

BIOGEOGRAPHY OF SNAKES IN LIBERIA: REVIEW AND SYNTHESIS OF CURRENT KNOWLEDGE

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ABSTRACT

The Liberian Forest is a biodiversity hotspot. Detailed knowledge of biogeographical distributions of species could aid conservation efforts there, but such knowledge is sparse for reptiles through most of Liberia. To alleviate this, we present here a synthesis of current biogeographical knowledge of snakes in Liberia. To create the synthesis, we combined information gleaned from a literature search, unpublished records, and a personal communication. This synthesis expands the known ranges of many Liberian snake species and increases their number from 63 to 64 via a new record of *Python regius*. Our results show that most snake species in Liberia are known from both the coastal plain and the inland mountains. Our results also show that most locality records are from cultivated areas, with very few fully forested areas represented, and that locality records are lacking for large areas within Liberia. We therefore recommend that more fully forested areas be included in future biodiversity surveys and that they include localities within areas for which locality records are currently lacking. We further recommend that abundance within species be compared between forested and cultivated areas, to determine which species are put at risk by deforestation.

Keywords: Liberia, Serpentes, *Python regius*, biogeography, conservation.

Introduction

The nation of Liberia (Fig. 1) is located within a belt of West African forest that is an important biodiversity hotspot (Myers *et al.*, 2000), especially for reptiles and amphibians (Rödel & Glos, 2019). The biodiversity of Liberia is threatened by logging, mining, and other human activities, making it an important area on which to focus conservation efforts (Rödel & Glos, 2019). This requires a detailed knowledge of the local biogeographical distributions of indigenous species. For reptiles and amphibians, however, such data are scantier for Liberia than for other nations within the West African forest belt (Rödel & Glos, 2019). A civil war in Liberia from

1989 to 2003 made it difficult to collect herpetological data, and a lack of roads in much of the country hindered data collection even before the civil war. As a result, reptile distribution in Liberia is unreported for large sections of the country. There are no published locality records of snakes for three of Liberia's 14 counties, and for several other counties such records exist only for three or fewer sites (Fig. 2). Also, biogeographical data for reptiles in Liberia have until now been scattered among numerous publications in various journals and books through over 170 years of literature, whereas it would be more helpful to have this information all in one place. A further problem is that most of

such published records for reptiles in Liberia include outdated taxonomy, e.g., genus and/or species names that are junior synonyms, and listings of species that were later split into two or more (Lenk *et al.*, 1999; Trape *et al.*, 2012; Wüster *et al.*, 2018). Here, we seek to partially

alleviate these problems by compiling all previously published biogeographic data on snakes in Liberia in one publication, by adding previously unpublished data, and by updating the taxonomic assignments of the various species of snakes recorded from Liberia.

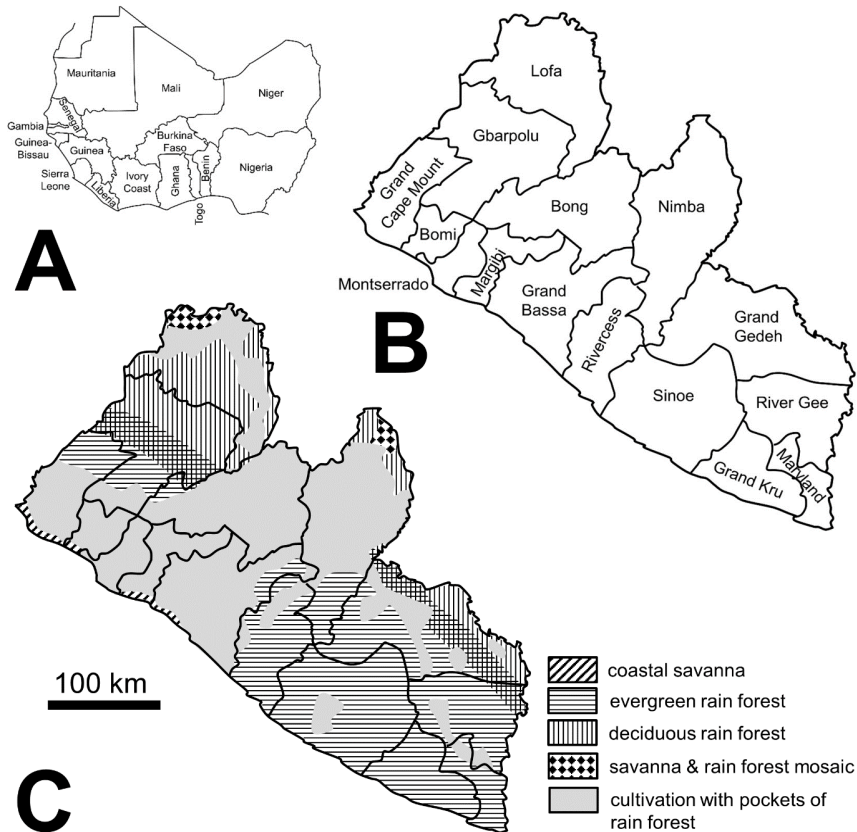


Fig. 1: Geography of Liberia. A=Location of Liberia within West Africa. B=Liberia's counties. C=Vegetation zones in Liberia.

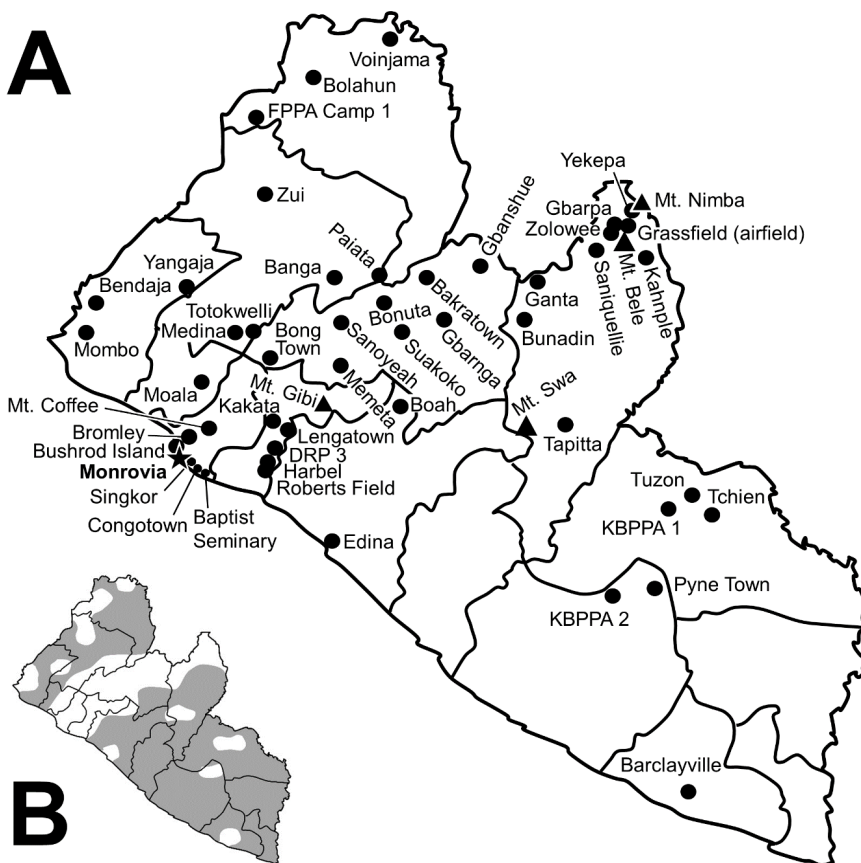


Fig. 2. Geography of locality records of Liberia's snakes. For explanations of abbreviations, see caption of Table 1. A = Locations for which published snake locality records exist, including those published for the first time here. B = areas in Liberia for which there are no published snake locality records (gray shading).

Most of the non-cultivated land in Liberia is covered by two vegetation zones: evergreen rain forest on the coastal plain, and deciduous rain forest on the mountainous areas further inland (Van Rompaey, 2002) (Fig. 1). A zone of mixed evergreen and deciduous rain forest occurs where the two zones meet,

approximately 120 – 150 km inland in the western half of the country and approximately 170 – 180 km inland in the eastern half (Fig. 1). In most of central Liberia, cultivation has deforested much of the land (Fig. 1). Small zones of non-forest vegetation exist along Liberia's western coast and in the northern

extremes of Lofa and Nimba Counties. A narrow strip of savanna, stretching from the coast ≤ 10 km inland, occurs along the coastline of Grand Cape Mount and Bomi Counties and of Margibi and western Grand Bassa County (Fig. 1). A forest-savanna mosaic is present in the northernmost extremities of Lofa and Nimba Counties (Van Rompaey, 2002; Ineich, 2003) (Fig. 1), which approach the southern edge of the West African savanna band that sits mainly in the latitudes between 8° and 16° N. For the sake of conservation efforts, it would be useful to determine whether there are faunal differences between the different vegetation zones.

Experimental

Materials and methods

A literature search, analysis of unpublished records of the authors, and a personal communication, were used to create a synthesis of the known biogeographical data on the snakes of Liberia. The literature search was performed to find previously published biogeographic data on snakes in Liberia. The literature was gleaned during a previous, comprehensive literature search that was used as the basis for a field guide on West and Central African snakes (Chippaux & Jackson, 2019). To that body of biogeographic data, data from other publications with information on the geographic distribution of Liberian snakes were added, including some that were too recent to have been uncovered during the previous literature search for the field guide (Wallach & Gemel, 2018; Wüster *et al.*, 2018; Rödel & Glos, 2019; Rödel *et al.*, 2019).

