

## **ILLUSTRATED TYPE CATALOGUE OF THE “LOST” HERPETOLOGICAL COLLECTIONS OF MUSEU DO DUNDO, ANGOLA**

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# ILLUSTRATED TYPE CATALOGUE OF THE “LOST” HERPETOLOGICAL COLLECTIONS OF MUSEU DO DUNDO, ANGOLA

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**ABSTRACT.** The herpetological collections of the Museu do Dundo in Lunda Norte Province, northeast Angola, are among the most important in southern Africa and represent one of the largest collections of Angolan amphibians and reptiles in the world. The collection comprises more than 2,750 preserved specimens, including type specimens of taxa described by Raymond F. Laurent during the 1950s and 1960s, when he was affiliated with the Musée royal de l'Afrique centrale (RMCA) in Tervuren, Belgium, and the Museum of Comparative Zoology (MCZ) at Harvard University, Cambridge, Massachusetts, where portions of these type series were also deposited. We provide details for all type specimens and summarize the history and taxonomy for each species represented in the type collection. The collections contain type specimens of 28 amphibian and reptile species, including seven snakes: *Typhlops praeocularis lundensis*, *Dispholidus typus punctatus*, *Lycodonomorphus subtaeniatus*, *Lycophidion hellmichi*, *Gonionotophis brussaui prigoginei*, *Prosymna ambigua brevis*, and *Elapsoidea decosteri huilensis*; 13 lizards: *Rhoptropus Boultoni montanus*, *Rhoptropus taeniostictus*, *Hemidactylus nzingae*, *Lygodactylus Tchokwe*, *Cordylus vittifer machadoi*, *Chamaesaura anguina oligopholis*, *Gerrhosaurus bulsi*, *Nucras scalaris*, *Ichnotropis bivittata pallida*, *Mabuya bayonii huilensis*, *Mabuya icensii septemlineata*, *Trachylepis raymondlaurenti*, and *Eumecia anchietae major*; one amphisbaenian: *Monopeltis vanderysti vilhenai*; and seven frogs: *Hyperolius machadoi*, *Hyperolius marmoratus alborufus*, *Hyperolius vilhenai*, *Ptychadena*

*grandisonae*, *Ptychadena loveridgei*, *Ptychadena perplicata*, and *Ptychadena upembae machadoi*. The type specimens of the snake *Xenocalamus bicolor machadoi* were not found in the collections. A brief history of the museum and remarks on the overall herpetological collections are also provided. We also note additional information about the related type material of these taxa at the MCZ.

**Key words:** Natural history collections, Amphibians, Reptiles, Nomenclature, Type specimens, Raymond F. Laurent, Museum of Comparative Zoology

## INTRODUCTION

The Museu do Dundo (MD; Fig. 1) in the northeastern Angolan province of Lunda Norte stands out among African herpetological repositories both for its richness of type specimens and its status as an almost mythical collection that has been inaccessible to researchers for nearly half a century. The civil war that consumed Angola from 1975 to 2002 necessarily decreased the priority placed on maintaining natural history collections in the country, particularly in this provincial town, 850 km from



Figure 1. Facade of the Museu do Dundo in present day. Photo by Luis M. P. Ceriaco.

the capital of Luanda. The museum has been closed to the public for decades. After the destruction and abandonment of the surrounding buildings, which once housed the Laboratório de Biologia [Biology Laboratory] and its collections, contradictory accounts of the fate of the collections were circulated, including that valuable natural history specimens were destroyed or irreversibly degraded.

The Laboratório de Biologia was created as a section of the Museu do Dundo, a cultural and scientific institution established by the Portuguese Diamond Mining Company Diamang. It constituted an important repository of natural history collections especially from the “Lundas” region (encompassing both Lunda Norte and Lunda Sul provinces) in northeastern Angola, but also from some other localities in the country. During the entire existence of the Laboratório, and especially under the di-

rection of the Portuguese zoologist António A. de Barros Machado (Fig. 2; 1912–2002), the collections grew considerably and were actively studied and published upon by dozens of foreign naturalists, making it an important scientific resource for the region and for the continent more broadly. For example, the fish collection was studied by the Belgian ichthyologist Max Poll (1908–1991), who described 28 new taxa (including a new genus) from the Dundo collection, as well as many first country records for Angola (Poll, 1967; da Costa et al., in preparation), the bird collection was studied by the Portuguese ornithologist António Augusto da Rosa Pinto (1904–1986; Pinto, 1973), and the mammals of northeast Angola were studied by Barros Machado, Robert William Hayman (1905–1985) from the British Museum (Hayman, 1952), and the American Colin Campbell Sanborn (1897–1962) from the Field Museum of



Figure 2. Photograph of António A. de Barros Machado. Source: Fundação Mário Soares.

Natural History in Chicago (Sanborn, 1951, 1952). These studies on the mammal fauna of the region resulted in the description of a new species of the lesser Angolan epauletted fruit bat, *Micropteropus grandis* Sanborn, 1951 (Sanborn, 1951), and an endemic subspecies of primate, the black-nosed red-tailed monkey, *Cercopithecus ascanius atrinasus* Machado, 1965 (Machado, 1965). Among invertebrates, the Portuguese entomologist Eduardo Augusto Luna de Carvalho (1921–2006) carried out seminal work on paussid beetles (Carvalho, 1959, 1975, 1989) based on these collections.

The herpetological collection housed in the Laboratório was also important, comprising more than 2,750 specimens, including type specimens of 25 species and subspecies of amphibians and reptiles studied and published upon chiefly by the

Belgian (and later Argentinian) herpetologist Raymond Ferdinand Laurent (1917–2005) in three main works (Laurent, 1950, 1954a, 1964) published through Diamang, as well as several other papers (Laurent, 1954b, 1955, 1956, 1972). Because it holds one of the largest surviving collections of Angolan amphibian and reptile types and because of the poor representation of the Angolan herpetofauna in collections in general, the Museu do Dundo is one of the most important herpetological collections in Africa. Its significance is further highlighted by the recent use of its specimens in the description of new species (Marques et al., 2019a, 2020; Ceriaco et al., 2020) which increased the number of type specimens to 28.

As a part of a larger project aimed at studying the Angolan herpetofauna (see Marques et al., 2018), we visited the Museu do Dundo to assess the status of the collections, provide an initial catalogue of the current herpetological collections, and locate and identify Laurent's type specimens. We were able to locate and identify some or all specimens in all but one of Laurent's type series. These were photographed and carefully reviewed, as was nearly all of the non-type material known to have been represented in the collection before the civil war. With this annotated type catalogue, we document the extant herpetological type specimens present in the Museu do Dundo, comment on several outstanding taxonomic and nomenclatural problems, and provide a brief history of the museum and some remarks on the overall herpetological collections and their relationships to specimens held in the Museum of Comparative Zoology and other collections with which Raymond Laurent was affiliated.

### Brief History of the Museu do Dundo and Its Herpetological Research

What is known today as the Museu do Dundo began as a small private collection of

ethnographic materials representing the peoples of the “Lundas” gathered by José Redinha (1905–1983), a Portuguese Diamang worker. In 1942, the Diamang administration proposed the creation of an “Ethnological Museum.” Some botanical and faunal specimens were added to the public exhibitions, which led the company in 1945 to consider renaming the museum the Museu do Dundo, to cover not only ethnography but also biology. All collections were housed in a house until 1946 when the construction began of a purpose-built building for the museum. The Diamang administration became interested in expanding the biological program of the museum, which led to the hiring of Barros Machado to conduct a 3-month initial reconnaissance mission to the region in the company of the Swiss-born botanist Johannes (also known as John or João) Gossweiler (1873–1952), state botanist of Angola (Fig. 3). Barros Machado was at the time a promising young biologist with a solid training in biological sciences, which included internships and training periods in the Instituto Botânico da Universidade de Coimbra (Coimbra, Portugal), the Instituto de Zoologia da Universidade do Porto (Porto, Portugal), the Museo Nacional de Ciencias Naturales (Madrid, Spain), and the Muséum national d’Histoire naturelle (Paris, France). However, political persecution by the then ruling Portuguese right-wing regime made it impossible for him to find a stable position in Portuguese Academia and precipitated his move to Angola in 1946.

At this time, on the grounds adjacent to the main museum building (fully dedicated to ethnography and exhibitions), Diamang built a compound of smaller buildings destined to house the Laboratório de Biologia and its collections (Fig. 4). From its inception, the Laboratório de Zoologia was a part of the Museu do Dundo, but it maintained a degree of independence with its own internal dynamics. One of Barros Machado’s first missions was to conduct a 3-

month survey in the vicinity of Dundo to collect specimens of fauna and flora (Fig. 5), which led to the establishment of the initial core of the natural history collections of the Museu do Dundo. From September 1947 to August 1949, Barros Machado continued collecting material in northeastern Angola, and from September to November of 1949 he made a collecting trip from Dundo to the southwestern regions of the country, covering more than 7,000 km by road (Redinha, 1949; Machado, 1952). Besides his collection, other local collectors—both members of the Portuguese colonial administration as well as local Angolans—collected and offered specimens to the museum. Barros Machado recognized that the research plan for the laboratory was needed. He proposed a zoological program that focused on 1) a maximum effort dedicated to field surveys, 2) priority for taxonomic exploration over more ecologically focused studies, 3) a preference for lesser known zoological groups, with a special interest in soil invertebrates, 4) the detailed exploration of the Dundo region in particular, and 5) the promotion of the study of the collection by foreign naturalists through the distribution and shipment of specimens to different global specialists (Machado, 1952). The distribution of material to experts in different taxonomic groups from around the world became the key to the success of the Dundo collections, and approximately 600 loans were sent by Barros Machado to more than 300 experts during his time as director (Machado *in Regala*, 2014).

In the case of amphibians and reptiles, but also fishes, the first shipment of specimens was made to the Musée Royal de l’Afrique Central (MRAC) in Tervuren, Belgium, in 1948, to be studied by “competent people” (Fontinha, 1948). The fishes were studied by Max Poll (see Poll, 1967), and the amphibians and reptiles were studied by Raymond F. Laurent (Fig. 6), who had been affiliated with the MRAC since 1940 (Stewart and Halloy, 2002). In



Figure 3. Photograph of Barros Machado (left); Dora Lustig Machado, Barros Machado's wife (center); and Johannes Gossweiler (right) in June 1948, Dundo. Source: Museu do Dundo.

his first contribution to the study of the Dundo collections, Laurent reported on an initial collection made by Barros Machado in the vicinity of Dundo, as well as some other specimens collected by Michael Petchkovsky (Fig. 7), a Russian geologist working as a prospector for Diamang, about 100 km southeast of Dundo, on the right side of Luembe River, near its confluence

with the Muita River. This first contribution (Laurent, 1950) noted 39 species of reptiles and 28 species of amphibians. A second contribution published in 1954 (Laurent, 1954a) was based on material collected by Barros Machado, Petchkovsky, and Sanjinje (Fig. 8), an Angolan employee from the museum. Unlike in his first contribution, Laurent (1954a) presented detailed species



Figure 4. Main building of the Laboratório de Zoologia in the grounds of Museu do Dundo, March 1948.

accounts, many of them including illustrations, tables with morphometric data, and identification keys related to 54 reptile and 26 amphibian taxa, including 11 new (10 reptiles and one amphibian). This also included the description of new subspecies from the Democratic Republic of the Congo, based on specimens from the MRAC—*Lycodonomorphus subtaeniatus upembae*, *Monopeltis vanderysti closei*, and *Monopeltis scalper bulsi*—and from the Institute Royal des Sciences Naturelles (IRSNB) in Brussels, Belgium—*Prosymna ambigua loveridgei*. The majority of the collections from Dundo were returned to the museum, but some duplicates were retained in the Tervuren collections, where they remain today. In two subsequent publications, Laurent used additional specimens from the Museu do Dundo. First, in

his revision of the frog genus *Ptychadena*, he described a new species based on Dundo material (Laurent, 1954b), and then in a paper on venomous snakes, he described a subspecies of boomslang, *Dispholidus typus punctatus*, using several specimens from Dundo as paratypes (Laurent, 1955).

In subsequent years, Laurent moved to Africa where he was associated with the Research Institute in Central Africa in Uvira, in what was then Belgian Congo, and in Astrida (now Butare), Rwanda. In 1957, he accepted a position at the Université Officielle du Congo Belge in Elizabethville (now Lubumbashi) (Stewart and Halloy, 2002). After the political unrest that followed the independence of the Republic of the Congo (later Zaïre and today Democratic Republic of the Congo) in July 1960, Laurent left the country and was a



Figure 5. Barros Machado (left) collecting zoological specimens in the river Kondueji, vicinity of Dundo, March 1948. Photo by M. Fontinha; source: Museu do Dundo.

National Science Foundation grantee for 3 years at the Museum of Comparative Zoology at Harvard University, thanks to the efforts of the curator of herpetology, Ernest Edward Williams (1914–1998) (Stewart and Halloy, 2002). There he continued working on the Angolan material from the Dundo collections, sent to him directly by Barros Machado. Besides a new loan of specimens from the northeastern areas of country, Laurent also studied a significant collection of specimens from southwestern Angola (from Barros Machado's expedition to the southwest of Angola in September–November 1949) sent to him by Charles Mitchill Bogert (1908–1992), the curator of herpetology at the American Museum of Natural History (AMNH) in New York. This latter collection was initially sent to Bogert by Barros Machado, likely because of their taxonomic and bioge-

graphic affinities with the Angolan herpetological collections housed in the AMNH from the Vernay Expedition to Angola (Bogert, 1940). Bogert was a long-time friend of Laurent and had supported him during World War II with financial aid and other goods when Laurent was facing difficulties in Tervuren because of the conflict (Stewart and Halloy, 2002). The study of these collections was published in 1964 in Laurent's third contribution to the study of Angolan herpetofauna (Laurent, 1964) and represents the single most important addition to the knowledge of Angolan herpetology since Bocage's *Herpétologie d'Angola e du Congo* (Bocage, 1895). This contribution reported on 46 amphibian and 136 reptile taxa, of which 52 were new to the country, and 17 of those were new species/subspecies for science. Duplicates from these collections, including



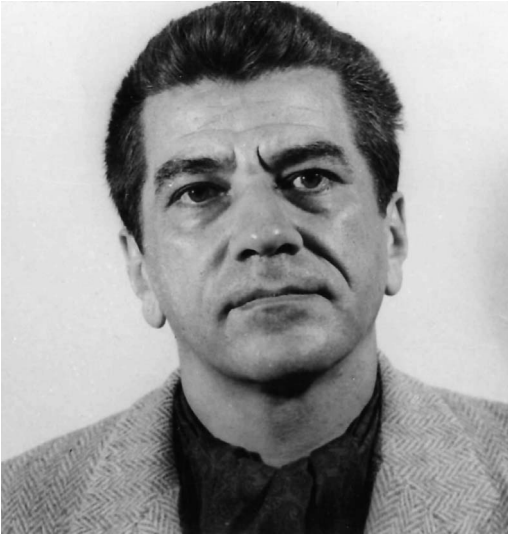


Figure 6. Photograph of Raymond F. Laurent in 1962. Courtesy of Kraig Adler.

some type material, were deposited in the Museum of Comparative Zoology, whereas the majority was returned to Dundo. After Laurent, the only other researcher to study and publish about the herpetological collection of the Museu do Dundo was the Belgian zoologist Dirk Frans Elisabeth Thys van den Audenaerde (1934–), who published some notes about the snakes of the region around Dundo (Thys van den Audenaerde, 1966).

Although the museum never officially closed, the violent armed conflict that erupted after the independence of Angola in 1975 and lasted until 2002 led to the abandonment of the museum by Barros Machado and other researchers, leaving behind a team of local employees, who managed to preserve the collections in the face of the extreme difficulties occasioned by the war. One of us (EA) acted as the curator of the zoological collections of the Biology Laboratory from 1990 to 1998, but work was limited to caring for the collections, as research had completely stopped. Visits by foreign researchers during this

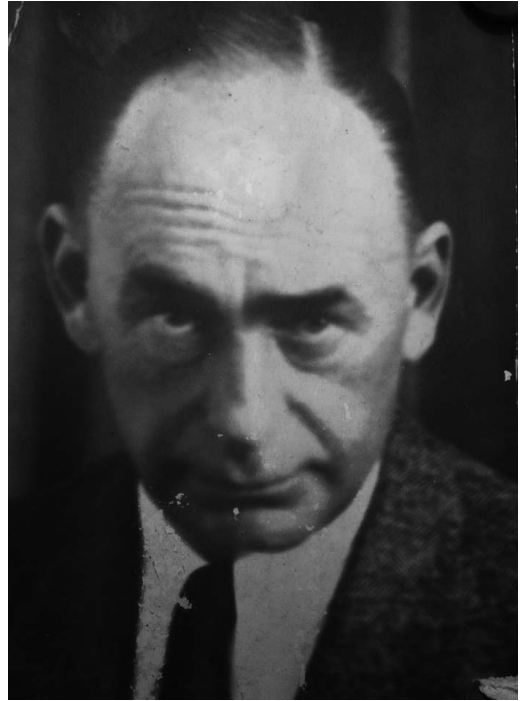


Figure 7. Photograph of Michael Petchkovsky, collector. Source: Miguel Petchkovsky.

time were extremely rare, with the visit of the Portuguese mammologist João Crawford-Cabral and the entomologist Luís Mendes in 1996 being one of the few (Luís Mendes, personal communication). Since the Crawford-Cabral and Mendes visit, no other foreign zoologists visited the museum or accessed its collections. In the interim, the main building of the Laboratório de Biologia was destroyed and the adjacent storage areas and laboratories were emptied and abandoned (Fig. 9). The majority of the collections, library, and documentation were moved into rooms of the main building. In 2011, a team of South African herpetologists from Porth Elizabeth Museum, William R. Branch (1946–2018) and Werner Conradie (1982–), while doing field work in the Carumbo Lagoon area near Dundo, tried to visit the collections of the Museu do Dundo but access was not



Figure 8. Drawing of Sanjinje by Eduardo Luna de Carvalho. Source: David Luna de Carvalho.

granted (W. R. Branch, personal communication). In a preliminary review of the natural history collections of Angola, Figueira, and Lages (2019) classified the museum as “inactive,” wrongly noting that it was being remotely managed by the Museu Nacional de História Natural in Luanda.

