

## The snakes of Mali

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**Abstract.** From 2004 to 2010 we sampled snakes in different localities in the Republic of Mali, West Africa. A total of 5,224 snakes belonging to 60 species were collected at 37 localities, including specimens from 18 species not reported before from this country. Based on a full account of this collection, supplemented with additional museum specimens and reliable literature reports, we present an annotated checklist of the 65 snake species currently known from Mali. Collecting localities for all specimens are provided and, where necessary, some taxonomical and biogeographical issues are discussed.

**Key words.** Reptilia; Ophidia; biogeography; country checklist; venomous snakes; West Africa.

### INTRODUCTION

The Republic of Mali is the second largest country of West Africa with 1,240,000 km<sup>2</sup> between latitudes 10°N and 25°N and longitudes 12°W and 4°E. The northern part of the country is Saharan (Fig. 1), the central part is Sahelian (Fig. 2), and the southern part is Sudanese or Sudano-Guinean (Figs 3–4). Elevation is low, ranging from 30 m along the banks of the Senegal River in the westernmost part of the country, to 1,155 m at the top of the highest peak in the Hombori Mounts in central Mali (Fig. 5). Even in the most elevated areas of the country, i.e. the Mandingue and Dogon Plateaux in south-eastern and central Mali, and the Adrar des Iforhas in northern Mali, elevation rarely exceeds 500 m. The country has a rich hydrological system, with the Niger River and its tributaries that form a large inner delta in central Mali before reaching the Sahara desert then heading southeast to the Gulf of Guinea, and with four main rivers in the upper Senegal River basin in the western part of the country (Arnaud & Pitte 2010).

Small collections of snakes from Mali, formerly Soudan français, have been reported by Pellegrin (1909), Chabanaud (1917), Angel (1922, 1933), de Witte (1930), Anderson (1935), Angel & Lhote (1938), Villiers (1950, 1951, 1952, 1953, 1954, 1956, 1965), Joger (1981), Schätti (1986), and Böhme et al. (1996). Papenfuss (1969) and Joger & Lambert (1996) reviewed the literature recording snake and other reptile species in Mali, reported their own collections, and provided a country checklist with locality records for each species. Specimens from Mali were included in works on certain genera or species, in particular by Roux-Estève (1974), Hughes (1976, 1977, 1983, 1985), Broadley (1984), Wüster & Broadley (2003), Trape & Mané (2006a), Trape et al. (2006, 2009, 2012), and Cro-

chet et al. (2008). Trape & Mané (2006b) provided square-degree distribution maps for all species of snakes known from Mali and neighbouring countries, including a large part of the material here reported, but precise collecting localities were not mentioned. Sindaco et al. (2013) provided square-degree distribution maps of Palaearctic species distributed in northern Mali.

### MATERIAL AND METHODS

From July 2002 to March 2010, we conducted field work in several regions of Mali in order to collect snakes. We deposited cans or buckets half filled with formaldehyde or ethanol in 32 villages (Fig. 6), which were housed by the chief of the village. We asked the villagers to deposit in these containers snakes they killed when they were occasionally encountered in the vicinity of their village. A modest award (300 CFA, i.e. approximately 0.6 US \$) was given for each preserved specimen. In most parts of Mali, as in most parts of Africa, all species of snakes are feared and systematically killed when they are encountered. Thus, the objective of the award was to acknowledge the effort of carrying killed snakes from surrounding fields to the village, but without encouraging snake research and killing. Visits to the villages were organized in April 2003, January, June and December 2004, February, June and November 2005, January and May 2006, January, October and December 2007, January 2008, and March 2010, to retrieve the specimens. During these trips we also collected snakes at five additional localities. The 37 collecting localities (Table 1) were distributed either in the southern part of the country (7 localities between 11°00'N and 11°59'N), in the central part (13 localities between 12°00'N and 14°15'N) or in the northern part of the coun-



**Fig. 1.** A typical sandy valley and wadi in the mountains of the Adrar des Iforas (19°01'N, 01°50'E).



**Fig. 2.** View of the Sahelian vegetation in western Mali, near Samé Ouolof study village (14°33'N, 11°20'W).



**Fig. 3.** Sudanese savanna in eastern Mali, west of Niamasso study village (13°02'N, 05°47'W).

try (17 localities between 14°16'N and 16°45'N), where average annual rainfall ranges approximatively from 1,000–1,100 mm, 500–1,000 mm, and 200–500 mm, respectively (Mahé et al. 2012). The most Saharan part of the country, i.e. north of 17°N, was not surveyed except during a two-week period in February 2004. Although no specimen was collected during these two weeks, some information on records of *Cerastes cerastes* Linnaeus, 1758 and *C. vipera* (Linnaeus, 1758) was obtained from locals (they are indicated as “sight record”).

Most specimens were deposited at the Institut de Recherche pour le Développement (Dakar, Senegal; acronym: IRD) and several specimens were donated to the Museum national d'Histoire naturelle (Paris, France; acronym: MNHN). We also examined selected Malian specimens from the Institut Fondamental d'Afrique Noire (Dakar, Senegal; acronym: IFAN) and at the MNHN collections.

Specimens were identified to species according to classical identification keys for West African snakes (Villiers & Condamin 2005, Trape & Mané 2006b) and further taxonomic analysis (Trape et al. 2009, Trape et al. 2012, Trape et al., unpublished). For recent changes in snake generic names, we usually followed those adopted in the reptile database by Uetz et al. (2016) (<http://www.reptile-database.org/>).

## RESULTS

We collected a total of 5,224 specimens belonging to 60 species (Table 1) and examined additional Malian specimens from IFAN (one specimen) and MNHN (13 specimens). Two additional species are known with certainty from Mali but were not represented among the specimens that we collected or examined personally. Altogether, the total number of snake species from Mali is 65. Coordinates of collecting localities are listed in Table 1, and those obtained from literature data and sight records are in Table 2.

### Family Typhlopidae Gray, 1845

*Afrotyphlops lineolatus* (Jan, 1864)

Material: 12 specimens.

Localities: Npiébougou (11), Laminina (1).

Remarks: First record for Mali.

*Afrotyphlops punctatus* (Leach, 1819)

Material: 21 specimens.

Localities: Laminina (1), Mamoroubougou (7), Niamou (2), Npiébougou (1), Titiéna (4), Zamoko (6).

Literature record: Diafarabé (Villiers 1953).

Remarks: All specimens from Mamoroubougou and one

**Table 1.** Collecting localities of snakes in Mali (our study).

N	Locality	Latitude	Longitude	Altitude	Ecoregion	No. of specimens	No. of species
1	Agoudoud	15°54'N	01°13'W	320 m	Sahel	4	2
2	Ballabougou	12°52'N	06°52'W	338 m	Sudanese	15	7
3	Bamako	12°38'N	08°00'W	325 m	Sudanese	1	1
4	Bangaya	13°14'N	10°43'W	135 m	Sudanese	118	19
5	Boussouma	15°06'N	02°38'W	318 m	Sahel	19	4
6	Bouyanga	14°30'N	09°38'W	278 m	Sahel	305	12
7	Djinagué	12°59'N	09°52'W	305 m	Sudanese	125	17
8	Donguiba	13°49'N	06°05'W	303 m	Sudanese	1	1
9	Doro	16°08'N	00°50'W	295 m	Sahel	10	2
10	Doussoudiana	11°09'N	07°48'W	365 m	Sudano-Guinean	116	20
11	Gaoudel	15°59'N	04°05'W	270 m	Sahel	95	7
12	Gogui (10 km S)	15°35'N	09°20'W	210 m	Sahel	1	1
13	Gouina	14°00'N	11°06'W	70 m	Sudanese	1	1
14	Haoussa-Foulane	15°59'N	00°08'E	256 m	Sahel	7	4
15	Kinani	15°00'N	03°51'W	268 m	Sahel	37	5
16	Koundian	13°09'N	10°40'W	170 m	Sudanese	68	18
17	Koyretao	16°04'N	03°53'W	271m	Sahel	55	6
18	Laminina	11°12'N	07°46'W	361 m	Sudano-Guinean	160	28
19	Léré	15°43'N	04°54'N	268 m	Sahel	6	3
20	Mamoroubougou	11°14'N	05°28'W	386 m	Sudano-Guinean	1064	36
21	Niakoni	11°11'N	07°48'W	378 m	Sudano-Guinean	14	7
22	Niamasso	12°59'N	05°27'W	281 m	Sudanese	21	5
23	Niamou	14°01'N	08°02'W	372 m	Sudanese	498	23
24	Npiébougou	11°59'N	08°00'W	367 m	Sudano-Guinean	372	29
25	Sadjouroubougou	12°35'N	07°44'W	335 m	Sudanese	26	10
26	Samé Ouolof	14°29'N	11°34'W	41 m	Sahel	71	8
27	Saré-Soma	14°45'N	03°55'W	271 m	Sahel	31	4
28	Sébékourani	12°12'N	08°42'W	386 m	Sudanese	409	28
29	Séoulasso	13°14'N	04°42'W	279 m	Sudanese	292	16
30	Tacharane	16°09'N	00°04'E	257 m	Sahel	15	2
31	Ténintou	11°20'N	07°44'W	357 m	Sudano-Guinean	1	1
32	Tinjemban	16°44'N	02°50'W	269 m	Sahel	23	4
33	Titiéna	11°26'N	06°33'W	308 m	Sudano-Guinean	376	27
34	Topokhoné	15°02'N	10°34'W	105 m	Sahel	4	3
35	Toumboula	14°20'N	07°47'W	287 m	Sahel	170	9
36	Toya	16°39'N	03°03'W	266 m	Sahel	71	3
37	Zamoko	13°09'N	07°57'W	395 m	Sudanese	622	25
<b>Total</b>						<b>5,224</b>	<b>60</b>

specimen from Laminina and Titiéna were marbled, the rest were lineated with three of them blackish (all from Zamoko).

#### Family Leptotyphlopidae Stejneger, 1892

*Myriopholis adleri* (Hahn & Wallach, 1998)

Material: 1 specimen.

Locality: Sébékourani (1).

Remarks: First record for Mali.

*Myriopholis albiventer* (Hallermann & Rödel, 1995)

Material: 5 specimens.

Localities: Doussoudiana (1), Mamoroubougou (4).

Remarks: First record for Mali. A picture of the specimen from Doussoudiana was published in Trape & Mané (2006b).

*Myriopholis algeriensis* (Jacquet, 1895)

Material: no specimen studied.

Literature records: Bourem (Papenfuss 1969, as *Leptotyphlops macrorhynchus* (Jan, 1860); Hahn & Wallach 1998, as *Leptotyphlops macrorhynchus algeriensis*), Tombouctou (Broadley et al. 2014).

*Myriopholis boueti* (Chabanaud, 1917)

Material: 126 specimens.

**Table 2.** Coordinates of snake records from Mali (literature data and sight records). The asterisk means an approximate.

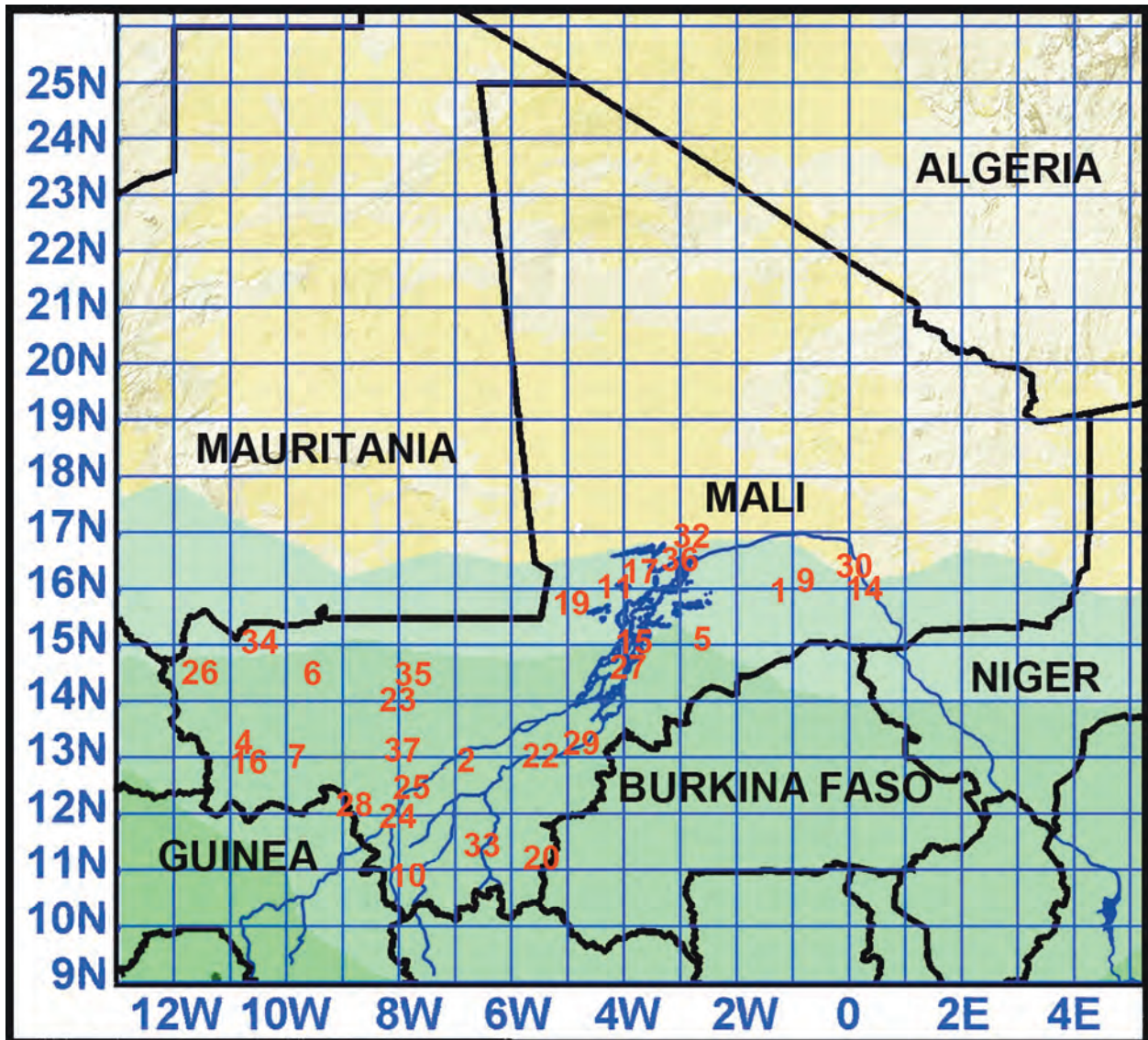
Locality	Latitude	Longitude
Adrar des Iforhas	18–20°N*	01–02°E*
Araouane	18°54'N	03°31'W
Bamako	12°39'N	08°00'W
Bandiagara	14°21'N*	03°37'W*
Bla	12°57'N	05°46'W
Bougouni	11°25'N	07°29'W
Bourasso	13°40'N	04°20'W
Bourem	16°57'N	00°21'W
Diafarabé	14°09'N	05°01'W
Didiéni (toward Kolokani)	13°42'N	08°02'W
Diré	16°16'N	03°24'W
Djenné	13°54'N	04°33'W
Dogo	15°10'N	04°26'W
Douentza	15°00'N	02°57'W
Fabiguine	16°44'N*	03°50'W*
Fatao (9 km N of)	14°24'N	09°29'W
Félou (falls)	14°21'N	11°21'W
Gao	16°16'N	00°03'W
Goundam	16°25'N	03°40'W
Gourao	15°19'N	04°02'W
Kakoulou	14°17'N	11°17'W
Kati	12°43'N	08°04'W
Katibougou	12°30'N	08°05'W
Kayo	13°53'N	05°37'W
Ké-Macina	13°58'N	05°23'W
Kidal	18°26'N	01°24'E
Kita	13°03'N	09°29'W
Kokoukourou	12°58'N	09°37'W
Lobi	16°15'N	00°04'W*
Madina-Kagoro (10 km W of)	14°20'N	07°45'W
Mopti and vicinity	14°30'N	04°12'W
Mourdiah	14°28'N	07°28'W
Naréna	12°14'N	08°38'W
Niamiga (W of)	14°30'N	11°12'W
Nioro du Sahel	15°14'N	09°35'W
Négala (toward Kassaro)	12°55'N	08°40'W
San	13°18'N	04°54'W
Saré Malé	14°05'N	04°26'W
Sévaré (158 km SW of)	13°40'N	04°20'W
Sikasso (toward Sindi)	11°30'N	05°56'W
Sormé	14°52'N	04°25'W
Tabakoro	11°26'N	06°46'W
Taga Diabozo	14°18'N	04°57'W
Takabart (SW)	20°10'N*	01°10'W*
Taoudeni (half way to Araouane)	20°40'N*	03°50'W*
Tessalit (and vicinity)	20°12'N	01°00'W
Tilembaya	14°09'N	04°59'W
Timétrine	19°20'N	00°42'W
Tisserlitine (toward Timétrine)	20°36'N	00°11'W
Toguéré Sanga	14°28'N	03°19'W
Tombouctou	16°46'N	03°01'W
Wana Boubou	14°01'N	04°58'W
Yélimané	15°08'N	10°34'W



**Fig. 4.** Sudano-Guinean savanna in the vicinity of Doussoudiana, the southernmost village of the study (11°11'N, 07°44'W).



**Fig. 5.** The Hombori Mountains, the highest mountains of Mali (15°14'N, 01°48'W).



**Fig. 6.** Map of Mali with location of villages selected for the study. See Table 1 for locality numbers. Doussoudiana, Laminina and Niakoni villages, located within a 5 km radius, are represented by a single number (n° 10). Colours for vegetation areas: Guinean: dark green; Sudanese: green; Sahelian: light green; Saharan: yellow for sandy areas, white for stony areas, grey for rocky and mountainous areas.

Localities: Bamako (1), Bouyanga (9), Djinagué (2), Koundian (1), Niamou (1), Npiébougou (27), Samé Ouolof (1), Sébékourani (10), Zamoko (74).

Literature records: Djenné (Chabanaud 1917, type locality), Bamako (Villiers 1950).

Remarks: One specimen from Sébékourani was attributed erroneously to *Myriopholis rouxestevae* (Trape & Mané, 2004) in the distribution map of Trape & Mané (2006b).

*Rhinoaguinea magna* Trape, 2014

Material: 16 specimens.

Locality: Mamoroubougou (16).