One of the authors performed the analysis of unpublished records by searching his own records for additional data. He lived in Liberia from Dec. 1980 to Dec. 1984 and from Jan. 1986 to July 1989. He recorded

data on Liberian snakes while studying their natural history in 1984 and 1986 – 1989. This took place mainly in Yekepa in 1984, and mainly in Yekepa and Congotown (a suburb of Monrovia) in 1986 – 1989. In those years, He recorded his observations of the behavior and morphology of temporarily captive snakes that he collected and that other people brought to him, and of non-captive snakes in the wild. Some of those recorded observations have been published (Senter, 1998, 1999, 2000a–e, 2001a–d, 2021, in press), and some are published for the first time here. There was no external funding, and no permits were required for the work, since Liberia had no regulations on the capturing and keeping of wild reptiles in captivity in the 1980s, a situation that has now changed (Ministry of Foreign Affairs, 2017).

Most of the previously published locality records that were gleaned during the literature search are decades old. Even so, for most localities in Liberia these records are currently the most recent or the only records of the presence of certain snake species.

An important locality record was gleaned from Mr. Charles D. Miller III, a well-known reptile specialist who lived in Liberia from 1977 to 1988. During a telephone conversation with one of the authors on 28 July 2021, Miller stated that during his time in Liberia, he collected a live *Python regius* from a stretch of grassland on Mt. Nimba, within the Liberian border. That instance is the only known record of *P. regius* in Liberia, although previous locality records exist for the species in all three of the nations that border Liberia: Sierra Leone, Guinea, and Ivory Coast (Chippaux, 2006).

Often, in published locality records, voucher specimens are listed. However, the aforementioned records from 1984 - 1989 are over 30 years old, and voucher specimens are no longer available. Fortunately,

most of Liberia's snake species are easily distinguishable by a reptile specialist sufficiently familiar with them, so the identity of most species in those records is not in doubt. Nevertheless, species in some genera (*Philothamnus*, *Boaedon*, *Gonionotophis*, and the genera of the Atractaspididae) are often very similar to each other. For such species, during the period 1984 – 1989 the detailed information and illustrations in Villiers (1950) was used to confirm identifications, and the outdated taxonomy in that reference is updated here.

Here, the system of familial taxonomy that we use in our synthesis of these data is that of Zaher *et al.* (2019). In addition to incorporating its updates of familial taxonomy, here we also incorporate recent taxonomic updates to the genus and species names of Liberia's snakes (from e.g., Rasmussen, 1993; Lenk *et al.*, 1999; Trape *et al.*, 2012; Wüster *et al.*, 2018).

Because multiple alternate spellings exist for many of Liberia's cities and towns, several of the previously published locality records use spellings other than those that we use here. Such alternate spellings are given in Table 1.

TABLE 1

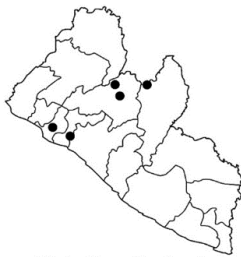
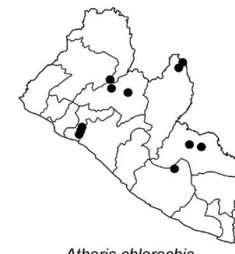
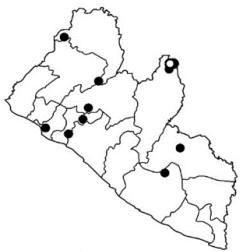
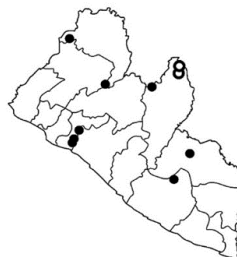
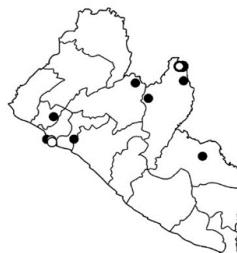
Alternate spellings of Liberian city and town names. Zwedru is an alternate name, not an alternate spelling, but is included here because it is currently the more oft-used name of the city that is also called Tchien

Spelling used here	Alternate spelling	References that use alternate spellings
Gbanju	Gbanshue	Wüster <i>et al.</i> , 2018
Gbapa	Gbarpa	Ineich, 2003
Gbarnga	Gbanga	Barbour & Loveridge 1930; Loveridge 1944, 1958; Briscoe 1949; Laurent 1964
Kahnple	Kamplé	Villiers, 1950
Memmeh	Memeta	Briscoe, 1949
Town		
Paiata	Piata, Peahtah	Loveridge, 1958

Spelling used here	Alternate spelling	References that use alternate spellings
Pynetown	Podegbebili	Johnsen, 1961
Saniquellie	Sanikolé	Chabanaud, 1921
	Sanoquelle	Loveridge 1930, 1944
Suakoko	Suacoco	Loveridge, 1958
Tapitta	Tapeta	Ineich, 2003
Tchien	Zwedru	N/A
Tuzon	Touzon	Villiers, 1950

Results

Before the current century, most locality data on snakes in Liberia were collected along a major road connecting Monrovia to Nimba County via Bong County, and along a second road connecting the major cities of what is now Margibi County to Gbarnga in Bong County. In this century, Rödel & Glos (2019) added locality data in Lofa, Grand Gedeh, and Sinoe Counties. The records from 1984 - 1989 that are newly published here, when added to previous locality records, significantly extend the known ranges within Liberia of four snake species (*Afrotyphlops punctatus*, *Bitis rhinoceros*, *Gonionotophis crossi*, *Dasypeltis fasciata*) and provide the only record of a specific locality within Liberia for one species (*Naja nigricollis*) (Fig. 3). In addition, the personal communication from Charles D. Miller III provides the only known record of *Python regius* in Liberia and increases the number of snake species recorded from Liberia from 63 to 64. For the other species, the localities newly published here are near localities listed in previous publications and therefore do not expand known ranges by much (Fig. 3). However, they demonstrate the continued presence of species that were recorded from nearby localities in previous reports from decades before the 1980s. Overall, the known distributions of snakes in Liberia show that most species are known both from the coastal plain and from the inland mountains (Fig. 3).

*Afrotrophops liberiensis**Afrotrophops punctatus**Letheobia manni**Calabaria reinhardtii**Python regius**Python sebae**Atheris chlorechis**Atheris hirsuta**Bitis nasicornis**Bitis rhinoceros**Causus lichtensteini**Causus maculatus**Dendroaspis viridis**Naja guineensis**Naja nigricollis**Pseudohaje nigra*



Aparallactus lineatus



Aparallactus modestus



Aparallactus niger



Atractaspis branchi



Atractaspis corpulenta



Atractaspis irregularis



Polemon acanthias



Boaedon fuliginosus



Boaedon lineatus



Boaedon olivaceus



Boaedon virgatus



Bothrophthalmus lineatus



Chamaelycus fasciatus



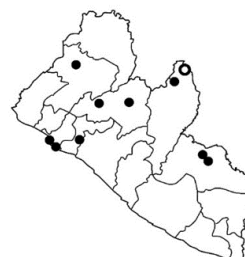
Gonionotophis crossi



Gonionotophis guirali



Gonionotophis klingi

*Gonionotophis poensis**Hormonotus modestus**Lycophidion irroratum**Lycophidion nigromaculatum**Psammophis phillipsii**Crotaphopeltis hotamboeia**Dasypeltis fasciata**Dasypeltis parascabra**Dipsadoboa brevirostris**Dipsadoboa underwoodi**Dipsadoboa unicolor**Dispholidus typus**Hapsidophrys lineatus**Hapsidophrys smaragdinus**Meizodon coronatus**Meizodon regularis*

