****

Range: mid-altitude forests on the eastern and north-eastern slopes of Mt Kenya, in the vicinity of Embu and Meru (NMK).

***Bradypodion tavetanum* (Steindachner) **Mt Kilimanjaro two-horned chameleon****

Range: within Kenya, confined to the hill forest, and recently deforested areas of the Chyulu and Taita Hills (NMK), also on Mt Kilimanjaro and North Pare Mountains in northern Tanzania.

***Bradypodion tenue* (Matschie) **Usambara soft-horned chameleon****

Range: Shimba Hills (Broadley & Howell, 1991), also known from the Usambaras in Tanzania.

**Genus *Rhampholeon* Gunther*****Rhampholeon boulengeri* Steindachner **Boulenger's pygmy chameleon****

Range: a central African species, recorded in western Kenya, from high to mid-altitude woodland in the Cherangani Hills, Kakamega, Nandi Hills and North Nandi Forest

(all NMK), and recently recorded from the Nguru Mountains in north-eastern Tanzania.

*Rhampholeon brevicaudatus* (Matschie) **Bearded pygmy chameleon**

Range: woodland of the Shimba Hills (NMK, BMNH), thence into coastal Tanzania.

*Rhampholeon kersteni* (Peters) **Kenya leaf chameleon/Kenya pygmy chameleon**

Range: widespread in coastal woodland (localities include Kilifi, Lamu, Mombasa, Shimba Hills and Watamu), some records from the dry savannah of the coastal hinterland (south of Galole, Kilibasi, Samburu (the coast location) and Taru; sporadic records from the low altitude dry interior, including Marsabit, Moyale, Murri and the north Nyambeni range.

Notes: specimens from eastern Kenya are assigned to the subspecies *R. k. kersteni*, those from the north to the subspecies *R. k. robecchii*.

Suborder AUTARCHOGLOSSA

Superfamily SCINCOIDEA

Family SCINCIDAE

Subfamily LYGOSOMATINAE

Genus *Mabuya* Fitzinger

*Mabuya bayonii* (Bocage) **Bayon's skink**

Range: high altitude and montane grassland of central and western Kenya; localities include the moorland of the Aberdares (NMK), Mt Elgon (CAS), Lake Sirgoit and Sotik (USNM).

Notes: Kenyan specimens are assigned to the subspecies *M. b. keniensis*.

*Mabuya brevicollis* (Wiegmann) **Short-necked skink**

Range: throughout north-eastern and eastern Kenya, also in the southern rift valley, south of Olorgesailie, occurs sporadically along the coast. Mostly in dry savannah and semi-desert at altitudes below 1,500 m (localities include Baringo, El Wak, Garba Tulla, Garissa, Isiolo, Kajiado, Kitui, Magadi, Mandera, Ngomeni, Ramu, Tiwi, Voi, Wajir and Wajir Bor), but occasionally above 1,500 m in eastern Kenya, *e.g.* Athi River, Lukenya Hill. Fewer records from the north-west, but localities include Kakuma (CAS), Lodwar, Lokomarinyang (NMK) and Lokori (BMNH).

*Mabuya irregularis* Lonnberg **Alpine meadow skink**

Range: a montane species, on high moorland of the Aberdares, Mt Elgon and Mt Kenya, at 3,000 m and above; localities include the Kiandogoro gate (NMK) and Sirimon track (CAS).

*Mabuya maculilabris* Gray **Speckle-lipped skink**

Range: two disjunct areas; found in the low country all around the shores of Lake Victoria (localities include Chemelil, Homa Bay, Kakamega, Kisumu and Mumias), and throughout the forest and thicket of the coastal strip; coast localities include Gede, Kilifi, Kilindini, Ngatana, Shimoni, Tiwi and Watamu; not recorded from the intervening country.

Notes: specimens from western Kenya belong to the subspecies *M. m. maculilabris*; the status of the coastal population is unclear following the elevation of Comoro specimens of *M. m. comorensis* to a full species, *M. comorensis* (see comments in Broadley & Howell, 1991)

***Mabuya margaritifer* (Peters) Rainbow skink/Pearly skink**

Range: south-eastern Kenya, on rock outcrops. Localities include Kiambere\*, Kibwezi, Machakos, Mt Mebololo, Ngulia Hills\*, Sultan Hamud, Taita, Tsavo and Voi [\* sympatry with *M. quinquetaeniata*; Broadley & Bauer, in prep].

***Mabuya megalura* (Peters) Grass-top skink**

Range: high moist grassland and woodland of central and western Kenya, from Lukenya Hill, Machakos and Nairobi west to Kakamega, mostly at altitudes of 1,600 m and above. Also known from the Chyulu Hills. Localities include Chemelil, Khayega, Kijabe, Limuru, Lukenya Hill, Nairobi and Ngong.

***Mabuya planifrons* (Peters) Tree skink**

Range: widely distributed throughout the dry savannah of northern and eastern Kenya, including the coast, but not recorded from the southern Rift Valley. Localities include Buna, Garba Tula, Kora, Laisamis, Makueni, Malindi, Mandera, Marimanti, Meru National Park, Ngomeni, Pate, Shimoni, Sololo, South Horr, South Island, Tiwi, Voi, Wajir and Watamu.

***Mabuya quinquetaeniata* (Lichtenstein) Five-lined skink**

Range: virtually throughout Kenya, below altitudes of 1,500 m, in semi-desert, rocky desert, dry savannah and woodland, but apparently absent from the coast, the flat plains of the north-east and the rift valley south of Olorgesaille. Usually on rock faces. Localities include Archer's Post, Baringo, Central Island, Chemelil, Dida-Galgalu, Embu, Kakamega, Kibwezi, Kitui, Kora, Laisamis, Lokichoggio, Ngulia and Sololo.