As a part of a larger project to digitize all specimen data regarding amphibian and reptile collections from Angola and Namibia (see Marques et al., 2018), we revisited the collections of Museu do Dundo. The main objective was to 1) assess the status of the herpetological collections, 2) locate the type material designated by Laurent, 3) catalog and digitize the extant herpetological collections, 4) initiate basic conservation measures for specimens in poor preservation conditions, and 5) provide basic training in collection management and curatorial practices. Some taxonomically important speci-

mens (non-types) were also reviewed, and data were gathered for ongoing taxonomic revisions of some groups (e.g., *Pachydactylus*, *Hemidactylus*, *Lygodactylus*, *Trachylepis*, *Boaedon*, etc.). This has already led to the description of three new species, including *Trachylepis raymondlaurenti* Marques, Ceriáco, Bandeira, Pauwels, & Bauer, 2019 (Marques et al., 2019a), *Hemidactylus nzingae* Ceriáco, Agarwal, Marques, & Bauer, 2020a (Ceriáco et al., 2020a), and *Lygodactylus tchokwe* Marques, Ceriáco, Buehler, Bandeira, Janota, & Bauer, 2020 (Marques et al., 2020), for which specimens from the Museu do Dundo were used as type material.

## MATERIALS AND METHODS

We visited the Museu do Dundo in January 2017. The herpetological collection was located in a storage room along with other fluid-preserved collections and some mammal and bird skins and bones. The room had windows open to the outside and was located off the southwestern internal courtyard of the museum’s main building. Taxidermied specimens, including crocodylians and chelonians, were scattered throughout other rooms in the museum (Fig. 10). None of these specimens were catalogued or identified. All jars containing amphibians or reptiles were taken out from the storage room and cleaned with a damp cloth to allow external labels to be read and contents seen. An internal catalogue of the reptiles and individual taxonomic cards for amphibians were located in file cabinets in another small anteroom. All material was moved to a working space where each specimen was examined to confirm its identity. We photographed all type specimens and taxonomically challenging taxa, as well as the internal catalogue (Fig. 11) and individual taxonomic cards (Fig. 12). We also located the photographic collections and digitized all images related to the herpetological collection. Because of the



Figure 9. Abandoned buildings and laboratories of the former Laboratório de Zoologia, January 2017.

limited amount of time, no detailed measures or scale counts were performed on the specimens. However, some of these data are available in Laurent's original papers. All fluid-preserved specimens were in formalin of unknown purity and concentration. Most of the specimens were well preserved and completely immersed in formalin; however, some jars were cracked or had low formalin levels or no fluid at all. As high-quality ethanol was unavailable, we substituted the fluid in all jars containing type material with newly mixed 10% formalin (3.7% formaldehyde), filling the jars to their maximum capacity. In June 2019, we revisited the collections and located some specimens that were overlooked during the first trip. These included the type specimens of *Ptychadena perplicata* Laurent, 1964, *Ptychadena loveridgei* Laurent, 1954b, and *Prosymna ambigua brevis* Laurent, 1954a, as well as 78 amphibian and 144 reptile non-type spec-

imens. Besides the fluid-preserved specimens, we consolidated all of the skins, skulls, and mounted specimens of reptiles and relocated them to the room containing the remaining herpetological collection (Fig. 13).

The present type catalogue follows the structure of similar recent publications (see Ceriaco et al., 2014b; Conradie et al., 2015, 2019). A list of all extant material in the MD collections is presented. The material is listed by its museum number, the current name, the verbatim locality, and a cross-reference to the original citations of Laurent (1950, 1954a,b, 1955, 1964) and Thys van den Audenaerde (1966). Verbatim localities were georeferenced either with the GEO-Locate web application (<http://www.geo-locate.org>) or by recovering coordinate data from Marques et al. (2018). Associated material now housed in collections outside of Angola is also referenced.



Figure 10. Taxidermied specimens of the Nile crocodile (*Crocodylus niloticus*) in Museu do Dundo, January 2017. Photo by Luis M. P. Ceriaco.

#### Geographic Coverage and Taxonomic Diversity of the Herpetological Collections

The collection covers a considerable geographic range within Angola, with 10 of 17 current provinces represented (see Table 1; Fig. 14). The provinces of Lunda Norte, Lunda Sul, and Moxico are the most well represented, although a considerable number of specimens are from the southwestern provinces of Huíla and Namibe. A few other specimens from Mozambique, the Democratic Republic of the Congo, and Cameroon are also present. With a total of 2,753 specimens, the herpetological collection of the Museu do Dundo is currently one of the world's largest collection of amphibians and

reptiles of Angola, with numbers comparable to (and sometimes greater than) other international institutions, such as the American Museum of Natural History, New York, USA, the California Academy of Sciences, San Francisco, USA, the Port Elizabeth Museum, Port Elizabeth, South Africa, or the Transvaal Museum, Pretoria, South Africa. The collection includes 1,785 specimens of amphibians and 968 specimens of reptiles representing 13 and 20 families, respectively (see Table 2). The amphibians are distributed across 19 genera and 53 species, whereas the reptiles represent 66 genera and 139 species.

COMPANHIA DE DIAMANTES DE ANGOLA  
LABORATÓRIO DE INVESTIGAÇÕES BIOLÓGICAS

COLEÇÃO DE VERTEBRADOS

Nome científico: Gerrhonotus bulsi LAURENT

Nomes nativos: Tchitombwe, Tchitombwe-mukeke

Classe: Squamata Ordem: Lacertilia Família: Gerrhonotidae  
Laurent 67 pp. 50-54

Registo N.º	SEXO	Localidade	Data	Colector	P E L E			em Líquido	Crânio	Parasitas	Fotografias	Observações
					Montada	Espalm.	Curta					
195	✓	Dundo	XI.47					✗				PARATÍPO
3395	Juv.	"	VI.50					✗				TOPOTIPO
5021	✓	"	VII.53					✗				"
5102	✓	"	"					✗				"
5118	Juv.	"	"					✗				"
5129	✓	"	"					✗				"
5135	Juv.	"	"					✗				"
5144	✓	"	"					✗				"
5145	Juv.	"	"					✗				"
5145	✓	"	"					✗				"
5149	✓	"	"					✗				"
5149	✓	"	"					✗				"
5163	✓	"	"					✗				"
5163	✓	"	"					✗				"
5292	✓	Alto Cuíto	VI.54					✗				
5293	✓	"	"					✗				
5294	✓	"	"					✗				
5295	✓	"	"					✗				estes nove exemplares também fazem parte dos registos 5304 a 5310
5296	✓	"	"					✗				
5297	✓	"	"					✗				
5298	✓	"	"					✗				
5299	✓	"	"					✗				
5300	✓	"	"					✗				
5366	✓	Alto Chicapa	"					✗				
5372	✓	"	"					✗				
5380	✓	"	"					✗				
5380	✓	"	"					✗				

Diamang - Mod. 1100

Figure 11. Page of the internal catalogue of the reptile collection of Laboratório de Biologia. Photo by Aaron M. Bauer.

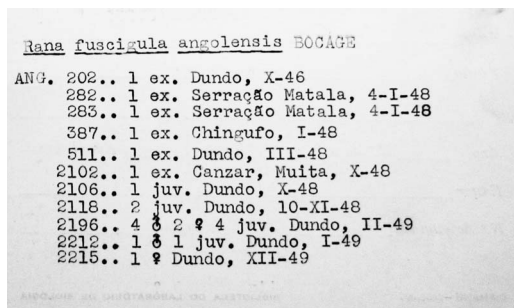


Figure 12. Example of species cards of the amphibian collection of Laboratório de Biologia. Photo by Aaron M. Bauer.

## SYSTEMATIC ACCOUNTS

### Extant Types

#### Amphibia

#### Hyperoliidae

#### *Hyperolius machadoi* Laurent (1954a: 80)

*Type Specimens.* Two paratypes, a juvenile specimen from “Dundo” [Lunda Norte Province], collected in 10 November 1948 (MD 2114), and another juvenile specimen from the same locality, collector unknown, in November 1948 (MD 2202; Fig. 15)

*Present Name.* *Hyperolius steindachneri* Bocage, 1866

*Remarks.* The holotype (MD 1495), an adult male, collected in Camissombo in April 1949, which was depicted in two drawings (a dorsal view and a close-up of the gular area) in Laurent (1954a), was not found in the collections. The holotype is also not mentioned in specimen cards or in the



Figure 13. Current room containing the herpetological and ichthyological collections, June 2019. Photo by Luis M. P. Ceriáco.

TABLE 1. GAZETTEER OF THE LOCALITIES OF MD MATERIAL. LATITUDE AND LONGITUDE DECIMAL COORDINATES ARE PRESENTED IN WGS-84 PROJECTION.

Province	Verbatim Locality*	Locality	Latitude	Longitude	Type Locality
Lunda Norte	Andrada	Nzagi (Andrada)	-7.70	21.38	
	Bena-Mai (flot)	Bena-Mai islet	-7.35	20.83	
	Calonda	Calonda	-8.42	20.53	<i>Chamaesaura anguina oligopholis</i> ; <i>Eumecia anchietae major</i>
	Camaconde (R.)	Camaconde River	-7.36	20.83	
	Camalao (R.)	Camalao stream	-8.33	19.65	
	Camissombo (Poste)	Kamissombo	-8.15	20.65	<i>Hyperolius machadoi</i>
	Camissombo (Dépression)	Kamissombo (pit)	See "Camissombo (Poste)"	See "Camissombo (Poste)"	
	Cambonde (R.)	Cambonde River	-8.05	18.33	
	Caquele (R.)	Caquele River	-8.19	19.52	
	Cassanguidi	Cassanguidi	-7.48	21.30	
	Casseque (R.)	Casseque stream	-7.45	21.30	
	Cassèquè (R.)	Casseque stream	See "Casseque (R.)"	See "Casseque (R.)"	
	Chingufo	Chingufo	-7.31	21.31	
	Chiumbe (R.)	Chiumbe River	-7.22	21.11	
	Cossa	Cossa	-7.90	21.36	
	Cundueje (R.)	Cundueje	-7.22	20.55	
	Cuango (Campement Propection)	Cuango (expedition camp)	-9.09	18.01	
	Dundo	Dundo	-7.36	20.84	<i>Hyperolius machadoi</i> ; <i>Gerrhosaurus bulsi</i> ; <i>Monopeltis vanderysti vilhenai</i> ; <i>Typhlops praecularis lundensis</i> ; <i>Dispholidus typus punctatus</i> ; <i>Lycodonomorphus subtaeniatus</i> ; <i>Gonionotophis brussaui prigoginei</i> ; <i>Prosymna ambigua brevis</i> ; <i>Xenocalamus bicolor machadoi</i>
	Kachi (R.)	Kachi	-7.31	21.22	
	Katcheleka	Katcheleka	-9.20	19.40	
	Lóvua (Poste)	Lóvua (post)	-7.32	20.15	
	Luachimo (R.)	Luachimo River	-7.23	20.51	
	Luacachi (R.)	Luacachi	-7.32	21.05	
Luchico (R.)	Luchico River	-7.23	19.95		
Luíta (R.)	Luíta River	-8.03	19.42	<i>Hyperolius vilhenai</i>	
Mabete	Mabete	-8.12	18.15		
Marrura (mieux: Mahuha)	Marrora	-7.60	20.52		
Matala (R.)	Matala River shore	-7.43	21.16		
Muári (R.)	Muári	-7.17	20.56		
Mulanda	Mulanda	-8.19	21.02		
Muíta (R.)	Muíta	-7.80	21.45	<i>Ptychadena grandisonae</i> ; <i>Ptychadena loveridgei</i>	
Mussalomuca (R.)	Mussalomuca	-7.43	20.45		
Mussolegi (Mine)	Mussolegi (mine)	-7.59	21.09		
Mussungue (Sourcees R.)	Mussungue	-7.25	20.83		
Parque Carisso (Dundo)	Parque Carisso (Dundo)	-7.23	20.51		
Sombo	Sombo	-8.68	20.97	<i>Ptychadena loveridgei</i> ; <i>Prosymna ambigua brevis</i>	
Tchihumbué (R., Camaxilo)	Tchihumbué or Tchihumbwe River (Camaxilo)	-8.34	18.92		
Xá-Cassau	Xa-Cassau	-9.25	20.17		
Xá-Pemba	Xa-Pemba	-9.20	19.43		
Zovo	Zovo	-8.07	18.09		

TABLE 1. CONTINUED.

Province	Verbatim Locality <sup>o</sup>	Locality	Latitude	Longitude	Type Locality	
Lunda Sul	Alto Chicapa	Alto Chicapa	-10.88	19.23	<i>Ptychadena perplicata</i> ; <i>Ptychadena upembae machadoi</i> ; <i>Nucras scalaris</i> ; <i>Mabuia icensi septemlineata</i>	
	Alto Cuílo	Alto Cuílo	-10.02	19.55	<i>Hemidactylus nzingae</i> ; <i>Ligidactylus tchokwe</i> ; <i>Nucras scalaris</i> ; <i>Mabuia icensi septemlineata</i> ; <i>Trachylepis raymondlaurenti</i>	
	Camutongola (R.)	Camutongola River	-10.53	19.15		
	Cassai (R. près station C.F.B.)	Cassai River, near the railway station	-11.3	20.58		
	Cavuemba (R.)	Cavuemba River	-10.01	29.33		
	Cuango-Muqué (Chutes)	Cuango-Muqué falls	-10.76	19.20		
	Cuílo (R., sources)	Cuílo River sources	-10.92	19.33		
	Gungo (R.)	Ngungo	-10.50	19.17		
	Kamassaka (R.)	Camassaca stream	-10.88	19.25		
	Koka (ou Khoka, R.)	Koka (or Khoka)	-10.56	19.05		
	Ná-Ipanha (Risseau)	Ná-Ipanha River falls	-10.00	19.58		
	Sá-Tchisseque	Sá-Tchisseque	-10.86	19.38		
	Tchá-Muchito (R.)	Tchá-Muchito	-10.01	19.45		
	Tchá-Mutuka (Mare)	Tchá-Mutuka pond	-10.76	19.20		
	Tchifuka (Mare)	Tchifuka pond	-10.00	19.58		
	Moxico	Calunda	Calunda	-12.12	23.46	
		Calundo (Lac)	Calundo lake	-11.80	20.86	
		Cameia (Campement)	Cameia (camp)	-11.50	21.00	
		Cazombo	Cazombo	-11.88	22.92	<i>Hyperolius marmoratus alborufus</i>
Chonga (R.)		Chonga River	-11.45	20.45		
Dilolo (R.)		Dilolo lake	-11.50	22.02		
Luisavo (Chutes R.)		Luisavo falls	-11.86	23.58		
Lumeje I		Lumeje I	-11.35	21.00		
Lumeje II		Lumeje II	-11.30	20.25		
Lugniena (R.)		Lugniena River	-11.30	20.25		
Macondo (Poste)		Macondo post	-12.55	23.76		
Nharicumbi		Nharicumbi	-12.00	21.10		
Sandando (Centre commercial)		Sandando (shopping center)	-11.38	20.43		
Sandando (Station C.F.B.)		Sandando, near the railway station	-11.37	20.38		
Tchifumáji (Sources R.)		Tchifumáji	-11.37	21.05		
Bié		Cuanza (Station C.F.B.)	Cuanza River, near the railway station	-11.39	17.4	
		Silva Porto	Kuito	-12.38	16.93	
Kwanza Sul		N'Gunza (R.)	Ngunza	-11.12	13.56	
		Novo Redondo	Sumbe	-11.21	13.85	
	Novo Redondo (31 km NE de la ville)	Sumbe (31 km NE from the city)	-11.01	14.03		
	Novo Redondo (40 km NE de la ville city)	Sumbe (40 km NE from the city)	-10.96	14.11		
Huambo	Moco (Serra do)	Mount Moco	-12.46	15.18		



TABLE 1. CONTINUED.