Remarks: This species is currently known only from Mamoroubougou, the type locality, where it represented 1.5% of the 1,042 fossorial reptiles collected in this locality (Typhlopidae: 7 specimens, Leptotyphlopidae: 731 specimens, Amphisbaenidae (*Cynisca leucura* (Duméril & Bibron, 1839)): 304 specimens).

*Rhinoleptus koniagui* (Villiers, 1956)

Material: 11 specimens.

Localities: Djinagué (1), Koundian (1), Laminina (3), Npiébougou (6).

Remarks: First record for Mali. Koundian and Laminina



**Fig. 7.** The Farako River and its forest gallery near Mamoroubougou, the village where the highest number of snakes and snake species were collected (11°14'N, 05°28'W).



**Fig. 8.** The Sudanese savanna between Koundian and Bangaya villages in southwestern Mali (13°10'N, 10°38'W).





**Fig. 9.** The Sudanese savanna near Sébékourani village where 28 snake species were collected (12°02'N, 08°44'W). The deadly carpet viper *Echis jogeri* was abundant.

specimens were reported on a grid map in Trape & Mané (2006b), where the square degree 11°N/5°W was mentioned erroneously.

*Tricheilostoma bicolor* (Jan, 1860)

Material: 838 specimens.

Localities: Doussoudiana (4), Laminina (1), Mamoroubougou (711), Niamou (3), Npiébougou (7), Sébékourani (9), Titiéna (2), Zamoko (101).

Literature records: Diafarabé (Villiers 1950), Bamako (Villiers 1950, as *Leptotyphlops brevicauda* (Bocage, 1887)).

Remarks: The maximum total length was 191 mm (tail length: 6 mm) in a specimen from Mamoroubougou (IRD 4289.M), a record for the species. Smallest specimens from Mamoroubougou were 9–10 cm long.

**Family Boidae Gray, 1825**

*Eryx muelleri* (Boulenger, 1892)

Material: 174 specimens.

Localities: Bangaya (1), Bouyanga (42), Doro (7), Gaoudel (7), Haoussa-Foulane (1), Koundian (2), Koyretao (8), Léré (3), Niamasso (1), Niamou (95), Samé Ouolof (1), Séoulasso (1), Tinjemban (1), Toumboula (4).

Literature records: Bandiagara (Angel 1933), Gao (Angel & Lhote 1938), Nioro du Sahel (Villiers 1950), Dogo (Villiers 1956), Mourdiah (Joger & Lambert 1996).

**Family Pythonidae Fitzinger, 1826**

*Python regius* (Shaw, 1802)

Material: 55 specimens.

Localities: Ballabougou (1), Djinagué (3), Doussoudiana (10), Koundian (1), Laminina (7), Niakoni (1), Niamou (1), Sadjouroubougou (1), Sébékourani (18), Titiéna (8), Zamoko (4).

Literature record: Southern Mali (Chippaux 1999).

*Python sebae* (Gmelin, 1788)

Material: 23 specimens.

Localities: Bangaya (1), Boussouma (1), Bouyanga (1), Djinagué (1), Laminina (3), Niamou (5), Npiébougou (1), Samé Ouolof (1), Sébékourani (7), Titiéna (1), Toumboula (1).

Literature records: Kati (Angel 1922), Sikasso (Villiers 1965), Bamako (Broadley 1984), Bandiagara (Böhme et al. 1996).

**Family Colubridae Oppel, 1811**

*Afronatrix anoscopus* (Cope, 1861)

Material: 17 specimens.

Localities: Mamoroubougou (16), Titiéna (1).

Remarks: First record for Mali. Mamoroubougou record was reported on a grid map in Trape & Mané (2006b).



Fig. 10. Near Bandiagara cliff, an area of transition between the Sudanese savanna and the Sahel (14°02'N, 03°46'W).

*Bamanophis dorri* (Lataste, 1888)

Material: 37 specimens.

Localities: Bangaya (24), Koundian (4), Niamou (8), Toumboula (1).

Literature records: Kati (Angel 1922), Bamako (Villiers 1956, Joger & Lambert 1996), chutes du Félou, between Négala and Kassaro (Joger 1981), Bandiagara (Joger & Lambert 1996).

Remarks: Most specimens were included in the description of the genus *Bamanophis* by Schätti & Trape (2008).

*Crotaphopeltis hippocrepis* (Reinhardt, 1843)

Material: 3 specimens.

Localities: Doussoudiana (1), Mamoroubougou (1), Npiébougou (1).

Remarks: First record for Mali. This species seems rare in Mali contrary to Burkina Faso and Guinea, two neighbouring countries where *C. hippocrepis* is both common and widely distributed (Roman 1974, Trape & Baldé 2014).

*Crotaphopeltis hotamboeia* (Laurenti, 1768)

Material: 225 specimens.

Localities: Ballabougou (1), Bangaya (26), Djinagué (29), Doussoudiana (12), Laminina (10), Mamoroubougou (25), Niakoni (2), Niamasso (2), Niamou (8), Npiébougou (11), Sadjouroubougou (2), Saré-Soma (2), Sébékourani (58),

Séoulasso (1), Titiéna (22), Toumboula (5), Zamoko (9).  
Literature record: Diafarabé (Villiers 1952).

*Dasypeltis confusa* Trape & Mané, 2006

Material: 3 specimens.

Locality: Diafarabé (1, coll. IFAN), Mamoroubougou (2).  
Remarks: The Diafarabé specimen was collected in the early 1950's by the French ichthyologist J. Daget and was first published as *Dasypeltis scabra* (Linnaeus, 1758) by Villiers (1953). In fact, its pattern (5L) is typical of *D. confusa* (see Trape & Mané 2006a and Trape et al. 2012), and there is no doubt that it belongs to this Guinean species although Diafarabé is located in the Sahel at 320 km north of the nearest known locality (Mamoroubougou). Since Diafarabé is riverine of the Niger River and only *D. sahelensis* Trape & Mané, 2006 is known in the area, we presume that this specimen was carried by floods, as it also probably occurred for the holotype of *Echis jogeri* Chérilín, 1990 from Tombouctou.

*Dasypeltis gansi* Trape & Mané, 2006

Material: 3 specimens.

Localities: Ballabougou (2), Séoulasso (1).

Remarks: The other records presented on the grid map in Trape & Mané (2006b) are referable to *D. latericia* Trape & Mané, 2006 (see below).



**Fig. 11.** A view of the Sahelian landscape in the vicinity of Boussouma study village (15°08'N, 02°31'W). *Psammophis* aff. *sibillans*, *Naja nigricollis* and *Echis leucogaster* were the most abundant species, but *Python sebae* was also collected in a pound.

*Dasypeltis latericia* Trape & Mané, 2006

Material: 25 specimens.

Localities: Bangaya (4), Koundian (1), Niamou (5), Npiébougou (2), Sébékourani (1), Séoulasso (4), Titiéna (1), Zamoko (7).

Remarks: Most specimens were included in the description of *D. latericia* (Trape & Mané 2006a). *Dasypeltis latericia* was recently given full species rank following a molecular analysis of the genus *Dasypeltis* (Trape et al. 2012).

*Dasypeltis sahelensis* Trape & Mané, 2006

Material: 23 specimens.

Localities: Bouyanga (5), Gaoudel (5), Koyretao (8), Séoulasso (2), Toumboula (3).

Remarks: Several specimens were included in the material used for the description of this species (Trape & Mané 2006a). All specimens from the type series have an entire nasal and this character was used in the key of the genus *Dasypeltis* (Trape et al. 2012). However, we recently observed a semi-divided nasal in some specimens of *D. sahelensis* from Morocco.

*Dispholidus typus* (Smith, 1829)

Material: 19 specimens.

Localities: Doussoudiana (1), Laminina (5), Mamoroubougou (7), Npiébougou (2), Titiéna (1), Zamoko (3).

Literature record: Sikasso (Villiers 1965).

*Grayia smithi* (Leach, 1818)

Material: 15 specimens.

Locality: Mamoroubougou (15).

Remarks: First record for Mali.

*Meizodon coronatus* (Schlegel, 1837)

Material: 21 specimens.

Localities: Bangaya (1), Bouyanga (1), Mamoroubougou (1), Sébékourani (12), Titiéna (6).

Literature records: Kati (Angel 1922), Tilembaya (Villiers 1951), Diafarabé (Villiers 1952), Wana Boubou (Villiers 1953).

*Natriciteres olivacea* (Peters, 1854)

Material: 1 specimen (coll. MNHN).

Locality: Gao.

Literature record: Gao (Chabanaud 1917).

*Philothamnus irregularis* (Leach, 1819)

Material: 42 specimens.

Localities: Doussoudiana (9), Laminina (15), Niakoni (1), Npiébougou (5), Sébékourani (8), Titiéna (4).

Literature records: Kati (Angel 1922, as *Chlorophis emini* (Günther, 1888)), Kayo (Villiers 1950, as *Philothamnus nitidus* (Günther, 1863)), Diafarabé, Tilembaya (Villiers 1953), Ké-Macina (Villiers 1956), Sikasso (Villiers 1965), Lobi near Gao (Hughes 1983, 1985), Mourdiah (Joger & Lambert 1996).



**Fig. 12.** Vicinity of Haoussa Foulane village (16°00'N, 00°08' W), an area of Sahelo-Saharan transition where *Echis leucogaster*, *Eryx muelleri*, *Psammophis* aff. *sibilans* and *Rhagerhis moilensis* were collected.

*Philothamnus semivariiegatus smithi* Bocage, 1882

Material: 4 specimens.

Localities: Doussoudiana (2), Laminina (1), Niamou (1).  
Literature records: Bandiagara (Angel 1933), Gao (Hughes 1985).

Remarks: Trape & Mané (2006b) attributed West African populations of *P. semivariiegatus* to a distinct subspecies, i.e. *P. semivariiegatus* ssp., differing from the nominal subspecies by its dorsal colouration: almost uniformly green in West Africa, versus green with black crossbars in southern Africa where the type originates. Trape & Baldé (2014) revalidated *Philothamnus semivariiegatus smithi* Bocage, 1882 for this subspecies. Preliminary molecular studies (Trape & Mediannikov, unpublished) suggest that full specific rank may be justified.

*Spalerosophis diadema cliffordi* (Schlegel, 1837)

Material: 8 specimens.

Localities: Gaouzel (2), Koyretao (5), Toya (1).  
Literature record: Goundam (Angel 1933).

*Telescopus tripolitanus* (Werner, 1909)

Material: 8 specimens.

Localities: Kinani (3), Toumboula (5),  
Literature records: Kidal (Andersson 1935, as *Tarbophis obtusus* (Reuss, 1834)), Mourdiah (Joger & Lambert 1996).

Remarks: Several specimens were included in the revision of this species by Crochet et al. (2008).

*Telescopus variegatus* (Reinhardt, 1843)

Material: 8 specimens.

Localities: Koundian (1), Mamoroubougou (2), Zamoko (5).

Literature record: Kati (Angel 1922).

**Family Lamprophiidae Ritzinger, 1843**

*Amblyodipsas unicolor* (Reinhardt, 1843)

Material: 5 specimens.

Localities: Mamoroubougou (5).

Remarks: This record, the only one for Mali, appeared on a grid map without specific documentation in Trape & Mané (2006b).

*Atractaspis aterrima* Günther, 1863

Material: 5 specimens.

Localities: Doussoudiana (2), Laminina (1), Mamoroubougou (1), Sadjouroubougou (1).  
Literature record: Bougouni (Schätti 1986).

*Atractaspis dahomeyensis* Barboza du Bocage, 1887

Material: 10 specimens.

Localities: Mamoroubougou (7), Npiébougou (2), Titiéna (1).

Literature record: Tabakoro (Schätti 1986).

*Atractaspis micropholis* Günther, 1872

Material: 1 specimen.

Locality: Niamou (1).

Literature record: (?) Madina Kagoro (Joger & Lambert 1996, specimen possibly attributable to *Atractaspis watsoni* Boulenger, 1908).

*Atractaspis watsoni* Boulenger, 1908

Material: 7 specimens.

Localities: Bandiagara (1, coll. MNHN), Diafarabé (1, coll. MNHN), Douentza (1, coll. MNHN), Samé Oulof (1), Séoulasso (1), Topokhoné (2).

Literature records: Bandiagara (Angel 1933), Douentza (Angel & Lhote 1938).

Remarks: This species was resurrected from the synonymy of *Atractaspis microlepidota* (Günther, 1866) by Trape et al. (2006), who also reviewed previous records of *Atractaspis micropholis* Günther, 1872 and provided keys to distinguish the three species. *Atractaspis microlepidota* may occur in Mali but this West African species is currently known only from Senegal, The Gambia and southern Mauritania.

*Boaedon fuliginosus* (Boie, 1827)

Material: 92 specimens.

Localities: Bangaya (3), Bouyanga (1), Djinagué (7), Doussoudiana (4), Kinani (2), Koundian (5), Laminina (8), Mamoroubougou (16), Niamou (2), Npiébougou (11), Sébékourani (20), Séoulasso (2), Titiéna (2), Zamoko (9).  
Literature record: Diafarabé (Villiers 1951).

*Boaedon lineatus* Duménil, Bibron & Duménil, 1854

Material: 70 specimens.

Localities: Bangaya (3), Djinagué (8), Doussoudiana (1), Koundian (4), Laminina (2), Mamoroubougou (12), Npiébougou (5), Sadjouroubougou (1), Sébékourani (15), Séoulasso (2), Titiéna (11), Zamoko (6).

Literature records: Kati (Angel 1922), Naréna (Schätti 1986).

*Gonionotophis granti* (Günther, 1863)

Material: 4 specimens.

Localities: Laminina (1), Mamoroubougou (1), Npiébougou (1), Sébékourani (1).

Remarks: First record for Mali.

*Lycophidion albomaculatum* Steindachner, 1870

Material: 33 specimens.

Localities: Djinagué (5), Koundian (3), Niamou (3), Sébékourani (16), Zamoko (6).

Literature records: Yélimané, Bamako (Condamin 1994).

*Lycophidion irroratum* (Leach, 1819)

Material: 5 specimens.

Localities: Mamoroubougou (5).

Remarks: First record for Mali.

*Lycophidion semicinatum* (Duménil, Bibron & Duménil, 1854)

Material: 24 specimens.

Localities: Laminina (4), Mamoroubougou (8), Npiébougou (9), Titiéna (3).

Literature record: Sikasso (Joger & Lambert 1996).

*Mehelya crossi* (Boulenger, 1895)

Material: 33 specimens.

Localities: Laminina (2), Mamoroubougou (10), Npiébougou (3), Sadjouroubougou (1), Sébékourani (4), Titiéna (11), Zamoko (2).

Literature record: Sikasso (Villiers 1965).

Remarks: Four specimens from three localities (Mamoroubougou, Npiébougou and Sébékourani) have 19 ranks of dorsals at midbody instead of 17. All other characteristics are typical of *Mehelya crossi*. We also observed 19 rows of dorsals in a specimen from Kissidougou (Guinea), which was molecularly similar to a typical *M. crossi* (K Tolley and JF Trape, unpublished), suggesting that *Mehelya riggenbachi* (Sternfeld, 1910) is a junior synonym of *M. crossi* as previously mentioned by Broadley (2007). The generic status of *M. crossi* is currently under review (Broadley et al., submitted for publication).

*Polemon neuwiedi* (Jan, 1858)

Material: 3 specimens.

Locality: Mamoroubougou (3).

Remarks: First record for Mali.

*Prosymna collaris* (Sternfeld, 1908)

Material: 1 specimen.

Locality: Topokhoné (1).

Literature records: Yélimané (Broadley 1980, as *Prosymna meleagris greigerti* Mocquard, 1906; Chirio et al. 2011, as *Prosymna greigerti collaris* Sternfeld, 1908), (?) Bamako (Broadley 1980, as *Prosymna meleagris greigerti*; Chirio et al. 2011, as *Prosymna greigerti collaris*; MNHN specimen probably mislabelled).

Remarks: This Sahelian species with a white collar differs molecularly both from *Prosymna greigerti* Mocquard, 1906 and from *Prosymna meleagris* (Reinhardt, 1843), but was provisionally treated as a subspecies of *P. greigerti* by Chirio et al. (2011). We recently collected sympatric specimens of the two taxa in Chad, where no trace of intergradation was observed, and a similar situation was observed in northern Cameroon. For this reason we prefer to treat this taxon as separate species as it is easy to distinguish by its colour pattern.

*Prosymna greigerti* Mocquard, 1906

Material: 48 specimens.

Localities: Bangaya (1), Djinagué (1), Koundian (1),

Laminina (6), Mamoroubougou (15), Niamou (1), Npiébougou (7), Sébékourani (7), Titiéna (6), Toumboula (1), Zamoko (2).

Literature records: Soudan français (Chabanaud 1916, as *Prosymna meleagris*), Kati (Angel 1922), San (Angel & Lhote 1938), Bamako (Broadley 1980).

Remarks: Most specimens were included in the recent revision of *Prosymna greigerti* and *Prosymna meleagris* (Chirio et al. 2011).

*Psammophis elegans* (Shaw, 1802)

Material: 91 specimens.

Localities: Bangaya (1), Bouyanga (1), Doussoudiana (6), Kinani (5), Koundian (8), Laminina (8), Mamoroubougou (7), Npiébougou (15), Sadjouroubougou (4), Samé Ouolof (2), Saré-Soma (1), Sébékourani (6), Séoulasso (14), Ténintou (1), Titiéna (3), Zamoko (9).

Literature records: Kati (Angel 1922, as *Psammophis schokari* Forsskål, 1775), Diré, Bandiagara (Angel 1933), Dogo (Villiers 1953), Kita (Joger 1981), Mourdiah (Joger & Lambert 1996).

*Psammophis lineatus* (Duméril, Bibron & Duméril, 1854)

Material: 2 specimens.

Locality: Mamoroubougou (2).

Literature record: Kati (Angel 1922).

*Psammophis phillipsi* (Hallowell, 1844)

Material: 1 specimen.

Locality: Laminina (1).

Remarks: First record for Mali. This specimen with 17 dorsals, 180 ventrals and 102 subcaudals is dorsally uniform with black spots on the supralabials, four infralabials in contact with the first pair of mentals, and an entire anal scale.

*Psammophis praeornatus* (Schlegel, 1837)

Material: 28 specimens.

Localities: Mamoroubougou (2), Niamou (1), Npiébougou (1), Sadjouroubougou (1), Samé Ouolof (1), Sébékourani (1), Séoulasso (7), Titiéna (6), Zamoko (8).