***Mabuya striata* (Peters) Striped skink**

Range: widespread throughout southern and central Kenya, up to altitudes of 2,000 m, usually in savannah and grassland, often associated with humanity and buildings, and hence subject to waif dispersal in building materials, etc. Relatively few records from the coast and the dryer areas of northern Kenya. Localities include Chyulu Hills, Kakamega, Kitale, Mara Game Reserve, Marsabit, Mombasa, Moyale and Nairobi.

Notes: specimens from Kenya belong to the subspecies *M. s. striata*.

***Mabuya varia* (Peters) Variable skink**

Range: a highly adaptable skink, found virtually throughout the southern half of Kenya, from the woodland of the coast through dry and moist savannah to the high moorland of Mt Kenya at 4,000 m and above; localities include the Aberdares, Chemelil, Gede, Molo, Nairobi, Naivasha, Nakuru, Namanga, Sotik and Voi, but relatively few records north of 1° N, save for Maralal, South Island and Wajir Bor.

Notes: Kenyan animals belong to the nominate subspecies *M. v. varia*.

**Genus *Lygosoma* Hardwicke & Gray*****Lygosoma afrom* (Peters) Peter's writhing skink**

Range: sporadically distributed throughout much of Kenya, in woodland, savannah, grassland and semi-desert; localities include Eliye Springs, Mandera, Mumias, Nairobi, the Nyambeni Hills, Sokoke Forest, Tambach and Wajir! Apparently not found at altitudes above 2,000 m.

***Lygosoma fernandi* (Burton) Red-flanked skink/Red and black skink**

Range: a central African forest species, recently recorded from Kakamega, in western Kenya (NMK).

***Lygosoma mabuiiforme* (Loveridge) Mabuya-like writhing skink**

Range: in Kenya, known only from Ngatana on the Tana delta (BMNH), but recorded in southern Somalia (MZUF) by Lanza (1990).

***Lygosoma pembanum* Boettger Pemba Island writhing-skink**

Range: coastal woodland and thicket, from Gede southwards; localities include Kilifi (NMK), Takaungu (BMNH) and Ukunda (CAS).

***Lygosoma sundevalli* (Smith) Sundevall's writhing skink**

Range: virtually throughout Kenya, from the coast to high-altitude areas such as Kijabe, but few records from higher than 2,200 m. Localities include Kakuma, Kiboko, Kisumu, Kora, Laikipia, Machakos, Malindi, Malka Murri, Mandera, Nairobi, Ngatana, Rumuruti, Tiwi, Voi and Wajir.

Notes: Kenyan animals are assigned to the subspecies *L. s. sundevalli*.

***Lygosoma tanae* (Loveridge) Tana River writhing skink**

Range: in Kenya, known from Kau (BMNH/FMNH), Ngatana and Witu (MCZ) on the Tana River delta, also known from coastal southern Somalia (Lanza, 1990).

**Genus *Eumecia* Bocage*****Eumecia anchietae* Bocage Western serpentiform skink**

Range: high grassland and woodland of western and south-western Kenya; localities include Cherangani Hills, Kakamega, Lolgorien, Mara and Nandi.

Notes: specimens from Kenya belong to the subspecies *E. a. anchietae*.

**Genus *Leptosiaphos* Schmidt*****Leptosiaphos kilimensis* Stjerner Kilimanjaro five-toed skink**

Range: mid to high altitude forest, woodland (and deforested areas) of central Kenya, east of the rift valley, also known from the Taita Hills. Localities include the Chogoria track at 3,500 m, Muranga, Nairobi, Nyambeni Hills and Subukia.

**Genus *Cryptoblepharus* Wiegmann*****Cryptoblepharus boutonii* (Desjardin) Bouton's skink/Coral rag skink**

Range: the entire coastline, on coral cliffs, islands and outcrops of the intertidal zone.

Notes: Kenyan specimens are assigned to the subspecies *C. b. africanus*, which Lanza (1990) regards as a full species.

**Genus *Panaspis* Cope*****Panaspis wahlbergii* (A. Smith) Wahlberg's snake-eyed skink**

Range: sporadically distributed throughout the southern half of Kenya, but apparently not found at the coast, and not recorded at altitudes over 1,700 m. Very few records from the north, save Laisamis and Mandera; other localities include Chemelil, Chyulu Hills, Kajiado, Kedong, Kibwezi, Lukenya Hill, Nairobi, Samburu (coast location) and Voi.

**Genus *Chalcides* Laurenti**

A group of relatively large, cylindrical bodied skinks with short or reduced limbs, associated with the Mediterranean coast of north Africa and the Arabian peninsula, radiating into southern Europe, north-west and north-east Africa. Often abundant, and with a wide variety of colour patterns, they have greatly confused taxonomists, and a number of species and species complexes have been described on the basis of very minor scalation differences and variation in colour. The keys thus produced are largely unworkable (*e.g.* see Pasteur, 1981, and comments in Schleich *et al.* (1996)). However, all Kenyan specimens are here tentatively assigned to the *Chalcides ocellatus* group, and, according to Pasteur (1981) all belong within "ragazzii complex", "subspecies" *Chalcides ragazzii bottegi*.

***Chalcides ocellatus* (Forskal) Ocellated skink**

Range: a handful of localities in northern Kenya, including Kakuma, Lodwar, Lokitaung and Lokomarinyang (all CAS).

**Genus *Acontias* Cuvier*****Acontias percivali* Loveridge Teita limbless skink**

Range: dry savannah of south-eastern Kenya near Voi; localities include Kilibasi, Mt Mbololo and Voi.

**Superfamily LACERTOIDAE****Family LACERTIDAE****Genus *Gastropholis* Fischer*****Gastropholis prasina* Werner Green keel-bellied lizard**

Range: woodland of the coastal strip; localities include Arabuko-Sokoke Forest (NMK), Diani, Malindi (most northerly record) and Watamu (James Ashe, pers. comm., live specimens seen by senior author).