Province	Verbatim Locality <sup>o</sup>	Locality	Latitude	Longitude	Type Locality	
Benguela	Marco de Canavezes (Cubal da Ganda)	Cubal (Marco de Canavezes)	-13.08	14.33		
	Lobito	Lobito	-12.37	13.56		
	Lobito (Restinga)	Restinga	-12.33	13.57		
	Praia do Lobito	Restinga	See "Lobito (Restinga)"	See "Lobito (Restinga)"		
	Entre-Rios	Entre-Rios	-12.43	14.383		
Huila	Boca de Humpata	Boca de Humpata	-14.93	13.52	<i>Rhoptropus boultoni montanus</i> ; <i>Ichnotropis bivittata pallida</i> ; <i>Mabuya bayoni huilensis</i>	
	Humpata (Poste)	Humpata (post)	-15.02	13.24		
	Jau	Jau	-15.20	13.52		
	Chibemba	Chibemba	-15.75	14.08		
	Leba	Leba	-15.08	13.26	<i>Cordylus vittifer machadoi</i>	
	Ongueria (chutes)	Hungéria falls	-15.29	13.52		
	Quilengues	Quilengues	-13.95	14.05		
	Senhora do Monte	Nossa Senhora do Monte	-14.94	13.47		
	Namibe	Bumbo (Fazenda Bomba (desert de Moçâmedes)	Bumbo Farm	-15.20	13.00	<i>Elapsoidea decosteri huilensis</i>
		Capolopopo Moçâmedes	Capolopopo Moçâmedes	-15.92	12.70	<i>Lycophidion hellmichi</i>
Moçâmedes (35 km S de la ville)		Moçâmedes (35 km S from the city)	-15.20	12.15		
Moçâmedes (34 km NE de la ville)		Moçâmedes (34 km NE from the city)	-15.48	12.21	<i>Typhlacontias bogerti</i>	
Moçâmedes (60 km ENE de la ville)		Moçâmedes (60 km ENE from the city)	-15.02	12.39		
Muninho		Muninho	-15.02	12.62	<i>Rhoptropus taeniostictus</i>	
Praia das Conchas (Moçâmedes)		Praia das Conchas (Moçâmedes)	-14.92	13.00		
			-15.12	12.12		
Cunene	Donguena	Donguena	-17.02	14.72		
	Forte Roçadas	Alves Roçadas fort	-16.73	14.98		

<sup>o</sup> C.F.B., Caminhos Férreos de Benguela.

museum catalogue. The holotype is part of the RMCA collections, under the catalogue number RMCA B-60615. Although Laurent did not explicitly indicate specimens MD 2114 and MD 2202 as paratypes (specimens were simply listed below the holotype), this was certainly a typo, because the internal catalogs identify these as part of the type series. In his third paper based on Dundo collections, Laurent (1964) synonymized *H. machadoi* with *H. steindachneri* Bocage, 1866, believing that the *H. machadoi* holotype was simply an adult *H. steindachneri* that retained its juvenile characteristics. This interpretation has been followed in recent decades (Schiøtz, 1999; Channing, 2001; Frétey et al., 2011; Marques et al.,

2018), although earlier, both Frade (1963) and Cei (1977) considered *H. machadoi* as a valid species. More recently, Branch and Conradie (2015) collected specimens of *H. cf. steindachneri* from Lovua, close to Lagoa Carumbo, in the Dundo region but did not comment on the validity of *H. machadoi*.

*Hyperolius marmoratus alborufus* Laurent (1964:153)

*Type Specimen.* Holotype (MD 5769; Fig. 16), a female specimen from "Cazombo, Alto Zambeze, Moxico, Angola" [Moxico Province], collector unknown, February 1955.

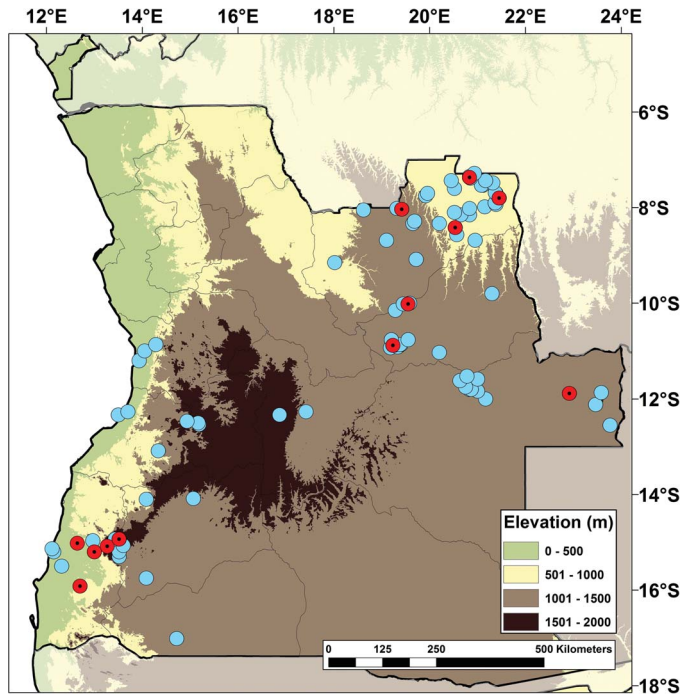


Figure 14. Distribution of the Angolan localities represented in the Museu do Dundo herpetology collections; red circles represent type localities.

*Present Name.* *Hyperolius angolensis* Steindachner, 1867

*Remarks.* The original description mentions five female paratypes under the number MD 5769 from the same locality as the holotype. Two of these paratypes are currently in the MCZ (MCZ A-35894 and A-35895). The MD catalogue mentions the presence of three of these female paratypes, but they have not been located. Besides the material from the MD, the type series of this subspecies includes type material from the Democratic Republic of the Congo (Kolwezi and Sankishia, both in the Kanta-nga region, and from Kanzenze, Lualaba region) deposited in other institutions (MCZ, MRAC, IRSNB). A drawing showing a dorsal view of the holotype accompanied the description in Laurent (1964). Laurent (1964) described *alborufus* as a subspecies of *H. marmoratus* based on its different coloration. The taxonomy and nomenclature

of the *H. marmoratus* group in Angola, as well in the most parts of its distribution on the continent, is problematic. Marques et al. (2018) considered all references to *H. marmoratus* from Angola to be part of *H. angolensis* Steindachner, 1867, and presented an extensive chresonymy of the group in Angola. This does not, however, follow the opinion of Frost (2020) or Baptista et al. (2018), who considered *H. angolensis* as a junior synonym of *Hyperolius parallelus* Günther, 1858. Across its range in Angola and surrounding countries, there can be great variation in coloration and pattern within a single population of *Hyperolius angolensis*. It is probable that, even within Angola, this taxon comprises several cryptic lineages that may warrant recognition as distinct species, although there is currently insufficient data to allow for a thorough revision.

TABLE 2. OVERVIEW OF THE HERPETOLOGICAL COLLECTIONS OF THE MUSEUM DO DUNDO. NOTE THAT SOME NUMBERS APPLY TO SERIES OF MULTIPLE SPECIMENS.

Family	Genus	Species	Localities—Accession No. <sup>o</sup>	References	No. of Specimens
Amphibians					
Anura Duméril, 1806					
Pipidae Gray, 1825	<i>Xenopus</i> Wagler, 1827	<i>Xenopus</i> sp.	Cambulo, Mossolosi—MD 1010; Canzar, Muíta—MD 583; Arrd. Dundo—MD 1009; Dundo—MD 2203, 2204.	Laurent (1950: 13)	95
		<i>Xenopus</i> cf. <i>epitropicalis</i> Fischberg, Colombelli, & Picard, 1982	Arrd. Dundo—MD 1009; Dundo—MD 2203	Laurent (1950: 13)	3
		<i>Xenopus petersii</i> Bocage, 1895	Tchifuca, Alto Cuílo—MD 5360; Alto Chicapa—MD 5378, MD 5429; Source of Cuílo, Alto Chicapa—MD 5514; Cazombo—MD 5772; Miarco de Canavezes (Cubal de Ganda)—MD 5846.	Laurent (1964: 130)	20
		<i>Xenopus poveri</i> Hewitt, 1927	Cazombo—MD 5846	Laurent (1964: 129, 130)	1
Bufoiidae Gray, 1825	<i>Sclerophrys</i> Tschudi, 1838	<i>Sclerophrys funerea</i> (Bocage, 1866)	Dundo—MD 201; Canzar, Muíta—MD 792, 862; Alto Cuílo, rives do Cuílo—MD 5318; Cazombo—MD 5779; Alto Chicapa—MD 5864	Laurent (1950: 13; 1964: 131)	6
		<i>Sclerophrys lenairii</i> (Boulenger, 1901)	Canzar, Muíta—MD 836, 857; Alto Chicapa, sources du Cuílo—MD 5515; Rives du Lac Calundo—MD 5709, 5734	Laurent (1950: 13; 1964: 131)	9
		<i>Sclerophrys regularis</i> (Reuss, 1833)	Canzar, Muíta—MD 508, 510, 511, 790, 857, 861, 862, 2002; Arrd. Dundo—MD 232, 3660.2; Dundo—MD 200, 511, 2190, 14.3, 1517, 11367.4; Lago Calundo—MD 4634, 5599, 5600, 5607, 5623, 5719, 5725, 5735; Cassai, Lumeje—MD 4881; Cazombo—MD 4983, 5775, 5777, 5779; Alto Cuílo—MD 5295, 5348; Riv. Cuvuamba, Alto Cuílo—MD 5325, 5326; Canaiea—MD 5567; Xi-Cassau—MD 5327; Makondo—MD 10050; Marco de Canavezes (Cubal de Ganda)—MD 10637	Laurent (1950: 13; 1954a: 70; 1964: 131)	81
		<i>Schismaderma</i> Smith, 1849	Cazombo—MD 5780	Laurent (1964: 131)	4
Microhylidae Günther, 1858 (1843)	<i>Phrynomantis</i> Peters, 1867	<i>Phrynomantis affinis</i> Boulenger, 1901	Arrd. Lago Calundo—MD 5726	Laurent (1964: 156)	1
Brevicipitidae Bonaparte, 1850	<i>Breviceps</i> Merrem, 1820	<i>Breviceps</i> sp.	Rio Luhemba, Alto Chicapa—MD 5426; Lago Calundo—MD 5599; Cazombo—MD 5770; Alto Chicapa—MD 5865	Laurent (1964: 156)	5
Hemisoritidae Cope, 1867	<i>Hemisoris</i> Wagler, 1827	<i>Hemisoris guineensis</i> Cope, 1865	Canzar, Muíta—MD 509, 619, 621, 725, 789, 789, 1014, 1082; Cazombo—MD 5774	Laurent (1950: 15; 1964: 147)	20

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.*	References	No. of Specimens
Hyperoliidae Laurent, 1943	<i>Afrizalys</i> Laurent, 1944	<i>Afrizalys dorsalis</i> (Peters, 1875)	Marco de Canavezes (Cubal de Ganda)—MD 5769, 5843	Laurent (1964: 149)	2
		<i>Hyperolius angolensis</i> Steindachner, 1867	Alto Zambeze—MD 5769*; Arrd. Dundo—MD 111M, 377; Dundo—MD 224, 294, 1011, 1020, 1021, 1080, 2007, 2008, 2109, 2198, 2213.3, 2218, 2234, 2271, 5195, 5828; Canzar, Muíta—MD 503, 583, 624, 625, 723, 726, 787, 791, 793, 794, 795, 851, 856, 1013, 2004, 2102; Sombó—MD 2100, 5245; Marco de Canavezes (Cubal de Ganda)—MD 5843; Andrada—MD 2301; Cameia—MD 4430, 4640, 5583; Alto Cuílo—MD 5282; Lago Calundo—MD 5470, 5570, 5646, 5707, 5728, 16250; unknown locality—MD B.1	Laurent (1964: 154)	631
Hyperoliidae Laurent, 1943	<i>Hyperolius</i> Rapp, 1842	<i>Hyperolius adspersus</i> Peters, 1877	Alto Chicapa—MD 4380, 4421, 5646	Laurent (1964: 155)	3
		<i>Hyperolius steindachneri</i> Bocage, 1866	Arrd. Dundo—MD 2211; Dundo—MD 1229, 2232, 2114*, 2202*, 11316.12; Lepi, Caminho de Ferro de Benguela—MD 2272	Laurent (1950: 16; 1954a: 80; 1964: 151)	10
		<i>Hyperolius bocagei</i> Steindachner, 1867	Canzar, Muíta—MD 723, 1012; Dundo—MD 1011, 1080, 2114, 2193, 2199, 2208, 2216, 2269, 2270, 5227; Cazombo—MD 5768	Laurent (1950: 16)	49
		<i>Hyperolius cinnamomeiventris</i> Bocage, 1866	Canzar, Muíta—MD 785, 854; Arrd. Dundo—MD 3514.5; Dundo—MD 2212, 2116, 2209, 2226; unknown locality—MD B.5	Laurent (1950: 16; 1954a: 78; 1964: 149)	13
		<i>Hyperolius kiruensis</i> Ahl, 1931	Canzar, Muíta—MD 503; Cossa—MD 898.3; Arrd. Dundo—MD 1198.7; Dundo—MD 2202, 2209, 2264; Andrada—MD 2310; unknown locality—MD 2111	Laurent (1950: 16)	98
		<i>Hyperolius nasutus</i> Günther, 1865	Arrd. Dundo—MD 342.2, 988.3; Canzar, Muíta—MD 629; Dundo—MD 2203, 2208, 2236; Alto Chicapa—MD 4361; Lago Calundo—MD 4852, 5573, 5711.12; Alto Cuílo—MD 5315; Marco de Canavezes—MD 5843; unknown locality—B.3	Laurent (1950: 17; 1954a: 84; 1964: 154)	37
		<i>Hyperolius quinquevittatus</i> Bocage, 1866	Canzar, Muíta—MD 723; Dundo—MD 2113	Laurent (1950: 6; 1954a: 79)	3
		<i>Hyperolius vilhenai</i> Laurent, 1964	Alto Cuílo—MD 6213*	Laurent (1964: 155)	1
		<i>Kassina senegalensis</i> (Duméril & Bibron, 1841)	Dundo—MD 2003, 10283.2, 11314.8, 11367.4; Route Dundo—Caluango, riviere Luchico—MD 16917	Laurent (1954a: 76, 1964: 148)	5

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
Arthroleptidae Mivart, 1869	<i>Arthroleptis</i> Smith, 1849	<i>Arthroleptis lameerei</i> De Witte, 1921	Dundo—MD 956.3, 2205; Alto Cuilo, Posto de Cacolo—MD 4072, 4125.11, 5350; Alto Cuilo—MD 4133, 5314, 5509; Vila Lusó—MD 4416.12; Alto Chicapa—MD 5367; Alto Chicapa, Kamutongola waterfall—MD 5369; Rio Tchirimbo, Alto Chicapa—MD 5409; Arrd. Dundo—MD 5952; Gandajika—10375.18	Laurent (1954a: 75; 1964: 146)	33
		<i>Arthroleptis spinalis</i> Boulenger, 1919	Dundo—MD 916.8, 952.5	Laurent (1950: 15)	3
		<i>Arthroleptis stenodactylus</i> Pfeffer, 1893	Cazombo—MD 5775; Calunda, Alto Zambeze—MD 5860	Laurent (1964: 144)	4
		<i>Arthroleptis xenochirus</i> Boulenger, 1905	Alto Cuilo, Posto de Cacolo—MD 5350	Laurent (1964: 145)	1
		<i>Cardioglossa</i> sp.	DEMOCRATIC REPUBLIC OF THE CONGO: Irangi, Kivu—MD 10.286.5	Laurent (1964: 147)	1
		<i>Leptopelis anchietae</i> (Bocage, 1863)	Alto Chicapa—MD 5862	Laurent (1964: 147)	1
		<i>Leptopelis aubryi</i> (Duméril, 1856)	Dundo—MD 2201, 2210, 2273, 5278, 6180, 10283.9, 11316.12; Alto Cuilo—MD 5316	Laurent (1954a: 75)	8
		<i>Leptopelis bocagii</i> (Günther, 1865)	Canzar, Muíta—MD 583, 852, 2102; Dundo—MD 1015, 2192, 2215	Laurent (1950: 15)	8
		<i>Leptopelis cymanomeneus</i> (Bocage, 1893)	Dundo—MD 5936, 5936	Laurent (1964: 148)	2
		<i>Leptopelis notatus</i> (Peters, 1875)	Serração da Matala—MD 280	Laurent (1950: 15)	1
		<i>Ptychadena binoderma</i> (Boulenger, 1907)	Alto Chicapa—MD 5370, 5406.7, 5459, 5462.63, 5863	Laurent (1964: 142)	40
		<i>Ptychadena grandisonae</i> Laurent, 1954	Canzar, Muíta—MD 531°, 616°, 731°; Alto Chicapa—MD 5408, 5519; Dundo—10283.23	Laurent (1950: 14, 1954b: 11; 1964: 139)	13
		<i>Ptychadena keilingi</i> (Monard, 1937)	Posto do Luangué—MD 5327; Lago Calundo—MD 5720; Luíta—MD 6199	Laurent (1964: 126)	6
		<i>Ptychadena perplicata</i> Laurent, 1964	Dundo—MD 506, 531, 616, 731, 1016, 2106	Laurent (1954a: 74)	6
		<i>Ptychadena oxyrhynchus</i> (Smith, 1849)	Dundo—MD 393; Canzar, Muíta—MD 509, 614, 615, 626, 628, 727, 730, 732, 733, 781, 782, 783, 858, 863, 864, 1017, 1019, 1083, 2001, 2084, 2085, 2086, 2093, 2095, 2102; Novo Redondo—MD 1996; Dundo—MD 2009, 2107, 2117, 2173, 2188, 2213, 2227, 5205; unknown locality—MD B4	Laurent (1950: 14; 1954a: 73; 1964: 133)	268
Ptychadenidae Dubois, 1867	<i>Ptychadena</i> Boulenger, 1917	<i>Ptychadena subpunctata</i> (Bocage, 1866)	Lago Calundo—MD 5596; Cascata de Luisavo—MD 5794	Laurent (1964: 134)	3
		<i>Ptychadena taenioscelis</i> Laurent, 1954	Rio Luachimo, 120 km de Henrique de Carvalho—MD 4412; Alto Chicapa—MD 5385, 5517, 5530; Cuilo—MD 6199	Laurent (1954a: 25; 1964: 140)	18