Literature records: Toguéré Sanga (Villiers 1956), Sikasso (Villiers 1965).

*Psammophis schokari* Forsskål, 1775

Material: 4 specimens.

Localities: Gaouadel (1), Tinjemban (3).

Literature record: Tombouctou (Chabanaud 1917).

Remarks: Loveridge (1940) erroneously attributed Chabanaud's specimen to *Psammophis elegans*. None of our specimens has the high ventral count (185 and higher) of *Psammophis aegyptius* Marx, 1958.

*Psammophis* aff. *sibilans* (Linnaeus, 1758)

Material: 722 specimens.

Localities: Agoudoud (2), Ballabougou (5), Bangaya (18), Boussouma (13), Bouyanga (36), Djinagué (27), Donguiba (1), Doussoudiana (13), Gaouadel (31), Haoussa-Foulane (2), Kinani (17), Koundian (15), Koyretao (2), Laminina (14), Léré (2), Mamoroubougou (13), Niakoni (3), Ni-masso (16), Niamou (80), Npiébougou (23), Samé Ouolof (43), Saré-Soma (27), Sébékourani (57), Séoulasso (82), Tacharane (4), Tinjemban (3), Titiéna (46), Toumboula (5), Toya (66), Zamoko (56).

Literature records: Kati (Angel 1922), Bandiagara (Angel 1933, Papenfuss 1969), Diafarabé, Gourao (Villiers 1950), Mopti (Angel & Lhote 1938), Bamako (Villiers 1956), Sikasso (Villiers 1965), Kakoulou (Joger 1981), between Ségou and Séwaré, 158 km SW Séwaré, between Séwaré and Mopti, Djenné, Bla, Bandiagara (Böhme et al. 1996), Lac Fabiguine, between Sikasso and Sinni (Joger & Lambert 1996).

Remarks: The status of West African specimens of the *Psammophis sibilans* complex is currently under review (Trape et al., in preparation). These specimens from Mali are characterized by five infralabials in contact with the first pair of mentals, a divided anal, and a more-or-less striped dorsal pattern, with at least a black and white chain on the scales of the vertebral line.

*Rhagerhis moilensis* (Reuss, 1834)

Material: 8 specimens.

Localities: Gaouadel (5), Gogui (1), Haoussa-Foulane (1), Koyretao (1).

Literature record: Adrar des Iforhas (Angel & Lhote 1938).

*Rhamphiophis oxyrhynchus* (Reinhardt, 1843)

Material: 97 specimens.

Localities: Bangaya (1), Bouyanga (4), Djinagué (1), Doussoudiana (6), Laminina (3), Mamoroubougou (3), Niakoni (2), Niamou (3), Npiébougou (16), Sébékourani (9), Séoulasso (12), Titiéna (28), Zamoko (9).

Literature records: Kati (Angel 1922), Diafarabé (Villiers 1951), Kita (Joger 1981).

### Family Elapidae Boie, 1827

*Elapsoidea semiannulata moebiusi* (Werner, 1897)

Material: 28 specimens.

Localities: Bangaya (1), Djinagué (1), Doussoudiana (2), Laminina (1), Mamoroubougou (1), Npiébougou (13), Sébékourani (2), Zamoko (7).

Literature record: southern Mali (Chippaux 1999).

*Naja haje* (Linnaeus, 1758)

Material: 2 specimens (NMZB and ZMUC collections).

Locality: Tombouctou (2).

Literature record: Tombouctou (Hughes 1983).

Remarks: These two museum specimens were examined by D.G. Broadley as part of a review of the *Naja haje* complex in West Africa (Trape et al. 2009). They belong to *Naja haje* contrary to other reports of this species in Mali, which are attributable to *Naja senegalensis* Trape, Chirio & Wüster, 2009 (see Trape et al. 2009 and below).

*Naja katiensis* Angel, 1922

Material: 356 specimens.

Localities: Ballabougou (1), Djinagué (4), Doussoudiana (8), Laminina (14), Mamoroubougou (53), Npiébougou (106), Sadjouroubougou (5), Sébékourani (8), Titiéna (69), Zamoko (88).

Literature records: Kati (Angel 1922, type locality), Kokoukourou, Naréna, Bougouni (Schätti 1986).

*Naja cf. melanoleuca* Hallowell, 1857

Material: 12 specimens.

Localities: Bangaya (1), Laminina (1), Mamoroubougou (3), Npiébougou (4), Sébékourani (1), Titiéna (2).

Literature records: Kati (Angel 1922), Kokoukourou (Schätti 1986).

Remarks: Our specimens have the banded pattern typical of the West African savanna form of the *Naja melanoleuca* complex.

*Naja nigricollis* Reinhardt, 1843

Material: 40 specimens.

Localities: Bangaya (7), Boussouma (3), Koundian (6), Mamoroubougou (2), Niamasso (1), Niamou (4), Sébékourani (6), Séoulasso (2), Toya (4), Zamoko (5).

Literature records: Kati (Angel 1922, Villiers 1951), Sikasso (Villiers 1965).

*Naja senegalensis* Trape, Chirio & Wüster, 2009

Material: 33 specimens.

Localities: Ballabougou (2), Bangaya (1), Djinagué (2), Doussoudiana (1), Koundian (1), Laminina (2), Mamoroubougou (3), Npiébougou (2), Sadjouroubougou (1), Saré-Soma (1), Sébékourani (2), Titiéna (10), Zamoko (5).

Literature records: chutes du Félou, Mourdiah, Didieni (Joger & Lambert 1996, as *Naja haje*).

Remarks: Our specimens were included in the description of this species that was previously confounded with *N. haje*. *Naja senegalensis* is currently known from Senegal, Gambia, Guinea, Guinea Bissau, Ivory Coast, Ghana, Mali, Burkina Faso, Niger, Benin and Nigeria (Trape et al. 2009, Trape & Baldé 2014). In Mali, it appears distributed in the whole country except in Sahelo-Saharan areas where the occurrence of *N. haje* in Tombouctou was confirmed (Trape et al. 2009).

## Family Viperidae Oppel, 1811

*Bitis arietans* (Merrem, 1820)

Material: 79 specimens.

Localities: Bangaya (9), Bouyanga (3), Djinagué (2), Doussoudiana (5), Chutes de Gouina (1), Koundian (2), Laminina (8), Mamoroubougou (5), Niakoni (1), Niamasso (1), Niamou (5), Npiébougou (13), Sébékourani (10), Titiéna (12), Zamoko (2).

Literature records: Katibougou, Sormé (Villiers 1950), Sévaré (Papenfuss 1969), Kokoukourou (Schätti 1986), between Bla and Bandiagara, Bla (Böhme et al. 1996).

*Causus maculatus* (Hallowell, 1842)

Material: 187 specimens.

Localities: Bangaya (11), Djinagué (10), Doussoudiana (12), Koundian (8), Laminina (11), Mamoroubougou (15), Niamou (1), Npiébougou (7), Sébékourani (21), Titiéna (36), Zamoko (55).

Literature records: Kati (Angel 1922, Villiers 1951, as *Causus rhombeatus* (Lichtenstein, 1823)), Saré Malé (Villiers 1950, as *C. rhombeatus*), Taga Diabozo (Villiers 1952, as *C. rhombeatus*), Dogo (Villiers 1953, as *C. rhombeatus*), Bamako (Villiers 1956, as *C. rhombeatus*), Sikasso (Villiers 1965, as *C. rhombeatus*), Naréna, Bougouni (Schätti 1986), see also map of Hughes (1977).

*Cerastes cerastes* (Linnaeus, 1758)

Material: 2 specimens (coll. MNHN).

Localities: 50 km N of Kidal, rocher d'Eguerer.

Literature and sight records: Timétrine (de Witte 1930), Tessalit (Joger & Lambert 1996), SW of Adrar Takabart (sight record).

*Cerastes vipera* (Linnaeus, 1758)

Material: 1 specimen (coll. MNHN).

Locality: Between Tisserlitine and Timétrine.

Literature and sight records: Between Tisserlitine and Timétrine (de Witte 1930), vicinity of Araouane, half way between Araouane and Taoudeni, Tessalit (sight records).

*Echis leucogaster* Roman, 1972

Material: 523 specimens.

Localities: Agoudoud (2), Boussouma (2), Bouyanga (188), Doro (3), Gaoude (44), Haoussa-Foulane (3), Kinani (10), Koyretao (31), Léré (1), Niamou (43), Samé Ouolof (21), Séoulasso (2), Tacharane (11), Tinjemban (16), Topokhoné (1), Toumboula (145).

Literature records: Bandiagara (Angel 1933, as *Echis carinatus* (Schneider, 1801)), Kidal (Andersson 1935, as *Echis carinatus*), Adrar des Iforhas (Angel & Lhote 1938, as *Echis carinatus*), Mopti, Mourdiah (Joger & Lambert 1996), Séoulasso (Pook et al. 2009).

Remarks: Most specimens have a clear venter, but specimens with a spotted venter, at least on each side of the

ventrals, were not rare, particularly in western Mali. All specimens had high scale counts, typical of *E. leucogaster* (ventrals: 158–177 in males, 166–189 in females; subcaudals 30–40 in males, 27–35 in females).

*Echis ocellatus* Stemmler, 1970

*Echis jogeri* Cherlin, 1990

Material: 933 specimens.

Localities: Ballabougou (3), Bangaya (4), Bouyanga (14), Djinagué (21), Doussoudiana (16), Koundian (4), Laminina (26), Mamoroubougou (65), Niakoni (4), Niamou (225), Npiébougou (60), Sadjouroubougou (9), Sébékourani (99), Séoulasso (159), Titiéna (80), Zamoko (144).

Literature record: Bandiagara (Angel 1933, as *Echis carinatus*), Kati (Villiers 1951, as *Echis carinatus*, Hughes 1976), Bamako (Villiers 1952, 1956, as *Echis carinatus*), Kita (Villiers 1953 as *Echis carinatus*), between Negala and Kassaro, W of Kita, W of Niamega (Joger 1981, as *Echis* sp.; Joger & Lambert 1996, as *Echis jogeri*), Tombouctou (Cherlin 1990, type locality of *Echis jogeri*), Niakoni (Pook et al. 2009).

Remark: Cherlin (1990) described *Echis jogeri* on the basis of a clear venter and a much lower ventral count than *Echis ocellatus*. The type of *E. jogeri* is a female with 132 ventrals (123 ventrals were erroneously mentioned by Cherlin), and such low counts are also observed in Senegal (121–135 in males, 128–143 in females) and north-western Guinea (127–132 in males, 131–138 in females) (Trape & Mané 2004, Trape & Baldé 2014). By contrast, the type of *Echis ocellatus* from Garango (Burkina Faso) is a female with 156 ventrals. In this country, ventral

counts of *Echis ocellatus* range from 134 to 152 in males and from 140 to 157 in females (Roman 1972, 1976). Pook et al. (2009) demonstrated that specimens from Senegal are molecularly divergent from those of other parts of Africa and hence confirmed that *E. jogeri* is a valid species.

In order to separate *E. jogeri* from *E. ocellatus* in our study, we investigated a sample of 274 specimens from the different localities where we obtained specimens of this complex. Based on our data from Senegal (all specimens from this country have low ventral counts and are thus presumed to belong to *E. jogeri*) and Roman's data from Burkina Faso (most of them are presumed to belong to *E. ocellatus* since there is very little overlap in ventral counts with Senegalese specimens), we attributed to *E. jogeri* specimens with 121–133 (males) or 128–139 (females) ventrals, and to *E. ocellatus* specimens with 136–152 (males) or 144–157 (females) ventrals. Males with 134–135 ventrals and females with 140–143 ventrals were classified as *incertae sedis*. Table 3 shows that most specimens from southwestern Mali (Bangaya, Djinagué, Koundian, Sébékourani) can be attributed to *E. jogeri*, and most specimens from central-western (Bouyanga) and south-eastern Mali (Ballabougou, Doussoudiana, Laminina, Mamoroubougou, Niakoni, Npiébougou, Sadjouroubougou, Séoulasso, Titiéna) to *E. ocellatus*. Both species are present in south-central Mali where the proportion of specimens *incertae sedis* was much higher than expected (e.g. Niamou, Zamoko), suggesting that hybrids may occur and/or that the range of ventral counts for one or both the two species differs between Mali and its neighbouring countries. The presence of absence of black spots

**Table 3.** Number of specimens attributable to *Echis jogeri* or *Echis ocellatus* based on the number of ventral scales. *E. jogeri*: 121–133 (males) or 128–139 (females); *E. ocellatus* 136–152 (males) or 144–157 (females); *incertae sedis*: 134–135 (males) or 140–143 (females). Only specimens with intact body and tail allowing full ventral and subcaudal counts were selected for the study.

Locality (N° specimens)	N° studied specimens	N° of <i>E. jogeri</i>	N° of <i>E. ocellatus</i>	N° of <i>incertae sedis</i>
Bangaya (4)	3	2	0	1
Djinagué (21)	18	15	0	3
Koundian (4)	3	3	0	0
Sébékourani (99)	60	43	7	10
Ballabougou (3)	1	0	1	0
Bouyanga (14)	6	0	6	0
Doussoudiana (16)	1	0	0	1
Laminina (26)	18	1	7	10
Mamoroubougou (65)	11	0	10	1
Niakoni (4)	1	0	1	0
Niamou (225)	42	16	4	22
Npiébougou (60)	1	0	1	0
Sadjouroubougou (9)	1	0	1	0
Séoulasso (159)	20	1	11	8
Titiéna (80)	3	1	2	0
Zamoko (144)	85	20	25	40
Total	274	102	76	96



on the venter was not helpful to distinguish the two species and further investigations to clearly separate *E. jogeri* from *E. ocellatus* in the field are needed.

## DISCUSSION

Previous reports on the snake fauna of Mali were based on small collections, totaling together about two hundred specimens. Our collection of snakes from Mali comprises 5,224 specimens belonging to 60 species. With additional museum material examined and taking into account reliable literature reports, the snake fauna of Mali comprises 65 species, i.e. 18 species more than the previous checklist published 20 years ago by Joger & Lambert (1996, 1997).

As expected, maximum diversity was observed in the southern part of the country, between 11°00'N and 12°00'N (Table 4). In this area of transition between the Sudanese and the Guinean savannas 46 species were collected, with a maximum of 36 species at Mamoroubougou (11°14'N), a locality near a small river with a preserved forest gallery which was extensively investigated both for fossorial and non-fossorial species (Fig. 7). The most abundant species between 11°00'N and 12°00'N were *Tricheilostoma bicolor*, *Naja katiensis*, *Echis ocellatus*, *Psammophis* aff. *sibilans*, *Crotaphopeltis hotamboeia* and *Causus maculatus*, and other common species were *Rhamphiophis oxyrhynchus*, *Bitis arietans*, *Boaedon fuliginosus*, *Psammophis elegans*, *Prosymna greigerti*, and *Boaedon lineatus*. Eight Guinean savanna species – most of them collected in very low numbers – reach their northern limit in Mali south of 11°30'N, i.e. *Psammophis phillipsi*, *Amblyodipsas unicolor*, *Grayia smithi*, *Lycophidion irroratum*, *Polemon neuwiedi*, *Myriopholis albiventer*, *Rhinoguinia magna*, and *Afronatrix anoscopus*, and four additional Guinean species were not collected north of 12°N, namely *Afrotyphlops lineatus*, *Atractaspis dahomeyensis*, *Crotaphopeltis hippocrepis* and *Lycophidion semicinatum*.

Between 12°00'N and 14°00'N, an area of typical Sudanese savanna (Fig. 8), a total of 43 species were collected, with a maximum of 28 and 25 species, respectively, in Sébékourani (12°12'N) and Zamoko (13°09'N), two localities also extensively investigated for fossorial species (Fig. 9). The most abundant species were *Echis ocellatus* (with *E. jogeri* in the western part of the country), *Psammophis* aff. *sibilans*, *Crotaphopeltis hotamboeia*, *Causus maculatus*, *Tricheilostoma bicolor*, *Naja katiensis*, and *Myriopholis boueti*, and other common species were *Boaedon fuliginosus*, *Psammophis elegans*, *Boaedon lineatus*, *Rhamphiophis oxyrhynchus*, and *Lycophidion albomaculatum* (in the western part of the country). Four Sahelian species were collected south of 14°N, but the number and proportion of specimens was low: only five specimens of *Eryx muelleri* compared to 169 specimens north of 14°N,

with a southernmost record at Niamasso (12°59'N), and only two specimens of *Echis leucogaster* compared to 521 specimens north of 14°N, with a southernmost record at Séoulasso (13°14'N). Two other Sahelian species were collected in very low number and proportion south of 14°N at Séoulasso: *Dasypeltis sahelensis* (two compared to 21), and *Atractaspis watsoni* (one compared to three).

Between 14°N and 15°N, an area of rapid transition with the Sahel (Fig. 10), a total of 27 species were collected, but only 17 of these species were collected or are known north of 14°30'N. Five species represented together 90% of the snakes collected: *Echis leucogaster*, *Psammophis* aff. *sibilans*, *Echis ocellatus*, *Echis jogeri*, and *Eryx muelleri*. Only two other species reached 1% of the specimens collected: *Crotaphopeltis hotamboeia* and *Myriopholis boueti*.

Between 15°N and 16°N, a typical Sahelian area (Fig. 11), 14 species were collected, with two of them (namely *Psammophis* aff. *sibilans* and *Echis leucogaster*) representing together 77% of the snakes collected. Other common species were *Eryx muelleri* and *Rhagerhis moilensis*. Only four species widely distributed in the southern part of the country were also collected: *Naja nigricollis*, *Psammophis elegans*, *Python sebae*, and *Boaedon fuliginosus*.

North of 16°N, a total of 18 species are now known from Mali but only 8 were collected during our study, all between 16°N and 17°N, an area of Sahelo-Saharan transition (Fig. 12). The most abundant species were *Psammophis* aff. *sibilans* (43% of specimens collected), *Echis leucogaster* (35%), *Eryx muelleri* (9%) and *Dasypeltis sahelensis* (5%). The other species collected were *Spalerosophis diadema*, *Naja nigricollis*, *Psammophis schokari* and *Rhagerhis moilensis*. The ten species not collected by us are either Saharan species (*Cerastes vipera*, *Cerastes cerastes*, *Myriopholis algeriensis*), or species with a large distribution in Africa but apparently rare in Mali (*Naja haje*, which seems excluded by *Naja senegalensis* from most parts of Mali, and *Natriciteres olivacea*, a rare species in West Africa), or species that we collected south of 16°N but not in northern Mali (*Teleoscopus tripolitanus*, a species known from Kidal, *Echis jogeri*, a species with Tombouctou as type locality, and three species collected in the past along the banks of the Niger River near Gao or Tombouctou, i.e. *Philothamnus irregularis*, *Philothamnus semivariatus* and *Psammophis elegans*).

