



Update on distribution and status of amphibian populations in Fouta-Djallon/Guinea

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Abstract

This work is an inventory of the amphibians of Fouta-Djallon that has provided two lists of amphibians from this area of Guinea. The first is a list of amphibian species that have been reported in Fouta-Djallon. These are the twenty-seven (27) species that are : *Arthroleptis formosus* Rödel et al. (2011), *Astylosternus occidentalis* (Parker, 1931), *Leptopelis bufonides* (Schlötter, 1967), *Leptopelis spiritusnoctis* (Rödel, 2007), *Leptopelis viridis* (Günther, 1869), *Bufo maculatus* or *Hyperolius nitidulus* (Peters, 1875), *Hyperolius picturatus* (Peters, 1875), *Kassina fusca* (Schlötter, 1967), *Kassina senegalensis* (Duméril and Bibron, 1841), *Odontobatrachus fouta* (Barej et al. 2015), *Petropedetes natator* or *Odontobatrachus natator* (Boulenger, 1905), *Odontobatrachus smithi* (Barej et al. 2015), *Phrynobatrachus accraensis* or *Phrynobatrachus latifrons* (Ahl, 1924), *Phrynobatrachus calcaratus* (Peters, 1863), *Phrynobatrachus natalensis* (Smith, 1849), *Phrynobatrachus pintoii* (Hillers, Zimkus, & Rödel, 2008), *Phrynobatrachus tokba* (Chabanaud, 1921), *Ptychadena bibroni* (Hallowell, 1845), *Ptychadena longirostris* (Peters, 1870), *Ptychadena oxyrhynchus* (Smith, 1849), *Ptychadena pumilio* (Boulenger, 1920), *Ptychadena tellinii* (Peracca, 1904), *Ptychadena trinodis* (Boettger, 1881), *Geotrypetes angeli* (Parker, 1936).

The second concerns 12 species whose presence in the Fouta region is probable. To elaborate this second list, we have retained the species whose presence has been reported in Senegal, Guinea-Bissau, Mali, Sierra Leone and/or in the other regions of Guinea. These are : *Sclerophrys chudeaui* (Chabanaud, 1919), *Hemisus guineensis* (Cope, 1865), *Hemisus marmoratus* (Peters, 1854), *Afrivalus quadrivittatus* (Werner, 1908), *Afrivalus vittiger* (Peters, 1876), *Afrivalus weidholzi* (Mertens, 1938), *Hyperolius lamottei* (Laurent, 1958), *Hyperolius occidentalis* Schlötter (1967), *Ptychadena "mascareniensis"*, *Ptychadena arnei* (Perret, 1997), *Ptychadena tournieri* (Guibé et Lamotte, 1957), *Amnirana galamensis* (Duméril et Bibron, 1841).

Keywords: Inventory; Species; Amphibians; Fouta-Djallon

1. Introduction

In Guinea, during the last decades, several works have been conducted on the amphibians of Guinea mainly in this region. These include the work of Rödel et al. (2004 and 2011), Rödel & Bangoura (2004), Hillers et al. (2008), Doumbia et al. (2018).

Among these works, only Hillers et al. (2008) focused on a preliminary assessment of amphibian species in the Fouta-Djallon region of Guinea. The others focused on Forest Guinea and primarily the Mount Nimba Nature Reserve.

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However, the Fouta-Djallon region presents a diversity of ecosystems and habitats that are very favorable to the development of amphibians and their diversity. It also has protected areas such as the Badiar, Bafing/Falémé Guinea-Mali and Saala Special Wildlife Reserve in Labé to allow the conservation of these ecosystems and the biological diversity that resides there (Diallo, 2011).

The ecosystem of Fouta-Djallon is made up of vegetation composed of wooded savannahs, open forests, gallery forests and a rugged terrain crisscrossed by numerous rivers giving rise to large cliffs and numerous waterfalls. This great ecological diversity is favorable to the existence and development of amphibians. However, the inventory of amphibians in this region is almost non-existent.

Indeed, the study of the distribution of fauna and flora is an essential tool for the management of biodiversity. Thus, species assemblages with similar ecological affinities provide information on the typology of the natural environments occupied (Acemav et al. 2003).

Amphibians, because of their reproduction by alternating an aquatic larval stage and a terrestrial or amphibian adult stage, their close dependence on their habitat, and the great diversity of their reproduction methods, constitute a particularly privileged group for assessing biological diversity, but also for studying the impact of climate change and the health of ecosystems (Barbault, 1984). For this reason, they are considered to be reference bioindicators and indicators of changes in their habitat (indicators of ecological integrity).

The present work aims to provide a more or less accurate list of the amphibians of Fouta-Djallon. It is based on bibliographic research on amphibians in the Republic of Guinea and in the West African sub-region.

2. Material and methods

Fouta-Djallon or Middle Guinea, one of the four natural regions of Guinea is a mountainous massif. It covers 63,600 km² or 26% of the country's surface area with a population of 2,188,232 inhabitants mainly inhabited by Fulani populations (RGPH 2014).

This region is located between 10°10' and 12°30' north latitude and 11°30' and 13°30' west longitude and covers an area of approximately 65,000 km² or 25% of the area of Guinea. The region is constituted of the prefectures of Labé, Koubia, Tougué, Mali, Pita, Dalaba, Mamou, Koundara and Gaoual.

It is bordered to the north by the Republics of Guinea Bissau, Senegal and Mali, to the south by Sierra Leone, to the west by Lower Guinea and to the east by Upper Guinea (**Figure 1**).

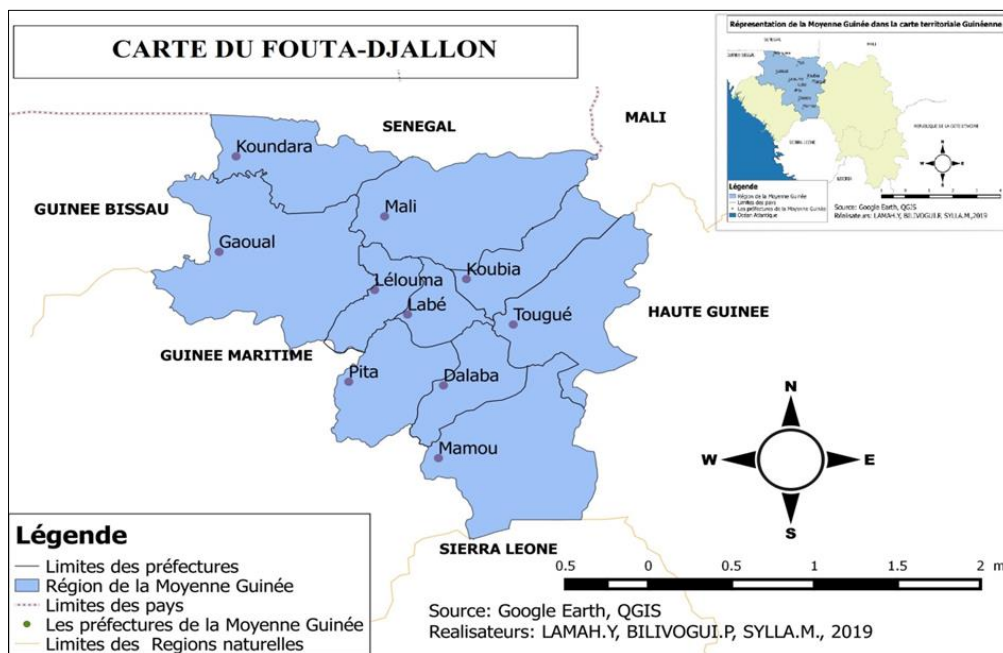


Figure 1 Map of Fouta Djallon

The Massif du Fouta Djallon (MFD) is a group of high plateaus located at an altitude of between 500 and 1500 m. It covers the northwestern part of the Republic of Guinea and extends into Sierra Leone, Guinea Bissau, Senegal and Mali. With its physical extensions, it covers an area of about 120,000 km². In the Republic of Guinea, it covers the natural region of Middle Guinea and extends into Maritime Guinea and Upper Guinea, covering an area of 60,000 km². In terms of agro-ecology, the Fouta Djallon Massif is subdivided into 4 major ecosystems