***Gastropholis vittata* Fischer Striped keel-bellied lizard**

Range: a single record from Diani (FMNH), thence south into Tanzania, in coastal woodland and thicket.

**Genus *Philochortus* Matschie*****Philochortus intermedius* Boulenger Shield-backed ground lizard**

Range: a handful of records from the semi-desert of northern Kenya; localities include the mouth of the Kaliokwell River (BMNH), Laisamis, Mandera and Wajir Bor (all CAS).

Notes: the specimens from Lake Turkana are assigned to the subspecies *P. i. rudolfensis*, those from Laisamis, Mandera and Wajir Bor are probably representatives of the subspecies *P. i. intermedius*, but their status is as yet uncertain.

**Genus *Adolfus* Sternfield*****Adolfus alleni* (Barbour) Alpine meadow lizard**

Range: a montane species, found above altitudes of 2,800 m on the moorlands of the Aberdares, Mt Kenya and Mt Elgon.

***Adolfus jacksoni* (Boulenger) Jackson's forest lizard**

Range: high grassland, forest and woodland, between altitudes of 1,500 m and 2,500 m, of central and western Kenya, also known from the Chyulu Hills. Localities include Chemelil, Cherangani Hills, eastern Mau, Kakamega, Kinangop, Langata, Mt Longonot, Mara, Naivasha and Ngong Forest. An unusual record from Mt Warges, Mathews Range (USNM).

**Genus *Nucras* Gray*****Nucras boulengeri* Neumann Boulenger's scrub lizard**

Range: sporadically distributed across eastern and southern Kenya, mostly in mid-altitude grassland and savannah; localities include Kajiado, Kedong Ranch, Loitokitok, Mukogodo Ranch, Naivasha, Shimba Hills and Voi.

Genus **Heliobolus** Fitzinger***Heliobolus neumanni* (Tornier) Neumann's sand lizard**

Range: sporadically distributed across eastern Africa, in Kenya known only from Ngatana, on the Tana delta (BMNH).

***Heliobolus spekii* Gunther Speke's sand lizard**

Range: widely distributed throughout savannah and semi-desert of northern and eastern Kenya, at altitudes of 1,500 m and below, also found on the coast; localities include Lake Baringo, Kora, Lodwar, Mandera, Mida Creek, Namanga, Takaungu and Voi.

Notes: specimens from north of the Tana River are regarded as belonging to the subspecies *H. s. sextaeniata*, those from south of the Tana to *H. s. spekii*.

Genus **Pseuderemias** Boettger***Pseuderemias smithii* (Boulenger) Smith's sand lizard**

Range: known from a handful of widely scattered localities in the semi-desert north; localities include Garba Tula, Koroli Desert, Mandera and Wajir Bor.

***Pseuderemias striata* Peters Peter's sand lizard**

Range: within Kenya, known only from the "Tana River", no further details (USNM), but widespread in southern and central Somalia (Lanza, 1990).

Genus **Latastia** Bedriaga***Latastia johnstoni* Boulenger Johnson's long-tailed lizard**

Range: a single (tentative) record from Rabai, near Mombasa (CAS); also occurs in central Tanzania, south and west to Mozambique and Shaba province, Zaire (Broadley & Howell, 1991).

***Latastia longicaudata* Reuss Long-tailed lizard**

Range: widely distributed throughout the dry savannah and semi-desert of northern and eastern Kenya, including the coast, also known from the Rift Valley south of Olorgesailie. Usually below altitudes of 1,500m; localities include Baringo, Garissa, Gede, Isiolo, Magadi, Moyale and Selengai.

Notes: Lanza (1990) suggests that Kenyan animals belong to the subspecies *L. l. lanzai*.

## Family CORDYLIDAE

Genus **Cordylus** Laurenti***Cordylus tropidosternum* Cope Tropical girdled lizard/Tropical spiny-tailed lizard**

Range: known from rocky country west of the Ngong Hills, between Olorgesailie and Kajiado (where it lives in rock outcrops); also recorded from Kilifi and Sokoke Forest (where it lives in dead trees under bark). Not recorded from the intervening country.

Notes: Kenyan animals are assigned to the subspecies *C. t. tropidosternum*.

## Family GERRHOSAURIDAE

Genus **Gerrhosaurus** Wiegmann***Gerrhosaurus flavigularis* Wiegmann Yellow-throated plated lizard**

Range: widespread in the southern half of Kenya, in woodland, savannah and grassland, from the coast to altitudes of 1,800m; localities include Gede, Kericho, Nairobi, Nakuru, Rongai, Sigor, Taita, Taru, Tiwi and Voi (Mt Sagalla); few records from northern Kenya, save Isiolo, Marsabit and "Turkwell" (NMK).

***Gerrhosaurus major* A. Dumeril Great plated lizard/Tawny plated lizard**

**Range:** Broadley (1987) revised this species and limited the number of subspecies to two, *G. m. major* (tawny or great plated lizard) and *G. m. bottegoi* (Eritrean plated lizard). The distinctive yellow and black colour form *G. m. bottegoi* is known from the floor of the Rift Valley westwards; localities include Baringo (CAS), Kerio Valley and 8 km SSW of Amaler (MCZ) whilst the typical, brown form (*G. m. major*) occurs at Laisamis, Murri on the Ethiopian border, and east from Lukenya Hill to Machakos and Kitui, through Tsavo to the coast, where it is common along the entire coastal plain.

***Gerrhosaurus nigrolineatus* Hallowell Black-lined plated lizard**

**Range:** sporadically distributed in south-eastern Kenya; known from Kibwezi, Kilifi, Mida Creek, Stony Athi and Watamu. A curious record from Shaffa Dika in the north-east (AMNH).

**Genus *Chamaesaura* Schneider**

***Chamaesaura anguina* Linnaeus Snake lizard/Grass lizard**

**Range:** high grassland of southern Kenya, usually at altitudes of 1,500 m and above; localities include Chyulu Hills, Guru Falls (Aberdares), Loita Hills, Nakuru, Njoro and Songhor.