In all areas of the country, both the number and the proportion of highly venomous snakes were very high. The three *Echis* species represented together 28% of the snakes collected (34% when excluding Leptotyphlopidae) and were the most common snakes in all areas of the country, with *E. leucogaster* as dominant species north of 14°N, *E. ocellatus* east of 8°W and *E. jogeri* in the Mandingue Plateau west of 8°W. The high mortality due to snakebite

**Table 4.** Latitudinal distribution of snakes in Mali (our study, 5,224 specimens collected). For the five species not collected during our study, studied museum specimens, literature data and sight records are indicated in brackets. Latitude for the northernmost record in Mali is based on whole data including literature data (circa 5,400 specimens).

Species	11°N	12°N	13°N	14°N	15°N	≥16°N	Total	Northernmost record in Mali
<i>Cerastes vipera</i>	0	0	0	0	0	(4)	(4)	20°40'N
<i>Cerastes cerastes</i>	0	0	0	0	0	(5)	(5)	20°12'N
<i>Echis leucogaster</i>	0	0	2	397	63	61	523	18°26'N
<i>Telescopus tripolitanus</i>	0	0	0	5	3	0	8	18°26'N
<i>Rhagerhis moilensis</i>	0	0	0	0	7	1	8	18°00'N
<i>Myriopholis algeriensis</i>	0	0	0	0	0	(2)	(2)	16°57'N
<i>Psammophis schokari</i>	0	0	0	0	1	3	4	16°46'N
<i>Naja haje</i>	0	0	0	0	0	(2)	(2)	16°46'N
<i>Echis ocellatus</i> + <i>E. jogeri</i>	251	132	311	239	0	0	933	16°46'N
<i>Eryx muelleri</i>	0	1	4	142	11	16	174	16°44'N
<i>Psammophis</i> aff. <i>sibilans</i>	112	105	172	191	67	75	722	16°44'N
<i>Spalerosophis diadema</i>	0	0	0	0	2	6	8	16°39'N
<i>Naja nigricollis</i>	2	7	20	4	3	4	40	16°39'N
<i>Psammophis elegans</i>	40	10	32	4	5	0	91	16°16'N
<i>Philothamnus semivariegatus</i>	3	0	1	0	0	0	4	16°16'N
<i>Natriciteres olivacea</i>	0	0	0	0	0	(1)	(1)	16°16'N
<i>Philothamnus irregularis</i>	34	8	0	0	0	0	42	16°15'N
<i>Dasypeltis sahelensis</i>	0	0	2	8	5	8	23	16°04'N
<i>Causus maculatus</i>	81	31	74	1	0	0	187	15°10'N
<i>Prosymna collaris</i>	0	0	0	0	1	0	1	15°08'N
<i>Lycophidion albomaculatum</i>	0	21	9	3	0	0	33	15°08'N
<i>Python sebae</i>	5	8	1	8	1	0	23	15°06'N
<i>Atractaspis watsoni</i>	0	0	1	1	2	0	4	15°02'N
<i>Boaedon fuliginosus</i>	41	27	19	3	2	0	92	15°01'N
<i>Bitis arietans</i>	44	13	13	9	0	0	79	14°52'N
<i>Crotaphopeltis hotamboeia</i>	82	92	36	15	0	0	225	14°45'N
<i>Naja senegalensis</i>	18	7	7	1	0	0	33	14°45'N
<i>Myriopholis boueti</i>	26	13	75	11	0	0	126	14°30'N
<i>Rhamphiphis oxyrhynchus</i>	58	10	22	7	0	0	97	14°30'N
<i>Meizodon coronatus</i>	7	12	2	0	0	0	21	14°30'N
<i>Psammophis praeornatus</i>	9	2	15	2	0	0	28	14°29'N
<i>Bamanophis dorri</i>	0	0	28	9	0	0	37	14°21'N
<i>Prosymna greigerti</i>	34	8	4	2	0	0	48	14°20'N
<i>Atractaspis micropholis</i>	0	0	0	1	0	0	1	14°20'N
<i>Afrotrophlops punctatus</i>	13	0	6	2	0	0	21	14°09'N
<i>Tricheilostoma bicolor</i>	725	9	101	3	0	0	838	14°09'N
<i>Dasypeltis confusa</i>	2	0	0	0	0	0	2	14°09'N
<i>Dasypeltis latericia</i>	3	1	16	5	0	0	25	14°01'N
<i>Python regius</i>	26	23	5	1	0	0	55	14°01'N
<i>Boaedon lineatus</i>	31	24	15	0	0	0	70	13°14'N
<i>Dasypeltis gansi</i>	0	2	1	0	0	0	3	13°14'N
<i>Elapsoidea semiannulata</i>	17	3	8	0	0	0	28	13°14'N
<i>Naja</i> cf. <i>melanoleuca</i>	10	1	1	0	0	0	12	13°14'N
<i>Dispholidus typus</i>	16	0	3	0	0	0	19	13°09'N
<i>Mehelya crossi</i>	26	5	2	0	0	0	33	13°09'N
<i>Naja katiensis</i>	250	18	88	0	0	0	356	13°09'N
<i>Rhinoleptus koniagui</i>	9	1	1	0	0	0	11	13°09'N
<i>Telescopus variegatus</i>	2	0	6	0	0	0	8	13°09'N
<i>Psammophis lineatus</i>	2	0	0	0	0	0	2	12°43'N
<i>Atractaspis aterrima</i>	4	1	0	0	0	0	5	12°35'N
<i>Gonionotophis granti</i>	3	1	0	0	0	0	4	12°12'N
<i>Myriopholis adleri</i>	0	1	0	0	0	0	1	12°12'N
<i>Afrotrophlops lineatus</i>	12	0	0	0	0	0	12	11°59'N
<i>Atractaspis dahomeyensis</i>	10	0	0	0	0	0	10	11°59'N
<i>Crotaphopeltis hippocrepsis</i>	3	0	0	0	0	0	3	11°59'N
<i>Lycophidion semicinctum</i>	24	0	0	0	0	0	24	11°59'N
<i>Afronatrix anoscopus</i>	17	0	0	0	0	0	17	11°26'N
<i>Amblyodipsas unicolor</i>	5	0	0	0	0	0	5	11°14'N
<i>Grayia smithi</i>	15	0	0	0	0	0	15	11°14'N
<i>Lycophidion irroratum</i>	5	0	0	0	0	0	5	11°14'N
<i>Polemon newwiedi</i>	3	0	0	0	0	0	3	11°14'N
<i>Myriopholis albiventer</i>	5	0	0	0	0	0	5	11°14'N
<i>Rhinoginea magna</i>	16	0	0	0	0	0	16	11°14'N
<i>Psammophis phillipsi</i>	1	0	0	0	0	0	1	11°12'N
<b>Number of specimens</b>	<b>2103</b>	<b>597</b>	<b>1103</b>	<b>1074</b>	<b>173</b>	<b>174</b>	<b>5224</b>	
<b>Number of species</b>	<b>46</b>	<b>32</b>	<b>36</b>	<b>27</b>	<b>14</b>	<b>8 (+5)</b>	<b>60 (+5)</b>	

in south-eastern Senegal was attributed to *Echis jogeri* (Trape et al. 2001) and the other species of the *Echis ocellatus* complex are also known to be a major cause of death in savanna areas of Nigeria (Warrell & Arnett 1976). Several other dangerous species were both common and widespread, e.g. *Bitis arietans*, *Naja nigricollis*, and *Naja senegalensis*. The Katian spitting cobra *Naja katiensis* was among the most abundant snakes in Mali but the severity of its bite is poorly documented. Together, the potentially deadly snakes represented 38% of the snakes collected during our study and 47% of snakes when excluding worm snakes of the family Leptotyphlopidae.

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## APPENDIX 1

### List of collected specimens, locality, and IRD collection number

*Afronatrix anoscopus*. Mamoroubougou: 1991.M, 1993.M, 1995.M, 2006.M, 2007.M, 2009.M, 2016.M, 2038.M, 2049.M, 2056.M, 3692.M, 3750.M, 3761.M, 3766.M, 3784.M, 3823.M; Titiéna: 3689.M.

*Afrotyphlops lineolatus*. Npiébougou: 3992.M, 4152.M, 4153.M, 4154.M, 4155.M, 4156.M, 4157.M, 4164.M, 4166.M, 4168.M, TR.2504; Laminina: 174.M.

*Afrotyphlops punctatus*. Niamou: 1924.M, 4264.M (ligné); Npiébougou: 4286.M (ligné); Titiéna: 2125.M, 4171.M, 4176.M (ligné); Zamoko: 4149.M, 4150.M, 4151.M (ligné); Laminina: 754.M (marbré); Mamoroubougou: 4134.M, 4145.M, 4146.M, 4147.M, 4148.M, 4158.M, TR.2503 (marbré); Titiéna: 1932.M (marbré); Zamoko: 160.M, 1916.M, 1921.M (noir).

*Amblyodipsas unicolor*. Mamoroubougou: 1947.M, 1979.M, 3557.M, 3790.M, 3796.M.

*Atractaspis aterrima*. Doussoudiana: 111.M, TR.0712; Laminina: TR.0649; Mamoroubougou: 3850.M; Sadjouroubougou: 2521.M.

*Atractaspis dahomeyensis*. Mamoroubougou: 1936.M, 1941.M, 1989.M, 2029.M, 2036.M, 3734.M, 3767.M; Npiébougou: 1808.M, 4165.M; Titiéna: 3659.M.

*Atractaspis micropholis*. Niamou: 1923.M.

*Atractaspis watsoni*. Samé Ouolof: TR.1684; Séoulasso: 1493.M; Topokhoné: 126.M, 128.M.

*Bamanophis dorri*. Bangaya: 1.M, 9.M, 11.M, 14.M, 15.M, 19.M, 23.M, 26.M, 28.M, 31.M, 228.M, 231.M, 243.M, 259.M, 264.M, 265.M, 266.M, 277.M, 278.M, 279.M, 292.M, 295.M, 296.M, 297.M; Koundian: 69.M, 2364.M, 3012.M, 3018.M; Niamou: 44.M, 2977.M, 2978.M, 2983.M, 2987.M, 2995.M, 2997.M, 3000.M; Toumboula: 2799.M.

*Bitis arietans*. Bangaya: 20.M, 25.M, 219.M, 223.M, 226.M, 236.M, 244.M, 290.M, 298.M; Bouyanga: 55.M, 400.M, 403.M; Djinagué: 1160.M, 1205.M; Doussoudiana: 90.M, 125.M, 1760.M, 1771.M, TR.0917; Gouina (chutes): 5299.M; Koundian: 64.M, 2373.M; Laminina: 762.M, 788.M, 820.M,

TR.0922, TR.1100, TR.1225, TR.1309, TR.1314; **Mamoroubougou**: 175.M, 2060.M, 2064.M, 4111.M, 4118.M; **Niakoni**: TR.0932; **Niamasso**: 1344.M; **Niamou**: 420.M, 422.M, 436.M, 2988.M, 2993.M; **Npiébougou**: 1852.M, 1884.M, 3327.M, 3375.M, 3425.M, 3434.M, 3449.M, 3454.M, 3462.M, 3477.M, 3490.M, 3498.M, 3999.M, **Sébékourani**: 944.M, 961.M, 1000.M, 1002.M, 1041.M, 1081.M, 1082.M, 3243.M, 3246.M, 3270.M; **Titiéna**: 2112.M, 2151.M, 2180.M, 2263.M, 3675.M, 4015.M, 4021.M, 4023.M, 4024.M, 4025.M, 4027.M, 4033.M; **Zamoko**: 662.M, 2558.M.

**Boaedon fuliginosus**. **Bangaya**: 225.M, 239.M, 272.M; **Bouyanga**: 2500.M; **Djinagué**: 1111.M, 1114.M, 1133.M, 1134.M, 1151.M, 1166.M, 1194.M; **Doussoudiana**: 94.M, 112.M, TR.1203, TR.1235; **Kinani**: 1564.M, 1584.M; **Koundian**: 71.M, 72.M, 2369.M, 3025.M, 3032.M; **Laminina**: 757.M, 766.M, 776.M, 790.M, 792.M, 819.M, 2622.M, TR.0647; **Mamoroubougou**: 1939.M, 1980.M, 1988.M, 3696.M, 3720.M, 3722.M, 3724.M, 3745.M, 3771.M, 3780.M, 3781.M, 3794.M, 3797.M, 3800.M, 3819.M, 3844.M; **Niamou**: 484.M, 2923.M; **Npiébougou**: 1809.M, 1810.M, 1843.M, 1868.M, 1869.M, 1870.M, 3313.M, 3376.M, 3386.M, 3416.M, 3478.M; **Sébékourani**: 876.M, 882.M, 899.M, 920.M, 938.M, 975.M, 1040.M, 1075.M, 1079.M, 1086.M, 3161.M, 3180.M, 3208.M, 3230.M, 3232.M, 3236.M, 3237.M, 3239.M, 3266.M, 3290.M; **Séoulasso**: 1715.M, 3094.M; **Titiéna**: 2073.M, 2130.M; **Zamoko**: 564.M, 566.M, 570.M, 670.M, 672.M, 679.M, 696.M, 2602.M, 2658.M.

**Boaedon lineatus**. **Bangaya**: 221.M, 275.M, 291.M; **Djinagué**: 1119.M, 1128.M, 1145.M, 1161.M, 1168.M, 1186.M, 1201.M, 3293.M; **Doussoudiana**: 119.M; **Koundian**: 65.M, 66.M, 3001.M, 3021.M; **Laminina**: 824.M, 848.M; **Mamoroubougou**: 2026.M, 2046.M, 2058.M, 2059.M, 3751.M, 3774.M, 3785.M, 3786.M, 3813.M, 3827.M, 3848.M, 3853.M; **Npiébougou**: 1779.M, 1854.M, 1875.M, 3357.M, 3441.M; **Sadjouroubougou**: 2512.M; **Sébékourani**: 872.M, 888.M, 907.M, 908.M, 909.M, 918.M, 925.M, 927.M, 3158.M, 3166.M, 3201.M, 3212.M, 3245.M, 3253.M, 3267.M; **Séoulasso**: 3086.M, 3128.M; **Titiéna**: 191.M, 2104.M, 2134.M, 2156.M, 2164.M, 2178.M, 2199.M, 2203.M, 2256.M, 3668.M, 4032.M; **Zamoko**: 671.M, 2534.M, 2593.M, 2606.M, 2641.M, 2702.M.

**Causus maculatus**. **Bangaya**: 17.M, 30.M, 224.M, 257.M, 258.M, 260.M, 273.M, 282.M, 286.M, 299.M, 301.M, **Djinagué**: 1118.M, 1120.M, 1123.M, 1124.M, 1154.M, 1156.M, 1158.M, 1180.M, 1188.M, 1192.M, **Doussoudiana**: 84.M, 1761.M, 1763.M, 1765.M, 1768.M, 1769.M, 1773.M, TR.0715, TR.0718, TR.0851, TR.1233, TR.1304; **Koundian**: 61.M, 67.M, 2366.M, 3010.M, 3019.M, 3034.M, 3035.M, 3043.M; **Laminina**: 761.M, 782.M, 796.M, 806.M, 812.M, 813.M, 816.M, 836.M, 851.M, 856.M, 858.M; **Mamoroubougou**: 2033.M, 2035.M, 2050.M, 2063.M, 2066.M, 3749.M, 3802.M, 3829.M, 3831.M, 4103.M, 4123.M, 4127.M, 4131.M, 4132.M, 4140.M; **Niamou**: 2986.M; **Npiébougou**: 1799.M, 1829.M, 1840.M, 3324.M, 3398.M, 3428.M, 3465.M; **Sébékourani**: 864.M, 902.M, 913.M, 940.M, 959.M, 962.M, 1013.M, 1037.M, 1050.M, 1060.M, 1105.M, 3169.M, 3203.M, 3204.M, 3210.M, 3218.M, 3224.M, 3241.M, 3247.M, 3249.M, 3264.M; **Titiéna**: 195.M, 2082.M, 2084.M, 2137.M, 2153.M, 2154.M, 2165.M, 2171.M, 2194.M, 2202.M, 2234.M, 2241.M, 2262.M, 3609.M, 3610.M, 3611.M, 3641.M, 3674.M, 3684.M, 4011.M, 4012.M, 4013.M, 4014.M, 4016.M, 4018.M, 4020.M, 4028.M, 4030.M, 4031.M, 4034.M, 4036.M, 4038.M, 4039.M, 4303.M, 4304.M, 4305.M; **Zamoko**: 567.M, 583.M, 590.M, 593.M, 600.M, 614.M, 637.M, 641.M, 642.M, 648.M, 657.M, 664.M, 669.M, 689.M, 692.M, 693.M, 702.M,

704.M, 723.M, 730.M, 735.M, 736.M, 737.M, 2532.M, 2533.M, 2537.M, 2538.M, 2542.M, 2552.M, 2555.M, 2557.M, 2559.M, 2562.M, 2574.M, 2575.M, 2576.M, 2585.M, 2594.M, 2595.M, 2605.M, 2608.M, 2609.M, 2616.M, 2633.M, 2640.M, 2642.M, 2646.M, 2647.M, 2648.M, 2672.M, 2690.M, 2691.M, 2692.M, 2693.M, 2694.M.