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
		<i>Psychadena upembae machadoi</i> Laurent, 1964	Alto Chicapa—MD 5364°	Laurent (1964: 134)	1
		<i>Psychadena uzangensis</i> (Loveridge, 1932)	Dundo—MD 2106; Alto Chicapa—MD 4377.1, 5400, 5530; Luita—MD 6199	Laurent (1954b: 10; 1964: 139)	9
Phrynobatrachidae	1941 <i>Phrynobatrachus</i> Günther, 1862	<i>Phrynobatrachus</i> sp.	Quanza—MD 1609.4; DEMOCRATIC REPUBLIC OF THE CONGO: Kampene e Kametuga—MD 10421	-	5
		<i>Phrynobatrachus cryptotis</i> Schmidt & Inger, 1959	Boca da Humpata—MD 1849; Alto Cuílo—MD 5319; Alto Chicapa—MD 5462, 5863	Laurent (1964: 144)	22
		<i>Phrynobatrachus minutus</i> (Boulenger, 1895)	Arrd. do Dundo—MD 915.4; Dundo—MD 1494, 2213; Donguena—MD 1893.8	Laurent (1950: 15; 1954a: 74)	19
		<i>Phrynobatrachus natalensis</i> (Smith, 1849)	Canzar, Muíta—MD 367, 504, 583, 617, 786, 853, 1081, 1084, 2102; Dundo—MD 379, 214; Alto Cuílo—MD 5320; unknown locality—2310	Laurent (1950: 15; 1954a: 74; 1964: 143)	44
		<i>Phrynobatrachus parvulus</i> (Boulenger, 1905)	Alto Cuílo—MD 4125.11, 5319	Laurent (1964: 144)	7
Pixicephalidae	1850 <i>Amitia</i> Dubois, 1987	<i>Amitia angolensis</i> (Bocage, 1866)	Dundo—MD 202, 511, 2106, 2118, 2196, 2212, 2215; Serraço Matala—MD 282, 283; Canzar, Muíta—MD 2102	Laurent (1950: 14)	21
		<i>Tomopterna Duméril &amp; Bibron, 1841</i>	Ongueria (Chibia)—MD 1889; Carneia—MD 5382	Laurent (1954a: 72, 1964: 133)	6
		<i>Conraua goliath</i> (Boulenger, 1906)	CAMEROON: Mbikiki, village et riviere près de Bipindi—No number	-	1
		<i>Hoplobatrachus occipitalis</i> (Günther, 1858)	Canzar, Muíta—MD 501, 502, 582, 728, 788, 859, 860, 2101, 2103, 2104, 2105; Dundo—MD 2189, 2200, 2206, 2220, 2221, 2222, 2223, 2224, 2225, 2228; unknown locality—MD 859	Laurent (1950: 14; 1954a: 71)	52
		<i>Ammirana alboblavis</i> (Hallowell, 1856)	Dundo—MD 2006, 2116, 2191, 2201, 2268; Sombó—MD 2098	Laurent (1950: 14; 1954a: 74)	17
		<i>Ammirana darlingi</i> (Boulenger, 1902)	Alto Chicapa—MD 5428, 5514, 5525, 5528; Poste de Luangue—MD 5327; Lago Calundo—5632, 5723	Laurent (1964: 132)	11
		<i>Ammirana lemairi</i> (De Witte, 1921)	Canzar, Muíta—MD 784, 504, 531, 784, 865; Rio Chicapa—MD 378; Dundo—MD 392, 1018, 2210, 3129.2, 3368.26; Alto Chicapa—MD 4236.2, 5509, 5708; Luita—MD 6199	Laurent (1950: 14)	57
Total No. of amphibian specimens					1785
Reptiles					
		<i>Pelusios castaneus</i> (Schweigger, 1812)	Alto Chicapa—MD 5461; Calundo—MD 5681, 5695, 5710, 5754, 5590; Dundo—MD 5836	Laurent (1964: 26)	6
		<i>Pelusios gabonensis</i> (Duméril, 1856)	Dundo—MD 2262, 5223, 5547, 11476, 19363	Laurent (1954a: 70; 1964: 25)	5

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.*	References	No. of Specimens
Testudinidae	<i>Kinixys</i> Bell, 1827	<i>Pelusios nanus</i> Laurent, 1956	Calundo—MD 5697; Cazombo—MD 5781	Laurent (1964: 25)	2
		<i>Kinixys</i> sp. <i>Kinixys belliana</i> Gray, 1831	Unknown locality—F.A. 183, MD 6388, 11534 Muita—MD 512, 1237; 19011, 19309, 17253, 1877; Alto Chicapa—MD 5492, 5493; Lago Calundo—MD 5680, 5696; unknown locality—MD 11267, 17208, F.A. 84, 85, 112, 115, 182, 190, 226, no number Lóvua—MD 44217	Laurent (1950: 13; 1964: 25)	3 19
Crocodylia Crocodylidae	<i>Stigmochelys</i> Gray, 1873	<i>Kinixys erosa</i> (Schweigger, 1812)	Unknown locality—no number	Laurent (1964: 24)	1
		<i>Stigmochelys pardalis</i> (Bell, 1828)	Unknown locality—no number	-	1
Squamata Gekkonidae	<i>Crocodylus</i> Laurenti, 1768 <i>Mecistops</i> Gray, 1844	<i>Crocodylus niloticus</i> Laurenti, 1768	Unknown locality—MD 17797, F.A. 31, 149, no number	-	4
		<i>Mecistops cf. cataphractus</i> (Cuvier, 1825)	Dundo—F.A. 713; unknown locality—MD367.1	Laurent (1964: 28)	2
Squamata Gekkonidae	<i>Chondrodactylus</i> Peters, 1870	<i>Chondrodactylus fitzsimonsi</i> (Loveridge, 1947)	Ongueria—MD 1876.1; Moçâmedes—MD 1931, 1942	Laurent (1964: 38)	3
		<i>Chondrodactylus pulitzerae</i> (Schmidt, 1933)	Moçâmedes—MD 1931	Laurent (1964: 37)	1
Squamata Gekkonidae	<i>Hemidactylus</i> Oken, 1817	<i>Hemidactylus bayonii</i> Bocage, 1893	Novo Redondo—MD 4001.14, 5312	Laurent (1964: 30)	2
		<i>Hemidactylus longicephalus</i> Bocage, 1873	Fazenda Bumbo, Huampata—MD 5551	Laurent (1964: 30)	1
Squamata Gekkonidae	<i>Lygodactylus</i> Gray, 1864	<i>Hemidactylus mabouia</i> (Moreau De Jonnés, 1818)	Dundo—MD 99, 5215, 10649	Laurent (1964: 29)	5
		<i>Hemidactylus nzingae</i>	Alto Cunfo—MD 4008*	Laurent (1964: 29); Ceriaco et al. (2020a: 48)	1
Squamata Gekkonidae	<i>Lygodactylus</i> Gray, 1864	<i>Lygodactylus tchokwe</i> Marques et al., 2020	Alto Cunfo—MD 5312ab.c.d*, 5337; Quecdas de Luisavo—MD 5791	Laurent (1964: 31); Marques et al. (2020: 43)	6
		<i>Lygodactylus groteti</i> Sternfeld, 1911	MOZAMBIQUE: Porto Amélia—no number	Laurent (1964: 31)	3
Squamata Gekkonidae	<i>Pachydactylus</i> Wiegmann, 1834	<i>Pachydactylus angolensis</i> Loveridge, 1944	Moçâmedes—MD 1931	Laurent (1964: 37)	4
		<i>Pachydactylus punctatus</i> Peters, 1854	Huampata—MD 1839.10; Deserto de Moçâmedes—MD 1931, 1946	Laurent (1964: 37)	5
Squamata Gekkonidae	<i>Rhoptropus</i> Peters, 1869	<i>Rhoptropus barnardi</i> Hewitt, 1926	Moçâmedes—MD 1967	Laurent (1964: 35)	1
		<i>Rhoptropus benguellensis</i> Mertens, 1938	Cubal da Hanha—MD 5845	Laurent (1964: 33)	1
Squamata Gekkonidae	<i>Rhoptropus montanus</i> Laurent, 1964	Sá da Bandeira—MD 1854.A*	Laurent (1964: 31)	1	

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
		<i>Rhoptropus taeniostrictus</i> Laurent, 1964	Moçâmedes—MD 1967°	Laurent (1964: 33)	1
Amphisbaenidae Gray, 1865	<i>Dalophia</i> Gray, 1865	<i>Dalophia</i> sp. <i>Dalophia pistillum</i> (Boettger, 1895)	Lóvua—MD 10849 Alto Cuílo—MD 5344; Lago Calundo—MD 5601, 5705, 5744; Cazombo—5790 Dundo—MD 5242°, 5183°, 5246, 5248, 5832, 5930, 5951, 5960, 11367.3	Laurent (1964: 87) Laurent (1964: 87)	1 9
	<i>Monopeltis</i> Smith, 1848	<i>Monopeltis vanderysti</i> De Witte, 1922		Laurent (1954a: 66, 1964: 84, 86)	9
	<i>Zygaspis</i> Cope, 1885	<i>Zygaspis nigra</i> Broadley & Gans, 1969	Alto Chicapa—MD 5452, 5470, 5487, 5491, 5511, 5861	Laurent (1964: 84)	7
Lacertidae Bonaparte, 1831	<i>Holaspis</i> Gray, 1863	<i>Holaspis guentheri</i> Gray, 1863	Alto Cuílo—MD 5313; Alto Chicapa—MD 5468, 5482, 5486	Laurent (1964: 56)	6
	<i>Ichnotropis</i> Peters, 1854	<i>Ichnotropis brevitata</i> Laurent, 1964	Boca de Humpata, Sá da Bandeira—MD 1854°	Laurent (1964: 64)	1
		<i>Ichnotropis brevitata</i> Bocage, 1866	Alto Cuílo—MD 5311	Laurent (1964: 63)	10
		<i>Ichnotropis capensis overlaeti</i> Witte & Laurent, 1942	Dundo—MD 98, 263, 295, 5067, 5068, 5069, 5070, 5071, 5077, 5078, 5079, 5080, 5081, 5082, 5083, 5084, 5086, 5091, 5093, 5095, 5096, 5097, 5098, 5100, 5101, 5105, 5106, 5107, 5121, 5122, 5123, 5124, 5125, 5126, 5131, 5132, 5134, 5143, 5146, 5148, 5151, 5152, 5153, 5156, 5158, 5162, 5165, 5166, 5202, 5210, Alto Cuílo—MD 531; Muita—MD 1075; unknown locality—no number.	Laurent (1964: 61)	153
	<i>Nucras</i> Gray, 1838	<i>Nucras scalaris</i> Laurent, 1964	Alto Cuílo—MD 5346; Alto Chicapa—MD 5401, 5481	Laurent (1964: 58)	3
		<i>Nucras</i> aff. <i>tessellata</i> (Smith, 1838)	Moçâmedes—MD 1967	Laurent (1964: 56)	1
	<i>Pedioplanis</i> Fitzinger, 1843	<i>Pedioplanis</i> sp.	Munimho—MD 1918; Deserto de Moçâmedes—MD 1946; Quilengues—MD 1970	Laurent (1964: 60)	10
Cordylidae Mertens, 1937	<i>Chamaesaura</i> Schneider, 1801	<i>Chamaesaura anguina oligopholis</i> Laurent, 1964	Calonda—MB 6003°, Entre Dundo e Luaco—MD 6846	Laurent (1964: 50)	2
	<i>Cordylus</i> Gray, 1865 [1866]	<i>Cordylus nachadoti</i> Laurent, 1964	Leba, Humpata, Sá da Bandeira—MD 1840-1°	Laurent (1964: 49)	1
Gerrhosauridae Fitzinger, 1843	<i>Gerrhosaurus</i> Wiegmann, 1828	<i>Gerrhosaurus bulsi</i> Laurent, 1954	Dundo—MD 643, 644, 2172, 3395, 5021, 5102, 5118, 5129, 5135, 5144-45, 5149, 5163; Poste de Cacolo, Alto Cuílo—MD 5292, 5310; Alto Chicapa—MD 5366, 5372, 5380, 5392.93, 5394, 5395, 5417, 5419.21, 5484; Lago Calundo—MD 5604, 5686	Laurent (1954a: 64, 1964: 51)	41
		<i>Gerrhosaurus skoogi</i> Andersson, 1916	Sudoeste Afr.—MD C.R. 2841 D	-	1
	<i>Tetradactylus</i> Merrem, 1820	<i>Tetradactylus ellenbergeri</i> (Angel, 1922)	Lago Calundo—MD 5629; Dundo—MD 6214	Laurent (1964: 55)	3



TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.*	References	No. of Specimens
<b>Scincidae</b>	Gray, 1825	<i>Eumecia anchitae major</i> Laurent, 1964	Calonda—MD 6002*	Laurent (1964: 80)	1
	Cope, 1892	<i>Lepidoleptis hinkeli joci</i> Wagner, Böhm, Pauwels, & Schmitz, 2009	Dundo, Rio Luachimo—MD 6122	Laurent (1964: 78)	1
	Horton, 1972	<i>Lubaya ivensii</i> (Bocage, 1879)	Alto Chicapa—MD 5422*, 5427*; Alto Cuñlo—MD 5296*	Laurent (1964: 77)	4
	Günther, 1864	<i>Mochlus sundevallii</i> (Smith, 1849)	Dundo, MD—5795; MOZAMBIQUE: Porto Anélia—no number	Laurent (1964: 78)	2
	de Witte & Laurent, 1943	<i>Proscelotes aenea</i> (Barbour & Loveridge, 1928)	MOZAMBIQUE: Porto Amboim—no number	Laurent (1964: 81)	1
	Loveridge, 1920	<i>Scalcozeops boulengeri</i>	MOZAMBIQUE: Porto Amboim	Laurent (1964: 82)	6
	Bocage, 1866	<i>Sepsina angolensis</i> Bocage, 1866	Boca da Humpata—MD 1854; Chibemba, Humba—MD 4036.5; Lago Calundo—MD 5630, 5704, 5714	Laurent (1964: 81)	5
	Fitzinger, 1843	<i>Trachyleptis acutilabris</i> (Peters, 1862)	Lobito, Restinga—MD 1265.22; Deserto de Moçâmedes—MD 1945, 1946	Laurent (1954a: 65, 1964: 75)	6
		<i>Trachyleptis bayonii</i> (Bocage, 1872)	Boca da Humpata—MD 1866*; Alto Cuñlo—MD 5306; Lago Calundo—MD 5602	Laurent (1964: 67)	26
		<i>Trachyleptis binotata</i> (Bocage, 1867)	Moçâmedes—MD 1967	Laurent (1964: 68)	1
		<i>Trachyleptis chimbana</i> (Boulenger, 1887)	Jau—MD 1890; Alto Cuñlo—MD 5307; Alto Chicapa—MD 5402; Lago Calundo—MD 5603, 5672, 5703, 5746, 5752; Cazombo—MD 5783; Calunda—MD 5857	Laurent (1964: 69-70)	43
		<i>Trachyleptis hoeschi</i> (Mertens, 1954)	Moçâmedes—MD 1932	Laurent (1964: 68)	1
		<i>Trachyleptis laevis</i> (Boulenger, 1907)	Muninho—MD 1918	Laurent (1964: 76)	1
		<i>Trachyleptis maculilabris</i> (Gray, 1845)	Dundo—MD 226, 2259, 5085, 5088, 5090, 5092, 5094, 5099, 5103, 5119, 5130, 5142, 5150, 5155, 5164, 5199, 5200, 5209; Muíta—MD 807, 1076; Alto Cuñlo—MD 5308	Laurent (1964: 65)	38
		<i>Trachyleptis raymondlaurenti</i> Marques, Ceriaco, Bandeira, Pauwels & Bauer, 2019	Alto Cuñlo—MD 5309	Laurent (1964: 74); Marques et al. (2019: 58, 59)	1
	<i>Trachyleptis monardi</i> nom. nov. Marques, Ceriaco, Bauer, & Blackburn	Silva Porto—MD 1806-5	Laurent (1964: 72)	1	
	<i>Trachyleptis occidentalis</i> (Peters, 1867)	Moçâmedes—MD 1945	Laurent (1964: 73)	1	
	<i>Trachyleptis spilogaster</i> (Peters, 1882)	Serra do Moco—MD 1832	Laurent (1964: 71)	1	