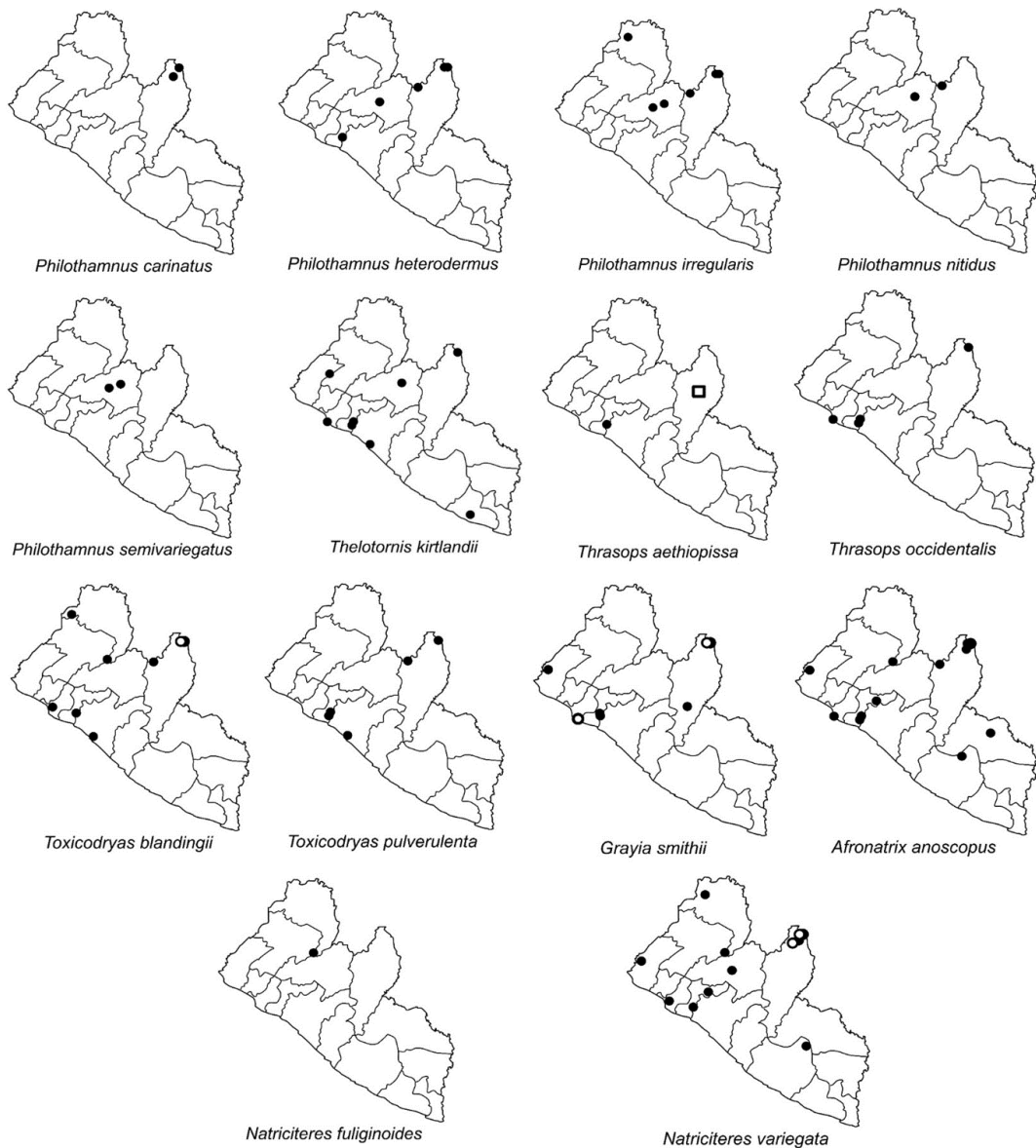


Fig. 3. Recorded localities for the snake species that are known from Liberia. Black dots represent locality records from previous publications (Table A1). Open circles represent locality records reported for the first time here (Table A2). An open square in Nimba County indicates that the species is reported from that county but not from a specific location therein. *Letheobia leucosticta* and *Psammophis lineatus* are omitted from this figure, because their locations within Liberia are unrecorded (Table A1). The town of Nickabo—a recorded locality for *Polemon acanthias* (Barbour & Loveridge, 1930; Loveridge, 1944)—is omitted from this figure, because we are unable to determine its location.

Previously published locality records for snakes in Liberia are given in Table A1. Additional locality records and from the personal communication of Charles D. Miller III regarding *P. regius* are given in Table A2. In both tables, the taxonomic assignments of Liberia's snakes are updated. Table A2 additionally lists further details (dates, body lengths, coloration in species with more than one color phase, and details on habitat), in case they should prove useful to future studies. Most of the locality records of Liberian snakes (Tables 2 and 3) occur in a broad swath that stretches across Montserrado, Margibi, and Bong Counties and continues across northern Nimba County (Fig. 2). That swath consists mainly of cultivated land with isolated pockets of rain forest (Van Rompaey, 2002) (Fig. 1).

There are a few specimens in the aforementioned records from 1986 - 1989 that could not be identified with certainty: one specimen apiece of *Gonionotophis* sp., *Amblyodipsas* sp., *Aparallactus* sp., *Aparallactus* cf. *modestus*, *Polemon* sp., *Polemon* cf. *barthii*, *Boaedon* sp., cf. *Lycophidion*, and *Dasypeltis* sp.—all from Yekepa except the *Boaedon* sp., which was from Congotown. Such specimens are not included in Table A1. The markings of the *Dasypeltis* sp. indicate that it was *D. confusa* or *D. parascabra*. Its markings, which included a dark V on the nape and a series of distinct, dark markings down the dorsum and sides, are inconsistent with *D. fasciata* (see Trape *et al.*, 2012).

The data from Tables 2 and 3 enable the creation of a checklist of snakes known from Liberia, which is given in Table A3. The checklist does not include any members of the family Leptotyphlopidae, despite the known presence of the family in at least two neighboring countries: Guinea and Ivory

Coast (Villiers 1950b; Trape 2006; Chippaux & Jackson 2019). The data from Tables 2 and 3 also enable us to create a map of the known geographic distribution of each species of snake in Liberia. Such maps are shown in Fig. 3.

Discussion

Most of the snake locality records in Liberia are from the band of cultivated land with isolated pockets of rain forest that stretches across Montserrado, Margibi, and Bong Counties and continues across northern Nimba County (Fig. 2). Of the remaining sites, most occur at or near a border between vegetation zones or between cultivated land and rain forest (Fig. 2). For snakes found on cultivated land that was once forest, it is difficult to determine whether the species' primary habitat is forest or non-forest, because forest species may persist for a time in an area after deforestation, and deforestation may encourage non-forest species to invade a cultivated area. Likewise, for snakes found where two vegetation zones meet, it is difficult to determine whether one or the other zone is the species' primary habitat. In all the above cases, it is also possible that a given species is a habitat generalist and thrives in more than one vegetation zone instead of being endemic to only one such zone. Such locality records are therefore less useful in the formulation of arguments for conservation of specific areas than are locality records that unambiguously link certain species to certain vegetation zones. Locality records that do not unambiguously link certain species to certain vegetation zones are, however, useful for the mapping of the geographic distributions of species. Such information is crucial for any endeavor in which it is important to know which species are present in a given area, and where to go to find individuals of a given species.

Of the numerous sites in Liberia at which snake locality records have been collected, there are only two that lie within uncultivated land, far from a border between vegetation zones: FPPA (Foya Proposed Protected Area, in the deciduous rain forest zone) and KBPPA2 (Krahn-Bassa Proposed Protected Area, location 1, in the evergreen rain forest zone). Of the snake species found there, three are found at both sites (*Bitis nasicornis*, *B. rhinoceros*, and *Lycophidion nigromaculatum*), four more are known from FPPA (*Python sebae*, *Bothrophthalmus lineatus*, *Dipsadoboa brevirostris*, and *Toxicodryas blandingii*), and three more are known from KBPPA2 (*Atheris chlorechis*, *Gonionotophis klingi*, and *Afronatrix anoscopus*). It is therefore evident that all ten species inhabit rain forest and that the first three inhabit both rain forest zones. All ten species are also recorded from cultivated areas and/or savanna-forest mosaic areas (Fig. 3), which suggests a degree of versatility regarding habitat. However, further data are necessary to determine whether their abundance differs between forested and non-forested areas. If they are less abundant in cultivated and savanna areas, then such species may be less versatile than their known distribution suggests and may therefore be vulnerable in the face of deforestation. We therefore recommend that information on relative abundance be collected, as it could be useful for future conservation efforts.

Most of Liberia's snake species are found in both the inland mountains and the coastal plain (Fig. 3). However, there are exceptions. Some species are recorded only from the inland mountains (*Python regius*, *Naja nigricollis*, *Aparallactus lineatus*, *A. niger*, *Chamaelycus fasciatus*, *Gonionotophis crossi*, *G. guirali*, *Crotaphopeltis hotamboeia*, *Dasypteltis parascabra*, *Dispholidus*

typus, *Meizodon coronatus*, *M. regularis*, *Philothamnus carinatus*, *P. irregularis*, *P. nitidus*, *P. semivariegatus*, and *Natriciteres fuliginoides*) (Fig. 3). If the inland mountain-only distribution is real for these species, and not an artifact of incomplete sampling, it could be used to bolster arguments for preservation of inland mountain areas for wildlife conservation.

Within Liberia, restriction to the inland mountains of northern Lofa and Nimba Counties is likely to be real for the four species that, outside Liberia, are known primarily from the savanna zone that begins immediately north of the northernmost reaches of those two counties: *Python regius*, *Naja nigricollis*, *Gonionotophis crossi*, and *Dispholidus typus*. A forest-savanna mosaic is present in the northernmost reaches of Lofa and Nimba Counties, which are near the latitude at which the West African savanna belt replaces the West African forest belt. The occurrence of primarily savanna species is therefore to be expected in northern Lofa and Nimba Counties, where the savanna and rain forest belts interdigitate. The other species listed in the paragraph above are known from enough localities within the West African rain forest belt not to be considered primarily savanna species (Chippaux & Jackson, 2019).

There is only one snake species that has been recorded in Liberia only from the coastal plain: *Atractaspis corpulenta* (Fig. 3). Elsewhere west of Nigeria, it is also known only from coastal areas (Chippaux & Jackson, 2019). Due to this low number of coastal-only snake species from Liberia, arguments for preservation of coastal areas in Liberia will most likely have to rely on species other than snakes.

None of the locality records of snakes in Liberia are part of the coastal savanna zone.

We are therefore unable to determine which snake species occupy that zone. If any snake species are endemic to that zone, such species are not yet known to science.

It is interesting that no species of the family Leptotyphlopidae are reported from Liberia. The family is widespread in Africa, with a range that extends from the Mediterranean coast of Egypt to the Cape of Good Hope (Branch, 1988; Geniez, 2018), and from Senegal and Gambia in the west to the east coast of Kenya (Villiers, 1950a, b; Spawls *et al.*, 2018; Chippaux & Jackson, 2019). Its range is known to include two nations that border Liberia: Guinea and Ivory Coast (Villiers, 1950b; Trape, 2006; Chippaux & Jackson, 2019). The fossorial habits of leptotyphlopids make them difficult to find. It is therefore possible that their apparent absence in Liberia is a sampling artifact and that future research will uncover the family in Liberia.