**Crotaphopeltis hippocrepis**. **Mamoroubougou**: TR.2502; **Npiébougou**: 1856.M.

**Crotaphopeltis hotamboeia**. **Ballabougou**: 2525.M; **Bangaya**: 12.M, 18.M, 21.M, 227.M, 229.M, 232.M, 233.M, 234.M, 237.M, 240.M, 241.M, 242.M, 251.M, 253.M, 254.M, 255.M, 256.M, 261.M, 263.M, 269.M, 271.M, 280.M, 281.M, 284.M, 293.M, 300.M; **Djinagué**: 1109.M, 1112.M, 1121.M, 1126.M, 1127.M, 1131.M, 1136.M, 1137.M, 1140.M, 1143.M, 1146.M, 1147.M, 1148.M, 1149.M, 1150.M, 1153.M, 1163.M, 1169.M, 1174.M, 1176.M, 1177.M, 1184.M, 1185.M, 1190.M, 1195.M, 1196.M, 1198.M, 1200.M, 1208.M; **Doussoudiana**: 79.M, 86.M, 97.M, 104.M, 105.M, 123.M, 1758.M, TR.0717, TR.0844, TR.0915, TR.0916, TR.0919, TR.1236; **Laminina**: 738.M, 742.M, 744.M, 746.M, 748.M, 778.M, 841.M, 843.M, TR.1230, TR.1274; **Mamoroubougou**: 2014.M, 2044.M, 3691.M, 3717.M, 3746.M, 3747.M, 3759.M, 3791.M, 3793.M, 3798.M, 3801.M, 3809.M, 3820.M, 3824.M, 3826.M, 3830.M, 3839.M, 3841.M, 3842.M, 4106.M, 4107.M, 4130.M, 4136.M, 4138.M, 4161.M; **Niakoni**: TR.0933, TR.1296; **Niamasso**: 1341.M, 1343.M; **Niamou**: 38.M, 40.M, 461.M, 2979.M, 2980.M, 2994.M, TR.0257, TR.0258; **Npiébougou**: 1780.M, 1806.M, 1815.M, 1817.M, 1823.M, 1861.M, 1862.M, 3337.M, 3361.M, 3467.M, 3491.M; **Sadjouroubougou**: 2513.M, 2514.M; **Saré-Soma**: 1594.M, 1614.M; **Sébékourani**: 867.M, 868.M, 870.M, 874.M, 877.M, 887.M, 889.M, 892.M, 893.M, 894.M, 895.M, 901.M, 904.M, 905.M, 906.M, 910.M, 914.M, 919.M, 921.M, 924.M, 926.M, 932.M, 933.M, 935.M, 942.M, 948.M, 950.M, 952.M, 956.M, 965.M, 978.M, 990.M, 1001.M, 1009.M, 1014.M, 1027.M, 1043.M, 1069.M, 3155.M, 3163.M, 3168.M, 3171.M, 3175.M, 3177.M, 3179.M, 3182.M, 3199.M, 3202.M, 3217.M, 3222.M, 3225.M, 3231.M, 3235.M, 3248.M, 3262.M, 3263.M, 3274.M, 3279.M; **Séoulasso**: 1388.M; **Titiéna**: 211.M, 215.M, 2074.M, 2075.M, 2077.M, 2081.M, 2085.M, 2088.M, 2093.M, 2099.M, 2122.M, 2123.M, 2124.M, 2144.M, 2168.M, 2170.M, 2174.M, 2218.M, 2226.M, 2235.M, 2242.M, 3621.M; **Toumboula**: 1272.M, 1281.M, 2794.M, 2796.M, 2797.M; **Zamoko**: 595.M, 610.M, 649.M, 2563.M, 2572.M, 2580.M, 2654.M, 2664.M, 2707.M.

**Dasypeltis confusa**. **Mamoroubougou**: 3731.M, 4104.M.

**Dasypeltis gansi**. **Ballabougou**: 2355.M, 2356.M; **Séoulasso**: 4141.M.

**Dasypeltis latericia**. **Bangaya**: 27.M, 276.M, 285.M, 288.M; **Koundian**: 2371.M; **Niamou**: 138.M, 139.M, 2357.M, 2358.M, 2359.M; **Npiébougou**: 4315.M, 4316.M; **Sébékourani**: 153.M; **Séoulasso**: 1351.M, 1714.M, 1715.M, 4163.M; **Titiéna**: 1930.M; **Zamoko**: 161.M, 162.M, 163.M, 171.M, 172.M, 2619.M, 4063.M.

**Dasypeltis sahelensis**. **Bouyanga**: 130.M, 412.M, 2361.M, 2362.M, 2363.M; **Gaoudel**: 1535.M, 3561.M, 3567.M, 3573.M, 3583.M; **Séoulasso**: 1395.M, 1505.M; **Toumboula**: 1230.M, 1231.M, 2360.M.

**Dispholidus typus**. **Doussoudiana**: 98.M; **Laminina**: 743.M, 763.M, 784.M, 795.M, TR.1227; **Mamoroubougou**: 1976.M, 2002.M, 2011.M, 3693.M, 3748.M, 3777.M, 3789.M; **Npiébougou**: 3346.M, 3417.M; **Sébékourani**: 998.M; **Titiéna**:

2267.M; **Zamoko**: 170.M, 602.M, 2554.M.

**Echis leucogaster**. **Agoudoud**: 1679.M, 1680.M; **Boussouma**: 1741.M, 1742.M; **Bouyanga**: 48.M, 49.M, 50.M, 51.M, 53.M, 54.M, 135.M, 136.M, 302.M, 303.M, 304.M, 305.M, 306.M, 307.M, 308.M, 309.M, 310.M, 311.M, 312.M, 313.M, 314.M, 315.M, 316.M, 317.M, 318.M, 319.M, 320.M, 321.M, 322.M, 323.M, 324.M, 325.M, 326.M, 327.M, 328.M, 329.M, 330.M, 331.M, 332.M, 333.M, 334.M, 336.M, 337.M, 338.M, 339.M, 346.M, 347.M, 348.M, 349.M, 350.M, 351.M, 352.M, 353.M, 354.M, 356.M, 357.M, 358.M, 359.M, 361.M, 362.M, 363.M, 364.M, 365.M, 366.M, 367.M, 368.M, 369.M, 371.M, 374.M, 376.M, 377.M, 380.M, 381.M, 383.M, 384.M, 385.M, 389.M, 390.M, 391.M, 396.M, 399.M, 407.M, 408.M, 409.M, 410.M, 414.M, 416.M, 2382.M, 2384.M, 2387.M, 2431.M, 2432.M, 2433.M, 2434.M, 2435.M, 2436.M, 2437.M, 2438.M, 2439.M, 2440.M, 2441.M, 2442.M, 2443.M, 2444.M, 2445.M, 2446.M, 2447.M, 2448.M, 2449.M, 2450.M, 2451.M, 2452.M, 2453.M, 2454.M, 2455.M, 2456.M, 2457.M, 2458.M, 2459.M, 2460.M, 2461.M, 2462.M, 2463.M, 2464.M, 2465.M, 2466.M, 2467.M, 2468.M, 2469.M, 2470.M, 2471.M, 2472.M, 2473.M, 2474.M, 2475.M, 2476.M, 2477.M, 2478.M, 2479.M, 2480.M, 2481.M, 2482.M, 2483.M, 2484.M, 2485.M, 2486.M, 2487.M, 2488.M, 2489.M, 2490.M, 2491.M, 2492.M, 2493.M, 2494.M, 2495.M, 2496.M, 2497.M, 2498.M, 4076.M, 4077.M, 4078.M, 4080.M, 4081.M, 4082.M, 4083.M, 4084.M, 4085.M, 4086.M, 4087.M, 4088.M, 4089.M, 4091.M, 4092.M, 4093.M, 4094.M, 4095.M, 4096.M, 4097.M, 4306.M, 4307.M, 4308.M, 4309.M, 4310.M, 4311.M, 4312.M, 4313.M, TR.2868, TR.2869, TR.2870; **Doro**: 1688.M, 1689.M, 1690.M; **Gaoude**: 1531.M, 1532.M, 1536.M, 1539.M, 1540.M, 1542.M, 1546.M, 1547.M, 3527.M, 3531.M, 3532.M, 3534.M, 3536.M, 3538.M, 3541.M, 3545.M, 3547.M, 3548.M, 3549.M, 3554.M, 3559.M, 3560.M, 3564.M, 3569.M, 3571.M, 3575.M, 3576.M, 3577.M, 3578.M, 3579.M, 3580.M, 3581.M, 3584.M, 3585.M, 3586.M, 3587.M, 3588.M, 3589.M, 3591.M, 3592.M, 3593.M, 3594.M, 3595.M, 3596.M; **Haoussa-Foulane**: 2273.M, 2275.M, 2276.M; **Kinani**: 1548.M, 1552.M, 1555.M, 1559.M, 1570.M, 1579.M, 1581.M, 1582.M, 1583.M, 1585.M; **Koyretao**: 1617.M, 1619.M, 2319.M, 2320.M, 2321.M, 2322.M, 2323.M, 2324.M, 2326.M, 2327.M, 2328.M, 2329.M, 2330.M, 2331.M, 2334.M, 2337.M, 2341.M, 2342.M, 3502.M, 3504.M, 3505.M, 3507.M, 3511.M, 3513.M, 3514.M, 3517.M, 3518.M, 3519.M, 3521.M, 3526.M, TR.1482; **Léré**: 2346.M; **Niamou**: 426.M, 438.M, 450.M, 459.M, 490.M, 2926.M, 2929.M, 2930.M, 2931.M, 2937.M, 2939.M, 2941.M, 2943.M, 2944.M, 2947.M, 2950.M, 2952.M, 2955.M, 2957.M, 2958.M, 2960.M, 2961.M, 2962.M, 2963.M, 2965.M, 2973.M, 3870.M, 3871.M, 3875.M, 3878.M, 3884.M, 3886.M, 3893.M, 3895.M, 3925.M, 3935.M, 3943.M, 3964.M, 3973.M, 3985.M, 4052.M, 4292.M, 4293.M, 4294.M, 4295.M; **Samé Ouolof**: 1748.M, 1749.M, 1753.M, 1896.M, 1900.M, 1901.M, 1902.M, 1904.M, 1905.M, 1907.M, 1908.M, 1909.M, 1913.M, 1914.M, 3061.M, 3064.M, 3069.M, 3071.M, 3074.M, 3077.M, 3078.M; **Séoulasso**: 1399.M, 1416.M; **Tacharane**: 1889.M, 1890.M, 1891.M, 1892.M, 1893.M, 1894.M, 1895.M, 2277.M, 2278.M, 2279.M, 2280.M; **Tinjemban**: 1621.M, 1625.M, 1626.M, 1627.M, 1628.M, 1629.M, 1630.M, 1631.M, 1632.M, 1634.M, 1635.M, 1636.M, 1637.M, 2282.M, 2283.M, 2284.M; **Topkohoné**: 127.M; **Toumboula**: 1232.M, 1233.M, 1234.M, 1236.M, 1237.M, 1238.M, 1239.M, 1240.M, 1241.M, 1242.M, 1243.M, 1244.M, 1245.M, 1246.M, 1247.M, 1248.M, 1249.M, 1250.M, 1251.M, 1252.M, 1253.M, 1254.M, 1255.M, 1256.M, 1258.M, 1260.M, 1261.M, 1262.M, 1263.M, 1265.M, 1266.M, 1267.M, 1268.M, 1269.M, 1270.M, 1271.M, 1273.M, 1274.M, 1275.M, 1276.M, 1277.M, 1278.M, 1279.M, 1280.M, 1282.M,

1284.M, 1285.M, 1286.M, 1287.M, 1288.M, 1289.M, 1290.M, 1291.M, 1292.M, 1293.M, 1294.M, 1295.M, 1296.M, 1297.M, 1298.M, 1299.M, 1301.M, 1302.M, 1303.M, 1304.M, 1305.M, 1306.M, 1307.M, 1308.M, 1309.M, 1310.M, 1311.M, 1312.M, 1313.M, 1314.M, 2719.M, 2720.M, 2721.M, 2722.M, 2723.M, 2724.M, 2725.M, 2726.M, 2727.M, 2728.M, 2729.M, 2730.M, 2731.M, 2732.M, 2733.M, 2734.M, 2735.M, 2736.M, 2737.M, 2738.M, 2739.M, 2740.M, 2741.M, 2742.M, 2743.M, 2744.M, 2745.M, 2746.M, 2747.M, 2748.M, 2749.M, 2750.M, 2751.M, 2752.M, 2753.M, 2754.M, 2755.M, 2756.M, 2757.M, 2758.M, 2759.M, 2760.M, 2761.M, 2762.M, 2763.M, 2764.M, 2765.M, 2766.M, 2767.M, 2768.M, 2769.M, 2770.M, 2771.M, 2772.M, 2773.M, 2774.M, 2774.M, 2775.M, 2776.M, 2777.M, 2778.M, 2779.M, 2780.M, 2781.M, 2782.M, 2783.M, 2784.M, 2785.M, 2786.M, 2787.M.

**Echis ocellatus (complex, including E. jageri)**. **Ballabougou**: 2526.M, 2527.M, 2528.M; **Bangaya**: 32.M, 33.M, 283.M, 294.M; **Bouyanga**: 131.M, 132.M, 133.M, 134.M, 137.M, 335.M, 397.M, 402.M, 413.M, 415.M, 4079.M, 4090.M, TR.2874; **Djinagué**: 1116.M, 1142.M, 1162.M, 1173.M, 1178.M, 1183.M, 1191.M, 1203.M, 1204.M, 1206.M, 1207.M, 1210.M, 1216.M, 1219.M, 1221.M, 1224.M, 1225.M, 1226.M, 1227.M, 1228.M; **Doussoudiana**: 73.M, 80.M, 92.M, 95.M, 99.M, 106.M, 107.M, 116.M, 121.M, 122.M, 124.M, TR.0716, TR.0918, TR.1270, TR.1307; **Koundian**: 68.M, 70.M, 2370.M, 3042.M; **Laminina**: 755.M, 775.M, 786.M, 791.M, 794.M, 799.M, 800.M, 810.M, 811.M, 834.M, 835.M, 837.M, 840.M, 844.M, 846.M, 849.M, 850.M, 853.M, 855.M, 857.M, 859.M, 2621.M, TR.0926, TR.1231, TR.1276, TR.1280; **Mamoroubougou**: 179.M, 180.M, 1986.M, 1994.M, 2021.M, 2022.M, 2028.M, 2032.M, 2034.M, 2037.M, 2039.M, 2043.M, 2045.M, 2047.M, 2057.M, 3704.M, 3732.M, 3740.M, 3744.M, 3776.M, 3783.M, 3788.M, 3799.M, 3806.M, 3807.M, 3808.M, 3816.M, 3817.M, 3843.M, 3847.M, 3856.M, 3857.M, 3818.M, 3836.M, 3846.M, 4098.M, 4099.M, 4100.M, 4101.M, 4102.M, 4105.M, 4108.M, 4109.M, 4112.M, 4113.M, 4114.M, 4115.M, 4116.M, 4117.M, 4119.M, 4120.M, 4121.M, 4122.M, 4124.M, 4125.M, 4126.M, 4128.M, 4129.M, 4133.M, 4135.M, 4137.M, 4139.M, 4170.M, 4298.M, TR.2879; **Niakoni**: TR.0930, TR.0931, TR.1232, TR.1299; **Niamou**: 35.M, 37.M, 39.M, 43.M, 45.M, 46.M, 47.M, 57.M, 435.M, 439.M, 441.M, 446.M, 449.M, 451.M, 452.M, 453.M, 456.M, 457.M, 458.M, 464.M, 465.M, 466.M, 470.M, 474.M, 475.M, 476.M, 477.M, 481.M, 482.M, 483.M, 485.M, 486.M, 487.M, 491.M, 493.M, 494.M, 496.M, 498.M, 500.M, 501.M, 503.M, 504.M, 505.M, 506.M, 507.M, 508.M, 509.M, 510.M, 517.M, 518.M, 519.M, 520.M, 521.M, 522.M, 523.M, 525.M, 526.M, 527.M, 528.M, 2867.M, 2924.M, 2925.M, 2927.M, 2928.M, 2932.M, 2933.M, 2934.M, 2935.M, 2936.M, 2938.M, 2940.M, 2942.M, 2945.M, 2946.M, 2948.M, 2949.M, 2951.M, 2953.M, 2954.M, 2956.M, 2959.M, 2964.M, 2966.M, 2967.M, 2968.M, 2969.M, 2970.M, 2971.M, 2972.M, 2974.M, 3351.M, 3356.M, 3362.M, 3370.M, 3380.M, 3385.M, 3443.M, 3446.M, 3447.M, 3448.M, 3450.M, 3453.M, 3455.M, 3456.M, 3457.M, 3458.M, 3459.M, 3466.M, 3470.M, 3473.M, 3474.M, 3479.M, 3480.M, 3482.M, 3484.M, 3485.M, 3486.M, 3487.M, 3492.M, 3493.M, 3496.M, 3858.M, 3859.M, 3860.M, 3861.M, 3862.M, 3863.M, 3864.M, 3865.M, 3866.M, 3867.M, 3868.M, 3869.M, 3872.M, 3873.M, 3874.M, 3876.M, 3877.M, 3879.M, 3880.M, 3881.M, 3882.M, 3883.M, 3885.M, 3887.M, 3888.M, 3889.M, 3890.M, 3891.M, 3892.M, 3894.M, 3896.M, 3897.M, 3898.M, 3899.M, 3900.M, 3901.M, 3902.M, 3903.M, 3904.M, 3905.M, 3906.M, 3907.M, 3908.M, 3909.M, 3910.M, 3911.M, 3912.M, 3913.M, 3914.M, 3915.M, 3916.M, 3917.M, 3918.M, 3919.M, 3920.M, 3921.M, 3922.M, 3923.M,