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.	References	No. of Specimens
		<i>Trachylepis sulcata</i> (Peters, 1867)	Muninho—MD 1918	Laurent (1964: 74)	1
		<i>Trachylepis varia</i> complex (Peters, 1867)	Alto Chicapa—MD 5466; Sandlango—MD 5718; Humpata—MD 1840.2; Quilengues—MD 1970.1	Laurent (1964: 72-73)	5
	<i>Melanocephalus</i>	<i>Melanocephalus occidentalis</i> Peters, 1877	Dundo—MD 6167	Laurent (1964: 81)	1
	<i>Typhlacanthias</i>	<i>Typhlacanthias punctatissimus bogertii</i> Laurent, 1964	Moçâmedes—MD 1946°	Laurent (1964: 82)	4
Varanidae	<i>Varanus</i>	<i>Varanus albigularis angolensis</i> Schmidt, 1933	Dundo—MD 2013, 5250, 5869; Cazombo—MD 5773; unknown locality—MD 2.012, 2.018, no number	Laurent (1964: 48)	7
	<i>Varanus</i>	<i>Varanus niloticus</i> (Linnaeus, 1758)	Dundo—MD 5020, 5023, 5139, 5159 5160, 5173, 5177, 5272, 5274; unknown locality—MD 6749, 2168, 6138	Laurent (1964: 47)	12
Chamaeleonidae	<i>Chamaeleo</i>	<i>Chamaeleo dilepis quilensis</i> Bocage, 1886	Dundo—MD 107, 108, 2154, 2155, 2157, 2158, 2161, 2162, 2163, 2164; Muita—1074, 2124; Sombu—MD 2123; Marco de Canavezes (Cubal da Ganda)—MD 5842; Lago Calundo—MD 5595, 5692, 5698, 5738; Cazombo—MD 5782; Macondo—MD 5854; Calundo—MD 5856	Laurent (1964: 44)	39
	<i>Chamaeleo</i>	<i>Chamaeleo gracilis etiennei</i> Schmidt, 1919	Alto Cuílo—MD 5285, 5297, 5321, 5336, 5349, 5363, 5373; Alto Chicapa—MD 5398, 5449; Lago Calundo—MD 5717	Laurent (1964: 42)	25
Agamidae	<i>Agama</i>	<i>Agama aculeata</i> Merrem, 1820	Boca da Humpata—MD 1854; Alto Chicapa—MD 5397, 5398, 5458, 5489, 5691; Lago Calundo—MD 5368, 5694, 5735, 5736	Laurent (1964: 41)	17
	<i>Agama</i>	<i>Agama anchietae</i> Bocage, 1896	Moçâmedes—MD 1943	Laurent (1964: 42)	3
	<i>Agama</i>	<i>Agama</i> sp. Peters, 1877	Cafunfo—MD 6710, 6711, 6712, 6747, 6748	Laurent (1964: 40)	27
	<i>Agama</i>	<i>Agama schacki</i> Peters, 1862	Bumbo—MD 5549, 5550; Cubal—MD 5844; Alto Zambeze—MD 5858	Laurent (1964: 40)	7
	<i>Acanthocercus</i>	<i>Acanthocercus cyanocephalus</i> (Falk, 1925)	Dundo—MD 296, MD 17269; Alto Cuílo—MD 5361, 5379; Alto Chicapa—MD 5396, 5416, 5418, 5424; Sá Tchisseke—5426; Lago Calundo—MD 5685, 5687, 5693; Cazombo—MD 5784; Alto Zambeze—MD 5855; unknown locality—MD 7060	Laurent (1964: 39)	18
Serpentes	<i>Afrotrophlops</i>	<i>Afrotrophlops angolensis</i> (Bocage, 1866)	Dundo—MD 5255, 5967, 6113	Laurent (1964: 88)	3
	<i>Afrotrophlops</i>	<i>Afrotrophlops lineolatus</i> (Jan, 1864)	unknown locality—MD 1064, 7061	-	2

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
		<i>Afrotyphlops mucroso</i> (Peters, 1854)	Canzar, Muíta—MD 630, 721; Dundo—MD 845; Alto Chicapa—MD 5490; Calonda—MD 5942, 5944, 5997, 6019, 6082; Camissombo—MD 6083, 6084	Laurent (1964: 90)	12
		<i>Afrotyphlops schmidti</i> (Laurent, 1956)	Lago Calundo—MD 5627, 5716; Cazombo—MD 5788	Laurent (1964: 89)	8
Leptotyphlopidae	<i>Leptotyphlops</i> Fitzinger, 1843	<i>Leptotyphlops kafubi</i> (Boulenger, 1919)	Lago Calundo—MD 5628; Queclas de Luisavo—MD 10016	Laurent (1964: 91)	2
	<i>Lethocbia</i> Cope, 1868	<i>Lethocbia praecularis</i> (Stejneger, "1893" 1894)	Dundo—MD 5929°, 5252°, 5932°, 5935°, 5938°	Laurent (1964: 90)	5
Pythonidae	<i>Python</i> Daudin, 1803	<i>Python anchietae</i> Bocage, 1887	Unknown locality—MD 9899		1
		<i>Python sebae</i> (Gmelin, 1789)	Dundo—MD 2182, 5244, 5273, no number; unknown locality MD—6578	Laurent (1964: 91)	6
Viperidae	Oppel, 1811	<i>Atheris</i> cf. <i>katangensis</i> De Witte, 1953	Dundo—MD 5190, 6009, 6017, 6076, 6069	Laurent (1964: 128)	5
	<i>Bitis</i> Gray, 1842	<i>Bitis arietans</i> (Merrem, 1820)	Sombo—MD 2048, 2052; Muíta, Luembe—MD 848, 1048, 2024, 2070; Dundo—MD 1046, 5104; Alto Chicapa—MD 5377, 5432; Lago Calundo—MD 5760, 5761	Laurent (1954a: 62, 1964: 128)	12
		<i>Bitis caudalis</i> (Smith, 1839)	Deserto de Moçâmedes—MD 1944; Estrada Moçâmedes para Porto Alexandre—MD 6953	Laurent (1964: 128)	2
		<i>Bitis gabonica</i> Duméril, Duméril, & Bibron, 1854	Dundo—MD 5868; unknown locality—MD 544, 1017, 6526	Laurent (1964: 128)	5
	<i>Causus</i> Wagler, 1830	<i>Causus bilineatus</i> Boulenger, 1905	Lago Calundo—MD 5592, 5645, 5684, 5689, 5743; Dundo—MD 1066	Laurent (1964: 125)	7
		<i>Causus lichtensteini</i> (Jan, 1859)	Dundo—MD 5540	Laurent (1964: 127)	1
		<i>Causus maculatus</i> (Hallowell, 1842)	Dundo—MD 5017, 5089, 5120, 5167, 5180, 5257, 5270, 5831, 6703; Macondo—MD 5792	Laurent (1964: 124)	11
		<i>Causus rhombicatus</i> (Lichtenstein, 1823)	Dundo—MD 179, 184, 214, 216, 211, 367, 368, 369, 514, 522, 523, 524, 526, 645, 1056, 2254, 2257, 5934; Muíta—MD 631, 779, 846, 850, 1048, 1063, 1070, 1071; Lago Calundo—MD 5644, 5683; Cossa—MD 5993	Laurent (1954a: 61, 1964: 123)	32
Laanprophidae	Fitzinger, 1843	<i>Aparallactes</i> Smith, 1849	Dundo—MD 5220	Laurent (1954a: 45)	1
		<i>Atractaspis</i> Smith, 1849	Dundo—MD 2043, 5181, 5234, 5872, 5992	Laurent (1964: 122)	5
		<i>Atractaspis congica</i> Peters, 1877	Lago Calundo—MB 5751, 5294	Laurent (1964: 122)	2
	<i>Bothrophthalmus</i> Peters, 1863	<i>Bothrophthalmus lineatus</i> (Peters, 1863)	Dundo—MD 1052, 2036; Rio Mussumunge, Dundo—MD 5185; Rio Luachimo—MD 5186	Laurent (1954a: 44, 1964: 93)	4

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
	<i>Hypoptophis</i> Boulenger, 1908	<i>Hypoptophis wilsonii</i> Boulenger, 1908	Muita—MD 720		1
	<i>Xenocalamus</i> Günther, 1868	<i>Xenocalamus mechatzii</i> Peters, 1881	Sombo, Kassekue—MD 2049	Laurent (1954a: 45)	2
	<i>Boaedon</i> Duméril, Bibron, & Duméril, 1854	<i>Boaedon fuliginosus</i> complex (Boie, 1827)	Dundo—MD 191, 219, 262, 2019, 2021, 2031, 5013, 5193, 5259, 5261, 5279, 5803, 5835, 5881, 7062; Muita, Luembe—MD 2166; Alto Chicapa—MD 5451; Lago Calundo—MD 5745	Laurent (1954a: 43, 1964: 93)	18
	<i>Coniotoptis</i> Boulenger, 1893	<i>Boaedon olivaceus</i> (Duméril, 1856)	Dundo—MD 2021	Laurent (1954a: 43)	1
	<i>Linaformosa</i> Broadley, Tolley, Conradie, Wishart, Trape, Burger, Kusamba, Zassi-Boulou, & Greenbaum, 2018	<i>Coniotoptis brassaxii</i> (Mocquard, 1889)	Dundo—MD 2033*	Laurent (1954a: 44)	1
	<i>Lycodonomorphis</i> Lichtenstein, 1823	<i>Linaformosa capensis</i> (Smith, 1847)	Lago Calundo—MD 5591	Laurent (1964: 94)	1
	<i>Lycophidion</i> Fitzinger, 1843	<i>Lycodonomorphis subtaeniatus</i> Laurent, 1964	Dundo—MD 2028*, 2041*	Laurent (1954a: 38)	2
		<i>Lycophidion hellmichi</i> Laurent, 1964	Kapolopopo—MD 3824*	Laurent (1964: 95)	1
		<i>Lycophidion multimaculatum</i> Boettger, 1888	Dundo—MD 5076; Alto Cuilo—MD 5286; Cazombo—MD 5789; Macondo—MD 5792	Laurent (1964: 95)	5
		<i>Lycophidion semiannule</i> Peters, 1854	Calonda—MD 6008	Laurent (1964: 97)	1
	<i>Mehelya</i> Csiki, 1903	<i>Mehelya poensis</i> (Smith, 1847)	Canzar, Muita—MD 777		1
	<i>Psammodphis</i> Boie, 1825	<i>Psammodphis angolensis</i> (Boeage, 1872)	Dundo—MD 2258, 5047, 5796; Cameia—MD 5569; Lago Calundo—MD 5631	Laurent (1954a: 59, 1964: 114)	6
		<i>Psammodphis mossambicus</i> Peters, 1882	Dundo—MD 191, 251, 293, 2156, 2247, 5949; Alto Chicapa—MD 5376; Fazenda Bumbo—MD 5548; Cameia—MD 5568, 5585, 5587; Lago Calundo—MD 5759; Cazombo—MD 5786; Canzar, Muita—MD 2061; unknown locality—no number	Laurent (1954a: 59, 1964: 113)	18
	<i>Psammodphax</i> Fitzinger, 1843	<i>Psammodphax acutus</i> (Günther, 1888)	Dundo—MD 5193A; Alto Cuilo—MD 5288; Alto Chicapa—MD 5483	Laurent (1964: 111)	3
		<i>Psammodphax tritaeniatus</i> (Günther, 1868)	Donguena—MD 1891; Forte Roçadas—MD 4044; Cazombo—MD 5787	Laurent (1964: 110)	3
	<i>Prosymna</i> Gray, 1849	<i>Prosymna ambigua</i> Bocage, 1873	Dundo—MD 248*, 1069*, 2149*, 5829; MOZAMBIQUE: Porto Amélia—no number	Laurent (1964: 109)	5

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.°	References	No. of Specimens
Elapidae Boie, 1827	<i>Dendroaspis</i> Schlegel, 1848	<i>Dendroaspis jamesoni</i> (Traill, 1843)	Dundo—MD 2250, 5539, 5834, 5853, 5867, 5870	Laurent (1954a: 61, 1964: 121)	6
		<i>Dendroaspis polylepis</i> (Günther, 1864)	Unknown locality—MD 7059	-	1
	<i>Elapsoides</i> Bocage, 1866	<i>Elapsoides guentherii</i> Bocage, 1866	Lago Calumdo—MD 5594	Laurent (1964: 117)	1
		<i>Elapsoides semiannulata semiannulata</i> Bocage, 1882	Fazenda Bumbo, Humupata—MD 5552°	Laurent (1964: 118)	1
Colubridae Oppel, 1811	<i>Naja</i> Laurenti, 1768	<i>Naja anchietae</i> Bocage, 1879	Alto Cuílo—MD 5289; Alto Chicapa—MD 5375	Laurent (1964: 118)	2
		<i>Naja melanoleuca</i> Hallowell, 1857	Dundo—MD 2176, 6006; unknown locality—MD 6296	Laurent (1954a: 60, Laurent 1964:120)	4
		<i>Naja nigricollis</i> Reinhardt, 1843	Dundo—MD 2245, 5544	Laurent (1954a: 60, 1964: 119)	2
		<i>Pseudohaje goldii</i> (Boulenger, 1895)	Dundo—MD 1052, 1057; unknown locality—MD 112, 6846	Laurent (1950: 10; 1954a: 61)	4
		<i>Crotaphopeltis hotamboeia</i> (Laurenti, 1768)	Dundo—MD 515; Tchia-Muchito, Alto Cuílo—MD 5352, Macondo—MD 5852	Laurent (1964: 110)	3
		<i>Dasipeltis scabra</i> (Linnaeus, 1758)	Dundo—MD 2023, 2029, 5545, 5805, 6173; Lago Carumbo—MD 5958	Laurent (1954a: 60, 1964: 116)	6
		<i>Dipsosaurus shrevei</i> (Loveridge, 1932)	Lago Calumdo—MD 5682	Laurent (1964: 110)	1
		<i>Dispholidus duvernoyi</i> , 1832	Dundo—MD 5018° 5024° 5154° 5187° 5232° 5269° 5275° 5277° 5546° 5556° 5559° 5833° 5851°; Alto Cuílo—MD 5287; Alto Chicapa—MD 5450; Lago Calumdo—MD 5741, 5763; Cazombo—MD 5785	Laurent (1950: 10; 1954a: 57; 1955: 129; 1964: 114)	18
		<i>Grajaia ornata</i> (Bocage, 1866)	Dundo—MD 199, 2304, 5015, 5016, 5212, 5243; Chumbe—MD 527; unknown locality—MD 7058	Laurent (1954a: 44, 1964: 102)	8
		<i>Grajaia snijffii</i> (Leach, 1818)	Dundo—MD 5174, 5211, 5541, 5892; unknown locality—MD 1045	Laurent (1964: 102)	5
<i>Hapsidophrys</i> Fischer, 1856	<i>Hapsidophrys smaragdinus</i> (Schlegel, 1837)	<i>Hapsidophrys smaragdinus</i> (Schlegel, 1837)	Muita, Luembe—MD 2055	Laurent (1954a: 45)	1
		<i>Rhamnophis aethiops</i> Günther, 1862	Dundo—MD 2039, 2246, 2306, 5191	Laurent (1954a: 49, 1964: 108)	4
		<i>Philothamnus carinatus</i> (Andersson, 1901)	Dundo—MD 2308, 6001; Camissombo—MD 5850	Laurent (1964: 108)	3
		<i>Philothamnus smithi</i> , 1840	Dundo—MD 6584	Thys van den Audenaerde (1966: 32)	1
		<i>Philothamnus heterolepidotus</i> (Günther, 1863)	Dundo—MD 2187; Cameia—MD 5571; Calumdo—MD 5593, 5688, 5742, 5749; unknown locality—MD 194	Laurent (1954a: 48, 1964: 105)	9

TABLE 2. CONTINUED.

Family	Genus	Species	Localities—Accession No.*	References	No. of Specimens
		<i>Philothamnus hoplogaster</i> (Günther, 1863)	Dundo—MD 222, 2034, 2136, 2241, 2309, 5176, 5188, 5258, 5276; Alto Chicapa—MD 5457; Camissombo—MD 6024; Nascente R. Cuflo, Alto Chicapa—MD 5535 Dundo—MD 5019, 5157	Laurent (1950: 8, 1964: 103, 107)	12
		<i>Philothamnus nitidus</i> <i>loveridgei</i> (Günther, 1863)		Laurent (1964: 107)	2
		<i>Philothamnus</i> <i>semivirgatus</i> (Smith, 1840)	Dundo—MD 276, 371, 804, 2020, 2027, 2032, 2035, 2044; 5133, 5235, 5249, 5260, 5554, 5767	Laurent (1954a: 48, 1964: 107)	14
	<i>Scaphiophis</i> Peters, 1870	<i>Scaphiophis albopunctatus</i> Peters, 1870	Canzar, Muita—MD 849		1
	<i>Thelotornis</i> Smith, 1849	<i>Thelotornis capensis oatesi</i> (Günther, 1881)	Sombo—MD 2045; Dundo—MD 5192; Alto Chicapa—MD 5374, 5391, 6004	Laurent (1954a: 58–59, 1964: 116)	5
	<i>Toxicodryas</i> Hallowell, 1857	<i>Toxicodryas blandingi</i> (Hallowell, 1844)	Dundo—MD 260, 5189, 5557, 5866, 5950, 6012; Andrada—MD 5267; unknown locality—MD 6958 unknown locality—MD 11405	Laurent (1950: 9, 1954a: 57, 1964: 109); Thys van den Audenaerde (1966: 34) Laurent 1964: 109)	6
	Natricidae Bonaparte, 1838	<i>Toxicodryas pulvereulenta</i> (Fischer, 1856)	Alto Cuflo—MD 5290, 5293; Alto Chicapa— MD 5425, 5453	Laurent (1964: 100)	5
	<i>Limnophis</i> Günther, 1865	<i>Limnophis bicolor</i> Günther, 1865	Lago Calundo—MD 5748, 5750	Laurent (1964: 100)	2
	<i>Natriciteres</i> Loveridge, 1953	<i>Limnophis bangweolicus</i> (Mertens, 1936) <i>Natriciteres obtusica</i> (Peters, 1854)	Dundo—MD 107, 2042; Canzar, Muita—MD 778	Laurent (1954a: 44)	3
Total No. of reptile specimens					968

\* Type specimen.



Figure 15. Dorsal and ventral view of body of the paratypes of *Hyperolius machadoi* (MD 2114—top; MD 2202—bottom) and lateral, dorsal, and ventral views of the head of paratype MD 2114. Photo by Luis M. P. Ceriaco.