**Notes:** Kenyan animals are assigned to the subspecies *C. a. tenuior*.

**Infraorder ANGUIMORPHA**

**Superfamily VARANOIDEA**

**Family VARANIDAE**

**Genus *Varanus* Merrem**

***Varanus albigularis* (Daudin) White-throated savannah monitor**

**Range:** widespread in northern and eastern Kenya and the coast, usually in dry savannah and semi-desert below 1,500 m altitude. Localities include Baringo, Buna, Diani, Garissa, Isiolo, Kabluk, Kakuma, Kibwezi, Kwale, Lamu, Lodwar, Lake Magadi, Malindi, Mombasa, Mtito Andei, Murri, Ngulia, Sankuri, Voi, Wajir, Wajir Bor and Watamu.

**Notes:** the paucity of museum specimens (due to the difficulties preserving such large lizards) causes problems when attempting to map the distribution of this species.

***Varanus niloticus* Linnaeus Nile monitor/water monitor**

**Range:** widespread in Kenya, at altitudes of 1,600 m and below, but nearly always in the vicinity of natural water sources and thus absent from much of northern Kenya. Localities include Athi River, Baringo, Central Island (Lake Turkana), Chiokarige, Garissa, Garsen, Kabluk, Kilifi, Kisumu, Lali Hills, Lamu, Lodwar, Mandera, Mombasa, Mumias, Nairobi National Park and Saka Bend.

**Notes:** almost certainly occurs along the entire length of the Tana River from east of Embu to the sea, likewise the Athi/Galana/Sabaki river from Nairobi National Park downstream. Its occurrence on seasonal rivers such as the Uaso Nyiro, Kerio and Turkwell is not well documented.

**Infraorder AMPHISBAENIA**

**Family AMPHISBAENIDAE**

**Subfamily AMPHISBAENINAE**



**Genus *Geocalamus* Gunther*****Geocalamus acutus* Sternfeld Voi wedge-snouted worm-lizard**

Range: south-eastern Kenya, eastwards from Voi; localities include Galana game ranch, Lali Hills, Samburu (the coast location) and Voi.

**ZOOGEOGRAPHY**

Kenya's lizard fauna is extremely diverse, containing elements from desert, forest, mountain and savannah. A lizard found in Kenya, *Gerrhosaurus flavigularis*, occurs in the southernmost Cape in South Africa; another, *Stenodactylus sthenodactylus*, is found in the northern Sahara, the agama, *Agama agama* is found on the westernmost tip of Senegal, and a fourth, *Holodactylus africanus*, occurs in the easternmost region of Africa, north-east Somalia. It might be said that Kenya represents the meeting point of the lizard faunas of south, east, west, north and central Africa. However, since the distribution of lizards in Kenya is poorly known and the status of a number of forms is unclear, a detailed zoogeographical analysis of the Kenyan lizard fauna is still some time away.

Our own preliminary analysis (but based to some extent on the work of White (1983), as used by Broadley and Howell (1991)), indicates that lizard representatives of some 13 zoogeographic groups occur within Kenya, plus a small "mixed bag" of international and waif species. The groups are:

**North African-Middle eastern.** Two lizards (*Stenodactylus sthenodactylus*, *Chalcides ocellatus*) associated with desert and semi-desert of north Africa.

**North-East African arid.** Seventeen species in the group. Found in the dry savannahs and semi-desert of Kenya, eastern Ethiopia and Somalia, but do not reach Tanzania (with the exception of *M. brevicollis*) or Egypt. Mostly geckoes, dry country lacertids and agamas, species in the group include *Hemidactylus isolepis*, *H. bavazzanoi*, *H. ruspolii*, *Lygodactylus keniensis*, *Philochortus intermedius*, *Pseuderemias striata*, *Pseuderemias smithii*, *Agama ruppelli*, *A. persimilis* and *A. annectans*. Two species in this group, *Pristurus crucifer* and *Mabuya brevicollis*, also occur in Arabia.

**Somali-Masai.** Seven animals in this group. Associated with the regions occupied by the peoples of the same name, *i.e.* from Djibouti southwards through eastern Ethiopia and Somalia to eastern Kenyan and northern-central Tanzania. Lizards in this group are *Holodactylus africanus*, *Hemidactylus squamulatus*, *Mabuya planifrons*, *Heliobolus neumanni*, *H. spekii*, *Rhampholeon kersteni* and *Homopholis fasciata*. Differs from the previous group in that the ranges of these lizards extend into Tanzania.

**Kenyan endemics.** Six species; found only within Kenya. Four are montane chameleons (*Chamaeleo tremperi*, *C. marsabitensis*, *C. schubotzi* and *Bradypodion excubitor*), one is an agama associated with the high central rift (*Agama caudospina*) and the other a coastal gecko (*Hemidactylus modestus*).

**Eastern Kenya/Tanzania montane.** Four species found on hills east of the rift valley in Kenya and northern Tanzania only: *Lygodactylus scheffleri*, *Chamaeleo jacksoni*, *Bradypodion tenue* and *Bradypodion tavetanum*.

**East African Montane.** Seven species (*Leptosiaphos kilimensis*, *Cnemaspis africana*, *Mabuya megalura*, *M. bayonii*, *Adolfus jacksoni*, *Chamaeleo ellioti*, *C. rudis*) found in high forests and woodland of Kenya, Uganda and Tanzania, in some cases in hills of other surrounding countries.

**Kenya-Uganda Montane:** Three species (*Mabuya irregularis*, *Adolfus alleni* and *Chamaeleo hoehnelti*) associated with highlands of central and western Kenya and eastern Uganda only.