- 3924.M, 3926.M, 3927.M, 3928.M, 3929.M, 3930.M, 3931.M, 3932.M, 3933.M, 3934.M, 3936.M, 3937.M, 3938.M, 3939.M, 3940.M, 3941.M, 3942.M, 3944.M, 3945.M, 3946.M, 3947.M, 3948.M, 3949.M, 3950.M, 3951.M, 3952.M, 3953.M, 3954.M, 3955.M, 3956.M, 3957.M, 3958.M, 3959.M, 3960.M, 3961.M, 3962.M, 3963.M, 3965.M, 3966.M, 3967.M, 3968.M, 3969.M, 3970.M, 3971.M, 3972.M, 3974.M, 3975.M, 3976.M, 3977.M, 3978.M, 3979.M, 3980.M, 3981.M, 3982.M, 3983.M, 3984.M, 3986.M, 3987.M, 3988.M, 3989.M, 3990.M, 3991.M, 4044.M, 4045.M, 4046.M, 4047.M, 4048.M, 4049.M, 4050.M, 4051.M, TR.0253, TR.0254, TR.0255, TR.2872, TR.2873; **Npiébougou**: 1789.M, 1800.M, 1814.M, 1816.M, 1819.M, 1833.M, 1834.M, 1842.M, 1850.M, 1864.M, 1873.M, 1874.M, 1877.M, 1883.M, 3373.M, 3993.M, 3995.M, 3997.M, 4000.M, 4001.M, 4006.M, 4007.M, 4009.M, 4010.M, 4194.M, 4195.M, TR.2875, TR.2876, TR.2877; **Sadjourougou**: 1316.M, 1318.M, 1319.M, 1330.M, 2515.M, 2516.M, 2517.M, 2518.M, 2519.M; **Sébékourani**: 151.M, 880.M, 898.M, 911.M, 915.M, 916.M, 917.M, 923.M, 929.M, 930.M, 934.M, 936.M, 939.M, 941.M, 943.M, 945.M, 946.M, 947.M, 949.M, 951.M, 954.M, 955.M, 960.M, 963.M, 968.M, 969.M, 970.M, 973.M, 974.M, 976.M, 977.M, 979.M, 1004.M, 1005.M, 1008.M, 1010.M, 1011.M, 1015.M, 1017.M, 1018.M, 1019.M, 1020.M, 1023.M, 1024.M, 1025.M, 1031.M, 1032.M, 1034.M, 1035.M, 1038.M, 1039.M, 1042.M, 1046.M, 1047.M, 1049.M, 1052.M, 1053.M, 1056.M, 1057.M, 1058.M, 1059.M, 1063.M, 1065.M, 1066.M, 1067.M, 1068.M, 1070.M, 1071.M, 1072.M, 1073.M, 1074.M, 1076.M, 1077.M, 1078.M, 1080.M, 1083.M, 1084.M, 1085.M, 1087.M, 1088.M, 1089.M, 1090.M, 1091.M, 1092.M, 1093.M, 1094.M, 1095.M, 1096.M, 1097.M, 1098.M, 1099.M, 1101.M, 1102.M, 1107.M, 3189.M, 3200.M, 3227.M, 3260.M, 3276.M, TR.2880; **Séoulasso**: 1346.M, 1347.M, 1349.M, 1350.M, 1352.M, 1353.M, 1355.M, 1356.M, 1357.M, 1359.M, 1360.M, 1361.M, 1362.M, 1363.M, 1365.M, 1366.M, 1367.M, 1368.M, 1369.M, 1370.M, 1371.M, 1373.M, 1374.M, 1375.M, 1376.M, 1377.M, 1378.M, 1379.M, 1383.M, 1384.M, 1385.M, 1386.M, 1387.M, 1389.M, 1391.M, 1393.M, 1396.M, 1397.M, 1401.M, 1402.M, 1404.M, 1405.M, 1406.M, 1407.M, 1408.M, 1409.M, 1410.M, 1411.M, 1413.M, 1414.M, 1415.M, 1417.M, 1418.M, 1419.M, 1420.M, 1421.M, 1422.M, 1423.M, 1426.M, 1431.M, 1432.M, 1433.M, 1434.M, 1435.M, 1436.M, 1437.M, 1438.M, 1439.M, 1440.M, 1441.M, 1442.M, 1443.M, 1444.M, 1447.M, 1448.M, 1449.M, 1451.M, 1452.M, 1453.M, 1454.M, 1455.M, 1456.M, 1459.M, 1461.M, 1462.M, 1464.M, 1467.M, 1468.M, 1469.M, 1470.M, 1471.M, 1472.M, 1473.M, 1474.M, 1476.M, 1478.M, 1479.M, 1480.M, 1481.M, 1482.M, 1483.M, 1484.M, 1486.M, 1487.M, 1488.M, 1489.M, 1490.M, 1491.M, 1492.M, 1496.M, 1498.M, 1500.M, 1502.M, 1503.M, 1504.M, 1506.M, 1507.M, 1508.M, 1509.M, 1510.M, 1514.M, 1517.M, 1518.M, 1519.M, 1520.M, 1521.M, 1523.M, 1524.M, 1525.M, 1526.M, 1527.M, 1528.M, 1529.M, 1691.M, 1692.M, 1693.M, 1694.M, 1695.M, 1696.M, 1697.M, 1698.M, 1699.M, 1700.M, 1701.M, 1702.M, 1703.M, 1704.M, 1705.M, 1706.M, 1707.M, 1708.M, 1709.M, 1710.M, 1711.M, 1712.M, 3136.M, 3292.M, TR.1736, TR.2243; **Titiéna**: 200.M, 201.M, 204.M, 207.M, 208.M, 210.M, 212.M, 2067.M, 2069.M, 2083.M, 2092.M, 2094.M, 2100.M, 2114.M, 2119.M, 2120.M, 2135.M, 2147.M, 2150.M, 2157.M, 2159.M, 2166.M, 2167.M, 2173.M, 2176.M, 2181.M, 2187.M, 2189.M, 2193.M, 2198.M, 2201.M, 2204.M, 2208.M, 2211.M, 2215.M, 2217.M, 2227.M, 2229.M, 2236.M, 2240.M, 2245.M, 2246.M, 2250.M, 2253.M, 2254.M, 2257.M, 2258.M, 2264.M, 2266.M, 2268.M, 2269.M, 3612.M, 3614.M, 3615.M, 3623.M, 3644.M, 3646.M, 3649.M, 3650.M, 3657.M, 3663.M, 3666.M, 3669.M, 3670.M, 3672.M, 3681.M, 3685.M, 3688.M, 3673.M, 3687.M, 4017.M, 4019.M, 4026.M, 4029.M, 4035.M, 4037.M, 4040.M, 4041.M, 4042.M, 4043.M; **Zamoko**: 157.M, 158.M, 159.M, 529.M, 568.M, 574.M, 585.M, 589.M, 591.M, 594.M, 597.M, 598.M, 599.M, 604.M, 607.M, 608.M, 611.M, 612.M, 613.M, 615.M, 616.M, 617.M, 621.M, 622.M, 623.M, 624.M, 625.M, 626.M, 627.M, 631.M, 633.M, 634.M, 636.M, 645.M, 646.M, 651.M, 652.M, 653.M, 654.M, 655.M, 656.M, 658.M, 660.M, 661.M, 663.M, 665.M, 666.M, 667.M, 668.M, 673.M, 674.M, 675.M, 676.M, 677.M, 678.M, 680.M, 682.M, 683.M, 684.M, 685.M, 686.M, 687.M, 688.M, 690.M, 691.M, 694.M, 695.M, 697.M, 698.M, 699.M, 701.M, 703.M, 706.M, 707.M, 708.M, 709.M, 711.M, 714.M, 715.M, 716.M, 717.M, 718.M, 719.M, 720.M, 721.M, 722.M, 724.M, 725.M, 727.M, 728.M, 729.M, 731.M, 732.M, 2535.M, 2539.M, 2547.M, 2548.M, 2564.M, 2568.M, 2569.M, 2577.M, 2581.M, 2596.M, 2601.M, 2625.M, 2643.M, 2645.M, 2649.M, 2657.M, 2659.M, 2665.M, 2666.M, 2696.M, 2699.M, 2700.M, 2709.M, 2710.M, 2711.M, 2712.M, 2713.M, 2714.M, 2715.M, 4053.M, 4054.M, 4055.M, 4056.M, 4057.M, 4058.M, 4059.M, 4060.M, 4061.M, 4062.M, 4064.M, 4065.M, 4066.M, 4067.M, 4068.M, 4069.M, 4070.M, 4071.M, 4072.M, 4073.M, 4074.M, 4075.M.
- Elapsoidea semiannulata moebiusi**. **Bangaya**: 270.M ; **Djinagué**: 1117.M; **Doussoudiana**: 110.M, TR.0713; **Laminina**: 740.M; **Mamorougou**: 3772.M; **Npiébougou**: 1787.M, 1835.M, 1837.M, 1858.M, 1859.M, 1876.M, 3329.M, 3330.M, 3343.M, 3384.M, 3426.M, 3451.M, 4317.M; **Sébékourani**: 143.M, 145.M; **Zamoko**: 164.M, 165.M, 166.M, 167.M, 2582.M, 2591.M, 2629.M.
- Eryx muelleri**. **Bangaya**: 2.M; **Bouyanga**: 340.M, 341.M, 342.M, 343.M, 370.M, 378.M, 382.M, 386.M, 387.M, 388.M, 405.M, 406.M, 2402.M, 2403.M, 2404.M, 2405.M, 2406.M, 2407.M, 2408.M, 2409.M, 2410.M, 2411.M, 2412.M, 2413.M, 2414.M, 2415.M, 2416.M, 2417.M, 2418.M, 2419.M, 2420.M, 2421.M, 2422.M, 2423.M, 2424.M, 2425.M, 2426.M, 2427.M, 2428.M, 2429.M, 2430.M, 2499.M; **Doro**: 1681.M, 1682.M, 1683.M, 1684.M, 1685.M, 1686.M, 1687.M; **Gaoudel**: 3529.M, 3540.M, 3555.M, 3566.M, 3570.M, 3599.M, 3601.M; **Haoussa-Foulane**: 2274.M; **Koundian**: 3006.M, 3014.M; **Koyretao**: 2332.M, 2333.M, 2338.M, 2339.M, 3506.M, 3516.M, 3520.M, 3525.M ; **Léré**: 2344.M, 2347.M, 2348.M; **Niamasso**: 1345.M; **Niamou**: 41.M, 56.M, 418.M, 423.M, 425.M, 427.M, 428.M, 430.M, 432.M, 433.M, 434.M, 440.M, 443.M, 444.M, 445.M, 447.M, 448.M, 454.M, 455.M, 460.M, 462.M, 467.M, 471.M, 472.M, 473.M, 495.M, 502.M, 511.M, 512.M, 524.M, 2800.M, 2801.M, 2802.M, 2803.M, 2804.M, 2805.M, 2806.M, 2807.M, 2808.M, 2809.M, 2810.M, 2811.M, 2812.M, 2813.M, 2814.M, 2815.M, 2816.M, 2817.M, 2818.M, 2819.M, 2820.M, 2821.M, 2822.M, 2823.M, 2824.M, 2825.M, 2826.M, 2827.M, 2828.M, 2829.M, 2830.M, 2831.M, 2832.M, 2833.M, 2834.M, 2835.M, 2836.M, 2837.M, 2838.M, 2839.M, 2840.M, 2841.M, 2842.M, 2843.M, 2844.M, 2845.M, 2846.M, 2847.M, 2848.M, 2849.M, 2850.M, 2851.M, 2852.M, 2853.M, 2854.M, 2855.M, 2856.M, 2857.M, 2858.M, 2859.M, 2860.M, 2861.M, 2862.M, 2863.M, 2976.M; **Samé Ouolof**: 1899.M; **Séoulasso**: 1460.M; **Tinjemban**: 1623.M; **Toumboula**: 1259.M, 1283.M, 1300.M, 2793.M.
- Gonionotophis granti**. **Laminina**: 831.M; **Mamorougou**: 4110.M; **Npiébougou**: 3469.M; **Sébékourani**: 998.M.
- Graya smithi**. **Mamorougou**: 1984.M, 1985.M, 1997.M, 2004.M, 2019.M, 3694.M, 3698.M, 3699.M, 3713.M, 3725.M, 3730.M, 3733.M, 3738.M, 3758.M, 3765.M.
- Lycophidion albomaculatum**. **Djinagué**: 1132.M, 1138.M, 1152.M, 1197.M, 1214.M; **Koundian**: 3020.M, 3022.M, 3028.M; **Niamou**: 2982.M, 2998.M, 2999.M; **Sébékourani**:

146.M, 147.M, 148.M, 922.M, 983.M, 985.M, 986.M, 988.M, 989.M, 996.M, 997.M, 1003.M, 1016.M, 1084.M, 3176.M, 3216.M; **Zamoko**: 155.M, 632.M, 712.M, 713.M, 2590.M, 2667.M.

*Lycophidion irroratum*. **Mamoroubougou**: 1946.M, 3701.M, 3728.M, 3795.M, 3812.M.

*Lycophidion semicinctum*. **Laminina**: 739.M, 745.M, 750.M, 2620.M; **Mamoroubougou**: 1981.M, 1983.M, 3700.M, 3756.M, 3757.M, 3792.M, 3825.M, 3840.M, 4301.M; **Npiébougou**: 1849.M, 1860.M, 1882.M, 3348.M, 3379.M, 3436.M, 3463.M, 3489.M, 4002.M; **Titiéna**: 2128.M, 3653.M, 4175.M.

*Mehelya crossi*. **Laminina**: 760.M, 765.M; **Mamoroubougou**: 177.M, 1978.M, 1992.M, 2008.M, 2018.M, 2031.M, 2055.M, 3723.M, 3739.M, 3764.M; **Npiébougou**: 1776.M, 1783.M, 3392.M; **Sadjourougou**: 2520.M; **Sébékourani**: 142.M, 150.M, 869.M, 3153.M; **Titiéna**: 193.M, 2105.M, 2106.M, 2121.M, 2131.M, 2136.M, 3613.M, 3622.M, 3634.M, 3642.M, 3647.M; **Zamoko**: 173.M, 619.M.

*Meizodon coronatus*. **Bangaya**: 10.M; **Bouyanga**: 2501.M; **Mamoroubougou**: 3702.M; **Sébékourani**: 984.M, 999.M, 1012.M, 1036.M, 1103.M, 1104.M, 1106.M, 3156.M, 3221.M, 3226.M, 3228.M, 3278.M; **Titiéna**: 202.M, 213.M, 2141.M, 2252.M, 3604.M, 4302.M.

*Myriopholis adleri*. **Sébékourani**: 4260.M.

*Myriopholis albiventer*. **Doussoudiana**: 5298.M; **Mamoroubougou**: 4288.M, 4320.M, TR.3476, TR.3477.

*Myriopholis boueti*. **Bamako**: TR.1686; **Bouyanga**: 3304.M, 3305.M, 3306.M, 4181.M, 4182.M, 4183.M, 4184.M, 4185.M, 4186.M; **Djinagué**: 3294.M, 3295.M; **Koundian**: 3296.M; **Niamou**: 4196.M; **Npiébougou**: 3495.M, 3996.M, 4003.M, 4004.M, 4005.M, 4008.M, 4291.M, 4266.M, 4267.M, 4268.M, 4269.M, 4270.M, 4271.M, 4272.M, 4273.M, 4274.M, 4275.M, 4276.M, 4277.M, 4278.M, 4279.M, 4280.M, 4281.M, 4282.M, 4283.M, 4284.M, 4285.M; **Samé Ouolof**: TR.1685; **Sébékourani**: 144.M, 1100.M, 3283.M, 3284.M, 3285.M, 3286.M, 3287.M, 4261.M, 4262.M, 4263.M; **Zamoko**: 1920.M, 4197.M, 4198.M, 4199.M, 4200.M, 4201.M, 4202.M, 4203.M, 4204.M, 4205.M, 4206.M, 4207.M, 4208.M, 4209.M, 4210.M, 4211.M, 4212.M, 4213.M, 4214.M, 4215.M, 4216.M, 4217.M, 4218.M, 4219.M, 4220.M, 4221.M, 4222.M, 4223.M, 4224.M, 4225.M, 4226.M, 4227.M, 4228.M, 4229.M, 4230.M, 4231.M, 4232.M, 4233.M, 4234.M, 4235.M, 4236.M, 4237.M, 4238.M, 4239.M, 4581.M, 4582.M, 4583.M, 4584.M, 4585.M, 4586.M, 4587.M, 4588.M, 4589.M, 4590.M, 4591.M, 4592.M, 4593.M, 4594.M, 4595.M, 4596.M, 4597.M, 4598.M, 4599.M, 4600.M, 4601.M, 4602.M, 4603.M, 4604.M, 4605.M, 4606.M, 4607.M, 4608.M, 4609.M, TR.2520.

*Naja katiensis*. **Ballabougou**: 1323.M; **Djinagué**: 1108.M, 1125.M, 1157.M, 1187.M; **Doussoudiana**: 77.M, 81.M, 85.M, 93.M, 1764.M, TR.0913, TR.1234, TR.1271; **Laminina**: 764.M, 770.M, 785.M, 787.M, 797.M, 807.M, 829.M, 830.M, 833.M, 845.M, 847.M, TR.0921, TR.0924, TR.1229; **Mamoroubougou**: 176.M, 1987.M, 1996.M, 1998.M, 2000.M, 2001.M, 2005.M, 2010.M, 2013.M, 2015.M, 2020.M, 2023.M, 2030.M, 2040.M, 2041.M, 2042.M, 2051.M, 2052.M, 2054.M, 2061.M, 3690.M, 3695.M, 3697.M, 3703.M, 3705.M, 3706.M, 3707.M, 3708.M, 3709.M, 3710.M, 3714.M, 3715.M, 3726.M, 3729.M, 3736.M, 3742.M, 3743.M, 3752.M, 3755.M, 3760.M, 3763.M, 3768.M, 3769.M, 3770.M, 3773.M, 3775.M, 3778.M, 3779.M, 3787.M, 3815.M, 3821.M, 3822.M, 4299.M; **Npiébougou**: 1778.M,

1784.M, 1785.M, 1794.M, 1797.M, 1798.M, 1801.M, 1807.M, 1811.M, 1812.M, 1813.M, 1818.M, 1820.M, 1821.M, 1825.M, 1826.M, 1832.M, 1844.M, 1848.M, 1851.M, 1855.M, 1857.M, 3311.M, 3314.M, 3315.M, 3316.M, 3317.M, 3318.M, 3319.M, 3320.M, 3321.M, 3322.M, 3325.M, 3326.M, 3328.M, 3332.M, 3334.M, 3335.M, 3336.M, 3338.M, 3339.M, 3342.M, 3344.M, 3345.M, 3347.M, 3350.M, 3352.M, 3353.M, 3354.M, 3355.M, 3358.M, 3359.M, 3360.M, 3363.M, 3364.M, 3365.M, 3366.M, 3367.M, 3371.M, 3372.M, 3377.M, 3378.M, 3381.M, 3383.M, 3387.M, 3389.M, 3390.M, 3391.M, 3393.M, 3394.M, 3395.M, 3396.M, 3397.M, 3399.M, 3400.M, 3401.M, 3403.M, 3405.M, 3406.M, 3407.M, 3408.M, 3409.M, 3410.M, 3411.M, 3412.M, 3413.M, 3418.M, 3421.M, 3424.M, 3429.M, 3430.M, 3431.M, 3433.M, 3438.M, 3439.M, 3440.M, 3444.M, 3445.M, 3460.M, 3464.M, 3468.M, 3472.M, 3475.M, 3483.M, 3488.M, 3497.M, 3994.M; **Sadjourougou**: 2503.M, 2504.M, 2505.M, 2506.M, 2507.M; **Sébékourani**: 875.M, 964.M, 991.M, 3152.M, 3167.M, 3172.M, 3206.M, 3258.M; **Titiéna**: 181.M, 182.M, 183.M, 185.M, 186.M, 187.M, 188.M, 189.M, 190.M, 197.M, 203.M, 205.M, 214.M, 216.M, 2071.M, 2076.M, 2079.M, 2080.M, 2095.M, 2110.M, 2111.M, 2113.M, 2139.M, 2158.M, 2179.M, 2182.M, 2183.M, 2191.M, 2206.M, 2212.M, 2219.M, 2223.M, 2243.M, 2248.M, 2251.M, 3603.M, 3605.M, 3608.M, 3620.M, 3624.M, 3625.M, 3626.M, 3627.M, 3628.M, 3629.M, 3630.M, 3631.M, 3632.M, 3633.M, 3635.M, 3636.M, 3643.M, 3648.M, 3651.M, 3654.M, 3655.M, 3656.M, 3658.M, 3661.M, 3662.M, 3664.M, 3667.M, 3676.M, 3677.M, 3678.M, 3679.M, 3680.M, 3682.M, 3686.M; **Zamoko**: 530.M, 531.M, 532.M, 533.M, 534.M, 535.M, 536.M, 537.M, 538.M, 539.M, 540.M, 541.M, 542.M, 543.M, 544.M, 545.M, 546.M, 547.M, 548.M, 549.M, 550.M, 551.M, 552.M, 553.M, 554.M, 555.M, 556.M, 557.M, 558.M, 559.M, 563.M, 569.M, 571.M, 573.M, 576.M, 578.M, 579.M, 580.M, 603.M, 605.M, 618.M, 630.M, 638.M, 639.M, 640.M, 647.M, 681.M, 705.M, 710.M, 2529.M, 2530.M, 2536.M, 2540.M, 2550.M, 2551.M, 2566.M, 2586.M, 2587.M, 2597.M, 2598.M, 2600.M, 2603.M, 2607.M, 2615.M, 2627.M, 2630.M, 2631.M, 2632.M, 2634.M, 2635.M, 2638.M, 2650.M, 2651.M, 2655.M, 2674.M, 2675.M, 2676.M, 2678.M, 2680.M, 2681.M, 2682.M, 2683.M, 2684.M, 2685.M, 2686.M, 2687.M, 2703.M, 2708.M.