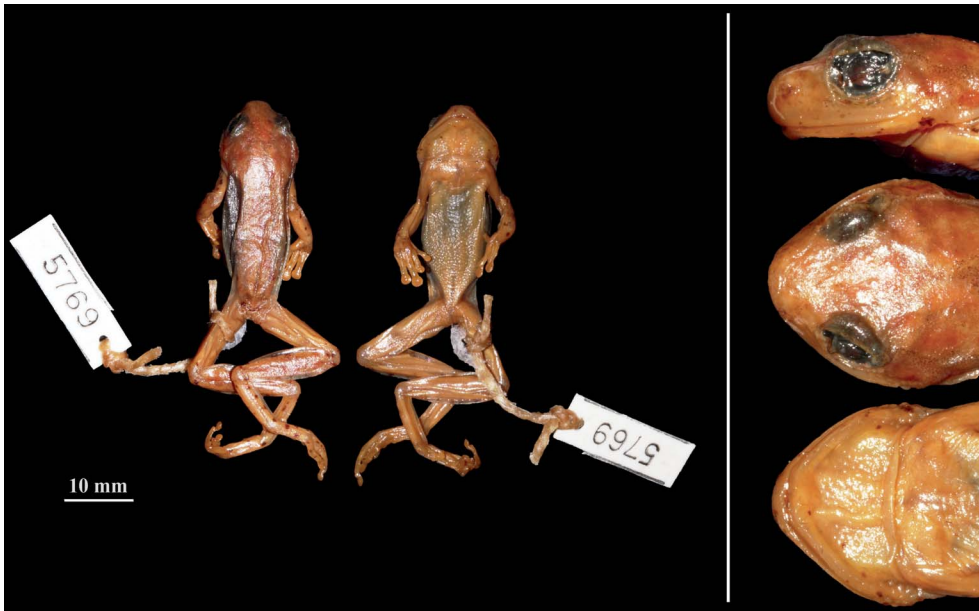


Figure 16. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Hyperolius marmoratus alborufus* Laurent, 1964 (MD 7569). Photo by Luis M. P. Ceriaco.



Figure 17. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Hyperolius vilhenai* Laurent, 1964 (MD 6213). Photo by Luis M. P. Ceriaco.

*Hyperolius vilhenai* Laurent (1964: 155)

*Type Specimen.* Holotype (MD 6213; Fig. 17), a juvenile male from the “galerie forestière de la rivière Luíta, Poste de Cuílo, Lunda” [Lunda Norte Province] collected on 5 July 1962 by Barros Machado.

*Present Name.* *Hyperolius vilhenai* Laurent, 1964

*Remarks.* The species was described, but not figured, by Laurent (1964) based on a single juvenile male. Laurent (1964) noted that the specimen bears similarities with juvenile *Hyperolius steindachneri* but differed by lacking a vocal sac and having extensively webbed feet with only about two-thirds of the last phalanx of the fourth toe free of webbing. The species is only known from the type locality, and as it is mentioned in few other revisionary works (e.g., Schiøtz, 1999, Channing, 2001, Frétey et al., 2011; Marques et al., 2018), almost nothing is known about its natural history

and distribution. Frost (2020) expected the species to occur in the neighboring regions of the Democratic Republic of the Congo.

Ptychadenidae

*Ptychadena grandisonae* Laurent (1954b: 11)

*Type Specimens.* Six paratypes are present: one adult female (MD 531; Fig. 18), from “Canzar, Muita” [Lunda Sul Province], collected by de Petchkowsky in March or April 1948; one adult male and adult female (MD 616), with the same locality and collector, collected in May 1948; one adult male and two adult females (MD 731), with the same locality and collector, collected in April 1948.

*Present Name.* *Ptychadena grandisonae* Laurent, 1954

*Remarks.* One additional male and two additional female paratypes under MD 731 were not located, nor was the holotype MD 506 from “Muita, Luembe E., Angola”





Figure 18. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Ptychadena grandisonae* Laurent, 1954 (MD 531). Photo by Luis M. P. Ceriaco.

collected by de Petchkowsky in March 1948. These are currently in the MRAC collections under the catalog numbers MRAC B-60531-33 and MRAC B-60530, respectively. Additional type material includes paratypes MRAC 3846 and 32041 from the Democratic Republic of Congo and two specimens from Burundi in the Institut pour la Recherche Scientifique en Afrique Centrale (IRSAC). Schmidt and Inger (1959) considered this species valid on the basis of a review of the morphological characters presented by Laurent (1954b) in the original description. Laurent (1964) cited some additional material of this species in the collections of MD, some of which still exist (MD 5408, 5519, 10283.23; see Table 2). Besides the localities presented by Monard (1938) and Laurent (1954b, 1964), the species has been recorded from the provinces of Moxico (Ruas, 2002), Huila (Poynton and Haacke, 1993), and Cuando Cubango (Conradie et al., 2016). It extends

northeastward to Rwanda and Tanzania (Channing and Rödel, 2019).

*Ptychadena loveridgei* Laurent (1954b: 14)

*Type Specimens.* Ten dried specimens that likely represent paratypes (MD 731; Fig. 19) [see Remarks below].

*Present Name.* *Ptychadena porosissima* (Steindachner, 1867)

*Remarks.* The type series of this species comprises 116 specimens from five different institutions. The specimens from the MD are all paratypes: one male, two females, and four juveniles from “Muita, Luembe E,” collected in April 1948 by de Petchkowsky, all under the accession number MD 731 [note that this number was also assigned to some of the paratypes of *Ptychadena grandisonae*]; one male, two females, and two juveniles from the same locality and collector, but collected in May 1948, under the accession number MD 858; one female with the same locality and



Figure 19. Ten specimens with the catalogue number MD 731 and labeled as *Ptychadena loveridgei*, most likely representing the paratypes of the taxon. Photo by Luis M. P. Ceriaco.

collector, collected in September 1948 (MD 2097); and one female from “Sombo” collected in November 1948 by Sanjinje (MD 2099). The internal catalogue refers to the presence of paratypes MD 731, 858, and 2099. We found 10 dried specimens in very poor condition in a jar labeled MD 731, which likely represents all 10 of the paratypes (three under MD 731, five under MD 858, one under MD 2097, one under MD 2099) but were probably mislabeled at some point. According to the internal catalogues, the specimens were loaned to the French zoologist Maxime Lamotte (1920–2007) in 1959. *Ptychadena loveridgei* is now considered a synonym of *P. porosissima* (Steindachner, 1867), but the group has a complex taxonomic and nomenclatural history (see Marques et al., 2018).

*Ptychadena perplicata* Laurent (1964: 136)

*Type Specimens.* Three dried specimens (Fig. 20) in very poor condition share the

catalogue number MD 5513 and likely represent the holotype, an adult female collected in “Alto Chicapa, humid herbosa des sources du Cuílo, Lunda” on 3 August 1954 by Machado and locals, and two smaller specimens, presumably two of the three juvenile paratypes, with the same collection data as the holotype.

*Present Name.* *Ptychadena perplicata* Laurent, 1964

*Remarks.* MCZ A-66709 (formerly MD 5513), an adult female, corresponds to the remaining paratype noted in the description. The third juvenile paratype is currently lost. The species has no outstanding taxonomic issues and is currently known from Angola and Zambia (Marques et al., 2018) and presumably the Katangan region of the Democratic Republic of Congo (Channing and Rödel, 2019). Given the poor condition of the type series housed in MD, which renders its external morphological study almost impossible, the meaningful study of

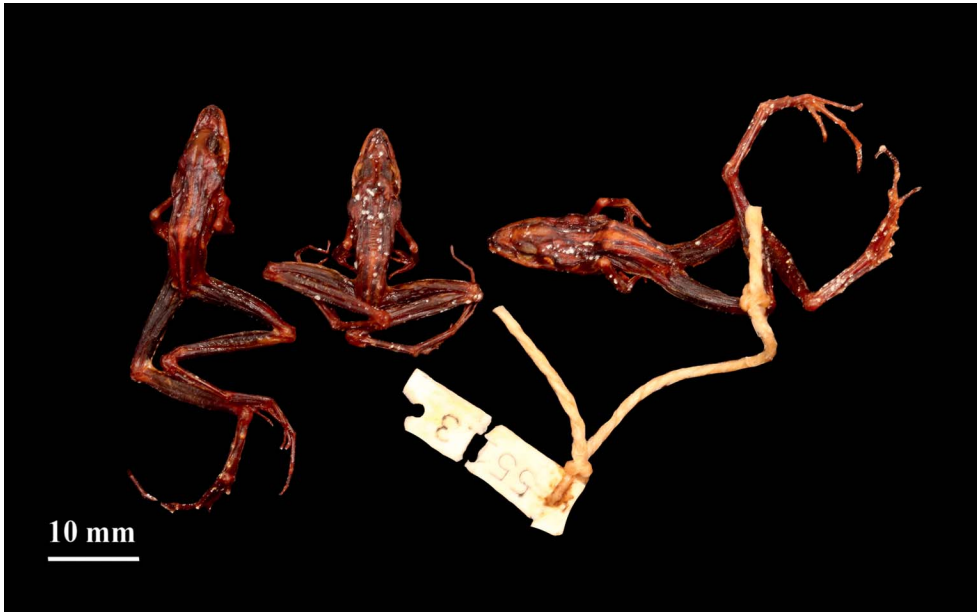


Figure 20. Dorsal view of three specimens with the catalogue number MD 5513 and labeled as *Ptychadena perplicata*, most likely representing the holotype and two paratypes of the taxon. Photo by Luis M. P. Ceriáco.

type material is effectively limited to paratype MCZ A-66709.

*Ptychadena upembae machadoi* Laurent (1964: 134)

*Type Specimen.* Holotype (MD 5364; Fig. 21), an adult female from “Alto Chicapa, Lunda” [Lunda Sul Province] collected by local people in June 1954.

*Present Name.* *Ptychadena upembae* (Schmidt and Inger, 1959)

*Remarks.* An allotype, an adult female from the same locality as the holotype and collected in 4 August 1954 by local people, is now catalogued as MCZ A-66708 (formerly MD 5530). The remaining four paratypes cited in the original description (two adult males, bearing the number MD 5400, both from the same locality and collected in 4 July 1954 by Barros Machado and locals, and another two adult males

from the same locality collected in 12 July 1954 by Barros Machado) were not located, despite being listed in the internal MD catalogue. Laurent (1964) recognized the strong morphological similarities between the newly described subspecies and the nominotypical form but gave as a distinctive character the presence of punctate pectoral coloration, absent in the nominotypical form. The subspecies is currently considered a synonym of *Ptychadena upembae* (Schmidt and Inger, 1959) (Frost, 2020). Ruas (1996) provided a record for *P. upembae* in “Lago Cameia” (Moxico Province), not far from the type locality of *P. upembae machadoi*. Channing (2001) plotted some other localities in nearby areas, likely based on unspecified museum collections. This species, like many others that occur in the northeast of Angola, appears to be an example of the “Katangan” fauna that



Figure 21. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Ptychadena upembae machadoi* Laurent, 1964 (MD 5364). Photo by Luis M. P. Ceriaco.

occurs in the country (Broadley and Cotterill, 2004).

## Squamata

### Gekkonidae

#### *Rhoptropus boultoni montanus* Laurent (1964: 31)

*Type Specimen.* Holotype, an adult female (MD 1854.A; Fig. 22) from “Boca da Humpata, region de Sá da Bandeira, 1850m, Huila” [Huila Province], collected by Barros Machado on 21 September 1949. The specimen is in poor condition.

*Present Name.* *Rhoptropus montanus* Laurent, 1964

*Remarks.* The original description mentioned a paratype, another female individual with the same accession number and data, but this specimen was not found either in the MD collections or the internal catalogue. MCZ R-74119 (formerly MD 1856b) may be the paratype noted by Laurent (1964). However, the original MD number

is different, and it is not recorded as a paratype in the MCZ catalogue. Laurent (1964) described *R. montanus* as a subspecies of *R. boultoni* Schmidt, 1933, a Namib endemic that occurs in lower elevation areas. Although *R. montanus* was long recognized as a subspecies of *R. boultoni* (Bauer and Good, 1996), recent molecular phylogenetic studies show that *R. montanus* represents a distinctive monophyletic group not related to *R. boultoni* (Kuhn, 2016; Heinicke et al., 2017b). The species is endemic to the southwestern escarpment of Angola (Marques et al., 2018). Ceriaco et al. (2016a) provided the first available records for the species since its original description, and recently, more material has been collected on the escarpment areas of Tundavala, Huila Province (Baptista et al., 2018; Butler et al., 2019).

#### *Rhoptropus taeniosictus* Laurent (1964: 33)

*Type Specimen.* Holotype (MD 1967; Fig. 23), a juvenile female, from “km 60



Figure 22. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Rhothropus boultoni montanus* Laurent, 1964 (MD 1854.A). Photo by Luis M. P. Ceriaco.

de la route de Moçâmedes à Sá da Bandeira, district de Moçâmedes” [Namibe Province], collected by Barros Machado on 25 November 1949.

*Present Name.* *Rhothropus taeniosictus* Laurent, 1964

*Remarks.* *Rhothropus taeniosictus* is a Namibe Province endemic (Marques et al., 2018). The original description was accompanied by two drawings, a whole-body dorsal view, and a close-up of the toes. Laurent (1964) based the description of *R. taeniosictus* on a single specimen from the MD collections but considered specimens identified as *R. barnardi* Hewitt, 1926, by Schmidt (1933) to represent this newly described species, which was later verified (Marques et al., 2018). Ceriaco et al. (2016a) provided the first records for the species since its description, all in Namibe Province. However, unpublished records exist in the collections of the Ditsong National Museum of Natural History (Pre-

toria), which were collected by Wulf Haacke in the 1970s.

*Hemidactylus nzingae* Ceriaco, Agarwal, Marques, & Bauer (2020a: 48)

*Type Specimen.* Paratype (MD 4008; Fig. 24), an adult male, from “Alto Cuílo” [Lunda Norte Province] collected by an unknown collector in June 1954.

*Present Name.* *Hemidactylus nzingae* Ceriaco, Agarwal, Marques, & Bauer, 2020

*Remarks.* Laurent (1964) referred to this specimen (MD 4008) as a female *Hemidactylus bayonii* from “31 km au nord-est de Novo Redondo, Cuanza Sul” [31 km NE of Novo Redondo, currently Sumbe, Kwanza Sul Province]. Besides this specimen, Laurent (1964) also noted a juvenile male (MD 4001-14) from the same locality. One specimen (MD 4008), however, is not conspecific with *H. bayonii*, and Ceriaco et al. (2020a) considered it part of the type series of the newly described *H. nzingae*. It appears that



Figure 23. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Rhoptropus taeniosictus* Laurent, 1964 (MD 1967). Photo by Luis M. P. Ceriaco.



Figure 24. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Hemidactylus nzingae* Ceriaco, Marques, Agarwal, & Bauer, 2020 (MD 4008). Photo by Luis M. P. Ceriaco.

some mislabeling happened when Barros Machado sent these specimens on loan to Laurent, as *H. bayonii* is a very small species (maximum snout–vent length (SVL) 36.2 mm; Ceríaco et al., 2020a) and MD 4008 is a much larger individual (SVL 44.8 mm *vide* Laurent, 43.6 mm according to Ceríaco et al., 2020a). Specimens MD 4008 and 4001-14 shared the same jar but were individually wrapped inside their respective plastic bags, with specimen MD 4008 having a label referring to it as “*Hemidactylus brooki angulatus*.” Laurent’s (1964) identification of geckos of the genus *Hemidactylus* was problematic, as it seems that he was unsure about many of the characteristics of the genus. For example, MD 5551 from “Fazenda Bumbo, Humpata” was identified by Laurent (1964) as *Hemidactylus longicephalus* based on its possession of 3+3 precloacal pores. Recent examination of the specimen, which is still present in MD, revealed it to be *Hemidactylus benguellensis*, with a total of 18 femoral pores plus the already noted 6 precloacal pores (Ceríaco et al., 2020a). The distribution of *H. bayonii* is limited to the coastal areas of Angola, including the Novo Redondo area (= Sumbe), whereas *H. nzingae* occurs on the Angola Plateau, especially in the central areas of Malanje and Bié provinces (Ceríaco et al., 2020a). Our opinion is that MD 4008 is, in fact, the specimen from “Alto Cuílo,” instead of the small (SVL 30.2 mm) juvenile female (MD 5312) identified by Laurent (1964) as *Hemidactylus brooki angulatus*, a species now known not to occur in Angola (Ceríaco et al., 2020a). MD 5312 is still present in the collections, but in a poor state of preservation that makes its identification almost impossible, though it likely represents *H. bayonii*.

*Lygodactylus tchokwe* Marques, Ceríaco, Buehler, Bandeira, Janota, & Bauer (2020: 42)

*Type Specimens.* Holotype (MD 5312b; Fig. 25), an adult male from “Alto Cuílo”

[Lunda Sul Province] collected by unidentified locals in November 1954 and three paratypes, two adult males and one adult female (MD 5312a, 5312c and 5312d respectively), with the same collection data as the holotype.

*Present Name.* *Lygodactylus tchokwe* Marques, Ceríaco, Buehler, Bandeira, Janota, & Bauer, 2020

*Remarks.* Laurent (1964) referred to these specimens, as well as other specimens from the Luisavo waterfalls in Moxico Province (MD 5791), as *Lygodactylus capensis*. Marques et al. (2018) tentatively identified these specimens as *Lygodactylus angolensis*, an identification that was contradicted by the recent analysis of the specimens by Marques et al. (2020), who found distinctive morphological characters that separated the species from all other known species of the genus and described it as a new species, *L. tchokwe*. The taxon is only known from the material present in Museu do Dundo collections, which highlights the importance of this collection for species discovery.