We are glad to have contributed to the filling of some gaps in known data on the bio-

geography of Liberia's snakes, but substantial gaps still remain. For large areas within Liberia, including the entirety of three counties, reptile locality records have yet to be published (Fig 2). We therefore urge that surveys of Liberian herpetofauna continue and that they expand to include more locations, to facilitate conservation efforts in this important biodiversity hotspot. With this publication, we hope to contribute to that process by providing a synthesis of all currently known biogeographic data within Liberia for each of its known snake species and with updates to the taxonomic assignment of each species.

Acknowledgments

The authors would like to thank the reviewers for helpful suggestions that improved this paper. P. J. Senter would further like to thank Charles D. Miller III for the locality record of *Python regius* (reported here), help with identifying Liberian snakes in the 1980s, and other helpful insights on Liberia's snakes.

Appendix

TABLE A1

Previous locality records of snakes in Liberia. Common names are mainly from Chippaux & Jackson (2019), with contributions from Wüster et al. (2018) and Rödel et al. (2019) for newly-named species. DRP3 = Du River Plantation No. 3. FPPA = Foya Proposed Protected Area. FRP = Firestone Rubber Plantation. KBPPA1 = Krahn-Bassa Proposed Protected Area, location 1. KBPPA2 = Krahn-Bassa Proposed Protected Area, location 2. NSL = no specific locality

Snake species	Locality	Reference, with species name used in reference (if different from current species name)
Typhlopidae		
<i>Afrotyphlops liberiensis</i> (Liberian blind snake)	Liberia (NSL)	Hallowell, 1848 (<i>Typhlops liberiensis</i> , <i>Onychocephalus nigro-lineatus</i>), 1857 (<i>Onychocephalus liberiensis</i> , <i>Onychocephalus nigro-lineatus</i>); Johnston 1906 (<i>Typhlops liberiensis</i>)
	Bakratown	Laurent. 1964 (<i>Typhlops liberiensis</i>)
	Gbarnga	
	Ganta	
	Harbel	
	Mt. Coffee	
<i>Afrotyphlops punctatus</i> (spotted blind snake)	Liberia (NSL)	Johnson, 1906 (<i>Typhlops punctatus</i>)
	Bakratown	Barbour & Loveridge, 1930 (<i>Typhlops punctatus</i>)
	Gbarnga	
	Ganta	Bogert, 1940 (<i>Typhlops punctatus</i>)
	Harbel	Taylor & Weyer, 1958 (<i>Typhlops leprosus</i> , <i>Typhlops punctatus punctatus</i>)
	Kakata	Johnsen, 1962 (<i>Typhlops punctatus</i>)
Nimba County (NSL)	Penner, 2013	
<i>Letheobia leucosticta</i> (Liberia worm snake)	Liberia (NSL)	Boulenger, 1898 (<i>Typhlops leucosticticus</i>); Wallach & Gemel, 2018
<i>Letheobia manni</i> (Mann's worm snake)	Harbel	Loveridge, 1941 (<i>Typhlops manni</i>)
	Mt. Nimba	Ineich, 2003 (<i>Typhlops manni</i>)
	Grassfield	
Boidae		
<i>Calabaria reinhardtii</i> (Calabar boa)	Liberia (NSL)	Johnston, 1906
	Paiata	Barbour & Loveridge, 1930; Briscoe, 1949
	Roberts Field	Briscoe, 1949
	Harbel	
	Harbel	Loveridge, 1946; Taylor & Weyer, 1958 (<i>Calabaria reinhardtii</i>)
Nimba County (NSL)	Penner, 2013 (<i>Calabaria reinhardtii</i>)	
Pythonidae		
<i>Python sebae</i> (African rock python)	Liberia (NSL)	Hallowell, 1945 (<i>Python liberiensis</i>)
	near Monrovia	Johnston, 1906; Barbour & Loveridge 1930
	Paiata	Barbour & Loveridge, 1930
	Du River Plantation No. 3	
	Montserrado County	Senter, 2000d
	Mt. Nimba	Ineich, 2003

	Grassfield	
	Nimba County	Penner, 2013
	FPPA	Rödel & Glos, 2019
Viperidae		
<i>Atheris chlorechis</i> (green bush viper)	Liberia (NSL)	Johnston, 1906
	Gbarnga	Barbour & Loveridge, 1930
	Bonuta	
	DRP3	
	Harbel	Loveridge, 1946 (<i>Atheris chloroechis</i>); Briscoe, 1949
	Roberts Field	Briscoe, 1949
	Tchien	Villiers, 1950; Johnsen, 1962
	Mt. Nimba	Ineich, 2003
	Grassfield	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
	KBPPA1	Rödel & Glos, 2019
KBPPA2		
<i>Atheris hirsuta</i> (West African hairy bush viper)	Mt. Swa	Penner <i>et al.</i> , 2013
<i>Bitis nasicornis</i> (rhinoceros viper)	Liberia (NSL)	Hallowell, 1857 (<i>Echidna nasicornis</i>); Johnston, 1906
	Paiata	Barbour & Loveridge, 1930
	Gibi	Loveridge, 1941
	Bromley	
	Memmeh Town	Briscoe, 1949
	Harbel	Taylor & Weyer, 1958
	Mt. Nimba	Ineich, 2003
	Grassfield	
	Nimba County (NSL)	Penner, 2013
	KBPPA1	Rödel & Glos, 2019
	KBPPA2	
FPPA		
<i>Bitis rhinoceros</i> (West African Gaboon viper)	Liberia (NSL)	Johnston, 1906 (<i>Bitis gabonica</i>)
	Paiata	Barbour & Loveridge, 1930 (<i>Bitis gabonica</i>)
	Lengatown	
	Ganta	Loveridge, 1938 (<i>Bitis gabonica</i>); Bogert, 1940 (<i>Bitis gabonica</i>)
	Harbel	Loveridge, 1941 (<i>Bitis gabonica</i>), 1946 (<i>Bitis gabonica</i>); Taylor & Weyer, 1958 (<i>Bitis gabonica</i>)
	Roberts Field	Briscoe, 1949 (<i>Bitis gabonica</i>)
	Lengatown	
	FRP	Stahel, 1980 (<i>Bitis gabonicus</i>)
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
	KBPPA1	Rödel & Glos, 2019
	KBPPA2	

	FPPA	
<i>Causus lichtensteini</i> (forest night adder)	DRP3	Barbour & Loveridge, 1930
	north of Moala near Mt. Nimba	Ineich, 2003
<i>Causus maculatus</i> (spotted night adder)	Liberia (NSL)	Hallowell, 1842 (<i>Distichurus maculatus</i>); Johnston, 1906 (<i>Causus rhombeatus</i>)
	Saniquellie	Chabanaud, 1921 (<i>Causus rhombeatus</i>)
	Medina	Barbour & Loveridge, 1930 (<i>Causus rhombeatus</i>)
	Paiata	
	DRP3	
	Gbarnga	
	Monrovia	Barbour & Loveridge, 1930 (<i>Causus rhombeatus</i>); Briscoe, 1949 (<i>Causus rhombeatus</i>); Hughes, 1977
	Ganta	Loveridge, 1938 (<i>Causus rhombeatus</i>); Bogert, 1930 (<i>Causus rhombeatus</i>)
	Bendaja	Loveridge, 1941 (<i>Causus rhombeatus</i>)
	Harbel	Loveridge, 1941 (<i>Causus rhombeatus</i>), 1946 (<i>Causus rhombeatus</i>); Briscoe, 1949 (<i>Causus rhombeatus</i>); Taylor & Weyer, 1958 (<i>Causus rhombeatus maculatus</i>)
	Roberts Field	Briscoe, 1949 (<i>Causus rhombeatus</i>)
	Kakata	Briscoe, 1949 (<i>Causus rhombeatus</i>); Johnsen, 1962 (<i>Causus rhombeatus maculatus</i>)
	Boah	Villiers, 1950 (<i>Causus rhombeatus</i>)
	Tuzon	
	Sanoyeah	Johnsen, 1962 (<i>Causus rhombeatus maculatus</i>)
	Tchien	
	Zui at Mano River	
	Voinjama	Hughes, 1977
	FRP	Stahel, 1980
	Mt. Nimba	Ineich, 2003
Grassfield		
Nimba County (NSL)	Penner, 2013	
Elapidae		
<i>Dendroaspis viridis</i> (western green mamba)	Liberia (NSL)	Hallowell, 1844b (<i>Leptophis viridis</i>), 1852 (<i>Dinophis hammondii</i>); Johnston, 1906 (<i>Dendroaspis viridis</i>)
	Gbarnga	Barbour & Loveridge, 1930 (<i>Dendroaspis viridis</i>); Briscoe, 1949
	Paiata	Barbour & Loveridge, 1930 (<i>Dendroaspis viridis</i>)
	DRP3	
	Ganta	Bogert, 1940
	Harbel	Loveridge, 1941, 1946; Briscoe, 1949
	Roberts Field	Briscoe, 1949
	Monrovia	Briscoe, 1949; Johnsen, 1962
	Mt. Nimba	Ineich, 2003
<i>Naja guineensis</i> (black forest cobra)	Liberia (NSL)	Johnston, 1906 (<i>Naja melanoleuca</i>)
	north of Moala	Barbour & Loveridge (<i>Naja melanoleuca</i>)