*Naja melanoleuca*. **Bangaya**: 245.M; **Laminina**: 767.M; **Mamoroubougou**: 2027.M, 2048.M, 3716.M; **Npiébougou**: 1782.M, 3312.M, 3420.M, 3476.M; **Sébékourani**: 995.M; **Titiéna**: 2087.M, 2101.M

*Naja nigricollis*. **Bangaya**: 3.M, 7.M, 29.M, 217.M, 218.M, 235.M, 246.M; **Boussouma**: 1738.M, 1739.M, 1740.M; **Koundian**: 60.M, 62.M, 3026.M, 3029.M, 3031.M, 3037.M; **Mamoroubougou**: 1990.M, 3727.M; **Niamasso**: 1342.M; **Niamou**: 421.M, 2981.M, 2989.M, 2990.M; **Sébékourani**: 897.M, 3173.M, 3185.M, 3191.M, 3192.M, 3198.M; **Séoulasso**: 1390.M, 3132.M; **Toya**: 1642.M, 2298.M, 2302.M, 2312.M; **Zamoko**: 565.M, 584.M, 609.M, 2541.M, 2614.M.

*Naja senegalensis*. **Ballabougou**: 2353.M, 2354.M; **Bangaya**: 238.M; **Djinagué**: 1179.M, 1181.M; **Doussoudiana**: 103.M; **Koundian**: 2368.M; **Laminina**: 805.M, TR.1273; **Mamoroubougou**: 1977.M, 2003.M, 2017.M; **Npiébougou**: 1796.M, 3419.M; **Sadjourougou**: 2352.M; **Saré-Soma**: 1591.M; **Sébékourani**: 878.M, 957.M; **Titiéna**: 184.M, 2102.M, 2109.M, 2118.M, 2145.M, 2186.M, 3606.M, 3617.M, 3618.M, 3683.M; **Zamoko**: 156.M, 581.M, 2349.M, 2350.M, 2351.M.

*Philothamnus irregularis*. **Doussoudiana**: 75.M, 78.M, 87.M, 89.M, 91.M, 114.M, 1756.M, 1774.M, TR.1305; **Laminina**:



759.M, 771.M, 772.M, 774.M, 777.M, 783.M, 821.M, 822.M, TR.0925, TR.1275, TR.1277, TR.1279, TR.1308, TR.1310, TR.1311, TR.1332; **Niakoni**: TR.0927; **Npiébougou**: 1775.M, 1847.M, 3309.M, 3349.M, 3414; **Sébékourani**: 980.M, 982.M, 993.M, 994.M, 3162.M, 3196.M, 3211.M, 3233.M; **Titiéna**: 2078.M, 2098.M, 2224.M, 3607.M.

**Philothamnus semivariiegatus smithi**. Doussoudiana: 1766.M, 1767.M; **Laminina**: 751.M; **Niamou**: 1918.M.

**Polemon neuwiedi**. Mamoroubougou 1935.M, 4159.M, 4162.M.

**Prosymna collaris**. Topokhoné: 129.M.

**Prosymna greigerti**. Bangaya: 289.M; **Npiébougou**: 4314.M; **Djinagué**: 1209.M; **Koundian**: 2372.M; **Laminina**: 741.M, 747.M, 752.M, 756.M, 823.M, 854.M; **Mamoroubougou**: 1933.M, 1938.M, 1982.M, 3712.M, 3719.M, 3737.M, 3753.M, 3805.M, 3832.M, 3835.M, 3851.M, 4160.M, 4296.M, 4297.M, 4300.M; **Niamou**: 1922.M; **Npiébougou**: 1822.M, 3323.M, 3435.M, 3461.M, 3471.M, 3481.M; **Sébékourani**: 149.M, 152.M, 967.M, 981.M, 992.M, 3261.M, 3269.M; **Titiéna**: 1925.M, 1926.M, 1927.M, 1929.M, 1931.M, 4172.M; **Toumboula**: 1235.M; **Zamoko**: 154.M, 1919.M.

**Psammophis elegans**. Bangaya: 13.M; **Bouyanga**: 52.M; **Doussoudiana**: 82.M, 88.M, 96.M, 100.M, 117.M, 118.M; **Kinani**: 1554.M, 1568.M, 1572.M, 1573.M, 1577.M; **Koundian**: 2367.M, 3007.M, 3015.M, 3017.M, 3024.M, 3036.M, 3040.M, 3041.M; **Laminina**: 779.M, 780.M, 793.M, 803.M, 826.M, TR.0923, TR.1226, TR.1228; **Mamoroubougou**: 178.M, 2012.M, 2025.M, 3711.M, 3735.M, 3741.M, 3837.M; **Npiébougou**: 1786.M, 1788.M, 1791.M, 1803.M, 1805.M, 1828.M, 1830.M, 1836.M, 1839.M, 1841.M, 1879.M, 1880.M, 3341.M, 3423.M, 3494.M; **Sadjouroubougou**: 2508.M, 2509.M, 2510.M, 2511.M; **Samé Ouolof**: 3045.M, 3062.M; **Saré-Soma**: 1608.M; **Sébékourani**: 883.M, 928.M, 1062.M, 3195.M, 3209.M, 3214.M; **Séoulasso**: 1398.M, 1427.M, 1428.M, 1429.M, 1445.M, 1463.M, 1466.M, 1477.M, 3083.M, 3097.M, 3100.M, 3103.M, 3145.M, 3149.M; **Ténintou**: TR.0688; **Titiéna**: 2160.M, 3638.M, 3665.M; **Zamoko**: 577.M, 582.M, 587.M, 620.M, 650.M, 2588.M, 2611.M, 2626.M, 2679.M.

**Psammophis lineatus**. Mamoroubougou: 3754.M, 3811.M.

**Psammophis philippsi**. Laminina: 822.M.

**Psammophis praeornatus**. Mamoroubougou: 3838.M, 3845.M; **Niamou**: 2985.M; **Npiébougou**: 3374.M; **Sadjouroubougou**: 1317.M; **Samé Ouolof**: 1915.M; **Sébékourani**: 3229.M; **Séoulasso**: 1358.M, 1392.M, 1403.M, 1446.M, 1501.M, 1522.M, 3096.M; **Titiéna**: 2096.M, 2107.M, 2127.M, 2200.M, 2209.M, 3637.M; **Zamoko**: 2545.M, 2567.M, 2570.M, 2636.M, 2656.M, 2662.M, 2663.M, 2673.M.

**Psammophis schokari**. Gaoudel: 1545.M; **Tinjemban**: 1622.M, 1624.M, 2281.M.

**Psammophis aff. sibilans**. Agoudoud: 1677.M, 1678.M; **Bal-labougou**: 1320.M, 1321.M, 1322.M, 2523.M, 2524.M; **Bangaya**: 4.M, 6.M, 8.M, 16.M, 24.M, 220.M, 222.M, 230.M, 247.M, 248.M, 249.M, 250.M, 252.M, 262.M, 267.M, 268.M, 274.M, 287.M; **Boussouma**: 1724.M, 1725.M, 1726.M, 1727.M, 1728.M, 1729.M, 1730.M, 1731.M, 1732.M, 1733.M, 1734.M, 1735.M, 1736.M; **Bouyanga**: 344.M, 345.M, 355.M, 360.M, 372.M, 373.M, 375.M, 379.M, 392.M, 393.M, 394.M, 395.M, 398.M, 404.M, 411.M, 2375.M, 2377.M, 2378.M, 2379.M, 2380.M, 2383.M, 2386.M, 2389.M, 2390.M, 2391.M, 2392.M,

2393.M, 2394.M, 2395.M, 2396.M, 2397.M, 2398.M, 2399.M, 2400.M, 2401.M, TR.2871; **Djinagué**: 1110.M, 1113.M, 1122.M, 1129.M, 1130.M, 1139.M, 1144.M, 1155.M, 1159.M, 1164.M, 1165.M, 1167.M, 1170.M, 1171.M, 1172.M, 1175.M, 1182.M, 1193.M, 1199.M, 1202.M, 1211.M, 1212.M, 1213.M, 1215.M, 1217.M, 1222.M, 1223.M; **Donguiba**: 3308.M; **Doussoudiana**: 83.M, 101.M, 108.M, 115.M, 1755.M, 1757.M, 1770.M, TR.0720, TR.1237, TR.1238, TR.1268, TR.1272, TR.1306; **Gaoudel**: 1530.M, 1533.M, 1534.M, 1537.M, 1543.M, 1556.M, 3530.M, 3535.M, 3537.M, 3539.M, 3542.M, 3543.M, 3544.M, 3546.M, 3550.M, 3551.M, 3552.M, 3553.M, 3556.M, 3557.M, 3562.M, 3563.M, 3565.M, 3568.M, 3574.M, 3582.M, 3590.M, 3597.M, 3598.M, 3600.M, 3602.M; **Haoussa-Foulane**: 2270.M, 2272.M; **Kinani**: 1549.M, 1550.M, 1553.M, 1557.M, 1558.M, 1560.M, 1561.M, 1562.M, 1563.M, 1565.M, 1566.M, 1567.M, 1569.M, 1574.M, 1575.M, 1576.M, 1580.M; **Koundian**: 63.M, 3002.M, 3003.M, 3004.M, 3005.M, 3008.M, 3009.M, 3011.M, 3013.M, 3016.M, 3023.M, 3030.M, 3033.M, 3038.M, 3039.M; **Koyretao**: 1618.M, 3499.M; **Laminina**: 773.M, 781.M, 801.M, 802.M, 818.M, 825.M, 827.M, 832.M, 838.M, 839.M, 852.M, 2623.M, TR.1312, TR.1313; **Léré**: 2343.M, 2345.M; **Mamoroubougou**: 1999.M, 2024.M, 2053.M, 2062.M, 2065.M, 3718.M, 3803.M, 3804.M, 3810.M, 3814.M, 3852.M, 3854.M, 3855.M; **Niakoni**: TR.0886, TR.0926, TR.1298; **Niammasso**: 1324.M, 1325.M, 1326.M, 1327.M, 1328.M, 1329.M, 1331.M, 1332.M, 1333.M, 1334.M, 1335.M, 1336.M, 1337.M, 1338.M, 1339.M, 1340.M; **Niamou**: 34.M, 42.M, 58.M, 59.M, 419.M, 429.M, 431.M, 463.M, 468.M, 469.M, 478.M, 479.M, 480.M, 488.M, 489.M, 492.M, 499.M, 513.M, 514.M, 515.M, 516.M, 2864.M, 2865.M, 2866.M, 2868.M, 2869.M, 2870.M, 2871.M, 2872.M, 2873.M, 2875.M, 2876.M, 2877.M, 2878.M, 2879.M, 2880.M, 2881.M, 2882.M, 2883.M, 2884.M, 2885.M, 2886.M, 2887.M, 2888.M, 2889.M, 2890.M, 2891.M, 2893.M, 2894.M, 2895.M, 2896.M, 2897.M, 2898.M, 2899.M, 2900.M, 2901.M, 2902.M, 2903.M, 2904.M, 2905.M, 2906.M, 2907.M, 2908.M, 2909.M, 2910.M, 2911.M, 2912.M, 2913.M, 2914.M, 2915.M, 2916.M, 2917.M, 2918.M, 2919.M, 2920.M, 2921.M, 2922.M, 2975.M, 2992.M, TR.0256; **Npiébougou**: 1777.M, 1793.M, 1802.M, 1824.M, 1827.M, 1845.M, 1846.M, 1863.M, 1865.M, 1866.M, 1871.M, 1872.M, 3310.M, 3331.M, 3333.M, 3340.M, 3382.M, 3402.M, 3404.M, 3432.M, 3437.M, 3442.M, 3452.M; **Samé Ouolof**: 1743.M, 1744.M, 1745.M, 1746.M, 1747.M, 1750.M, 1751.M, 1897.M, 1898.M, 1903.M, 1906.M, 1910.M, 1911.M, 1912.M, 3044.M, 3046.M, 3047.M, 3048.M, 3049.M, 3050.M, 3051.M, 3052.M, 3053.M, 3054.M, 3055.M, 3056.M, 3057.M, 3058.M, 3059.M, 3060.M, 3063.M, 3065.M, 3066.M, 3067.M, 3068.M, 3070.M, 3072.M, 3073.M, 3075.M, 3076.M, 3079.M, 3080.M, 3081.M; **Saré-Soma**: 1586.M, 1587.M, 1588.M, 1589.M, 1590.M, 1592.M, 1593.M, 1595.M, 1596.M, 1597.M, 1598.M, 1599.M, 1600.M, 1601.M, 1602.M, 1603.M, 1604.M, 1605.M, 1606.M, 1607.M, 1609.M, 1610.M, 1611.M, 1612.M, 1613.M, 1615.M, 1616.M; **Sébékourani**: 863.M, 871.M, 881.M, 884.M, 953.M, 966.M, 1007.M, 1021.M, 1022.M, 1026.M, 1029.M, 1044.M, 1051.M, 1054.M, 1055.M, 1061.M, 1064.M, 3154.M, 3157.M, 3160.M, 3165.M, 3170.M, 3174.M, 3178.M, 3184.M, 3186.M, 3187.M, 3188.M, 3190.M, 3193.M, 3194.M, 3197.M, 3205.M, 3207.M, 3213.M, 3215.M, 3219.M, 3220.M, 3223.M, 3234.M, 3238.M, 3240.M, 3242.M, 3244.M, 3250.M, 3251.M, 3252.M, 3254.M, 3255.M, 3256.M, 3257.M, 3259.M, 3268.M, 3271.M, 3275.M, 3277.M, 3291.M; **Séoulasso**: 1348.M, 1354.M, 1364.M, 1381.M, 1382.M, 1394.M, 1400.M, 1424.M, 1425.M, 1430.M, 1458.M, 1475.M, 1485.M, 1494.M, 1495.M, 1497.M, 1499.M, 1511.M, 1512.M, 1513.M, 1515.M, 1516.M, 1716.M, 1717.M, 1718.M, 1719.M, 1720.M, 1721.M, 1722.M, 3082.M, 3084.M, 3085.M, 3087.M,