**Zambezian.** Nineteen species associated with woodlands, savannahs and grasslands of the central plateau south of the Zaire basin, extending from the Atlantic coast in central Angola eastwards to the edge of the coastal plain in the east, north to about the equator. Lizards in this group include *Lygodactylus capensis*, *L. angolensis*, *Pachydactylus turneri*, *Lygosoma sundevalli*, *Gerrhosaurus flavigularis*, *Chamaesaura anguina*, *Varanus albigularis*, *Eumecia anchietae* and *Nucras boulengeri*. A few species in this group have slightly wider ranges, for example *Agama atricollis*, *Mabuya varia* and *M. striata* (to Eritrea) and *Chamaeleo dilepis* (west to Cameroon).

**East African Coastal Mosaic.** Six species, all associated with moist woodland, thicket and lowland grasslands of the coastal plain, from the Somali border south to southern Mozambique. The species are *Lygodactylus picturatus*, *L. luteopicturatus*, *Lygosoma mabuiiforme*, *L. pembanum*, *Gastropholis prasina* and *Rhampholeon breviceaudatus*.

**Guinean-Congolian.** Two species (*Rhampholeon boulengeri*, *Lygosoma fernandi*), representatives of the fauna associated with the extensive forests of west and central Africa, reaching their easternmost limit in western Kenya and central Tanzania (although a few snakes from this fauna reach Mt Kenya and the Nyambeni Hills) (Spawls, 1978).

**Sahel.** Five species (*M. quinquetaeniata*, *Latastia longicaudata*, *Agama agama*, *Chamaeleo gracilis* and *C. laevigatus*) widespread through the Sahel and savannah across Africa from Kenya west to Senegal.

**Pan-African.** Three species with very wide distributions across sub-Saharan Africa, mostly in savannah and woodland, from West Africa to Kenya, south to southern Africa; these are *Gerrhosaurus major*, *Mabuya maculilabris* and *Varanus niloticus* (which goes north to Egypt along the Nile).

**Madagascan.** A single species, *Phelsuma dubia*, representative of a fauna centred on the islands of the western Indian Ocean.

**Vagrants/Internationals.** Five species, four of which are geckoes, with very wide distribution or waifs, transported by man or sea rafting; these are *Cryptoblepharus boutonii* (around virtually all the shores of the Indo-Pacific), *Hemidactylus brooki* (much of Africa, also in the West Indies, South America and Asia), *Hemidactylus turcicus* (eastern Africa, Middle East and Asia), *Hemidactylus mabouia* (most of tropical Africa, West Indies, Central and South America and Madagascar), *Hemidactylus frenatus* (eastern Africa, islands of the western Indian Ocean, southern and south-eastern Asia).

## GAZETTEER

Abbreviations used: E (east); GR (Game Reserve); L (Lake); Mt (Mountain); N (North); NP (National Park); R (River); S (South); W (West)

- Aberdares, volcanic mountain range and NP, above eastern wall of Rift Valley, Nyandarua District, central Kenya. Approx. 60 km long, highest peak Ol Donyo Lesatima, 3,998 m.
- Amaler, 1°37'N, 35°46'E.
- Archer's Post, 0°39'N, 37°39'E.
- Amboseli GR, southern Kenya, on Kenya-Tanzania boundary, N-W of Mt Kilimanjaro
- Arabuko-Sokoke Forest, coastal forest north of Kilifi, E of Mida Creek, extending north to Sabaki River.
- Athi River, town 1°27'S, 36°58'E; river rising in Ngong Hills, flowing SE to Athi River town, NE to Ol Donyo Sabuk, then SE to Tsavo, becoming Galana River.
- Balesa Kulal, 2°33'N, 37°06'E; waterhole SE of Mt Kulal.
- Baringo, Lake, Rift Valley lake north of Lake Bogoria.
- Berdale (Somalia), 3°23'N, 43°10'E.
- Bogoria, Lake, Rift Valley lake between Lakes Baringo and Nakuru.
- Buna, 2°48'N, 39°31'E.
- Central Island, 3°30'N, 36°03'E; second largest and most central of three Lake Turkana islands.
- Chemelil, 0°06'S, 35°07'E
- Cherangani Hills, forested range about 50 km long, running N-S, centre approx. 70 km E of Mt Elgon. Highest peak 3,370 m.
- Chiokarige, 0°18'S, 37°56'E.
- Chogoria, 0°13'S, 37°39'E.
- Chogoria track, Mt Kenya access road, running NW from Chogoria to Urumandi hut (0°07'S, 37°25'E).
- Chyulu Hills, grass and forest covered range some 50 km long, in northern sector of Tsavo West NP, running NW-SE, SW of Kibwezi. Highest peak 1,780 m.
- Dandu, 3°27'N, 39°52'E; 1,200 m hill, NE Kenya.
- Diani, 4°20'S, 39°35'E; S coast beach area.
- Dida-Galgulu desert, 2°58'N, 38°10'E; lava desert north of Mt Marsabit.
- Elangata Wuas, 1°54'S, 36°35'E.
- Eldama Ravine, 0°03'N, 35°43'E.
- Eldoret, 0°31'N, 35°18'N.
- Elgon, Mount, ancient volcanic peak on Kenya-Uganda border, highest peak Wagagai, 4,320 m.
- Eliye Springs, 3°18'N, 36°01'E; fishing camp W shore L Turkana.
- Elmenteita, Lake, central rift valley lake between Naivasha and Nakuru.
- El Wak, 2°49'N, 40°57'E.
- Embu, 0°33'S, 37°28'E.
- Galana game ranch, 3°10'S, 39°20'E; S bank of Galana R, E of Tsavo NP.
- Galana River, formed by confluence of Tsavo and Athi rivers, 12 km N of Manyani, thence flows E to the sea.
- Galole 1°31'S, 40°01'E, previously known as Hola.
- Garba Tula, 0°31'N, 38°32'E.
- Garissa, 0°29'S, 39°40'E.
- Garsen, 2°17'S, 40°06'E.
- Gede, 3°21'S, 40°01'E; ancient ruins and coast forest.
- Gilgil, 0°31'S, 36°21'E; central Rift Valley town.
- Guru Falls, 0°32'S, 36°43'E; waterfall, Aberdares range
- Homa Bay, 0°30'S, 34°27'E, bay on Winam Gulf, east L Victoria
- Hunter's Lodge, 2°12'S, 37°43'E; hotel 15 km NW Makindu on main Nairobi-Mombasa road.
- Imatong Mountains (Sudan), 4°06'N, 32°50'E; hill range S Sudan.
- Isiolo, 0°22'N, 37°38'E.
- Kabluk, 0°35'N, 35°41'E.
- Kajiado, 1°52'S, 36°48'E.