	Kahnple	Villiers, 1950 (<i>Naja melanoleuca</i>)
	Harbel	Taylor & Weyer, 1958 (<i>Naja melanoleuca</i>)
	Tchien	Johnsen, 1962 (<i>Naja melanoleuca</i>)
	Monrovia	Rasmussen, 1995 (<i>Naja melanoleuca</i>)
	FRP	Stahel, 1980 (<i>Naja melanoleuca</i>)
	Mt. Nimba	Ineich, 2003 (<i>Naja melanoleuca</i>)
	Nimba County (NSL)	Penner, 2013 (<i>Naja melanoleuca</i>)
	Gbanju	Wüster <i>et al.</i> , 2018
	Bunadin	
<i>Naja nigricollis</i> (black-necked spitting cobra)	Liberia (NSL)	Johnston, 1906
	Nimba County (NSL)	Penner, 2013
<i>Pseudohaje nigra</i> (black tree cobra)	Totokwelli	Barbour & Loveridge, 1930 (<i>Naja goldii</i>)
	Liberia (NSL)	Hughes, 1976
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
Atractaspididae		
<i>Aparallactus lineatus</i> (reticulated centipede-eater)	Saniquellie	Chabanaud, 1921 (<i>Aparallactus anomalus</i>); Loveridge, 1938, 1944
	Mt. Nimba	Ineich, 2003
	Grassfield	
<i>Aparallactus modestus</i> (western forest centipede-eater)	Liberia (NSL)	Cope, 1960a (<i>Periaspis plumbeata</i>)
	Harbel	Loveridge, 1941, 1944, 1946; Briscoe, 1949; Taylor & Weyer, 1958
	Roberts Field	Briscoe, 1949
	Mt. Nimba	Ineich, 2003
<i>Aparallactus niger</i> (western black centipede-eater)	Mt. Nimba	Ineich, 2003
	Yekepa	Senter, 2001a
<i>Atractaspis branchi</i> (Branch's stiletto snake)	Lofa Region, Foya Forest	Rödel <i>et al.</i> , 2019
	Yekepa	Senter, 2021
<i>Atractaspis corpulenta</i> (fat stiletto snake)	Liberia (a mistake, corrected to Gabon in Hallowell, 1857)	Hallowell, 1854 (<i>Brachycranium corpulentum</i>)
	Liberia (NSL)	Johnston, 1906
	Harbel	Taylor & Weyer, 1958
<i>Atractaspis irregularis</i> (variable stiletto snake)	Ganta	Loveridge, 1938; Bogert, 1940
	Mt. Nimba	Ineich, 2003
	Grassfield	
	Nimba County (NSL)	Penner, 2013
<i>Polemon acanthias</i> (Reinhardt's snake-eater)	Gbarnga	Barbour & Loveridge, 1930 (<i>Miodon acanthias</i>); Loveridge, 1944 (<i>Miodon acanthias</i>)
	Nickabo	Barbour & Loveridge, 1930 (<i>Miodon acanthias</i>); Loveridge, 1944 (<i>Miodon acanthias</i>)
	Paiata	Barbour & Loveridge, 1930 (<i>Miodon acanthias</i>)
	DRP3	Barbour & Loveridge, 1930 (<i>Miodon acanthias</i>)
	Gibi	Loveridge, 1941 (<i>Miodon acanthias</i>)
	Du River	Loveridge, 1941 (<i>Miodon acanthias</i>)
	Gibi Si Mountain	Loveridge, 1944 (<i>Miodon acanthias</i>)

	Harbel	
	Roberts Field	Loveridge, 1946 (<i>Miodon acanthias</i>)
	Nimba County (NSL)	Briscoe, 1949 (<i>Miodon acanthias</i>)
Lamprophiidae		
<i>Boaedon fuliginosus</i> (brown house snake)	Liberia (NSL)	Johnston, 1906 (<i>Boodon niger</i>)
	Monrovia	Johnsen, 1962
	Nimba County (NSL)	Penner, 2013
<i>Boaedon lineatus</i> (striped house snake)	Mombo	Loveridge, 1941 (<i>Boaedon lineatus lineatus</i>)
	Harbel	Loveridge, 1946 (<i>Boaedon lineatus lineatus</i>); Taylor & Weyer, 1958 (<i>Boaedon lineatus lineatus</i>)
	Roberts Field	Briscoe, 1949
	Grassfield	Ineich, 2003
	FPPA	Rödel & Glos, 2019
<i>Boaedon olivaceus</i> (olive house snake)	Bendaja	Loveridge, 1941
	Harbel	
	Grassfield	Ineich, 2003
<i>Boaedon virgatus</i> (Hallowell's house snake)	Ganta	Loveridge, 1938; Bogert, 1940; Johnsen, 1962
	Bendaja	Loveridge, 1941 (<i>Boaedon lineatus virgatus</i>)
	Harbel	Loveridge, 1946 (<i>Boaedon lineatus virgatus</i>); Taylor & Weyer, 1958 (<i>Boaedon lineatus virgatus</i>)
	Tuzon	Villiers, 1950
	Mt. Nimba	Ineich, 2003
	Grassfield	
<i>Bothrophthalmus lineatus</i> (red-black striped snake)	Liberia (NSL)	Johnston, 1906
	Ganta	Loveridge, 1938
	Harbel	Taylor & Weyer, 1958
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
<i>Chamaelycus fasciatus</i> (African banded snake)	Paiata	Barbour & Loveridge, 1930 (<i>Lycophidion fasciatum</i>)
	Mt. Nimba	Ineich, 2003
<i>Gonionotophis crossi</i> (African file snake)	Ganta	Loveridge, 1939 (<i>Mehelya crossi</i>)
	Nimba County (NSL)	Penner, 2013
<i>Gonionotophis guirali</i> (Mocquard's file snake)	Ganta	Loveridge, 1938
	Mt. Nimba	Ineich, 2003 (<i>Mehelya guirali</i>)
	Grassfield	
<i>Gonionotophis klingi</i> (Matschie's African ground snake)	Grassfield	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
	KBPPA2	Rödel & Glos, 2019
<i>Gonionotophis poensis</i> (western forest file snake)	Ganta	Loveridge, 1939 (<i>Mehelya poensis</i>)
	Harbel	Taylor & Weyer, 1958 (<i>Mehelya poensis</i>)
	Monrovia	Johnsen, 1962 (<i>Mehelya poensis</i>)
	Mt. Nimba	Ineich, 2003
	Grassfield	
	Nimba County (NSL)	Penner, 2013
<i>Hormonotus modestus</i> (yellow forest snake)	DRP3	Barbour & Loveridge, 1930
	Nimba County (NSL)	Penner, 2013
	Monrovia	Guibé & Roux-Estève, 1972

<i>Lycophidion irroratum</i> (pale wolf snake)	Peatach (= Paiata?) Grassfield	Ineich, 2003
<i>Lycophidion nigromaculatum</i> (black-spotted wolf snake)	Mt. Nimba KBPPA2 FPPA	Ineich, 2003 Rödel & Glos, 2019
Psammophiidae		
<i>Psammophis lineatus</i> (lined olympic snake)	Liberia (NSL)	Boulenger, 1896 (<i>Dromophis lineatus</i>); Hallowell, 1940
<i>Psammophis phillipsii</i> (olive sand snake)	Liberia (NSL)	Hallowell, 1844b (<i>Coluber phillipsii</i>), 1857; Cope, 1860b; Johnston, 1906 (<i>Psammophis sibilans</i>)
	DRP3	Barbour & Loveridge, 1930 (<i>Psammophis sibilans</i>); Loveridge, 1940
	Ganta	Loveridge, 1938 (<i>Psammophis sibilans phillipsii</i>); Bogert, 1940 (<i>Psammophis sibilans</i>); Loveridge, 1940; Johnsen, 1962 (<i>Psammophis sibilans phillipsii</i>)
	Monrovia	Loveridge, 1940
	Harbel	Loveridge, 1946 (<i>Psammophis sibilans phillipsii</i>); Taylor & Weyer, 1958 (<i>Psammophis sibilans phillipsii</i>)
	Roberts Field	Briscoe, 1949 (<i>Psammophis sibilans phillipsii</i>)
	Singkor	Senter, 1998, 2001c
	Yekepa	Senter, 1998
	Congotown	Senter, 2001c
	Mt. Nimba	Ineich, 2003
	Grassfield	
	Gbarpa	
Tapitta		
Nimba County (NSL)	Penner, 2013 (<i>Psammophis phillipsii</i>)	
Colubridae		
<i>Crotaphopeltis hotamboeia</i> (white-lipped herald snake)	Liberia (NSL)	Barbour & Loveridge, 1930
	Ganta	Loveridge, 1938; Bogert, 1940; Johnsen, 1962
	Nimba County (NSL)	Penner, 2013
<i>Dasypeltis confusa</i> (confusing egg-eater) or <i>D. parascabra</i> (pararhombic egg-eater)	Liberia (NSL)	Johnston, 1906 (<i>Dasypeltis scabra</i>)
<i>Dasypeltis fasciata</i> (Central African egg-eater)	Ganta	Loveridge, 1938 (<i>Dasypeltis macrops</i>)
	Banga	Barbour & Loveridge, 1930 (<i>Dasypeltis scaber</i> —corrected to <i>D. fasciata</i> by Gans, 1959)
	Monrovia	Trape <i>et al.</i> , 2012
<i>Dasypeltis parascabra</i> (pararhombic egg-eater)	Mt. Nimba	Ineich, 2003; Trape <i>et al.</i> , 2012
	Harbel	Loveridge, 1941 (<i>Crotaphopeltis duchesnii guineensis</i>)