- A Sudano-Guinean savanna in the northeast,
- A dry forest zone in the northwest
- A zone of high plateaus in the center,
- A zone of humid plains in the South.

This ecological diversity is coupled with an important biodiversity; the region is home to many plant and animal species, some of which are considered endemic and should be subject to special protection.

The ecosystem of this part of Guinea is constituted on the one hand by a vegetation composed of savannahs, open forests, gallery forests and on the other hand by a rugged relief criss-crossed by numerous rivers giving rise to large cliffs and numerous waterfalls. This great ecological diversity is favorable to the existence and development of amphibians.

The present work is based on bibliographic research on amphibians in Guinea and in the West African sub-region, which has allowed us to compile a list of the amphibians of Fouta-Djallon. We present two lists of amphibian species: the first concerns those whose presence has been reported in Fouta-Djallon, and the second those whose presence in the region is likely, given their known distribution. To elaborate the latter list, we considered only those species reported in Senegal, Guinea-Bissau, Mali, Sierra Leone, Middle Guinea and Guinea Maritime, as the countries and regions surrounding Fouta-Djallon are likely to be present in this region.

It is interesting to note that several bibliographic data were exploited during this work but those that were most used are: Segniagbeto, G. H., J. E. Bowessidjaou, A. Dubois, and A. Ohler. Ohler (2007); Barbour, T., and A. Loveridge, (1946); Barej, M. F., A. Schmitz, J. Penner, J. Doumbia, L. Sandberger-Loua, M. Hirschfeld, C. Brede, M. Emmrich, N. G. G. Kouamé, A. Hillers, N. L. Gonwouo, J. Nopper, P. J. Adeba, M. A. Bangoura, C. Gage, G. Anderson, and M. O. Rothel. O. Rödel (2015); Duméril & Bibron, (1841); FROST, DARREL R. (2018); Häupl, M., et al. (1994); Köhler, J., K. Scheelke, S. Schick, M. Veith, and S. Lötters (2005); Pickersgill, M. (2007); Rödel, M.-O. (2007). Since this work is a compilation of bibliographic data, it would be too long to cite all the references used here.

3. Results and discussion

Table 1 List of amphibian species reported in Fouta-Djallon

N°	Families	Species	Collection locations	Authors and collection years
1	<i>Arthroleptidae</i> (Mivart, 1869)	<i>Arthroleptis formosus</i>	Télimélé	Rödel and al. (2011)
2		<i>Astylosternus occidentalis</i>	Fall of Saala in Labé	Hillers and al. (2008)
3		<i>Leptopelis bufonides</i>	Touri water treatment plant in Labé	Hillers and al. (2008)
4		<i>Leptopelis spiritusnoctis</i>	Nialama forest in Lélouma, Fall of Saala in Labé	Hillers and al. (2008)
5		<i>Leptopelis viridis</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
6	<i>Bufo</i> (Gray, 1825)	<i>Bufo maculatus</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé	Hillers and al. (2008)

7		<i>Bufo regularis</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
8	<i>Hyperoliidae</i> (Laurent, 1943)	<i>Hyperolius nitidulus</i>	Touri water treatment plant in Labé	Hillers and al. (2008)
9		<i>Hyperolius picturatus</i>	Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
10		<i>Kassina fusca</i>	Nialama forest in Lélouma	Hillers and al. (2008)
11		<i>Kassina senegalensis</i>	Touri water treatment plant in Labé,	Hillers and al. (2008)
12	<i>Odontobatrachidae</i> (Barej et al. (2014)	<i>Odontobatrachus fouta</i>	Fall of Saala in Labé	Barej and al. (2015)
13		<i>Odontobatrachus smithi</i>	Hörè Binti/Pita	Barej and al. (2015)
14		<i>Petropedetes natator</i>	Fall of Saala in Labé	Hillers and al. (2008)
15	<i>Phrynobatrachidae</i> (Laurent, 1941)	<i>Phrynobatrachus accraensis</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
16		<i>Phrynobatrachus calcaratus</i>	Nialama forest in Lélouma	Hillers and al. (2008)
17		<i>Phrynobatrachus natalensis</i>	Fall of Saala in Labé	Hillers and al. (2008)
18		<i>Phrynobatrachus pintoii</i>	Sangaredi / Boké	Hillers and al. (2008)
19		<i>Phrynobatrachus tokba</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
20	<i>Dicroglossidae</i> (Anderson, 1871)	<i>Hoplobatrachus occipitalis</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé	Hillers and al. (2008)
21	<i>Ptychadenidae</i> (Dubois, 1987)	<i>Ptychadena bibroni</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
22		<i>Ptychadena longirostris</i>	Fall of Saala in Labé, Nialama forest in Lélouma	Hillers and al. (2008)
23		<i>Ptychadena oxyrhynchus</i>	Nialama forest in Lélouma, Touri water treatment plant in Labé, Fall of Saala in Labé	Hillers and al. (2008)
24		<i>Ptychadena pumilio</i>	Fall of Saala/Labé, Nialama forest in Lélouma	Hillers and al. (2008)
25		<i>Ptychadena tellinii</i>	Nialama forest in Lélouma	Hillers and al. (2008)
26		<i>Ptychadena trinodis</i>	Nialama forest in Lélouma	Hillers and al. (2008)
27	<i>Dermophiidae</i> (Taylor, 1969)	<i>Geotrypetes angeli</i>	Labé	Parker (1936)

3.1. Characteristics

- Order: *Anura*,
- Family: *Arthroleptidae* (Mivart, 1869)
- Subfamily: *Arthroleptinae* (Mivart, 1869)
- Genus: *Arthroleptis* (Smith, 1849)
- Species: *Arthroleptis formosus* (Rödel et al 2011)

Arthroleptis formosus is a species of amphibian in the family *Arthroleptidae*. This species was studied by Rödel et al. in 2011, Holotype ZMB 75480 (GenBank No.: JN408725) was collected in a degraded gallery forest, surrounding areas with maize, peanuts and rice fields" in the prefecture of Téliélé. According to these authors, this species is genetically similar to *Arthroleptis aureoli* and occurs in the forests and forest savannahs of western Guinea but should be more widespread. Endemic to Guinea, it occurs in the Telimele region.