- Kakamega, 0°18'N, 34°47'E.  
 Kakamega forest, scattered forest on the western edge of the Nandi escarpment, E of Kakamega town.  
 Kakuma, 3°42'N, 34°53'E.  
 Kaliokwell River, river running into W side of Lake Turkana, 3°34'N, 35°53'E.  
 Kapsabet, 0°13'N, 35°05'E.  
 Kapsorok Valley, 0°21'S, 35°10'E.  
 Kaptagat, 0°26'N, 35°28'E.  
 Kau, 2°29'S, 40°28'E, Tana River delta.  
 Kedong Valley; valley running SW from Kijabe, south of Mt Suswa, Rift Valley Kenya.  
 Kericho, 0°24'S, 35°17'E.  
 Kerio Valley - Kerio river - Kerio, R rising in the hills N of Eldama Ravine, flowing north through Lokori to the SW shore of L Turkana.  
 Khayega, 0°14'N, 35°02'E; forest station, Kakamega forest.  
 Kiambere, 0°41'S, 37°49'E.  
 Kiandogoro gate, 0°29'S, 36°45'E, entrance gate to Aberdare national park on E edge of moorland of same name.  
 Kiboko, 2°11'S, 37°43'E; railway station, Hunter's Lodge.  
 Kibwezi, 2°26'S, 37°58'E.  
 Kijabe, 0°56'S, 36°35'E.  
 Kilibasi, 3°59'S, 38°58'E.  
 Kilifi, 3°39'S, 39°52'E; coast district HQ.  
 Kilindini, 4°05'S, 39°40'E,; harbour S side of Mombasa town.  
 Kinangop, plateau and valley east of Naivasha, 0°35'S, 36°40'E, and 3 900 m peak in Aberdares NP, 0°37'S, 36°42'E.  
 Kipkabus, 0°20'N 35°30'E.  
 Kisii, 0°41'S, 34°47'E.  
 Kisumu, 0°07'S, 34°45'E.  
 Kitale, 1°01'N, 35°01'E.  
 Kitui, 1°23'S, 38°01'E.  
 Koobi Fora, 3°57'N, 36°13'E; NE shore L Turkana.  
 Kora, 0°02'-0°30'S, 38°26'-38°58'E, NP on S bank of Tana River.  
 Koroli Desert, 2°40'N, 37°16'E; desert E of Mt Kulal.  
 Kulal, Mount, 2°43'N, 36°56'E, volcanic Mt E of S end of L Turkana.  
 Kwale, 4°11'S, 39°28'E.  
 Laikipia, plains area between Nyahururu (Thomson's Falls) and Maralal.  
 Laisamis, 1°36'N, 37°49'E.  
 Lali Hills, 3°S, 39°15'E, small range on E boundary of Tsavo East NP.  
 Lamu island, 2°19'S, 40°53'E.  
 Langata, Nairobi suburb on NW side of city.  
 Lengamunge Ridge, 1°35'S, 36°26'E; ridge on Nairobi-Magadi road.  
 Likoni, 4°06'S, 39°40'E.  
 Limuru, 1°06'S, 36°39'E.  
 Lodwar, 3°07'N, 35°38'E; on Turkwell river W of L Turkana.  
 Loita Hills, 1°35'S, 35°40'E, hill range E of Mara National Reserve.  
 Loitokitok (Oloitokitok), 2°56'S, 37°30'E.  
 Lokichoggio, 4°12'N, 34°23'E.  
 Lokitaung, 4°17'N, 35°47'E.  
 Lokomarinyang, 5°02'N, 35°37'E.  
 Lokori, 1°58'N, 36°01'E.  
 Lolgorien, 1°14'S, 34°48'E.  
 Longido, (Tanzania), 2°42'S, 36°44'E; volcanic hill S of Namanga, 2,650 m.  
 Longonot, Mount, 0°55'S, 36°28'E; volcano in Rift Valley S of Naivasha.  
 Loyengalani, (Loiyengalani), 2°46'N, 36°43'E, dry river (and safari camp) SE shore of L Turkana.  
 Lugh (Somalia), 3°47'N, 42°32'E.  
 Lukenya Hill (listed in some museum records as Lucania hill), 1°29'S, 37°04'E, flat-topped bluff SE of Athi River town.  
 Machakos, 1°32'S, 37°17'E.  
 Magadi, soda lake on Kenya's southern border, town on E lakeshore, 1°55'S, 36°19'E,  
 Makadara Forest, 4°14'S, 39°23'E, in Shimba Hills NP.  
 Makindu, 2°18'S, 37°51'E.  
 Makueni, 1°49'S, 37°39'E.  
 Malindi, 3°14'S, 40°06'E.