<i>Dipsadoboa brevirostris</i> (short-snouted tree snake)	Nimba County (NSL)	Penner, 2013	
	FPPA	Rödel & Glos, 2019	
<i>Dipsadoboa underwoodi</i> (Underwood's tree snake)	Mt. Coffee	Rasmussen, 1993	
	Nimba County (NSL)	Penner, 2013	
<i>Dipsadoboa unicolor</i> (Günther's tree snake)	Gola Forest between Bahr and Zui at Mano River	Johnsen, 1962	
	Bongtown	Rasmussen, 1993	
	Mt. Coffee		
	Mt. Nimba	Ineich, 2003	
	Nimba County (NSL)	Penner, 2013	
<i>Dispholidus typus</i> (boomslang)	Mt. Nimba	Ineich, 2003	
<i>Hapsidophrys lineatus</i> (black-lined emerald snake)	Liberia (NSL)	Johnston, 1906 (<i>Hapsidophrys lineata</i>)	
	Paolata	Barbour & Loveridge, 1930 (<i>Hapsidophrys lineata</i>)	
	Bendaja	Loveridge, 1941 (<i>Hapsidophrys lineata</i>)	
	Nimba County (NSL)	Penner, 2013	
<i>Hapsidophrys smaragdinus</i> (common emerald snake)	Liberia (NSL)	Hallowell, 1844a (<i>Leptophis gracilis</i>); Cope, 1860b (<i>Gastropyxis smaragdina</i>); Johnston, 1906 (<i>Gastropyxis smaragdina</i>)	
	Saniquellie	Chabanaud, 1921 (<i>Gastropyxis smaragdina</i>)	
	Gbarnga	Barbour & Loveridge, 1930 (<i>Gastropyxis smaragdina</i>)	
	DRP3		
	Tuzon	Villiers, 1950	
	Zui at Mano River	Johnsen, 1962	
	Sanoyea		
	Bushrod Island		
	Tchien		
	Congotown	Senter, 2000b	
	Nimba County (NSL)	Penner, 2013	
	<i>Meizodon coronatus</i> (western crowned smooth snake)	Ganta	Loveridge, 1938 (<i>Coronella coronata</i>)
	<i>Meizodon regularis</i> (eastern crowned smooth snake)	Ganta	Bogert, 1940 (<i>Meizodon coronatus</i>)
		Mt. Nimba	Ineich, 2003
<i>Philothamnus carinatus</i> (thirteen-scaled bush snake)	Mt. Nimba	Ineich, 2003	
	Mt. Bele		
<i>Philothamnus heterodermus</i> (Gabon bush snake)	Ganta	Bogert, 1940 (<i>Chlorophis heterodermus</i>); Loveridge, 1958	
	Suakoko	Loveridge, 1958	
	Harbel	Taylor & Weyer, 1958 (<i>Chlorophis heterodermis</i>)	
	Yekepa	Senter, 2000c	
	Mt. Nimba	Ineich, 2003	

	Nimba County (NSL)	Penner, 2013
<i>Philothamnus irregularis</i> (irregular green bush snake)	Gbarnga	Barbour & Loveridge, 1930 (<i>Chlorophis irregularis</i>)
	Ganta	Bogert, 1940 (<i>Chlorophis irregularis</i>); Loveridge, 1958
	Bolahun	Loveridge, 1958
	Gbarnga	
	Suakoko	
	Yekepa	Senter, 2001b
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
<i>Philothamnus nitidus</i> (Cameroons bush snake)	Gbarnga	Barbour & Loveridge, 1930
	Ganta	Loveridge, 1938
<i>Philothamnus semivariatus</i> (spotted bush snake)	Gbarnga	Loveridge, 1958
	Suakoko	
<i>Thelotornis kirtlandii</i> (forest vine snake)	Liberia (NSL)	Hallowell, 1844a (<i>Leptophis kirtlandii</i>); Cope, 1860b (<i>Dryophis kirtlandii</i>); Johnston, 1906
	Edina	Fischer, 1856 (<i>Dipsas violacea</i>); Loveridge, 1944
	Gbarnga	Barbour & Loveridge, 1930; Loveridge, 1944
	Harbel	Loveridge, 1946; Taylor & Weyer, 1958
	Roberts Field	Briscoe, 1949
	Barclayville	Villiers, 1950
	Yangaja	Johnsen, 1962
	Monrovia	
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
<i>Thrasops aethiopissa</i> (splendid dagger-tooth tree snake)	Liberia (NSL)	Boulenger, 1896 (<i>Rhmannophis aethiops</i>); Johnston, 1906 (<i>Rhmannophis aethiops</i>)
	Harbel	Loveridge, 1941 (<i>Rhmannophis aethiopissa</i>), 1944 (<i>Rhmannophis aethiopissa</i>)
	Nimba County (NSL)	Penner, 2013 (<i>Rhmannophis aethiopissa</i>)
<i>Thrasops occidentalis</i> (western black tree snake)	Liberia (NSL)	Hallowell, 1852 (<i>Dendrophis flavigularis</i>); Johnston, 1906 (<i>Thrasops flavigularis</i>)
	Monrovia	Boulenger, 1894 (<i>Thrasops flavigularis</i>); Loveridge, 1944
	Harbel	Loveridge, 1946
	Roberts Field	Briscoe, 1949
	Mt. Nimba	Ineich, 2003
	Nimba County (NSL)	Penner, 2013
<i>Toxicodryas blandingii</i> (Blanding's tree snake)	Liberia (NSL)	Hallowell, 1844a (<i>Euprepis blandingii</i>), 1844b (<i>Dipsas blandingii</i>), 1857; Johnston, 1906 (<i>Dipsadomorphus blandingii</i>); Johnsen, 1962 (<i>Boiga blandingii</i>)
	Edina	Fischer, 1856 (<i>Dipsas globiceps</i>)
	Paiata	Barbour & Loveridge, 1930 (<i>Boiga blandingii</i>)

	Ganta	Loveridge, 1938 (<i>Boiga blandingii</i>)	
	Bromley	Loveridge, 1941 (<i>Boiga blandingii</i>)	
	Harbel	Loveridge, 1946 (<i>Boiga blandingii</i>); Briscoe, 1949 (<i>Boiga blandingii</i>); Taylor & Weyer, 1958 (<i>Boiga blandingii</i>)	
	Pata (= Paiata?)	Villiers, 1950 (<i>Boiga blandingii</i>)	
	Mt. Nimba	Ineich, 2003 (<i>Boiga blandingii</i>)	
	FPPA	Rödel & Glos, 2019	
<i>Toxicodryas pulverulenta</i> (orange tree snake)	Edina	Fischer, 1856 (<i>Dipsas pulverulenta</i>)	
	Liberia (NSL)	Cope, 1860a (<i>Boiga pulverulenta</i>); Johnston, 1906 (<i>Dipsadomorphus pulverulenta</i>)	
	Ganta	Loveridge, 1938 (<i>Boiga pulverulenta</i>); Bogert, 1940 (<i>Boiga pulverulenta</i>); Johnsen, 1962 (<i>Boiga pulverulenta</i>)	
	Harbel	Loveridge, 1946 (<i>Boiga pulverulenta</i>)	
	Roberts Field	Briscoe, 1949 (<i>Boiga pulverulenta</i>)	
	Mt. Nimba	Ineich, 2003 (<i>Boiga pulverulenta</i>)	
	Grayiidae		
	<i>Grayia smithii</i> (Smith's African water snake)	Liberia (NSL)	Hallowell, 1857 (<i>Heteronotus triangularis</i>); Johnston, 1906 (<i>Grayia smithii</i>)
		DRP3	Barbour & Loveridge, 1930
		Bendaja	Loveridge, 1941 (<i>Grayia smithii</i>)
Harbel			
Tapitta		Johnsen, 1962	
Mt. Nimba		Ineich, 2003	
Nimba County (NSL)		Penner, 2013	
Natricidae			
<i>Afronatrix anoscopus</i> (brown water snake)	Liberia (NSL)	Johnston, 1906 (<i>Tropidonotus ferox</i>)	
	Paiata	Barbour & Loveridge, 1930 (<i>Natrix ferox</i>); Loveridge, 1941 (<i>Natrix anoscopus anoscopus</i>)	
	Ganta	Bogert, 1940 (<i>Natrix ferox</i>)	
	Gibi	Loveridge, 1941 (<i>Natrix anoscopus anoscopus</i>)	
	Bendaja		
	Harbel	Loveridge, 1946 (<i>Natrix anoscopus anoscopus</i>); Loveridge, 1941 (<i>Natrix anoscopus anoscopus</i>); Taylor & Weyer, 1958 (<i>Natrix anoscopus anoscopus</i> and <i>Natrix firestonei</i>); Rossman, 1976 (<i>Natrix anoscopus</i>)	
	Roberts Field	Briscoe, 1949 (<i>Natrix anoscopus anoscopus</i>)	
	Monrovia	Johnsen, 1962 (<i>Natrix anoscopus</i>)	
	Tchien		
	Yekepa	Senter, 2000a, 2001d	
	Mt. Nimba	Ineich, 2003	
	Grassfield	Ineich, 2003	
	Nimba County (NSL)	Penner, 2013	
	KBPPA2	Rödel & Glos, 2019	