- Subfamily : *Astylosterninae* (Noble, 1927)
 - Genus : *Astylosternus* (Werner, 1898)
 - Species : *Astylosternus occidentalis* (Parker, 1931)

Astylosternus occidentalis is a species of amphibian in the family *Arthroleptidae*. This species was studied by Parker (1931). Holotype: BMNH 1930.11.19.22, by original designation; now renumbered BM 1947.2.5.48, according to museum records was collected at "Sandaru, a locality in Sierra Leone."

Hillers and allies (2008) reported the presence of this species in the Chute de Saala in the Prefecture of Labé, Republic of Guinea.

- Subfamily : *Leptopelinae* (Laurent, 1972)
 - Genus : *Leptopelis* (Günther, 1859)
 - Species : *Leptopelis bufonides* (Schiøtz, 1967)

Leptopelis bufonides is a species of amphibian in the family *Arthroleptidae*. The males measure 29 to 33 mm and the females 37 to 41 mm.

This species was studied by Schiøtz (1967). The holotype: ZMUC R073369, by original designation was collected "a few kilometers west of Bolgatanga, Ghana, near the Navrongo road".

Amiet (1973 "1972") and Amiet and Schiøtz (1974) reported on the distribution, ecology and echography in Cameroon. Schiøtz (1999) suggested that this form may be conspecific with *Leptopelis bocagei*.

Hillers and allies (2008) provided the first record for Guinea and reported its presence in the Touri water treatment plant in Labé.

- Species : *Leptopelis spiritusnoctis* (Rödel, 2007)

Leptopelis spiritusnoctis is a species of amphibian in the family *Arthroleptidae*. Males are 30-35 mm long and females are 46-49 mm long.

This species was studied by Rödel (2007). The holotype: ZMB 69951, by original designation was collected in "southeastern Guinea in the Déré Forest Reserve, 07 ° 36' 13.2N, 08 ° 12' 42.3W, 444 m altitude in a secondary forest".

Hillers and allies (2008) reported the presence of this species in the classified forest of Nialama in the Prefecture of Lélouma and in the Chute de Saala in the Prefecture of Labé, Republic of Guinea.

- Species : *Leptopelis viridis* (Günther, 1869)

Leptopelis viridis is a species of amphibian in the family *Arthroleptidae*. The males measure 33 to 35 mm and the females 42 to 48 mm.

Leptopelis viridis or *Hylambates viridis* was described by Günther (1869 "1868"). Holotype: BMNH, by original designation; BMNH 1947.2.10.23 by museum records was collected from a locality not indicated but given as "West Africa" by Boulenger (1882). In 2007, the holotype specimen of *Leptopelis hyloides*, described by George Albert Boulenger in 1906 as *Hylambates hyloides*, was shown to be a synonym of *Leptopelis viridis*. However, the species name *Leptopelis hyloides* (or *Hylambates hyloides*) has often been applied to a forest species (common name: Gbanga forest treefrog) distinct from *L. viridis*. This forest species was described as *Leptopelis spiritusnoctis* in 2007. All early records of *Leptopelis hyloides*, except the type, refer to *Leptopelis spiritusnoctis*.

Named *Hylambates hyloides* by Boulenger (1906 "1905"). Syntypes consisting of "numerous specimens" in MSNG and BMNH with the lectotype designated MSNG 29944A by Capocaccia (1957) was collected in the locality of "Bolama in Guinea-Bissau".]

A. Schiøtz In Laurent (1985) noted that the types of *Leptopelis hyloides* were of the biological species *Leptopelis viridis*, but the species that is commonly associated with the name *Leptopelis hyloides* was another, now called *Leptopelis spiritusnoctis*.

Also called *Leptopelis togoensis* by Ahl (1929), the syntypes: ZMB (2 specimens) unnumbered according to the original publication that may now be lost (according to a personal community of M.-O. Rödel) were collected in the type locality of "Bumpana (Panpamba), Togo". Later Ahl (1931) stated that the type locality was only "Togo".

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant and the Saala Waterfall in the Prefecture of Labé, Republic of Guinea.

- Family: *Bufo* (Gray, 1825)
- Genus: *Sclerophrys* (Tschudi, 1838)
- Species : *Bufo maculatus* or *Sclerophrys maculata* (Hallowell, 1854)

Bufo maculatus or *Sclerophrys maculata* commonly known as Hallowell's toad or flatback toad or striped toad is an African member of the true toad family Bufonidae.

This species was studied by Hallowell (1854). This name is thus the alternate name for *Bufo cinereus* of Hallowell, 1846. It is a potential secondary namesake of *Bombinator maculatus* of Merrem (1820). The neotype BMNH 1984. 163, designated by Poynton et al. (2016) was collected from a locality in "Monrovia, Liberia".

Previously named *Bufo cinereus* by Hallowell, (1845), the types not indicated but presumably originally in the ANSP; presumably in existence by implication of the statement by Perret and Amiet (1971 "1970") that the syntypic series contained more than one species. Poynton (1964) noted that the four ANSP specimens (presumably those considered by Tandy) labeled as syntypes were not types. The type locality of collection was not given, although it is implicitly from Liberia.

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant in the Prefecture of Labé, Republic of Guinea.

- Species : *Bufo regularis* ou *Sclerophrys regularis* (Reuss, 1833)

Bufo regularis or *Sclerophrys regularis*, commonly known as the African common toad, marked square toad, African toad, Egyptian toad, African bouncing toad (because of the bouncing motion) and Reuss' toad, is a species of toad in the family Bufonidae.

It is a large robust toad with a warty skin. Males reach a snout to anus length of 62 to 91 mm and females reach 70 to 130 mm. The paratoid glands are large and parallel or kidney-shaped and the male has a single vocal sac under the chin. The dorsal surface is dark olive brown with dark spots on the back, often arranged fairly symmetrically, and in young animals there is a paler band along the spine. There are smaller dark spots on the upper lip and eyelids, and the warts on the flanks are often separated by dark markings.

Hillers and allies (2008) reported its presence in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant and at the Saala Waterfall in the Prefecture of Labé, Republic of Guinea.

- Family : *Dicroglossidae* (Anderson, 1871)
 - Subfamily : *Dicroglossinae* (Anderson, 1871)
 - Genus: *Hoplobatrachus* (Peters, 1863)
 - Species : *Hoplobatrachus occipitalis* (Günther, 1858)

Hoplobatrachus occipitalis is a species of amphibian in the family *Dicroglossidae*.

This species measures 52 to 160 mm at adult size. Its back is yellow-green, olive or gray-brown with large dark green spots that are sometimes aligned. Its belly is white and sometimes mottled with black.

Hoplobatrachus occipitalis or *Rana occipitalis* was studied by Günther (1858) Syntypes: BMNH (consisting of 12 specimens) implied by Günther, (1859 "1858"), were collected in a type locality of "West-Afrika"; given as "West Africa".

Referred to as *Rana bragantina* by Bocage, (1864) Holotype: Unreported, presumably MBL, but considered lost by Perret, (1976) and, if it existed in 1976, it would have been destroyed in a 1978 fire in the Duque de Bragança" district, a locality in Angola in West Africa.

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant in the Prefecture of Labé, Republic of Guinea.