- Malka Murri, (sometimes called Malka Mari or just Murri), 4°18'N, 40°47'E, small town and NP on Kenya's NE border.
- Mandera, 3°57'N, 41°51'E.
- Manyani, 3°06'S, 38°30'E; Tsavo railway station.
- Manyara, Lake (Tanzania), 3°35'S, 35°50'E.
- Maralal, 1°05'N, 36°44'E.
- Mara National Reserve, reserve on Mara river on Kenya's SW border with Tanzania.
- Marich Pass, 1°31'N, 35°26'E; pass between N Cherangani Hills and Mt Seger.
- Marimanti, 0°09'S, 37°57'E.
- Marsabit, Mountain, approx 2°20'N, 38°E, area of large volcanic craters in N Kenya, forming isolated montane community above sub-desert steppe.
- Mathews Range, hill range N of Wamba.
- Mau, prominent hill range forming SW wall of Rift Valley, SW of Nakuru.
- Mau Escarpment, eastern slopes of the Mau.
- Maua, 0°13'N, 37°58'E.
- Mbololo, Mount, 3°20'S, 38°26'E; (source of Mbololo river, more correctly known as Mt Ndome).
- Mbunyi, 1°37'S, 37°27'E, hill SE of Machakos.
- Mbuyuni, 3°25'S, 37°56'E.
- Meru, 0°02'N, 37°40'E.
- Meru, Mount, (Tanzania), 3°14'S, 36°45'E.
- Meru National Park; reserve situated on the equator, SE of the Nyambeni range, between 0°21'N-0°05'S and 38°01'E-38°27'E.
- Mida Creek, 3°20'S, 39°58'E; coastal inlet SW of Malindi.
- Migori, 1°04'S, 34°28'E.
- Mkomazi (Tanzania), 4°10'S, 38°10'E, GR S of Voi.
- Mkonumbi, 2°20'S, 40°43'E.
- Moiben, 0°49'N, 35°24'E.
- Molo, 0°16'S, 35°44'E.
- Mombasa, 4°04'S, 39°41'E.
- Mount Kenya NP, all land above 3,350 m altitude on Mt Kenya.
- Moyale, 3°32'N, 39°04'E: Kenya-Ethiopia border town.
- Mtito Andei, 2°42'S, 38°11'E.
- Mt Nelion, 5,198 m, ancient volcanic mountain, approx. 0°10'S, 37°20'E, highest peak.
- Mukogodo Ranch, 0°15'N, 37°05'E; ranch N of Nanyuki.
- Mumias, 0°20'N, 34°29'E.
- Muranga, (formerly Fort Hall), 0°43'S, 37°11'E.
- Murka, 3°21'S, 37°56'E; ranger post Tsavo W NP.
- Murri (see Malka Murri)
- Nairobi, 1°17'S, 36°49'E.
- Nairobi National Park, 120 km<sup>2</sup> NP on S side of Nairobi.
- Naivasha, freshwater lake in central Rift Valley, town on NE shore; 0°44'S, 36°27'E.
- Nakuru, alkaline lake N of L Naivasha in central Rift valley, town on N shore, 0°16'S, 36°02'E.
- Namanga, 2°33'S, 36°47'E.
- Nandi, district in W Kenya, HQ Kapsabet.
- Nanyuki, 0°01'N, 37°04'E.
- Narok, 1°05'S, 35°52'E.
- Ndoto Hills, 1°45'N, 37°10'E.
- Ngare Ndari, forest N of Mt Kenya, 0°08'N, 37°22'E.
- Ngare Ndari River, tributary of Uaso Nyiro, W of Isiolo, 0°30'N, 37°20'E.
- Ngatana, 2°30'S, 40°15'E.
- Ngomeni, 0°39'S, 38°24'E.
- Ngong, town 1°23'S, 36°40'E.
- Ngong Hills, small range 10 km long, SW of Ngong town.
- Ngong Forest, forest on SW side of Nairobi, 1°19'S, 36°45'E.
- Ngulia, 3°00'S, 38°09'E; hill range and lodge in Tsavo W NP.
- Njoro, 0°20'S, 35°57'E.
- North Nandi Forest, 0°20'N, 35°00'E, forest E of Kakamega.
- North Kinangop, 0°37'S, 36°36'E.

- Nyahururu (formerly Thomson's Falls), 0°02'N, 36°24'E.
- Nyambeni Hills, forested hill range 40 km long, NE of Meru, running NE-SW, highest peak Itiene 2,515 m.
- Nyeri, 0°25'S, 36°59'E.
- Olduvai Gorge (Tanzania), 2°58'S, 35°22'E.
- Oloitokitok (see Loitokitok).
- Olorgesaille, 1°36'S, 36°30'E.
- Pate Island, 2°07'S, 41°06'E; island in the Lamu archipelago.
- Rabai, 3°56'S, 39°34'E.
- Ramu, 3°57'N, 41°14'E.
- Rongai, 0°11'S, 35°52'E.
- Rumuruti, 0°17'N, 36°33'E.
- Sagana, 0°40'S, 37°12'E.
- Saka Bend, 0°09'S, 39°22'E; bend on Tana River.
- Samburu (coast location), 3°47'S, 39°18'E.
- Samburu National Reserve, reserve directly W of Archer's Post, on N bank of Uaso Nyiro River.
- Sankuri, 0°16'S, 39°32'E.
- Saiwa Swamp, 1°08'N, 35°07'E; small NP NE of Kitale.
- Selengai, 2°11'S, 37°10'E.
- Shaffa Dika, 0°18'S, 38°31'E.
- Shimba Hills, forested coastal hill range 25 km long, SW of Kwale, highest peak Pengo, 450 m.
- Shimoni, 4°40'S, 39°23'E.
- Sigor, 1°29'N, 35°29'E.
- Sirgoit, Lake, 0°42'N, 35°24'E.
- Sirimon track, track approaching NW slopes of Mt Kenya, along Sirimon river, most records refer to the upper part of the track above the bamboo zone, circa 0°02'S, 37°16'E.
- Sokoike Forest, approx. 3°15'S, 39°55'E, coastal forest W of Gede (see also Arabuko-Sokoike forest).
- Sololo, 3°34'N, 38°41'E.
- Songhor, 0°03'S, 35°13'E.
- Sotik, 0°42'S, 35°06'E.
- South Horr, 2°06'N, 36°55'E.
- South Island, approx. 2°40'N, 36°38'E, largest and most southerly of L Turkana's islands.
- Subukia, 0°02'S, 36°10'E.
- Sultan Hamud, 2°02'S, 37°23'E.
- Suswa, Mount, 1°09'S, 36°22'E; volcano in southern Rift Valley.
- Taita Hills, hill range west of Voi, highest peak Vuria 2,208 m.
- Takaungu, 3°41'S, 39°51'E; small creek S of Kilifi.
- Tambach, 0°36'N, 35°32'E.
- Tana Delta, area of swamp/woodland SE of Garsen, where the Tana River meets the Indian Ocean.
- Taru, 3°44'S, 39°10'E.
- Teita Hills, see Taita Hills.
- Thika, 1°02'S, 37°03'E.
- Tiwi, 4°13'S, 39°36'E.
- Tolotwa, 0°42'S, 38°24'E.
- Turkana, Lake, (formerly L Rudolf), long brackish lake in NW Kenya, northern tip extending into Ethiopia.
- Turkwell River, river rising on NE slopes of Mt Elgon, flowing NE, N and finally E through Lodwar to Lake Turkana. Most locality records refer to section between Lodwar and L Turkana.
- Uasin Gishu, district of W Kenya, HQ Eldoret.
- Ukunda, 4°17'S, 39°34'E.
- Victoria, Lake, large lake shared between Kenya, Tanzania and Uganda.
- Voi, 3°24'S, 38°35'E.
- Wajir, 1°45'N, 40°03'E.
- Wajir Bor, 1°44'N, 40°36'E.
- Wamba, 0°59'N, 37°22'E.
- Warges, Mt, hill in Mathews Range 5 km S-E of Wamba, height 2,688 m.
- Watamu, 3°22'S, 40°01'E; north coast village.
- Witu, 2°22'S, 40°30'E.
- Yatta Plateau, 200 km long lava plateau in SE Kenya, running SE from W of Kitui to N of Manyani, falling from 1,300 to 450 m altitude.