#### Cordylidae

*Cordylus vittifer machadoi* Laurent (1964: 49)

*Type Specimen.* Holotype (MD 1840-1; Fig. 26), an adult male, from “Leba, Humpata, environs de Sá da Bandeira, Alt. 1800 m, Huíla” [Huíla Province] collected by Barros Machado on 17 November 1949.

*Present Name.* *Cordylus machadoi* Laurent, 1964

*Remarks.* The paratype, a juvenile with the same data as the holotype, is now MCZ R-74120 (formerly MD 1840-1; although noted as 1860-1 in the MCZ catalogue). Laurent (1964) described *C. machadoi* as a subspecies of *Cordylus vittifer* (Reichenow, 1887) based on the morphological and meristic data from the two type specimens. The description was accompanied by a



Figure 25. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Lygodactylus tchokwe* Marques, Ceriaco, Buehler, Bandeira, Janota, & Bauer, 2020 (MD 5312b). Photo by Luis M. P. Ceriaco.



Figure 26. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Cordylus vittifer machadoi* Laurent, 1964 (MD 1840-1). Photo by Luis M. P. Ceriaco.





Figure 27. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Chamaesaura anguina oligopholis* Laurent, 1964 (MD 6003). Photo by Luis M. P. Ceriaco.

drawing of the dorsal view of the head of the holotype. Branch (1998) elevated *C. machadoi* to a full species, and Stanley et al. (2016) supported this using molecular genetic data from recently collected specimens. The species appears to be endemic to the southwestern escarpment of Angola. Recently, more material has been collected in the escarpment areas of Tundavala, Huila Province (Baptista et al., 2018; Butler et al., 2019).

*Chamaesaura anguina oligopholis* Laurent (1964: 50)

*Type Specimen.* Holotype (MD 6003; Fig. 27), an adult male from “Calonda, Lunda” [Lunda Norte Province], collected by A. Serralheira in June 1958.

*Present Name.* *Chamaesaura anguina oligopholis* Laurent, 1964

*Remarks.* The four paratypes (MD 6003), two males and two females with the same collection data as the holotype, were not

located. A fifth specimen (MD 6846) in very poor condition (completely dried and not in a jar), from “Entre Dundo e Luaco” and collected in November 1970, was noted in the internal catalogue as a paratype, although this is clearly in error, as it postdates the description by 6 years. Another inconsistency between the original description and the MD catalogue is that the latter lists only three paratypes (all female) under the number MD 6003. Specimen MCZ R-74165 is listed as a paratype in the MCZ catalogue and may be one of the missing paratypes noted by Laurent (1964). Although the specimen data match the description, no original MD specimen number is recorded in the MCZ records. Laurent (1964) described *oligopholis* as a subspecies of *Chamaesaura anguina* Linnaeus, 1758, from which it differs by a reduction of the anterior limbs when compared with the length of the snout, as well on the lower number of scales around the midbody. No figures or drawings of the



Figure 28. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Gerrhosaurus auritus bulsi* Laurent, 1954 (MD 195). Photo by Luis M. P. Ceriaco.

specimens accompanied the description by Laurent (1964). Stanley et al. (2011) did not include samples of this subspecies in their cordylid phylogeny but considered that the available morphological data unambiguously placed the species within the genus *Chamaesaura* and maintained it as a subspecies of *C. anguina*. The original description remains the only available record of the subspecies for the country.

#### Gerrhosauridae

*Gerrhosaurus auritus bulsi* Laurent (1954a: 64)

*Type Specimen.* Paratype (MD 195; Fig. 28), an adult specimen, from “Dundo” [Lunda Norte Province] collected 1 June 1947. The paratype is completely dry.

*Present Name.* *Gerrhosaurus bulsi* Laurent, 1954

*Remarks.* The holotype was not located and is not mentioned in the internal MD

catalogue. Laurent (1954a) described *bulsi* as a subspecies of *Gerrhosaurus auritus* Boettger, 1887, based on a smaller number of scales around the midbody of the newly described subspecies compared with the nominotypical form. In a molecular phylogeny of the genus, Bates et al. (2013) elevated *bulsi* to a full species. Laurent’s (1954a) description was based on the holotype from “Dundo” collected in 1948, a paratype from the same locality but collected in 1 June 1947 (MD 2127 and MD 195, respectively), and other paratypes from several localities in the Democratic Republic of the Congo housed in MRAC. We were unable to locate the holotype in the collections of MD, and only the MD paratype is mentioned in the internal MD catalogue. Thirteen additional topotypical specimens, plus nine specimens from “Alto Cuílo” and four from “Alto Chicapa,” are present in the collections and in good condition (see Table 2).



Figure 29. Dorsal and ventral view of body and associated tail and lateral, dorsal, and ventral views of the head of the holotype of *Nucras scalaris* Laurent, 1964 (MD 5401). Photo by Luis M. P. Ceriaco.

Lacertidae

*Nucras scalaris* Laurent (1964: 58)

*Type Specimens.* Holotype (MD 5401; Fig. 29), an adult female, from “Alto Chicapa, Lunda” [Lunda Sul] obtained by local collectors in June 1954, and two paratypes (MD 5481 and MD 5346), respectively, an adult female from the same locality, also obtained by local collectors on 24 July 1954, and an adult male from “Alto Cuílo, Lunda” [Lunda Sul], obtained by local collectors on 2 June 1954.

*Present Name.* *Nucras scalaris* Laurent, 1964

*Remarks.* The third paratype (formerly MD 5485), an adult female with the locality data as MD 5481 but collected on 25 July 1954, is currently MCZ R-74121, having been received from Barros Machado in 1963. In the description, Laurent (1964) noted the similarities and potential affinities of *N. scalaris* with *Nucras lalandii* (Milne-Edwards, 1829), of which it might be

considered a “race.” However, without further analyses, Laurent (1964) preferred to present it as full species. The description was accompanied by drawing of the holotype in dorsal view (note that the drawing shows a complete tail attached, but it is now broken in two pieces). Little is known of this species, which is only known from the two type localities in Angola’s Lunda Sul Province and a recent record in Bié Province (Baptista et al., 2020), and is thus currently considered an Angolan endemic.

*Ichnotropis bivittata pallida* Laurent (1964: 64)

*Type Specimen.* Holotype (MD 1854; Fig. 30), an adult female from “Boca da Humpata, Huíla, 1850 m” [Huíla Province], collected by Barros Machado in 21 November 1949.

*Present Name.* *Ichnotropis bivittata pallida* Laurent, 1964



Figure 30. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Ichnotropis bivittata pallida* Laurent, 1964 (MD 1854). Photo by Luis M. P. Ceriaco.

*Remarks.* Laurent (1964) described *pallida* as a subspecies of *Ichnotropis bivittata* Bocage, 1866, based on the similarities between the two forms, but considered it distinguishable from the nominotypical form by paler coloration, some head scalation differences, and its occurrence in subdeserts. The description was accompanied by a drawing of a dorsal view of the head. The subspecies has not been recorded or collected since its original description and remains a taxonomic mystery (Edwards et al., 2013). Specimens potentially referable to this taxon were recently collected in Bicuar National Park, Huíla Province (Butler et al., 2019), but efforts to locate these animals in the areas around Boca da Humpata were unsuccessful. Laurent (1964) also noted that some specimens from the Cunene Province that were collected and identified by Monard (1937) as *I. bivittata* could be *I. b. pallida*. We examined the extant Monard specimens in the Chaux-de-Fonds Museum and disagree with Laurent's (1964) suggestion

because these specimens exhibit well-delineated dark banding similar to the nominotypical form and not the pale coloration of *I. b. pallida*. It is possible that both *I. b. pallida* and *I. b. bivittata* occur sympatrically, which would support their specific level difference. Butler et al. (2019) noted a darkly striped animal, very similar to typical *I. bivittata* in Tundavala, not far from Boca da Humpata, the type locality of *I. b. pallida*. Preliminary molecular comparisons show that genetic divergence in the mitochondrial 16S ribosomal gene between these two forms is similar to that found between recognized species within the genus *Ichnotropis*. It is, however, necessary to compare these samples with topotypical material of *I. bivittata*.

#### Scincidae

*Mabuya bayoni huilensis* Laurent (1964: 67)

*Type Specimen.* Holotype (MD 1866; Fig. 31), a juvenile specimen, from "Boca



Figure 31. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Mabuya bayoni huilensis* Laurent, 1964 (MD 1866). Photo by Luis M. P. Ceriaco.

da Humpata, environs de Sá da Bandeira, Huíla” [Huíla Province], collected by Barros Machado on 24 November 1949.

*Present Name.* *Trachylepis bayonii* (Bocage, 1872)

*Remarks.* Laurent (1964) described *huilensis* as a subspecies of *Trachylepis bayonii* (Bocage, 1872) based on differences in the arrangement of the cephalic plates and other morphological differences, such as the number of midbody scale rows. In the original description of *T. bayonii*, Bocage (1872) recognized two varieties—“var. A” from the northern regions of the country (Duque de Bragança) and “var. B” from Huila. However, the differences noted by Bocage were mostly in color patterns, and the author never mentioned the set of morphological differences presented by Laurent (1964). Bocage (1895) again noted the presence of two varieties within *T. bayonii*, one exclusively from Duque de Bragança and another from several localities within the country, including Huila, but

reinforced that the main differences were in coloration. Given the loss of Bocage’s material in the fire that destroyed the collections in Lisbon in 1978, it is impossible to assess whether *T. huilensis* is assignable to the Bocage’s *T. bayonii* variety that occurs in Huila. Since its original description, *T. huilensis* has not been collected, and its taxonomic status remains unclear (Marques et al., 2018). A taxonomic revision of the Angolan *Trachylepis* is currently being prepared (Ceriaco et al., in preparation), which will contribute to its clarification.

*Mabuya ivensi septemlineata* Laurent (1964: 77)

*Type Specimens.* Holotype (MD 5427; Fig. 32), an adult male, from “Alto Chicapa, Lunda” [Lunda Sul Province], obtained by local collectors on 22 July 1954, and three paratypes: MD 5422, an adult female and an eviscerated specimen from the same locality



Figure 32. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Mabuya ivensi septemlineata* Laurent, 1964 (MD 5427). Photo by Luis M. P. Ceriaco.

and collectors taken on 18 July 1954, and MD 5296, also an eviscerated specimen from “Alto Cuílo, Lunda” [Lunda Sul], obtained by local collectors in June 1954.

*Present Name.* *Lubuya ivensii* (Bocage, 1879)

*Remarks.* A fourth paratype, also eviscerated, sharing the same number and collection data as the holotype, was not located. The single character used by Laurent (1964) to differentiate the newly described subspecies from the nominotypical form was the presence of an additional white line on the flanks of the animal, giving it seven white lines instead of the five seen in typical *Lubuya ivensii*, hence the subspecific epithet. Monard (1937) had already noted that specimens from “Dala” (Lunda Sul Province) had this same pattern. The description was accompanied by a dorsal photograph of the intact paratype catalogued under MD 5422. Horton (1972) created a new genus—*Lubuya*—to accommodate *ivensii* but did not mention its subspecies. On the basis of

molecular data, Metallinou et al. (2016) confirmed the generic placement proposed by Horton (1972) but did not discuss the validity of *L. i. septemlineata*. Conradie et al. (2016) also did not mention this putative subspecies. The two specimens (IICT 48-1959, 239-1959) reported by Manaças (1963) from “Calombe” (Moxico Province) from the collections of the Instituto de Investigação Científica Tropical (IICT), Lisbon, Portugal (currently housed in the Museu Nacional de História Natural e da Ciência, Universidade de Lisboa, Lisbon, Portugal) also have seven lines instead of the typical five (LMPC, personal observation).

*Trachylepis raymondlaurenti* Marques, Ceriaco, Bandeira, Pauwels, & Bauer (2019a: 59)

*Type Specimen.* One paratype (MD 5309; Fig. 33), an adult female from “Alto Cuílo”



Figure 33. Dorsal and ventral view of body and associated tail and lateral, dorsal, and ventral views of the head of the holotype of *Trachylepis raymondlaurenti* Marques, Ceriaco, Bandeira, Pauwels, & Bauer, 2019 (MD 5309). Photo by Luis M. P. Ceriaco.

[Lunda Sul Province], collected in June 1954.

*Present Name.* *Trachylepis raymondlaurenti* Marques, Ceriaco, Bandeira, Pauwels, & Bauer, 2019

*Remarks.* Laurent (1964) provided the first record of “*Mabuia megalura*” (Peters, 1878) in Angola based on two specimens belonging to Museu do Dundo. Together with those specimens collected in Upemba National Park, Katanga Region, Democratic Republic of the Congo, that were studied by de Witte (1953) (wrongly cited as 1933 in Laurent [1964]), the Angolan material represented the known western limit of the species’ distribution. These specimens also exhibited a set of characters that led Laurent (1964) to suggest that these represented a potentially new “Angolan-Katanga” race of *megalura*. However, Laurent (1964) chose not to describe it because he suggested that his colleague de Witte should describe it based on the more abundant material from Katanga, but this never

transpired. Marques et al. (2019a) reviewed all the available museum specimens of these populations and also compared the genetics of this population with nominotypical *T. megalura*, leading to the description of the Angolan-Katangan form.

*Eumecia anchietae major* Laurent (1964: 80)

*Type Specimen.* Holotype (MD 6002; Fig. 34), an adult female, from “Calonda, steppe, Lunda” [Lunda Norte Province], collected by Dr. A. Serralheiro in June 1958.

*Present Name.* *Eumecia anchietae major* Laurent, 1964

*Remarks.* Laurent (1964) described *major* as a subspecies of *Eumecia anchietae* Bocage, 1870 based on differences in the proportions of the front limbs, arrangement and size of the cephalic scales, and its large body size when compared with the nominotypical form. Monard (1937) reported a



Figure 34. Dorsal and ventral view of body and associated tail and lateral, dorsal, and ventral views of the head of the holotype of *Eumecia anchietae major* Laurent, 1964 (MD 6002). Photo by Luis M. P. Ceriaco.

specimen from “Dala” (Lunda Sul Province) that he noted had the same characters as those used by Laurent (1964) to describe *E. a. major*. These remain the only records for this subspecies, which is currently considered a northeastern Angolan endemic (Marques et al., 2018).

*Typhlacontias bogerti* Laurent (1964: 82)

*Type Specimens.* Holotype (MD 1946; Fig. 35), represented only by a detached tail of an adult female, collected in “Désert de Moçâmedes, 35 km au sud de la ville” [Namibe Province] by Barros Machado in 23 October 1949, and three paratypes (all completely dry; MD 1946), an adult female (broken, lacking the head) and two juveniles with the same data as the holotype.

*Present Name.* *Typhlacontias punctatissimus bogerti* (Laurent 1964)

*Remarks.* MCZ R-74129, which has no corresponding MD number, is labeled as a paratype and comes from the same locality as the type series and with the same collector. Because all three paratypes appear accounted for in the Dundo collection, it seems likely that the MCZ specimen, which shares the same collection data with the types, was never registered and had been intended for exchange from the outset. Only the tail of the holotype, which was depicted in drawings (full dorsal view, dorsal, lateral and ventral faces of the head) in the description, was found inside the jar corresponding to this taxon. In a review of the genus *Typhlacontias*, Haacke (1997) considered *bogerti* as a subspecies of *T. punctatissimus* Bocage, 1873, although he had not examined the type series. In the same paper, Haacke (1997) presented several new localities for this subspecies in Namibe Province, and more recently,





Figure 35. Lateral view of the holotype (top, just the tip of the tail) and paratypes of *Typhlacontias bogerti* (MD 1946), and lateral, dorsal, and ventral views of the head of one of the paratypes. Photo by Luis M. P. Ceriaco.

Ceriaco et al. (2016a) collected new specimens in Iona National Park and elsewhere in the same province.

**Amphisbaenidae**

***Monopeltis vanderysti vilhenai* Laurent (1954a: 66)**

*Type Specimens.* Two paratypes (MD 5183 and MD 5242; Fig. 36), respectively an adult specimen from “Dundo” [Lunda Norte Province] collected by Barros Machado in July 1953 and a specimen from “un champ cultivé à Dundo” [Lunda Norte Province], collected on 19 October 1953.

*Present Name.* *Monopeltis vanderysti* de Witte, 1922

*Remarks.* Laurent (1954a) described this subspecies based on the holotype (MD 5040) and three paratypes. One mentioned in the main text was a specimen found already dead and somewhat desiccated (MD 5183), whereas two others that were sent to

Laurent by Machado after the initial submission of the manuscript (MD 5233 and MD 5242) were mentioned in a footnote on the same page. The later paratypes contradicted some of the original diagnostic characters used by Laurent (1954a) to diagnose the new subspecies, but other characters still allowed him to differentiate *M. v. vilhenai* from the other known forms. According to Broadley et al. (1976), the holotype (originally MD 5040) was integrated into the collections of the MRAC with the identification number 17503, and the paratype MD 5233 became MRAC 17504; no mention was made of paratypes MD 5183 and 5242. Broadley et al. (1976) found several inconsistencies and errors in the description of *M. v. vilhenai*, including erroneous scale counts, the length of the tail of two paratypes, as well as problems regarding the interpretation of the coloration of the type material. Given these problems, they considered the diagnostic



Figure 36. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Monopeltis vanderysti vilhenai* Laurent, 1954 (MD 5242). Photo by Luis M. P. Ceriaco.

characters provided by Laurent in the description did not serve to differentiate the newly described subspecies from the nominotypical form. Following the information provided by Broadley et al. (1976), Gans (2005) noted that the holotype (formerly MD 5040) is housed in MRAC under the number 17530 and also mentioned the existence of three additional paratypes in MRAC (5183, 5242, and 17504). Clearly, Gans (2005) incorrectly assumed that all of the paratypes had been sent to Tervuren. The internal MD card catalogue mentions that the paratypes had been in the MRAC for some time. The relevant card also mentions that both the holotype and paratype MD 5183 were collected by Barros Machado, which was not mentioned in the original description. Besides the holotype and paratypes, six additional topotypical specimens in MD are identified as *M. v.*

*vilhenai*, collected from 1953 to 1957 by different collectors (Laurent, 1964).