<i>Natriciteres fuliginoides</i> (collared marsh snake)	Paiata	Barbour & Loveridge, 1930 (<i>Natrix fuliginoides</i>)
<i>Natriciteres variegata</i> (variegated marsh snake)	Gibi	Loveridge, 1841 (<i>Neusterophis variegatus</i>), 1958
	Bromley	Loveridge, 1841 (<i>Neusterophis variegatus</i>), 1958
	Bendaja	Loveridge, 1841 (<i>Neusterophis variegatus</i>), 1958
	Bolahun	Loveridge, 1958
	Paiata	Loveridge, 1958
	Suakoko	Loveridge, 1958
	Harbel	Taylor & Weyer, 1958 (<i>Neusterophis variegatus</i>)
	Pynetown	Johnsen, 1961 (<i>Neusterophis variegatus</i>)
	Mt. Nimba	Ineich, 2003
	Grassfield	
	Nimba County (NSL)	Penner, 2013 (<i>Natriciteres variegata</i>)

TABLE A2

Data on Liberian snakes from the records of one of the authors and personal communication from Charles D. Miller III. See the caption of Table A1 for sources of common names. Entries without references are specimens reported for the first time here. Unless otherwise indicated, each length is the snake's total length; lengths in mm are approximate because lengths were originally recorded in inches. DWF = dead when found

Species	Locality	Date on which snake was found	Further notes
Typhlopidae			
<i>Afrotrophops punctatus</i> (spotted blind snake)	Yekepa	31 Aug. 1984	215 mm; DWF
	Gbarnga	19 Sep. 1986	355 mm; found in sand
Pythonidae			
<i>Python regius</i> (ball python)	Mt. Nimba		collected by Charles D. Miller III (personal communication to one of the authors" or "one of the authors (Senter) on 28 July 2021).
<i>Python sebae</i> (African rock python)	Montserrado County	a few days before 31 May 1986	660 mm (Senter 2000d)
Viperidae			
<i>Bitis nasicornis</i> (rhinoceros viper)	Yekepa	date unrecorded (before 1984)	caught in snare trap in fence around rice farm
<i>Bitis rhinoceros</i> (West African Gaboon viper)	Yekepa	date unrecorded	found on porch of a residence
	just south of Grassfield (between Grassfield and Zortapa)	between Aug. and Nov., 1988	found and killed on road
<i>Causus maculatus</i> (spotted night adder)	Yekepa	March or April, 1984	killed in yard of a residence
	Yekepa	4 April 1984	killed in yard of a residence
	Yekepa	29 Aug. 1984	140 mm, DWF
	Yekepa	1 Oct. 1984	300 mm, DWF
	Yekepa	6 Oct. 1984	300 mm, DWF
	Yekepa	6 Oct. 1984	465 mm, DWF
	Yekepa	25 Oct. 1984	100 mm, DWF
	Yekepa	3 Dec. 1984	DWF
	Cogotown	17 Oct. 1986	480 mm, DWF, female; dorsal background color green
	Cogotown	30 Oct. 1986	found in yard of a residence; dorsal background color green
	Baptist Seminary	10 Nov. 1986	405 mm; gravid female (seven eggs); dorsal background color olive
Cogotown	11 Nov. 1986	330 mm; dorsal background color olive-green	
Cogotown	27 Mar. 1987	190 mm, DWF; dorsal background color medium brown	
Cogotown	22 Jan. 1989	100 mm; dorsal background color olive-brown	

	Cogotown	14 Feb. 1989	330 mm
	Cogotown	3 Apr. 1989	female; laid seven eggs in captivity on 25 April 1989

Elapidae

<i>Dendroaspis viridis</i> (western green mamba)	Yekepa	1984	DWF
	Yekepa	date unrecorded (1986 – 1989)	observed at close range on the ground in a cassava farm; longer than height of author (which is 1720 mm)
<i>Naja guineensis</i> (black forest cobra)	Yekepa	28 Sep. 1984	530 mm, DWF
	Cogotown	5 May 1986	between 460 and 610 mm; juvenile
	Cogotown	23 May 1986	585 mm, DWF; juvenile; found dead in the garden of a residence
	Yekepa	date unrecorded (1987 – 1989)	observed at close range in a thicket near a creek; between 1000 and 2000 mm
	Singkor	date unrecorded (1988 – 1989)	found in High School classroom of American Cooperative School
<i>Naja nigricollis</i> (black-necked spitting cobra)	Yekepa	date unrecorded (1981 – 1984)	c. 1500 mm; found in front yard of a residence
	Yekepa	22 May 1984	395 mm; juvenile; found a few inches outside the rear wall of a house
	Yekepa	20 June 1984	420 mm, DWF; juvenile
	Yekepa	17 Nov. 1984	990 mm, DWF

Atractaspididae

<i>Aparallactus niger</i> (western black centipede-eater)	Yekepa	29 July 1984	405 mm, DWF
	Yekepa	7 June 1987	found alive in dirt road
	Yekepa	11 June 1987	420 mm; male; found in swampy rice farm (Senter, 2001a)
	Yekepa	17 June 1987	440 mm; female; found in swampy rice farm (Senter, 2001a)
	Yekepa	22 June 1987	190 mm; dug up in mud on swampy rice farm (Senter, 2001a)
	Yekepa	2 July 1987	480 mm; found on carport of residence (Senter, 2001a)
	Yekepa	10 July 1987	215 mm; juvenile; dug up in mud on swampy rice farm (Senter, 2001a)
	Yekepa	10 July 1987	230 mm; juvenile; dug up in mud on swampy rice farm (Senter, 2001a)
	Yekepa	10 July 1987	215 mm; juvenile; found climbing out of newly dug ditch, in the mud of which the above two individuals were found (Senter, 2001a)
	Yekepa	10 July 1987	255 mm; juvenile; found climbing out of same newly dug ditch, immediately after the above individual was found (Senter, 2001a)

	Yekepa	10 July 1987	570 mm; found trying to climb out of same ditch in which the above individuals were found (Senter, 2001a)
	Yekepa	10 July 1987	similar size to that of the first conspecific from the same date listed above; found in the same rice patch
	Yekepa	27 July 1987	610 mm; found in swampy rice farm (Senter, 2001a)
	Yekepa	2 Aug. 1987	380 mm, DWF (Senter, 2001a)
<i>Atractaspis branchi</i> (Branch's stiletto snake)	Yekepa	11 June 1986	735 mm, DWF (Senter, 2021)
<i>Atractaspis irregularis</i> (variable stiletto snake)	Yekepa	12 Aug. 1986	257 mm, DWF
Lamprophiidae			
<i>Boaedon lineatus</i> (striped house snake)	Cogotown	2 Feb. 1986	650 mm
	Singkor	9 Sep. 1986	between 300 and 380 mm
	Cogotown	15 Nov. 1986	length unrecorded
	Cogotown	29 Jan. 1987	c. 510 mm, DWF; male
	Cogotown	23 Feb. 1987	305 mm, DWF
	Cogotown	9 Mar. 1987	305 mm; found on ground among chunks of cinderblock
	Cogotown	2 Feb. 1988	450 mm; found on ground in side yard of a residence
	Cogotown	3 May 1988	found in side yard of a residence
<i>Bothrophthalmus lineatus</i> (red-black striped snake)	Yekepa	21 Dec. 1984	DWF (mid-body fragment in road)
<i>Gonionotophis crossi</i> (African file snake)	Yekepa	2 July 1986	545 mm, DWF
Psammophiidae			
<i>Psammophis phillipsii</i> (olive sand snake)	Yekepa	6 Aug. 1984	545 mm, DWF
	Yekepa	20 Aug. 1984	635 mm; accidentally killed by lawn mower in front yard of a residence; dark dorsal stripe, a rare color morph (Villiers, 1950: 103; Doucet, 1963: 308)
	Yekepa	15 Nov. 1984	1160 mm, DWF
	Yekepa	25 Dec. 1984	1370 mm, DWF; unstriped phase
	Cogotown	between 5 Jan. and 2 Feb. 1986	DWF; unstriped phase
	Yekepa	20 June 1986	405 mm; found in yard of a residence (Senter, 1998)
	Cogotown	30 Jan. 1987	SVL 635 m (most of tail missing), DWF; male; unstriped phase
	Cogotown	27 Mar. 1987	c. 910 mm; was drawn out of a well
	Cogotown	6 Jan. 1988	1040 mm; gravid female (10 eggs) (Senter, 2001c)