- Family : *Hyperoliidae* (Laurent, 1943)
 - Genus : *Hyperolius* (Rapp, 1842)
 - Species : *Hyperolius nitidulus* (Peters, 1875)

Hyperolius nitidulus is a species of amphibian of the family Hyperoliidae. It was studied by Peters (1875), the holotype: ZMB 7729 after Laurent (1961) and Bauer et al. (1995) was collected in the locality of "Yoruba (Lagos)" in Nigeria.

Referred to as *Hyperolius nitidulus bangwae* by Perret (1966), the holotype: MHNG 1039.2, by designation of origin was collected at "Bangwa" in Cameroon. This species was placed in the synonymy of *Hyperolius viridiflavus pallidus* (now *Hyperolius tuberculatus pallidus*) by Schiøtz (1999).

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Lélouma Prefecture, at the Touri Forest Water Treatment Plant and at the Saala Falls in the Labé Prefecture in the Republic of Guinea.

This species is found from Guinea and Mali to Nigeria and Cameroon.

- Species: *Hyperolius picturatus* (Peters, 1875)

Hyperolius picturatus is a species of amphibian in the family *Hyperoliidae*.

This species was studied by Peters (1875). The syntypes: ZMB 3063 (5 specimens), according to Laurent (1961), were collected in the locality of "Boutry" (mouth of the Butre River) in Ghana.

Also named *Hyperolius festivus* by Barbour and Loveridge (1927), the holotype: MCZ 12018, by original designation was collected in the locality of "Firestone Plantation No. 3, Du River, Liberia".

Common names coined for this species are the Tanzania Reed Frog (although it does not occur in Tanzania) and the Variable Mountain Sedge Frog.

Males measure 21-31 mm and females 26-34 mm snout length - vent. Males have an hourglass pattern and/or broad dorsolateral stripes. Females have a uniform back and often broad light dorsolateral stripes and dark flanks. The pupil is horizontal.

Hillers and allies (2008) reported the presence of this species in the Touri Water Treatment Plant and Saala Falls in the Labé Prefecture of the Republic of Guinea.

- Genus : *Kassina* (Girard, 1853)
- Species : *Kassina fusca* (Schiøtz, 1967)

Kassina fusca is a species of amphibian in the family *Hyperoliidae*.

This species was studied by Schiøtz (1967). The holotype: ZMUC R073869, by original designation was collected from a locality located at "9 ml. N. [Mi. N] of Walewale ('ml. 77 1/2'), Ghana". Padial and De la Riva (2004) suggested that this species would occur in southern Mauritania.

Hillers and allies (2008) provided the first record from Guinea and reported its presence in the Nialama classified forest in the Lélouma prefecture.

- Species: *Kassina senegalensis* (Duméril and Bibron, 1841)

Kassina senegalensis also called *Cystignathus senegalensis* is a species of amphibian in the family *Hyperoliidae*

This species was described by Duméril and Bibron in 1841. Syntypes: MNHNP 4507 composed of two (2) specimens, according to Laurent (1985), were collected in the ponds around Galam", Senegal.

Named *Kassina senegalensis* var. *intermedia* by Werner in 1898, the types : MM (probably destroyed during World War II) were collected in the type locality of: "Kap-Colonie", presumably near Grahamstown, Eastern Cape Province, Rep. South Africa. It is a synonymy suggested by Boulenger (1899).

Hillers and allies (2008) reported the presence of this species in the Touri Water Treatment Plant in the Labé Prefecture of Fouta Djallon, Guinea.

- Family: *Odontobatrachidae* (Barej and al. (2014)
 - Genus : *Odontobatrachus* (Barej and al. (2014)
 - Species: *Odontobatrachus fouta* (Barej and al. 2015)

Odontobatrachus fouta is a species of amphibian in the family *Odontobatrachidae*.

This species was studied by Barej et al. in 2015. Holotype: ZMB 78314 was collected in Labé, in the Sala Falls (Latitude: 11.29389; Longitude: 12.50178), 916 m above sea level" at the isolated peaks of the Fouta Djallon highlands in western Guinea, between 650 and 900 m in altitude. Males measure 47.8 to 57.0 mm and females 44.1 to 62.5 mm.

Doumbia et al (2018) described the morphology of the larvae. It is an endemic species of Guinea, occurring between 650 and 900 m altitude in the Fouta-Djallon. This species is named after its place of discovery, the Fouta-Djallon.

- Species : *Petropedetes natator* or *Odontobatrachus natator* (Boulenger, 1905)

Petropedetes natator or *Odontobatrachus natator*, also known as the saber-toothed frog, Sierra Leone water frog, common toothed frog, or simply swimmer, is a species of frog in the family *Odontobatrachidae*.

This species was studied by Boulenger, (1905). The Syntypes: BMNH were collected from a type locality in "Sierra Leone".

Hillers and allies (2008) reported the presence of this species in the Sala Falls in the Prefecture of Labé, Republic of Guinea.

- Species: *Odontobatrachus smithi* (Barej and allies 2015)

Odontobatrachus smithi is a species of amphibian in the family *Odontobatrachidae*. It was studied by Barej et al. in 2015, the described holotype ZMB 78310 was collected in the prefecture of Pita, at Hörè Binti (Latitude: 10.83964; Longitude: 12.55 722), 510 m above sea level "at the western and southern limit of the Fouta Djallon highlands and its western extensions of the Kindia region, altitude between 100 and 650m.

Doumbia and al. (2018) described the morphology of the larvae. Channing and Rödel, (2019) provided a brief account, photograph and distribution map.

This species is endemic to Guinea. It occurs in the Fouta-Djallon massifs and towards Kindia between 100 and 650 m altitude. The males measure from 40,1 to 60,4 mm and the females from 48,7 to 61,9 mm. It is named after Major Frederick Smith (1858) of the Royal Army Medical Corps.

- Family : *Phrynobatrachidae* (Laurent, 1941)
 - Genus : *Phrynobatrachus* (Günther, 1862)
 - Species : *Phrynobatrachus accraensis* or *Phrynobatrachus latifrons* (Ahl, 1924)

Phrynobatrachus accraensis (common name for the Ahl's river frog) is a species of frog in the family Phrynobatrachidae. It is an extremely common species that inhabits open wooded savannah, secondary forest, old degraded forest, agricultural areas and inselbergs in the rainforest, but avoids closed primary forest. It breeds in temporary ponds, puddles and roadside ditches. There is no significant threat to this highly adaptable species.

Phrynobatrachus accraensis or *Hylarthroleptis accraensis* was described by Ahl (1925 "1923"). The holotype: ZMB not numbered in the original publication was collected in "Accra" in Ghana.

Considered synonymous with *Phrynobatrachus latifrons* by Guibé and Lamotte (1963) but recognized as a distinct species by Schiøtz (1963) and Perret (1966). Rödel (2000) provided an account and noted confusion in the literature, particularly with *Phrynobatrachus latifrons* and *Phrynobatrachus francisci*. Frétey (2008) provided a summary of the taxonomic literature and a discussion of the relative priority of the names *accraensis* and *latifrons*.

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant in the Prefecture of Labé, Republic of Guinea.

- Species : *Phrynobatrachus calcaratus* (Peters, 1863)

Phrynobatrachus calcaratus, the Boutry River frog or Peters' puddle frog, is a species of frog in the family Phrynobatrachidae.