#### Typhlopidae

*Typhlops praeocularis lundensis* Laurent (1964: 90)

*Type Specimens.* Holotype (MD 5929; Fig. 37), an adult specimen from “Dundo” [Lunda Norte Province] collected on 14 February 1957, and four paratypes, all adult specimens from the same locality, MD 5252 collected on 30 November 1953, MD 5932 collected on 16 February 1957 by Barros Machado, MD 5935 collected on 23 February 1957, and MD 5938, collected on 1 March 1957.

*Present Name.* *Letheobia praeocularis* (Stejneger, 1894)

*Remarks.* Laurent (1964) provided a very short description for *T. p. lundensis*, which he considered different from the nominotypical form.



Figure 37. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Typhlops praeocularis lundensis* Laurent, 1964 (MD 5929). Photo by Luis M. P. Ceriaco.

otypical *T. praeocularis* due to its higher number of scales around the midbody and a higher frequency of contact between the nasal and the ocular with the preocular. He also noted that one of the paratypes (MD 5252) was collected from the stomach of a Bateleur (*Teratopius ecaudatus*). In her revision of the African typhlopids, Roux-Estève (1974) considered *T. p. lundensis* a synonym of *T. praeocularis* but noted that she had not examined the type specimen. Broadley and Wallach (2007) did not include either *L. praeocularis* or *L. lundensis* in their geographically constrained review of the genus *Letheobia*.

#### Colubridae

*Dispholidus typus punctatus* Laurent (1955: 129)

*Type Specimens.* Sixteen paratypes, all from “Dundo”: MD 101, a male collected in 1946 (Fig. 38); MD 197, an adult male collected on 3 November 1947; MD 242, an

adult male collected on 12 December 1947; MD 513 and MD 521, two adult males collected in June 1948; MD 1047, an adult male collected in April 1948; MD 1055, an adult female collected in April 1948; MD 1058, an adult male collected in May 1948; MD 1059, an adult male collected on 30 October 1947; MD 1060, an adult male collected in June 1948, MD 1061, two adult males collected in June 1948; MD 2244, an adult male collected by Barros Machado in October 1948; MD 2169 and MD 2179, respectively an adult male and a juvenile collected by Barros Machado in January 1949; and MD 2252, an adult male collected by Barros Machado in April 1949.

*Present Name.* *Dispholidus typus punctatus* Laurent, 1955

*Remarks.* This subspecies was described by Laurent (1955) based on a large number of specimens (129) from northeastern Angola and the Democratic Republic of the Congo scattered among four different collections: IRSNB (48 paratypes), IRSAC



Figure 38. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Dispholidus typus punctatus* Laurent, 1955 (MD 2179). Photo by Luis M. P. Ceriaco.

(1 paratype); MD (16 paratypes), and MRAC (63 paratypes and the holotype). The holotype, deposited in the collections of the MRAC, was also from “Dundo, Angola” and was collected in February 1949 by Barros Machado, as were several MRAC paratypes. Other paratypes in the same collection were also collected by Barros Machado and donated there. The diagnosis of the subspecies was based on the punctate pattern on the head and the darker tones of the dorsal coloration. Broadley and Wallach (2002) considered *punctatus* a synonym of the nominotypical form, but the recent revision by Eimermacher (2012) based on molecular genetic data indicates that this form constitutes a distinct lineage within *Dispholidus* (see also Branch, 2018).

#### Lamprophiidae

*Lycophidion hellmichi* Laurent (1964: 95)

*Type Specimen.* Holotype (MD 3824; Fig. 39), an adult female from “Kapopolopo,

désert de Moçâmedes” [Namibe Province] collected by “Prof. Baumann” (Hermann Baumann, 1902–1972) on 20 March 1954.

*Present Name.* *Lycophidion hellmichi* Laurent, 1964

*Remarks.* Besides the holotype, Laurent (1964) listed a specimen from “Entre Rios, Benguela” [Benguela Province] collected by “Alf. Burger” on 6 June 1953 and deposited in the collections of the Zoologisch Staatssammlung Munchen (ZSM), in Munich, Germany, as a paratype (ZSM 87/1953a). Alfons Burger participated in the Angolan expedition led by the German Zoologist Walter Hellmich (1906–1974), after whom the species is named. The description was accompanied by six drawings of the holotype, representing the dorsal, lateral, and ventral views of the head, as well as dorsal, lateral, and ventral views of the body. The type specimens, in addition to one specimen from “Quissange” [Benguela Province] reported by Broadley (1996), remain the only known records of this species for



Figure 39. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Lycophidion hellmichi* Laurent, 1964 (MD 3824). Photo by Luis M. P. Ceriaco.

Angola, although there is a record for the species from Namibia (e.g., Broadley, 1991, 1996).

*Lycodonomorphus subtaeniatus* Laurent (1954a: 38)

*Type Specimens.* Two of the four originally designated paratypes, a male (MD 2028) and female (MD 2041; Fig. 40), both from “Dundo” and collected in October 1948.

*Present Name.* *Lycodonomorphus subtaeniatus* Laurent, 1954

*Remarks.* The species was described on the basis of a type series of 13 specimens—the holotype from “Keseki, près de Kwamouth” (MRAC 14864); four paratypes (two male and two female) from “Dundo” (Angola), collected in October 1948 (MD 2026, 2028, 2038, and 2041); and eight other paratypes from different localities in the Democratic Republic of the Congo and all housed in the collections of the

MRAC. Laurent (1954a) also described a subspecies, *L. s. upembae*, based on one specimen from “Nyonga” and “Kina Mwena” (Democratic Republic of the Congo) that is housed in the MRAC collections. This taxon was recently included in a phylogenetic work in which it was considered to be a full species and transferred to the genus *Boaedon* (Greenbaum et al., 2015), although Chippaux and Jackson (2019) retained it as a subspecies of *L. subtaeniatus*. It is possible that the nominotypical form also belongs to the genus *Boaedon*, though no recently collected material exists for molecular genetics research.

*Gonionotophis brussaui prigoginei* Laurent (1956: 107)

*Type Specimen.* Paratype (MD 2033; Fig. 41), an adult male, from “Dundo, Angola” [Lunda Norte Province], collected by Barros Machado in December 1948.



Figure 40. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Lycodonormorphus subtaeniatus* Laurent, 1954 (MD 2041). Photo by Luis M. P. Ceriaco.

*Present Name.* *Gonionotophis brussauxi prigoginei* Laurent, 1956

*Remarks.* Laurent (1956) described the subspecies *G. b. prigoginei* based on six specimens, including the holotype, from northern and northeastern Democratic Republic of the Congo, housed in MRAC and the single specimen from MD. Laurent (1954a) previously cited the latter as *Gonionotophis brussauxi*. According to Laurent (1956), the main diagnostic character that differentiates *prigoginei* from the nominotypical form is the higher number of ventrals and subcaudals, although the type series exhibits considerable variation among dorsal rows as well as subcaudals. Marques et al. (2018) overlooked this subspecies in their account of *G. brussauxi*, but it has been regarded as a valid subspecies by some recent authors (see Chippaux and Jackson, 2019). The record from Dundo represents the southernmost record of the species but also is notably

isolated from the rest of the distribution of the species.

*Prosymna ambigua brevis* Laurent (1954a: 50)

*Type Specimens.* Three paratypes, two female (MD 248, 1069) and one male (MD 2149, Fig. 42), all from “Dundo” [Lunda Norte Province], collectors unknown, on 16 December 1947, June 1948 and an unknown date, respectively.

*Present Name.* *Prosymna ambigua* Boscage, 1873

*Remarks.* Laurent (1954a) designated a female specimen (MD 2177) collected in “Dundo” in February 1949 as the holotype and eight paratypes: a female from “Dundo” (MD 248) collected on 16 December 1947, a female from “Dundo” (MD 1069) collected in June 1948, a male from Dundo (MD 2081) collected on 12 November 1948, a male from “Dundo” without known date of collection (MD 2149), a male from



Figure 41. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the paratype of *Gonionotophis brussauxi prigoginei* Laurent, 1956 (MD 2033). Photo by Luis M. P. Ceriaco.



Figure 42. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Prosymna ambigua brevis* Laurent, 1954 (MD 2149). Photo by Luis M. P. Ceriaco.



Figure 43. Dorsal and ventral view of body and lateral, dorsal, and ventral views of the head of the holotype of *Elapsoidea decosteri huilensis* Laurent, 1964 (MD 5552). Photo by Luis M. P. Ceriaco.

“Sombo” (MD 2051) collected in October 1948, and three other specimens from “Sandoa,” Democratic Republic of the Congo, collected in December, 1931 (MRAC 7929) and 1930 (MRAC 8275–76), deposited in the collections of the MRAC. Broadley (1980) synonymized *P. a. brevis* with the nominotypical form but continued to recognize the Congo Basin subspecies *P. a. bocagii* Boulenger, 1897. This action has been followed by all subsequent authors (e.g., Branch, 2018; Marques et al., 2018; Chippaux and Jackson, 2019).

#### Elapidae

*Elapsoidea decosteri huilensis* Laurent (1964: 118)

*Type Specimen.* Holotype (MD 5552; Fig. 43), a juvenile female, from “Fazenda Bumbo, Humpata (Huila),” [Huila Prov-

ince], collected by Werner Kisker in 1954 and donated by Prof. H. Baumann.

*Present Name.* *Elapsoidea semiannulata* Bocage, 1882

*Remarks.* Laurent (1964) described *huilensis* as a subspecies of *Elapsoidea decosteri* Boulenger, 1888. In the chresonymy presented, he listed several other Angolan records of *Elapsoidea guentheri* Bocage, 1866, reported by Bocage (1895), Schmidt (1933), Monard (1937), and Mertens (1937), as well as *Elapsoidea sundevallii semiannulata* Bocage, 1882. However, he appears to have neglected the original description of *E. semiannulata* by Bocage (1882), the type locality of which (Caconda, Huila Province) was near the type locality of *E. d. huilensis*. Similarly, in his diagnosis of *huilensis*, Laurent (1964) provides comparisons with several other species of *Elapsoidea* but not *semiannulata*, with which it was subsequently synonymized by Broadley (1971).



**Lost Types****Atractaspididae**

*Xenocalamus bicolor machadoi* Laurent  
(1954a: 45)

*Type Specimen.* Laurent (1954a) designated a female specimen as the holotype (MD 2082), collected in “Dundo [...] capturé dans un champ de manioc labouré, vers 20 cm de profondeur” by Barros Machado on 10 November 1948. However, we could not locate this specimen in the collections, and no specimen is listed on the designated page for the taxon in the internal catalogue.

*Present Name.* *Xenocalamus bicolor machadoi* Laurent, 1954

*Remarks.* Besides the holotype from the Dundo collections, Laurent (1954a) designated two paratypes—one female specimen from “Sando, distr. Lualaba, Congo Belge” (Democratic Republic of the Congo), collected in January 1932 and deposited in MRAC (MRAC 7965), and one male specimen from “entre Benguella et Bihé,” collected by Ansoerge and housed in the collections of the Natural History Museum (BMNH) in London, United Kingdom (BMNH 1905.5.29.33). Wallach et al. (2014) considered *machadoi* as a synonym of *bicolor*, but Marques et al. (2018) and Branch (2018) tentatively maintained it as a valid subspecies. Chippaux and Jackson (2019) did not comment on this nominal taxon. Besides the type material, only very recently the taxon was again recorded in Angola (Portillo et al., 2018, although the species is known to occur in the western Katanga region, Democratic Republic of Congo (Marques et al., 2018).

**Final Remarks**

Although quite active from the 1950s to 1970s, collection-based research and addition of scientific specimens to Angolan institutions nearly ceased in the period after independence and during the civil war that

lasted from 1975 to 2002 (Bauer, 2019). The main zoological collections in Angola are currently held by five institutions: the Museu do Dundo, the Museu Nacional de História Natural in Luanda, the Instituto Superior de Ciências da Educação (ISCED) in Lubango (mostly known for its ornithological collection, see Mills et al. [2010] and Dean et al. [2012]), the Instituto de Investigação Agrária (IIA) in Huambo, and the Instituto Nacional da Biodiversidade e Áreas de Conservação (INBAC) in Kilamba-Kiayi (Luanda). All but the IIA have herpetological collections. The Museu do Dundo holds the largest collection among the Angolan institutions with 2,753 specimens (this paper). The Museu Nacional de História Natural contains a collection of 600+ herpetological specimens, of which 564 specimens are a result of an environmental impact assessment of Capanda Dam (Malanje Province) in 2003, that were studied and published by Ceríaco et al. (2014a). Strangely, Figueira and Lages (2019) classified the Luanda museum as “inactive.” ISCED holds a very recent collection of 1,081 amphibian and reptile specimens (Figueira and Lages, 2019). The INBAC collections contain a comparable number of specimens to those Angolan specimens housed in California Academy of Sciences (CAS), San Francisco, USA and is currently in the process of being catalogued and made publicly available through Global Biodiversity Information Facility (GBIF). The INBAC collection, which was not noted by Figueira and Lages (2019) in their recent revision of Angola natural history collections, results from the collaboration of INBAC with international partners in the study of Angolan herpetofauna. A large number of specimens held by the Port Elizabeth Museum are currently being prepared to be submitted to GBIF (Werner Conradie, personal communication).

The relevance of the herpetological collections housed in Museu do Dundo is best appreciated in a global context. These

collections represent one of the largest single Angolan herpetological collection in the world. A recent survey and worldwide revision of amphibian and reptile specimens from Angola available in museums globally revealed that there are approximately 16,000 herpetological specimens from Angola in at least 41 different institutions (LMPC, DCB, AMB, personal observations). This does not include the recent collections housed in INBAC and ISCED, as well as other specimens collected during recent projects that are not yet accessioned in collections. Although small in total amphibian and reptile holdings relative to several major southern and East African museums, including the Ditsong National Museum of Natural History (ca. 86,000), Iziko National Museum of Natural History (ca. 14,000), Port Elizabeth Museum (ca. 40,000), and National Museum, Bloemfontein (ca. 17,000) in South Africa and the National Museum of Zimbabwe (ca. 52,000), National Museum of Namibia (ca. 13,000), and National Museums of Kenya (ca. 30,000) (Hamer, 2012; Conradie et al., 2019), the Museu do Dundo is noteworthy for being one of the few collections in Central Africa. More importantly, it is distinguished as a repository for type material, which constitutes a disproportionate percentage of the entire collection. Indeed, aside from Dundo, the vast majority of Angolan types are (or were—a 1978 fire destroyed the collections of the Lisbon Museum) housed in European collections, as are nearly all amphibian and reptile types from across the whole of Central Africa. The Museu do Dundo has 19 extant holotypes and 66 extant paratypes representing 28 taxa. These taxa are also represented by material in other museums, most notably MRAC, which contains many of the Democratic Republic of the Congo and Angolan paratypes and holotypes, as well as the MCZ which houses confirmed or putative paratypes of eight of the taxa described by

Raymond Laurent from the period when he was an associate researcher at MCZ.

The development of our knowledge regarding Angolan herpetology in the last 11 years has no parallel in the last 50 years (for a detailed historical revision see Marques et al., 2018). Since 2008, 15 new amphibian and reptile taxa have been described from Angola (Haacke, 2008; Conradie et al., 2012a,b, 2013; Stanley et al., 2016; Ceríaco et al., 2018b, 2020a,b; Branch et al., 2019a; Marques et al., 2019a,b, 2020), species previously unknown to occur in the country have been found within its boundaries (e.g., Ernst et al., 2014; Heinicke et al., 2017a), endemic species that have not been found in the country for decades have been rediscovered (e.g. Branch et al., 2017; Gonçalves et al., 2019), and several surveys have been conducted in poorly known areas of the country (e.g., Ceríaco et al., 2014a,b, 2016a,b, 2018a; Branch and Conradie, 2015; Conradie et al., 2016; Baptista et al., 2018; Butler et al., 2019). This renewed interest in Angolan biodiversity has culminated in the recent publication of an atlas of historical records (Marques et al., 2018), two syntheses of the herpetofauna of Angola (Baptista et al., 2019, Branch et al., 2019b), and an annotated checklist of snakes (Branch, 2018). However, many novelties await discovery, and several projects are currently in different phases of completion that will add considerably to our knowledge of Angola's herpetofauna. As demonstrated by the role of Museu do Dundo specimens in the description of the new species (Marques et al., 2019a, 2020; Ceríaco et al., 2020a), the collections housed in Dundo will continue to contribute to the development of Angolan and African herpetology. Its preservation and appreciation is crucial to ensure access by present and future generations of researchers, scholars, and students seeking to utilize this unique resource for biodiversity research and conservation in Angola.

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