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## REFERENCES

- Benyr, G. (1995). Systematik und Taxonomie der Geckos des *Pachydactylus bibronii-laevigatus* Komplexes (Reptilia: Squamata: Gekkonidae). Universitat Wien, unpublished thesis.
- Broadley, D.G. (1977). A review of the *Hemidactylus mabouia* complex in southeastern Africa (Sauria: Gekkonidae). *Arnoldia Rhodesia* 8(19): 1-15.
- Broadley, D.G. (1987) A review of geographical variation in *Gerrhosaurus major* Dumeril Sauria: Cordylidae). *Herpetological Journal* 1: 194-198.
- Broadley, D.G. & K.M. Howell (1991). A checklist of the reptiles of Tanzania, with synoptic keys. *Syntarsus* 1: 1-70.
- Drewes, R.C. (1971). Notes on the distribution of *Holodactylus africanus* Boettger. *Journal of the East Africa Natural History Society and National Museums* 28(126): 1-3.
- Klaver, C & W. Bohme (1986). Phylogeny and classification of the Chamaeleonidae (Sauria) with special reference to the hemipenis morphology. *Bonner zoologische Monograph* 22: 1-64.
- Lanza, B. (1978). On some new or interesting East African amphibians and reptiles. *Monitore zoologico italiano*. (N.S.) Suppl. X: 229-297.

- Lanza, B. (1990). Amphibians and reptiles of the Somali Democratic Republic: check list and biogeography. *Biogeographia* XIV: 407–465.
- Loveridge, A. (1947). Revision of the African lizards of the family Gekkonidae. *Bulletin of the Museum of comparative Zoology at Harvard* 98: 1–469, pl i–vii.
- Loveridge, A. (1957). Checklist of the reptiles and amphibians of East Africa (Uganda; Kenya; Tanganyika; Zanzibar). *Bulletin of the Museum of comparative Zoology at Harvard*. 117(2): 151–362, i–xxxvi.
- Pasteur, G. (1964). Recherches sur l'évolution des Lygodactyles, lézards Afro-Malagaches actuels. *Travaux de L'Institut Scientifique Cherifien Sér. zool.*, 29: 1–132, pl i–xii.
- Pasteur, G. (1981). A survey of the species groups of the old world Scincid Genus *Chalcides*. *Journal of Herpetology*. 15(1): 1–16.
- Pasteur, G. (1995). Biodiversité et reptiles: diagnoses de sept nouvelles espèces fossiles et actuelles du genre de lézards *Lygodactylus* (Sauria: Gekkonidae). *Dumerilia* 2: 1–21.
- Perret, J-L. (1985). Observations sur les espèces africaines du genre *Cnemaspis* Strauch (Lacertilia, Gekkonidae). *Bulletin de la Société Neuchateloise des Sciences Naturelles*. 108: 29–42
- Perret, J-L. (1986). Revision des espèces africaines de genre *Cnemaspis* Strauch, sous-genre *Ancyrodactylus* Muller (Lacertilia, Gekkonidae), avec la description de quatre espèces nouvelles. *Revue suisse de Zoologie*. #93 Fasc. 2: 457–505.
- Rand, A.S. (1963). Notes on the *Chamaeleo bitaeniatus* complex. *Bulletin of the Museum of comparative Zoology at Harvard*. 130(1): 1–29.
- Schleich, H.H., W. Kastle & K. Kabisch (1996). *Amphibians and Reptiles of North Africa*. Koeltz Scientific Publ. Koenigstein, Germany. pp. 1–627.
- Spawls, S. (1987). A checklist of the snakes of Kenya. *Journal of the East African Natural History Society and National Museum*. 167: 1–18.
- White, F. (1983). The Vegetation of Africa. A descriptive memoir to accompany the UNESCO-AETFAT-UNSO vegetation map of Africa. UNESCO, Paris.