It is a small frog with a rounded snout and moderately warty skin, reaching a snout to vent length of about 11 to 19 mm for males, with a mass of 0.10 to 0.63 g and 16 to 23 mm for females, with a mass of 0.55 to 1.15 g. Its back varies from olive green to light brown. The males present a single vocal sac.

Phrynobatrachus calcaratus or *Hemimantis calcaratus* was studied by Peters (1863). The syntypes: ZMB 4923 and 52358, after Bauer et al. 1995) were collected in the type locality: "Boutry", Ghana. Listed in the official list of specific names in zoology by opinion 1921 of "anonymous" (1999).

The presence of this species was reported by Hillers and al. (2008) in the Nialama Classified Forest in the Prefecture of Lélouma, Republic of Guinea.

- Species : *Phrynobatrachus natalensis* (Smith, 1849)

Secondary homonym of *Stenorhynchus natalensis* Smith, 1849; Holotype: BMNH 1947.2.5.13 (formerly 62.3.14.20), was collected in "the country around Port Natal (Durban)", KwaZulu-Natal, Rep. South Africa.

Also called *Arthroleptis bottegi* by Boulenger, (1895), he describes the Holotype: MSNG 28845 collected in the "Auata River", Bale Province, Ethiopia.

This species is found over a vast territory covering most of sub-Saharan Africa. It is present in Angola, Benin, Botswana, Burundi, Cameroon, Ivory Coast, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Malawi, Mali, Mozambique, Namibia, Nigeria, Central African Republic, Republic of Congo, Rwanda, Namibia, Nigeria, Central African Republic, Democratic Republic of Congo, Republic of Congo, Rwanda, Senegal, Sierra Leone, Sudan, South Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe

Hillers and allies (2008) reported the presence of this species in the Saala falls in Labé, Fouta Djallon, Guinea.

- Species: *Phrynobatrachus pintoii* (Hillers and allies 2008)

It is an endemic species of western Guinea. Its species name, *pintoi*, was given in reference to Sidy Mohamed Diawara, nicknamed Pinto, who died in September 2006 and was a member of the team of the NGO Guinea Ecology.

Holotype ZMB 70689 described by Hillers, Zimkus, and Rödel (2008) was collected in a "Forest-gallery, Kewewol / Boulléré, in the Sous-préfecture of Sangaredi / Prefecture of Boké; western part of the Fouta Djallon region, western Guinea.

- Species : *Phrynobatrachus tokba* (Chabanaud, 1921)

Phrynobatrachus tokba is a species of amphibian in the family Phrynobatrachidae. This species is found in Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Liberia and Sierra Leone.

Arthroleptis tokba or *Phrynobatrachus tokba* was studied by Chabanaud (1921), Syntypes: MNHNP 1921.144-152, from the original publication; BMNH 1947.2.6.85-87 (formerly 1921.6.16.5-7), listed by Grandison (1985) presumably by exchange with MNHNP were collected from the localities of "N'Zébéla" and "N'Zérékoré", Guinea.

Named *Phrynobatrachus alticola* by Guibé and Lamotte (1962 "1961"), the Holotype: MNHNP 8956, by original designation was collected in "Forêt arborée à coté de la piste de Bié, région du Mont Nimba (Guinée)".

Hillers and allies (2008) reported the presence of this species in the classified forest of Nialama in the Prefecture of Lélouma, at the Touri Water Treatment Plant and the Saala Waterfall in the Prefecture of Labé, Republic of Guinea.

- Family: *Ptychadenidae* (Dubois, 1987)
 - Genus : *Ptychadena* (Boulenger, 1917)
 - Species : *Ptychadena bibroni* (Hallowell, 1845)

Also called *Rana Bibroni*, *Ptychadena bibroni* was studied by Hallowell in 1845. Syntypes unspecified, although only one specimen was noted and is presumed to be in the ANSP collection; MNHNP including six (6) specimens examined. Syntypes: MNHNP 513 designated as lectotype by Lamotte and Ohler, (1997) were collected from a type locality in Liberia. Its species name was given in reference to Gabriel Bibron, a French zoologist.

This species is endemic to West Central Africa. It occurs in Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gambia, Ghana, Guinea, Liberia, Mali, Nigeria, Senegal, Sierra Leone and Togo. Its presence is uncertain in South Sudan.

Hillers and al (2008) reported the presence of this species in the Nialama Forest (Lélouma prefecture), the Touri Water Treatment Plant and the Saala Waterfall (Labé prefecture) in Fouta Djallon, Republic of Guinea.

- Species : *Ptychadena longirostris* (Peters, 1870)

Ptychadena longirostris is a species of amphibians in the family *Ptychadenidae*. At adult size, the male measures 43 to 50 mm and the female 51 to 56 mm.

Under the appellation *Rana longirostris*, this species was studied by Peters (1870). The Holotype: ZMB 6914 according to Bauer et al. (1995) was collected in the type locality of "Keta in Guinea.

Named *Rana guerzea* by Chabanaud (1920), Syntypes: MNHNP 20.148-153, after Guibé, (1950) "1948 "were collected at "N'Zébéla" a type locality in "Guinee Française: N'Zébéla; N'Zérékoré".

Hillers et al (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Fall of Saala in the Prefecture of Labé in the Republic of Guinea.

- Species : *Ptychadena oxyrhynchus* (Smith, 1849)

Ptychadena oxyrhynchus, commonly known as the South African sharp-nosed frog, is a species of frog in the family *Ptychadenidae*.

This species was studied under the name *Rana oxyrhynchus* by Smith in 1849. The syntypes or Lectotypes: BMNH designated by Guibé and Lamotte, 1961 "1960", were collected from the type locality of "Kaffirland and the region of Port Natal (Durban)" in the Republic of South Africa. The BMNH specimens noted by Smith are from the "Cape of Good Hope" and "Natal", according to Boulenger, 1882. At adult size, males measure 40-53 mm and females 51-64 mm.

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, at the Touri Water Treatment Plant and the Saala Falls in the Prefecture of Labé in the Republic of Guinea.

- Species : *Ptychadena pumilio* (Boulenger, 1920)

Rana Pumilio or *Ptychadena pumilio* was studied by Boulenger in 1920. The syntypes: BMNH consisting of two (2) specimens were collected in "Medine" in the Republic of Senegal.

This species is endemic to central Africa. It occurs in Benin, Burkina Faso, Cameroon, Central African Republic, Ivory Coast, Ethiopia, Mali, Nigeria, Senegal and Sierra Leone.

Hillers and allies (2008) reported the presence of this species in the Nialama/Lélouma Forest and the Saala/Labé Falls in Fouta Djallon.

- Species : *Ptychadena tellinii* (Peracca, 1904)

Ptychadena tellinii is a species of frog in the family Ptychadenidae. It was studied by Peracca in 1904. The Syntypes (comprising 2 specimens, including MSNT 504), according to Gavetti and Andreone, (1993) and the syntypes are MSNG 37461 and MZUT An 504 according to Largen, (2001) were collected in "Eritrea. senza" in Eritrea (between Massaua and Cheren). At the adult size, it measures from 30 to 39 mm for the males and from 36 to 47 mm. Its back is uniformly red or reddish brown.