	Singkor	4 Jan. 1989	1140 mm; female; found outside Middle School building of American Cooperative School; laid one egg in captivity on 6 Jan., two on 7 Jan., and nine on 8 Jan. 1989; unstriped phase (Senter, 1998, 2001c)
Colubridae			
<i>Dasypeltis fasciata</i> (Central African egg-eater)	Yekepa	11 Aug. 1986	610 mm; found in garbage can of a residence
<i>Hapsidophrys smaragdinus</i> (common emerald snake)	Yekepa	20 Sep. 1984	545 mm, DWF
	Cogotown	5 Jan. 1986	DWF
	Cogotown	28 Apr. 1986	875 mm; gravid female (two eggs); found inside a house (Senter, 2000b)
	Cogotown	31 May 1986	380 mm; male; found on gravel path around perimeter of front yard of a residence
	Cogotown	3 Sep. 1986	915 mm; female; found in a tree
	Cogotown	26 Sep. 1986	730 mm; found climbing in bushes in yard of a residence
	Cogotown	16 Oct. 1986	785 mm, DWF; female
	Cogotown	1 Apr. 1987	c. 760 mm, DWF
	Yekepa	10 Apr. 1987	980 mm; found on the ground in swampy rice farm
	Yekepa	10 Apr. 1987	950 mm, DWF
	Yekepa	16 Apr. 1987	840 mm; found on a bush at the base of a cotton tree, at edge of swampy rice farm
	Yekepa	17 Apr. 1987	870 mm; found on the ground, chasing a frog in swampy rice farm
	Yekepa	11 June 1987	670 mm, DWF; female
<i>Philothamnus heterodermus</i> (Gabon bush snake)	Yekepa	23 June 1986	395 mm, DWF
	Yekepa	16 Apr. 1987	580 mm; found in a pile of brush on dry ground next to the edge of a swamp (Senter, 2000c)
<i>Philothamnus irregularis</i> (irregular green bush snake)	Yekepa	6 Sep. 1984	815 mm, DWF
	Yekepa	6 Nov. 1984	940 mm, DWF
	Yekepa	22 Nov. 1984	445 mm
	Yekepa	March, 1986	815 mm, DWF; found on ground beneath mango tree in back yard of a residence
	Yekepa	11 July 1986	c. 760 mm; found on a banana tree
	Yekepa	10 Apr. 1987	c. 560 mm; fell from a tree (between 5 and 7 m tall) into a bush (between 1 and 1.5 m tall)
	Yekepa	18 Apr. 1987	660 mm; found on terminal twigs of the branch of a mango tree, approx. 3 m above the ground
	Yekepa	14 June 1987	840 mm, DWF; gravid female (five eggs) (Senter, 2001b)
	Yekepa	14 July 1987	860 mm; gravid female (five eggs) (Senter, 2001b)

	Yekepa	31 July 1987	910 mm; gravid female; found in short palm tree (Senter, 2001b)
	Yekepa	31 July 1987	SVL 635 mm (part of tail missing after having been smashed by car), DWF; gravid female (at least two eggs) (Senter, 2001b)
	Yekepa	20 Dec. 1988	c. 900 mm; found on porch of a residence
<i>Toxicodryas blandingii</i> (Blanding's tree snake)	Yekepa	1981 or 1982	found in a palm tree; brown color phase
	Yekepa	7 June 1984	DWF (severed head in dirt road); brown color phase
	Yekepa	Dec. 1988	between 1000 and 2000 mm; shed skin, found in rafters of a residence
	Yekepa	27 June 1989	205 mm, DWF; black color phase
	Grayiidae		
<i>Grayia smithii</i> (Smith's African water snake)	Congotown	10 May 1986	1300 mm; found in lagoon; brown color phase
	Yekepa	12 Aug. 1986	405 mm without head (DWF: decapitated); black color phase
	Congotown	11 Dec. 1988	1120 mm; found in funnel trap for fish in lagoon; brown color phase
Natricidae			
<i>Afronatrix anoscopus</i> (brown water snake)	Yekepa	25 Oct. 1984	205 mm; juvenile; found on front porch of a residence (Senter, 2000a)
	Yekepa	26 Nov. 1984	450 mm, DWF
	Yekepa	24 June 1986	230 mm; juvenile (Senter, 2000a, 2001d)
	Yekepa	9 July 1986	250 mm; juvenile; found on the ground in swampy rice farm (Senter, 2000a, 2001d)
	Yekepa	6 Aug. 1986	230 mm, DWF; juvenile (Senter, 2000a)
	Yekepa	12 Apr. 1987	510 mm; found beneath water (except for protruding nose), in swampy rice farm (Senter, 2001d)
	Yekepa	9 June 1987	280 mm; juvenile; found in swampy rice farm (Senter, 2000a, 2001d)
	Yekepa	1 July 1987	230 mm; juvenile; found in swampy rice farm (Senter, 2000a)
	Yekepa	10 July 1987	540 mm; found in same rice patch as the <i>Aparallactus niger</i> individuals from the same date (Senter, 2000a, 2001d)
	Yekepa	10 July 1987	530 mm; found on the bank, next to same watery rice patch as above (Senter, 2000a, 2001d)
	Yekepa	10 July 1987	420 mm; found in the water in same rice patch as above (Senter, 2000a, 2001d)
	Old Yekepa	11 July 1987	405 mm (Senter, 2000a)
	Yekepa	27 July 1987	470 mm, DWF (Senter, 2000a)
	Yekepa	27 July 1987	240 mm; juvenile (Senter, 2000a)
	Yekepa	14 July 1988	between 150 and 230 mm; found in mud in swampy rice farm

<i>Natriciteres variegatus</i> (variegated marsh snake)	Yekepa	3 Oct. 1984	355 mm, DWF; maroon color phase
	Yekepa	4 Oct. 1984	380 mm, DWF; brown color phase
	Zolowee	31 Mar. 1986	150 mm, DWF; juvenile
	Yekepa	27 June 1986	335 mm, DWF; maroon color phase
	Yekepa	11 Apr. 1987	350 mm; found on ground in swampy rice farm

TABLE A3
Checklist of the known snake species of Liberia

Typhlopidae	<i>Afrotyphlops liberiensis</i> (Liberian blind snake) <i>Afrotyphlops punctatus</i> (spotted blind snake) <i>Letheobia leucosticta</i> (Liberia worm snake) <i>Letheobia manni</i> (Mann's worm snake)
Boidae	<i>Calabaria reinhardtii</i> (Calabar boa)
Pythonidae	<i>Python regius</i> (ball python) <i>Python sebae</i> (African rock python)
Viperidae	<i>Atheris chlorechis</i> (green bush viper) <i>Atheris hirsuta</i> (West African hairy bush viper) <i>Bitis nasicornis</i> (rhinoceros viper) <i>Bitis rhinoceros</i> (West African Gaboon viper) <i>Causus lichtensteini</i> (forest night adder) <i>Causus maculatus</i> (spotted night adder)
Elapidae	<i>Dendroaspis viridis</i> (western green mamba) <i>Naja guineensis</i> (black forest cobra) <i>Naja nigricollis</i> (black-necked spitting cobra) <i>Pseudohaje nigra</i> (black tree cobra)
Atractaspididae	<i>Aparallactus lineatus</i> (reticulated centipede-eater) <i>Aparallactus modestus</i> (western forest centipede-eater) <i>Aparallactus niger</i> (western black centipede-eater) <i>Atractaspis branchi</i> (Branch's stiletto snake) <i>Atractaspis corpulenta</i> (fat stiletto snake) <i>Atractaspis irregularis</i> (variable stiletto snake) <i>Polemon acanthias</i> (Reinhardt's snake-eater)
Lamprophiidae	<i>Boaedon fuliginosus</i> (brown house snake) <i>Boaedon lineatus</i> (striped house snake) <i>Boaedon olivaceus</i> (olive house snake) <i>Boaedon virgatus</i> (Hallowell's house snake) <i>Bothrophthalmus lineatus</i> (red-black striped snake) <i>Chamaelycus fasciatus</i> (African banded snake) <i>Gonionotophis crossi</i> (African file snake) <i>Gonionotophis guirali</i> (Mocquard's file snake) <i>Gonionotophis klingi</i> (Matschie's African ground snake) <i>Gonionotophis poensis</i> (western forest file snake) <i>Hormonotus modestus</i> (yellow forest snake) <i>Lycophidion irroratum</i> (pale wolf snake) <i>Lycophidion nigromaculatum</i> (black-spotted wolf snake)
Psammophiidae	<i>Psammophis lineatus</i> (lined olympic snake) <i>Psammophis phillipsii</i> (olive sand snake)
Colubridae	<i>Crotaphopeltis hotamboeia</i> (white-lipped herald snake) <i>Dasypteltis fasciata</i> (Central African egg-eater) <i>Dasypteltis parascabra</i> (pararhombic egg-eater) <i>Dipsadoboa brevirostris</i> (short-snouted tree snake) <i>Dipsadoboa underwoodi</i> (Underwood's tree snake) <i>Dipsadoboa unicolor</i> (Günther's tree snake) <i>Dispholidus typus</i> (boomslang) <i>Hapsidophrys lineatus</i> (black-lined emerald snake)

	<i>Hapsidophrys smaragdinus</i> (common emerald snake)
	<i>Meizodon coronatus</i> (western crowned smooth snake)
	<i>Meizodon regularis</i> (eastern crowned smooth snake)
	<i>Philothamnus carinatus</i> (thirteen-scaled bush snake)
	<i>Philothamnus heterodermus</i> (Gabon bush snake)
	<i>Philothamnus irregularis</i> (irregular green bush snake)
	<i>Philothamnus nitidus</i> (Cameroons bush snake)
	<i>Philothamnus semivariegatus</i> (spotted bush snake)
	<i>Thelotornis kirtlandii</i> (forest vine snake)
	<i>Thrasops aethiopissa</i> (splendid dagger-tooth tree snake)
	<i>Thrasops occidentalis</i> (western black tree snake)
	<i>Toxicodryas blandingii</i> (Blanding's tree snake)
	<i>Toxicodryas pulverulenta</i> (orange tree snake)
Grayiidae	<i>Grayia smithii</i> (Smith's African water snake)
Natricidae	<i>Afronatrix anoscopus</i> (brown water snake)
	<i>Natriciteres fuliginoides</i> (collared marsh snake)
	<i>Natriciteres variegata</i> (variegated marsh snake)

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