- 3088.M, 3089.M, 3090.M, 3091.M, 3092.M, 3093.M, 3095.M, 3098.M, 3099.M, 3101.M, 3104.M, 3105.M, 3106.M, 3108.M, 3109.M, 3110.M, 3112.M, 3113.M, 3114.M, 3115.M, 3116.M, 3117.M, 3118.M, 3119.M, 3120.M, 3121.M, 3122.M, 3123.M, 3124.M, 3125.M, 3126.M, 3127.M, 3129.M, 3131.M, 3133.M, 3135.M, 3137.M, 3138.M, 3139.M, 3140.M, 3141.M, 3142.M, 3143.M, 3144.M, 3146.M, 3147.M, 3148.M, 3150.M, 3151.M; **Tacharane**: 1885.M, 1886.M, 1887.M, 1888.M; **Tinjemban**: 1620.M, 1633.M, 2285.M; **Titiéna**: 192.M, 196.M, 199.M, 206.M, 209.M, 2068.M, 2070.M, 2072.M, 2086.M, 2090.M, 2091.M, 2097.M, 2126.M, 2129.M, 2140.M, 2142.M, 2143.M, 2146.M, 2148.M, 2149.M, 2152.M, 2161.M, 2163.M, 2169.M, 2172.M, 2177.M, 2185.M, 2188.M, 2190.M, 2196.M, 2197.M, 2210.M, 2213.M, 2216.M, 2222.M, 2228.M, 2231.M, 2238.M, 2239.M, 2244.M, 2247.M, 2249.M, 2259.M, 2260.M, 2261.M, 2265.M; **Toumboula**: 1264.M, 1315.M, 2789.M, 2792.M, 2795.M; **Toya**: 1638.M, 1639.M, 1640.M, 1641.M, 1643.M, 1644.M, 1645.M, 1646.M, 1647.M, 1648.M, 1649.M, 1650.M, 1651.M, 1652.M, 1653.M, 1654.M, 1655.M, 1656.M, 1657.M, 1658.M, 1659.M, 1660.M, 1661.M, 1662.M, 1663.M, 1664.M, 1665.M, 1666.M, 1667.M, 1669.M, 1670.M, 1671.M, 1672.M, 1673.M, 1674.M, 1675.M, 1676.M, 2286.M, 2287.M, 2288.M, 2289.M, 2290.M, 2291.M, 2292.M, 2293.M, 2294.M, 2296.M, 2297.M, 2299.M, 2300.M, 2301.M, 2303.M, 2304.M, 2305.M, 2306.M, 2307.M, 2308.M, 2309.M, 2310.M, 2311.M, 2313.M, 2314.M, 2315.M, 2316.M, 2317.M, 2318.M; **Zamoko**: 560.M, 561.M, 562.M, 572.M, 575.M, 592.M, 601.M, 606.M, 628.M, 644.M, 659.M, 700.M, 733.M, 734.M, 2543.M, 2544.M, 2546.M, 2553.M, 2556.M, 2560.M, 2561.M, 2565.M, 2571.M, 2573.M, 2578.M, 2579.M, 2583.M, 2584.M, 2589.M, 2604.M, 2610.M, 2612.M, 2617.M, 2618.M, 2628.M, 2637.M, 2639.M, 2644.M, 2652.M, 2660.M, 2661.M, 2668.M, 2669.M, 2670.M, 2671.M, 2677.M, 2688.M, 2689.M, 2695.M, 2697.M, 2698.M, 2704.M, 2705.M, 2716.M, 2717.M, 2718.M.
- Python regius**. **Ballabougou**: 2522.M; **Djinagué**: 1115.M, 1135.M, 1218.M; **Doussoudiana**: 74.M, 102.M, 113.M, 120.M, 1754.M, 1759.M, 1772.M, TR.0903, TR.1269, TR.1300; **Koundian**: 2365.M; **Laminina**: 768.M, 798.M, 809.M, 814.M, 815.M, 817.M, TR.1278; **Niakoni**: TR.1281; **Niamou**: 442.M; **Sadjouroubougou**: 2502.M; **Sébékourani**: 860.M, 861.M, 862.M, 866.M, 873.M, 879.M, 886.M, 896.M, 900.M, 903.M, 912.M, 931.M, 971.M, 1033.M, 1045.M, 3164.M, 3265.M, 3273.M; **Titiéna**: 2117.M, 2132.M, 2162.M, 2214.M, 2221.M, 3616.M, 3619.M, 3671.M; **Zamoko**: 586.M, 596.M, 635.M, 2624.M.
- Python sebae**. **Bangaya**: 22.M; **Boussouma**: 1737.M; **Bouyanga**: 401.M ; **Djinagué**: 1189.M ; **Laminina**: 758.M, 769.M, 808.M; **Niamou**: 417.M, 424.M, 437.M, 2984.M, 2992.M; **Npiébougou**: 3368.M; **Samé Oulof**: 1752.M; **Sébékourani**: 865.M, 885.M, 890.M, 891.M, 937.M, 1048.M, 3272.M; **Titiéna**: 2089.M; **Toumboula**: 1257.M.
- Rhagerhis moilensis**. **Gaoudel**: 1538.M, 1541.M, 1544.M, 3533.M, 3558.M; **Gogui** (10 km S): 3307.M; **Haoussa-Foulane**: 2271.M; **Koyretao**: 3501.M.
- Rhamphiophis oxyrhynchus**. **Bangaya**: 5.M; **Bouyanga**: 2376.M, 2381.M, 2385.M, 2388.M; **Djinagué**: 1220.M; **Doussoudiana**: 76.M, 109.M, 1762.M, TR.0719, TR.0914, TR.1302; **Laminina**: 789.M, 804.M, TR.0648; **Mamoroubougou**: 3828.M, 3834.M, 3849.M; **Niakoni**: TR.0928, TR.1297; **Niamou**: 497.M, 2991.M, 2996.M; **Npiébougou**: 1776.M, 1781.M, 1790.M, 1792.M, 1795.M, 1804.M, 1831.M, 1838.M, 1853.M, 1867.M, 1878.M, 1881.M, 3369.M, 3388.M, 3415.M, 3422.M, 3427.M; **Sébékourani**: 958.M, 972.M, 987.M, 1006.M, 1028.M, 1030.M, 3159.M, 3181.M, 3183.M; **Séoulasso**: 1372.M, 1380.M, 1412.M, 1450.M, 1457.M, 1465.M, 1723.M, 3102.M, 3107.M, 3111.M, 3130.M, 3134.M; **Titiéna**: 194.M, 198.M, 1928.M, 2103.M, 2108.M, 2115.M, 2116.M, 2133.M, 2138.M, 2155.M, 2175.M, 2184.M, 2192.M, 2195.M, 2205.M, 2207.M, 2220.M, 2225.M, 2230.M, 2232.M, 2233.M, 2237.M, 2255.M, 3639.M, 3640.M, 3645.M, 3660.M, 4022.M; **Zamoko**: 588.M, 643.M, 726.M, 2531.M, 2549.M, 2592.M, 2599.M, 2701.M, 2706.M.
- Rhinogouinea magna**. **Mamoroubougou**: 1956.M, 4142.M, 4143.M, 4144.M, 4318.M, 4319.M, TR.2501, TR.2822, TR.2823, TR.2824, TR.2825, TR.3478, TR.3479, TR.3480, TR.3481, TR.3482.
- Rhinoleptus koniagui**. **Djinagué**: 4187.M; **Koundian**: 2374.M; **Laminina**: 749.M, 753.M, 828.M; **Npiébougou**: 3998.M, 4177.M, 4178.M, 4179.M, 4180.M, 4287.M.
- Spalerosophis diadema**. **Gaoudel**: 3528.M, 3571.M; **Koyretao**: 2325.M, 2336.M, 3508.M, 3515.M, 3522.M; **Toya**: 1668.M.
- Telescopus tripolitanus**. **Kinani**: 1551.M, 1571.M, 1578.M; **Toumboula**: 1229.M, 2788.M, 2790.M, 2791.M, 2798.M.
- Telescopus variegatus**. **Koundian**: 3027.M; **Mamoroubougou**: 3721.M, 3833.M; **Zamoko**: 169.M, 629.M, 2613.M, 2653.M; **Zamoko**: 168.M.
- Tricheilostoma bicolor**. **Doussoudiana**: 3280.M, 3281.M, 3282.M, TR.1323; **Laminina**: 842.M; **Mamoroubougou**: 1934.M, 1943.M, 1945.M, 1948.M, 1949.M, 1950.M, 1954.M, 1958.M, 1962.M, 1963.M, 1966.M, 1968.M, 1969.M, 1970.M, 1971.M, 1972.M, 1973.M, 1974.M, 1975.M, 4169.M, 4289.M, 4610.M, 4611.M, 4612.M, 4613.M, 4614.M, 4615.M, 4616.M, 4617.M, 4618.M, 4619.M, 4620.M, 4621.M, 4622.M, 4623.M, 4624.M, 4625.M, 4626.M, 4627.M, 4628.M, 4629.M, 4630.M, 4631.M, 4632.M, 4633.M, 4634.M, 4635.M, 4636.M, 4637.M, 4638.M, 4639.M, 4640.M, 4641.M, 4642.M, 4643.M, 4644.M, 4645.M, 4646.M, 4647.M, 4648.M, 4649.M, 4650.M, 4651.M, 4652.M, 4653.M, 4654.M, 4655.M, 4656.M, 4657.M, 4658.M, 4659.M, 4660.M, 4661.M, 4662.M, 4663.M, 4664.M, 4665.M, 4666.M, 4667.M, 4668.M, 4669.M, 4670.M, 4671.M, 4672.M, 4673.M, 4674.M, 4675.M, 4676.M, 4677.M, 4678.M, 4679.M, 4680.M, 4681.M, 4682.M, 4683.M, 4684.M, 4685.M, 4686.M, 4687.M, 4688.M, 4689.M, 4690.M, 4691.M, 4692.M, 4693.M, 4694.M, 4695.M, 4696.M, 4697.M, 4698.M, 4699.M, 4700.M, 4701.M, 4702.M, 4703.M, 4704.M, 4705.M, 4706.M, 4707.M, 4708.M, 4709.M, 4710.M, 4711.M, 4712.M, 4713.M, 4714.M, 4715.M, 4716.M, 4717.M, 4718.M, 4719.M, 4720.M, 4721.M, 4722.M, 4723.M, 4724.M, 4725.M, 4726.M, 4727.M, 4728.M, 4729.M, 4730.M, 4731.M, 4732.M, 4733.M, 4734.M, 4735.M, 4736.M, 4737.M, 4738.M, 4739.M, 4740.M, 4741.M, 4742.M, 4743.M, 4744.M, 4745.M, 4746.M, 4747.M, 4748.M, 4749.M, 4750.M, 4751.M, 4752.M, 4753.M, 4754.M, 4755.M, 4756.M, 4757.M, 4758.M, 4759.M, 4760.M, 4761.M, 4762.M, 4763.M, 4764.M, 4765.M, 4766.M, 4767.M, 4768.M, 4769.M, 4770.M, 4771.M, 4772.M, 4773.M, 4774.M, 4775.M, 4776.M, 4777.M, 4778.M, 4779.M, 4780.M, 4781.M, 4782.M, 4783.M, 4784.M, 4785.M, 4786.M, 4787.M, 4788.M, 4789.M, 4790.M, 4791.M, 4792.M, 4793.M, 4794.M, 4795.M, 4796.M, 4797.M, 4798.M, 4799.M, 4800.M, 4801.M, 4802.M, 4803.M, 4804.M, 4805.M, 4806.M, 4807.M, 4808.M, 4809.M, 4810.M, 4811.M, 4812.M, 4813.M, 4814.M, 4815.M, 4816.M, 4817.M, 4818.M, 4819.M, 4820.M, 4821.M, 4822.M, 4823.M, 4824.M, 4825.M, 4826.M, 4827.M, 4828.M, 4829.M, 4830.M, 4831.M, 4832.M, 4833.M,

4834.M, 4835.M, 4836.M, 4837.M, 4838.M, 4839.M, 4840.M, 4841.M, 4842.M, 4843.M, 4844.M, 4845.M, 4846.M, 4847.M, 4848.M, 4849.M, 4850.M, 4851.M, 4852.M, 4853.M, 4854.M, 4855.M, 4856.M, 4857.M, 4858.M, 4859.M, 4860.M, 4861.M, 4862.M, 4863.M, 4864.M, 4865.M, 4866.M, 4867.M, 4868.M, 4869.M, 4870.M, 4871.M, 4872.M, 4873.M, 4874.M, 4875.M, 4876.M, 4877.M, 4878.M, 4879.M, 4880.M, 4881.M, 4882.M, 4883.M, 4884.M, 4885.M, 4886.M, 4887.M, 4888.M, 4889.M, 4890.M, 4891.M, 4892.M, 4893.M, 4894.M, 4895.M, 4896.M, 4897.M, 4898.M, 4899.M, 4900.M, 4901.M, 4902.M, 4903.M, 4904.M, 4905.M, 4906.M, 4907.M, 4908.M, 4909.M, 4910.M, 4911.M, 4912.M, 4913.M, 4914.M, 4915.M, 4916.M, 4917.M, 4918.M, 4919.M, 4920.M, 4921.M, 4922.M, 4923.M, 4924.M, 4925.M, 4926.M, 4927.M, 4928.M, 4929.M, 4930.M, 4931.M, 4932.M, 4933.M, 4934.M, 4935.M, 4936.M, 4937.M, 4938.M, 4939.M, 4940.M, 4941.M, 4942.M, 4943.M, 4944.M, 4945.M, 4946.M, 4947.M, 4948.M, 4949.M, 4950.M, 4951.M, 4952.M, 4953.M, 4954.M, 4955.M, 4956.M, 4957.M, 4958.M, 4959.M, 4960.M, 4961.M, 4962.M, 4963.M, 4964.M, 4965.M, 4966.M, 4967.M, 4968.M, 4969.M, 4970.M, 4971.M, 4972.M, 4973.M, 4974.M, 4975.M, 4976.M, 4977.M, 4978.M, 4979.M, 4980.M, 4981.M, 4982.M, 4983.M, 4984.M, 4985.M, 4986.M, 4987.M, 4988.M, 4989.M, 4990.M, 4991.M, 4992.M, 4993.M, 4994.M, 4995.M, 4996.M, 4997.M, 4998.M, 4999.M, 5000.M, 5001.M, 5002.M, 5003.M, 5004.M, 5005.M, 5006.M, 5007.M, 5008.M, 5009.M, 5010.M, 5011.M, 5012.M, 5013.M, 5014.M, 5015.M, 5016.M, 5017.M, 5018.M, 5019.M, 5020.M, 5021.M, 5022.M, 5023.M, 5024.M, 5025.M, 5026.M, 5027.M, 5028.M, 5029.M, 5030.M, 5031.M, 5032.M, 5033.M, 5034.M, 5035.M, 5036.M, 5037.M, 5038.M, 5039.M, 5040.M, 5041.M, 5042.M, 5043.M, 5044.M, 5045.M, 5046.M, 5047.M, 5048.M, 5049.M, 5050.M, 5051.M, 5052.M, 5053.M, 5054.M, 5055.M, 5056.M, 5057.M, 5058.M, 5059.M, 5060.M, 5061.M, 5062.M, 5063.M, 5064.M, 5065.M, 5066.M, 5067.M, 5068.M, 5069.M, 5070.M, 5071.M, 5072.M, 5073.M, 5074.M, 5075.M, 5076.M, 5077.M, 5078.M, 5079.M, 5080.M, 5081.M, 5082.M, 5083.M, 5084.M, 5085.M, 5086.M, 5087.M, 5088.M, 5089.M, 5090.M, 5091.M, 5092.M, 5093.M, 5094.M, 5095.M, 5096.M, 5097.M, 5098.M, 5099.M, 5100.M, 5101.M, 5102.M, 5103.M, 5104.M, 5105.M, 5106.M, 5107.M, 5108.M, 5109.M, 5110.M, 5111.M, 5112.M, 5113.M, 5114.M, 5115.M, 5116.M, 5117.M, 5118.M, 5119.M, 5120.M, 5121.M, 5122.M, 5123.M, 5124.M, 5125.M, 5126.M, 5127.M, 5128.M, 5129.M, 5130.M, 5131.M, 5132.M, 5133.M, 5134.M, 5135.M, 5136.M, 5137.M, 5138.M, 5139.M, 5140.M, 5141.M, 5142.M, 5143.M, 5144.M, 5145.M, 5146.M, 5147.M, 5148.M, 5149.M, 5150.M, 5151.M, 5152.M, 5153.M, 5154.M, 5155.M, 5156.M, 5157.M, 5158.M, 5159.M, 5160.M, 5161.M, 5162.M, 5163.M, 5164.M, 5165.M, 5166.M, 5167.M, 5168.M, 5169.M, 5170.M, 5171.M, 5172.M, 5173.M, 5174.M, 5175.M, 5176.M, 5177.M, 5178.M, 5179.M, 5180.M, 5181.M, 5182.M, 5183.M, 5184.M, 5185.M, 5186.M, 5187.M, 5188.M, 5189.M, 5190.M, 5191.M, 5192.M, 5193.M, 5194.M, 5195.M, 5196.M, 5197.M, 5198.M, 5199.M, 5200.M, 5201.M, 5202.M, 5203.M, 5204.M, 5205.M, 5206.M, 5207.M, 5208.M, 5209.M, 5210.M, 5211.M, 5212.M, 5213.M, 5214.M, 5215.M, 5216.M, 5217.M, 5218.M, 5219.M, 5220.M, 5221.M, 5222.M, 5223.M, 5224.M, 5225.M, 5226.M, 5227.M, 5228.M, 5229.M, 5230.M, 5231.M, 5232.M, 5233.M, 5234.M, 5235.M, 5236.M, 5237.M, 5238.M, 5239.M, 5240.M, 5241.M, 5242.M, 5243.M, 5244.M, 5245.M, 5246.M, 5247.M, 5248.M, 5249.M, 5250.M, 5251.M, 5252.M, 5253.M, 5254.M, 5255.M, 5256.M, 5257.M, 5258.M, 5259.M, 5260.M, 5261.M, 5262.M, 5263.M, 5264.M, 5265.M, 5266.M, 5267.M, 5268.M, 5269.M, 5270.M, 5271.M, 5272.M, 5273.M, 5274.M, 5275.M, 5276.M, 5277.M, 5278.M, 5279.M, 5280.M, 5281.M, 5282.M, 5283.M, 5284.M, 5285.M, 5286.M, 5287.M, 5288.M, 5289.M, 5290.M, 5291.M, 5292.M, 5293.M, 5294.M, 5295.M, 5296.M, 5297.M., TR.2846, TR.2847; **Titiéna**: 4173.M, 4174.M; **Niamou**: 140.M, 141.M, 4265.M; **Npiébougou**: 4188.M, 4189.M, 4190.M, 4191.M, 4192.M, 4193.M, 4290.M; **Sébékourani**: 3288.M, 3289.M, 3297.M, 3298.M, 3299.M, 3300.M, 3301.M, 3302.M, 3303.M; **Zamoko**: 1917.M, 4240.M, 4241.M, 4242.M, 4243.M, 4244.M, 4245.M, 4246.M, 4247.M, 4248.M, 4249.M, 4250.M, 4251.M, 4252.M, 4253.M, 4254.M, 4255.M, 4256.M, 4257.M, 4258.M, 4259.M, 4501.M, 4502.M, 4503.M, 4504.M, 4505.M, 4506.M, 4507.M, 4508.M, 4509.M, 4510.M, 4511.M, 4512.M, 4513.M, 4514.M, 4515.M, 4516.M, 4517.M, 4518.M, 4519.M, 4520.M, 4521.M, 4522.M, 4523.M, 4524.M, 4525.M, 4526.M, 4527.M, 4528.M, 4529.M, 4530.M, 4531.M, 4532.M, 4533.M, 4534.M, 4535.M, 4536.M, 4537.M, 4538.M, 4539.M, 4540.M, 4541.M, 4542.M, 4543.M, 4544.M, 4545.M, 4546.M, 4547.M, 4548.M, 4549.M, 4550.M, 4551.M, 4552.M, 4553.M, 4554.M, 4555.M, 4556.M, 4557.M, 4558.M, 4559.M, 4560.M, 4561.M, 4562.M, 4563.M, 4564.M, 4565.M, 4566.M, 4567.M, 4568.M, 4569.M, 4570.M, 4571.M, 4572.M, 4573.M, 4574.M, 4575.M, 4576.M, 4577.M, 4578.M, 4579.M, 4580.M.