This species is endemic to central Africa. It is found in Benin, Burkina Faso, Cameroon, Ivory Coast, Eritrea, Ethiopia, Ghana, Mali, Nigeria, Central African Republic, Democratic Republic of Congo, Sierra Leone and Togo. Its natural habitats are: lowland or subtropical rainforest, wet savannahs, grasslands, rivers, intermittent freshwater marshes, arable land, rural gardens and ponds. It is threatened by habitat loss. It is named in honor of Achille Tellini (1866-1938).

Hillers and allies (2008) reported the presence of this species in the Nialama Classified Forest in the Prefecture of Lélouma, Republic of Guinea.

- Species : *Ptychadena trinodis* (Boettger, 1881)

Ptychadena trinodis is a species of amphibian in the family *Ptychadenidae*. It is a relatively large frog with a pointed head. Males are 42 to 52 mm (1.7 to 2.0 in.) long and females are 47 to 57 mm (1.9 to 2.2 in.) in snout-to-vent length. Males have paired lateral vocal sacs. The tympanum is large and distinct. There are three pairs of continuous dorsal ridges beginning at the eyes, and a shorter medial pair. The hind legs are robust and of medium length. The inner metatarsal tubercle is massive, almost as long as the shortest toe. The coloration is generally brownish or grayish, with black or dark brown spots present on the dorsal ridges, flanks and back. This species was described by Boettger in 1881 and named *Rana trinodis* Boettger in 1881 from Syntypes consisting of 16 now lost specimens not mentioned in Mertens' 1967 type catalog.

This species is endemic to central Africa. It occurs in Benin, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gambia, Ghana, Guinea, Mali, Mauritania, Nigeria, Senegal and Togo. Its presence is uncertain in Burkina Faso, Guinea-Bissau, Niger, Republic of Congo, Sierra Leone and Sudan.

Its presence was reported by Hillers et al (2008) in the classified forest of Nialama in the prefecture of Lélouma in Guinea.

- Order : *Gymnophiona*;
- Family : *Dermophiidae* (Taylor, 1969)
 - Genus : *Geotrypetes* (Peters, 1880)
 - Species : *Geotrypetes angeli* (Parker, 1936)

Geotrypetes angeli is a species of gymnophiones in the family *Dermophiidae*. This species was studied by Parker in 1936. The Holotype BMNH 1946.9.5.54 (formerly 1909.2.23.10) described was collected in the locality of Labé. This holotype, a mature female, measured 224 mm in length and 8 mm in width. The paratypes (3 in number) are also females, the largest of which measured 234 mm. The snout is rounded and prominent, with nostrils near its tip. There are between 99 and 105 primary folds and 28 to 33 secondary folds. The holotype was pregnant with eight mature embryos.

Geotrypetes angeli is a little known species. It is likely fossil and probably lives in forests or fruit tree plantations, rural gardens and secondary forests. *Geotrypetes seraphini* is known to be viviparous and does not depend on water for reproduction, and this could also apply to this species.

Table 2 Lists of amphibians probably encountered in Fouta-Djallon

N°	Families	Species	Presence in the countries or regions of Guinea
1	<i>Bufo</i> nidae Gray, 1825	<i>Sclerophrys chudeaui</i> (Chabanaud, 1919)	Sénégal, Gambie, Mali, Guinée-Bissau, Guinée, Sierra Leone, etc....
2	<i>Hemisotidae</i> , Cope, 1867	<i>Hemisis guineensis</i> (Cope, 1865)	Sénégal, Guinée, Gambie, Mali, Guinée-Bissau, Guinée, Sierra Leone, etc....
3		<i>Hemisis marmoratus</i> (Peters, 1854)	Sénégal, Gambie, Guinée-Bissau, Burkina Faso, etc
4	<i>Hyperoliidae</i> Laurent, 1943	<i>Afrixalus quadrivittatus</i> (Werner, 1908)	Savannahs and forests of sub-Saharan Africa
5		<i>Afrixalus vittiger</i> (Peters, 1876)	Savannahs and forests of sub-Saharan Africa
6		<i>Afrixalus weidholzi</i> (Mertens, 1938)	Savannahs and forests of sub-Saharan Africa
7		<i>Hyperolius lamottei</i> (Laurent, 1958)	Sénégal ; Sierra Leone ; sud de la Guinée, etc.
8		<i>Hyperolius occidentalis</i> Schiøtz (1967)	Sénégal, Gambie, Guinée-Bissau, Guinée, Sierra Leone, etc.
9	<i>Ptychadenidae</i> Dubois, 1987	<i>Ptychadena "mascareniensis"</i>	Guinée, Guinée-Bissau, Mauritanie, Sénégal, Sierra Leone, Mali, etc.
10		<i>Ptychadena arnei</i> Perret, 1997	Sénégal, Guinée, Sierra Leone, etc.
11		<i>Ptychadena tournieri</i> (Guibé et Lamotte, 1955)	Species endemic to West Central Africa. Guinée ; Guinée-Bissau ; Sénégal ; Sierra Leone ; etc.
12	<i>Ranidae</i> Batsch, 1796	<i>Amnirana galamensis</i> (Duméril et Bibron, 1841)	Savannahs of sub-Saharan Africa : Gambie , Guinée-Bissau, Mali, Sénégal, Sierra Leone, etc.

3.2. Characteristics

In this list, we have retained only those species whose presence has been reported in Senegal, Guinea-Bissau, Mali, Sierra Leone, Middle Guinea and Guinea Maritime as part of the species that can be found in the Fouta-Djallon region. A total of twelve (12) species of amphibians were the subject of our research, listed as follows:

- **Order :** *Anura*
- **Family :** *Bufo*nidae Gray, 1825 ;
- **Genus :** *Sclerophrys* Tschudi, 1838
- **Species :** *Sclerophrys chudeaui* (Chabanaud, 1919)

Sclerophrys chudeaui is a species of amphibian in the family *Bufo*nidae.

This species was described in 1919 by Chabanaud in Senegal but it is an endemic species of Mali. It is known only from its locality, the Bata Swamp, erroneously placed in Senegal by Chabanaud in 1919. Syntypes: MNHNP 1919.80 (4 specimens) described were collected in mare de Bata (Sahel de Niore)" in Senegal.

In the *Bufo blanfordii* group, Tandy and Keith, (1972) also noted that this species was described from inadequate post-metamorphic material, making it a nomen dubium. He also suggested that *Bufo chudeau* might represent *Bufo xeros*, *Bufo regularis*, or *Bufo pentoni*.

This species is named after Rene Chudeau (1864-1921). At adult size, males measure 62 to 91 mm and females 70 to 130 mm.

This species is found up to 2 500 m altitude in Mauritania, Senegal, Gambia, Mali, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Benin, Togo, Nigeria, Niger, Cameroon, Equatorial Guinea, Gabon, Republic of Congo, Democratic Republic of Congo, Angola, Central African Republic, Chad, South Sudan, Rwanda, Uganda, Kenya, Tanzania, Ethiopia, Eritrea, Southern Algeria, Southern Libya, Egypt and Sudan. Its presence is uncertain in Burundi and Djibouti.

- **Family : Hemisotidae, Cope, 1867 ;**
 - Genus : *Hemisis* Günther, 1859
 - Species : *Hemisis guineensis* (Cope, 1865)

Hemisis guineensis is a species of amphibian in the family *Hemisotidae*. This species was described in 1865 by Cope, E. D. The Holotype: NHMW 1095 according to Häupl and Tiedemann, (1978) was collected in an unspecified locality in "Guinea", by inference, Laurent, (1972) describes five subspecies.

It lives in the band of savanna and grassland from Senegal to Uganda and Kenya, then south and west (around the rainforest) to the northern half of Angola, the Caprivi of Namibia, northern Botswana, the northernmost region of South Africa and Mozambique. Segniagbeto et al, (2007) did not mention this species in their list of species in Togo.

Its species name, composed of guine[e] and the Latin suffix -ensis, "that lives in, inhabits", was given in reference to the place of its discovery, an area not precisely located in Guinea.

- Species : *Hemisis marmoratus* (Peters, 1854)

Hemisis marmoratus is a species of amphibian in the family *Hemisotidae*.

This species was described through syntypes: ZMB 3548 (2 specimens) by Peters in 1854. Bauer, Günther and Robeck, (1996); using the holotype ZMB 1010 also listed a syntype of Bauer, Günther and Klipfel, 1995 collected in "Cabaceira", Mozambique.

Laurent (1972) recognized three subspecies. Rödel, (2000) provides an account under the name *Hemisis marmoratus* and notes that the two subspecies *Hemisis marmoratus marmoratus* and *Hemisis marmoratus sudanensis*, could be distinct species. Segniagbeto et al, (2007) commented on records from Togo.

This species is found in sub-Saharan Africa up to 1 850 m of altitude in the grassy savannah. The males measure 22 to 34 mm and the females 37 to 49 mm. It has been recorded in Senegal, Gambia, Guinea-Bissau, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Chad, Central African Republic, western Ethiopia, western Eritrea, southern Somalia, Kenya, Tanzania, Malawi, Mozambique, Swaziland, northeastern South Africa, Zimbabwe, Zambia and Namibia. There is an apparently isolated population south of Lake Tana in Ethiopia.

- **Family : Hyperoliidae Laurent, 1943 ;**
 - Genus : *Afrivalus* Laurent, 1944
 - Species : *Afrivalus quadrivittatus* (Werner, 1908)

Afrivalus quadrivittatus or *Megalivalus leptosomus quadrivittatus* was studied by Werner in 1908. Syntypes: Including NHMW 3723, according to Häupl et al. (1994) were collected on the Nile near Khor Attar, Sudan. This locality is about 30 km southeast of Tonga, Sudan, on the Nile, not to be confused with the location of the same name on the Red Sea coast.

Named *Hyperolius leptosomus* Peters (1877), the holotype: ZMB 9175 according to Bauer et al. (1995), was collected in "Chinchoxo (Westafrika)" in Cabinda, Republic of Angola. Synonymized with *Afrixalus fulvovittatus* by Schiøtz (1975) and Lötters et (2001). It was attributed by implication to *Afrixalus "quadrivittatus"* by Pickersgill (2007).

This species occurs in the savanna and forest ecotone regions of West Africa, Central Republic of Congo, western and southeastern Democratic Republic of Congo and western Nigeria, southeastern to southern and western Ethiopia, and southern to southern Tanzania and southern and western Democratic Republic of Congo. It is presumed to be found in the Cabinda enclave of Angola, and probably also in northern Angola, Zambia and Malawi.

- Species : *Afrixalus vittiger* (Peters, 1876)

Afrixalus vittiger is a species of amphibian in the family *Hyperoliidae*.

Also called *Hyperolius vittiger*, this species was described by Peters, (1876). The Holotype: ZMB 8669, was collected in a type locality in Liberia.

This species had been placed in synonymy with *Afrixalus fulvovittatus* by Boulenger, (1882), but was recognized as a distinct species by Perret, (1976) and Rödel, (2000). Segniagbeto et al, (2007) commented on the presence of this species in Togo. Pickersgill, (2007) discussed and redefined this species in relation to *Afrixalus fulvovittatus* and implicitly relegated a number of names to *Afrixalus "quadrivittatus"* which he considered a conglomeration of cryptic or poorly understood species.

This species is found in the savannahs of West Africa from the Gambia and Senegal to the south of Mali and Burkina Faso to the coast and west of Nigeria and northern Cameroon.

- Species : *Afrixalus weidholzi* (Mertens, 1938)

Afrixalus weidholzi is a species of frog in the family *Hyperoliidae*, its common name is Weidholz's banana frog or Weidholz's leaf folding frog.

Afrixalus weidholzi or *Megalixalus weidholzi* was described in 1938 by Mertens. The Holotype: NHMW 16811 according to Häupl and Tiedemann, (1978) was collected at "10 km to südlich Diéoundialla, Senegal".

Another Holotype: MRAC 2437, described by Laurent, (1941) was collected in "Dramba (Ituri)", Democratic Republic of Congo and named *Megalixalus schoutedeni*.

Padial and De la Riva, (2004) suggested that this species would be found in southern Mauritania. Segniagbeto et al, (2007) commented on the presence of this species in Togo.

The specific name *weidholzi* honors Alfred Weidholz, Austrian wildlife dealer, explorer and traveler.

It is a small frog; the adults measure 18 to 23 mm in length snout-vent. The back is whitish to yellow and has a thin, dark spine line, at least at the back. There is also a broader, darker lateral stripe from the tip of the snout to the groin. Its natural habitats are both dense wet savannahs and open dry savannahs.

This species is widely distributed in the savannahs between The Gambia and Senegal, west and east to northeastern Democratic Republic of Congo (at the southern Sudanese border), but its distribution is patchy. This probably reflects the lack of herpetological work in its general range. The International Union for Conservation of Nature (IUCN) lists the following countries in confirmed distribution (from west to east): Gambia, Senegal, Sierra Leone, Mali, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Democratic Republic of Congo and South Sudan. In addition, it is expected to occur in many intervening countries (Guinea, Guinea-Bissau, Liberia, Burkina Faso, Chad and Sudan).

- Genus : *Hyperolius* Rapp, 1842
- Species : *Hyperolius lamottei* (Laurent, 1958)

Hyperolius lamottei is a species of amphibian in the family *Hyperoliidae*

This species was described by Laurent in 1958, the Holotype: MNHNP unnumbered, according to the original publication was collected "between Zouguépo and Serenbara" in the Republic of Liberia.

It was deleted from the synonymy of *Hyperolius nasutus* by Rödel and Ernst, (2003) where it had been placed by Channing, Moyer and Burger, (2002).

Amiet (2005) discussed the *Hyperolius nasutus* group and excluded the former West African part of the range as attributable to other species, such as *Hyperolius adspersus* (*Hyperolius lamottei* by Schiøtz, 2006, Alytes, 24) and *Hyperolius igbettensis*. Schiøtz (2006) agreed with the resurrection of *Hyperolius lamotteison* the basis of the call structure.

This species is found up to 1,500 m altitude in southern Senegal; Sierra Leone; southern Guinea; northern Liberia; western and southern Côte d'Ivoire. Its presence is uncertain in Guinea-Bissau. It was named in honor of Maxime Lamotte.

- Species : *Hyperolius occidentalis* Schiøtz (1967)

Hyperolius occidentalis is a species of amphibian in the family *Hyperoliidae*.

This species was described by Schiøtz in 1967. The Holotype: ZMUC R076225, was collected "near the forest refuge of Kassewe Forest Reserve, Sierra Leone". It is very similar to *Hyperolius picturatus* according to the original publication and possibly conspecific according to Schiøtz (1999) who provided a brief account and map. Channing and Rödel (2019) provided a brief account, photograph, and distribution map.

It occurs in the coastal lowlands of Senegal, Gambia, Guinea-Bissau, Guinea, and Sierra Leone.

- **Family : Ptychadenidae Dubois, 1987**
 - Genus : *Ptychadena* Boulenger, 1917
 - Species : *Ptychadena "mascareniensis"*

Ptychadena mascareniensis is a species of amphibian in the family *Ptychadenidae*

This species was studied by Duméril & Bibron in 1841. The Type: MCSM, of *Rana savignyi* according to janv., (1857) was collected in an undescribed locality and is considered synonymous with *Rana mascareniensis* (along with several other now recognized species) by Boulenger, (1879).

Named *Rana marcheii* by Rochebrune (1885), the types: "*Mus. Bouvieri*"; probably in MNHNP but not known to be there, were collected at "ad ripas rivuli Sangourougou", Republic of Senegal. It is also synonymous with *Ptychadena mascareniensis* according to Noble (1924).

Ptychadena mascareniensis measures from 43 to 57 mm for the males and from 43 to 68 mm (even more) for the females. Its back is uniform brown with several black spots on each side. The median line starts from the muzzle and is colored (white, beige, yellow, orange or green); some individuals are without it. Its belly varies from white to yellowish with sometimes black flecks on the throat. Males have a pair of gray vocal sacs.

This species is found in Angola, Botswana, Cameroon, Ivory Coast, Egypt, Ethiopia, Gabon, Ghana, Guinea, Equatorial Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mauritania, Mozambique, South Africa, Mauritania, Mozambique, Namibia, Nigeria, Central African Republic, Democratic Republic of Congo, Republic of Congo, Rwanda, Senegal, Sierra Leone, Sudan, South Sudan, Tanzania, Zambia and Zimbabwe. It has been introduced in Mauritius, Reunion and Seychelles.

Its species name, composed of mascaren and the Latin suffix *-ensis*, "that lives in, that inhabits", was given to it in reference to the place of its discovery, the Mascarenes.

- Species : *Ptychadena arnei* (Perret, 1997)

Ptychadena arnei is a species of amphibians of the family *Ptychadenidae*. This species was studied by Perret, (1997). The Holotype: ZMUC R074948 was collected in the type locality of "Kassewe 8 ° 21 ' N, 12 ° 12 ' W, in a secondary savanna bordering a degraded forest" in Sierra Leone.

Confused with *Ptychadena bibroni* for decades, this history was discussed in the original publication by Perret, (1999). Channing and Rödel (2019) provided a brief account, photograph, and distribution map.

This species is named after Arne Schiøtz. It occurs in the southwest coast of Senegal, the coast of Guinea, Sierra Leone and Ivory Coast; probably occurring in Liberia and Guinea-Bissau.

- Species : *Ptychadena tournieri* (Guibé et Lamotte, 1955)

Ptychadena tournieri is a species of amphibian in the family *Ptychadenidae*.

Also named *Rana tournieri*, *Ptychadena tournieri* was studied by Guibé and Lamotte in 1955. Syntypes have been collected in different localities: MNHNP 8679, 8680, 8681, 51-193 (collected at Mount Nimba in the Republic of Guinea); MCZ 26856 (collected at Bonthé in Sierra Leone); MCZ 26690 (collected at Ibanga, Suacoco in Liberia); MCZ 27720 (collected at Kenema in Sierra Leone); MCZ 28093 (collected at Yundum in The Gambia).

Ptychadena tournieri measures 33 to 35 mm for males and 41 to 43 mm for females. Males have a pair of vocal sacs. The specific name *tournieri* refers to Jean-Luc Tournier, who was director of the Institut Français d'Afrique Noire in Abidjan (now Institut Fondamental d'Afrique Noire).

This species is endemic to West Central Africa. It is found in Côte d'Ivoire; Benin; western Guinea; Guinea-Bissau; Liberia; Senegal; Sierra Leone.

- **Family : Ranidés Batsch, 1796 ;**
 - Genus : *Amnirana Dubois, 1992*
 - Species : *Amnirana galamensis* (Duméril et Bibron, 1841)

Amnirana galamensis is a species of amphibian in the family *Ranidae*. *Rana galamensis* or *Amnirana galamensis* was studied by Duméril and Bibron in 1841. The Holotype: MNHNP 4442 described by Guibé, (1950) "1948" was collected in the "ponds of Galam" in Senegal. Named *Limnodytes bravanus* by Peters (1882), the syntypes: (2 specimens) probably originally in ZMB, supposed to be lost by Poynton and Broadley (1985), were collected in "Brava", Somalia.

Amnirana galamensis measures about 60 mm, a male with a length of 77.4 mm was found in Comoé National Park and the largest female measured 62 mm. However, males are generally smaller than females. Its back varies from cream to dark brown and is relatively uniform showing only a few pale-yellow spots in the anal region and on the thighs. A longitudinal band of yellow or light orange runs from the nostrils to the back of the body. The top of its lips is highlighted with white. Its belly varies from white to light gray and presents at the level of the throat and at the root of the limbs of the dark mottles.

This species is found in the savannahs of sub-Saharan Africa:

- In West Africa: Benin, Burkina Faso, Ivory Coast, Gambia, Ghana, Guinea-Bissau, Mali, Nigeria, Senegal and Sierra Leone.
- In Central Africa: Cameroon, Central African Republic, Democratic Republic of Congo;
- In East Africa: Eritrea, Ethiopia, Kenya, Somalia, Tanzania and Uganda;
- In Southern Africa: Malawi, Mozambique and Zambia.

Its species name, composed of *galam* and the Latin suffix *-ensis*, "that lives in, that inhabits", was given in reference to the place of its discovery, the Galam ponds.

4. Conclusion

The highlands of Fouta Djallon are known to harbor a very rich ecosystem with endemic species. The vegetation and the rugged terrain are supposed to be one of the reasons leading to this diversified floristic and faunal assemblage.

Based on our results, we can conclude that Fouta-Djallon has a more or less diversified amphibian fauna. To date, a total of 27 species of amphibians representing two orders have been identified. These are the order of Anurans (26 species) and that of *Gymnophiones* (one species).

If we consider the species whose presence is probable (12 species), the number of species in the region would be of the order of thirty-nine (39) species.

Despite this relatively interesting diversity for the region, the systematic inventory of the amphibian fauna remains far from being completed.

The present study must continue with the choice of sites, the collection of amphibian specimens in different ecosystems and areas of the Fouta-Djalou region to ensure the real presence of species mentioned in the bibliography and those whose presence is probable, but also the measurement of some parameters of reproduction such as the number of eggs per clutch, the size of the eggs, the weight of the clutches (Barbault, 1984), the different stages of metamorphosis, the morphology of the tadpoles according to the table of Gosner (1960).

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest.

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