



New reptile records from Lékédi Park and Haut-Ogooué Province, southeastern Gabon

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Abstract.—Presented is a compilation of new locality records with natural history data for 49 reptile species in Haut-Ogooué Province, southeastern Gabon, Equatorial Africa. One new snake species record is added to Gabon (Colubridae: *Philothamnus hughesi*), 14 new reptile species records to Haut-Ogooué Province, three new reptile records for Léconi Park, and 28 new reptile records for Lékédi Park. A predation case is reported of *Naja melanoleuca* preying on *Dasypeltis fasciata* and of *Boaedon perisilvestris* on a micromammal.

Résumé.—Nous présentons une compilation de nouvelles mentions de localités accompagnées de notes d'histoire naturelle pour 49 espèces de reptiles de la Province du Haut-Ogooué, sud-est du Gabon, Afrique équatoriale. Nous ajoutons une espèce de serpent (Colubridae: *Philothamnus hughesi*) à la faune du Gabon, 14 espèces de reptiles à la Province du Haut-Ogooué, 3 espèces de reptiles au Parc de Léconi, et 28 espèces de reptiles au Parc de la Lékédi. Nous rapportons un cas de prédation par *Naja melanoleuca* sur *Dasypeltis fasciata*, et par *Boaedon perisilvestris* sur un micromammifère.

Keywords. Biodiversity, herpetofauna, Testudines, Crocodylia, Squamata, mandrill, safari park, conservation, Chaillu Massif

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Introduction

The herpetofauna of the Equatorial African country Gabon is still poorly known. Among its nine provinces, one of the least surveyed is Haut-Ogooué Province, in the southeastern corner of the country, along the Republic of Congo. The first herpetological collection from Haut-Ogooué Province, studied by Mocquard (1887), was made by the members of an expedition led by the explorer Savorgnan de Brazza. Only 17 reptile species were recorded from the province until the beginning of the 21st Century, when a number of additions were documented by Pauwels et al. (2007), Pauwels and David (2008a,b) and Pauwels and Sallé (2009), bringing the total number of species in Haut-Ogooué Province to 39 in the herpetological synthesis presented by Pauwels and Vandeweghe (2008).

Additions to the species list for the province were since presented by Pauwels et al. (2010, 2016b, 2018c) and Ineich and Le Garff (2015). Additional locality records within the province were added by Pauwels et al. (2016a, 2017a,d,e, 2018a). Although numerous records were made during the last decade, it is obvious that the actual number of species inhabiting the province and its protected areas must be much higher, in view of the diversity of savanna and forest habitats represented and the herpetofauna known from neighbouring areas in Gabon and the Republic of Congo.

The present contribution is mostly based on opportunistic observations made by one of us (Stephan Morelle ~ SM) while working from March 2016 to February 2018, i.e., during two full calendar years, as a veterinarian for the mammals of the Parc de la Lékédi (Lékédi Park, ca. 1°45'32"S, 13°03'16"E) in Lékoko Department, a 14,000

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ha fenced safari park managed by the private company Sodepal (Société d'Exploitation du Parc de la Lékédi; see Auzias and Labourdette 2011; Vande weghe 2008). Many of our new records were also made in Bakoumba (ca. 1°49'43.5"S, 13°00'08.7"E; elevation 609 m above sea level), a small town located at about seven km S of Lékédi Park, in the same administrative department.

Materials and Methods

The new voucher material was identified using the keys and morphological information provided by Brygoo and Roux-Estève (1983), Trape and Roux-Estève (1990), Chippaux (2006), Trape and Mané (2006), Pauwels and Vande weghe (2008), Wagner et al. (2009), Pauwels et al. (2010), Ineich and Le Garff (2015), and Trape and Medinnikov (2016). Geographic coordinates for new locality records are provided in Table 1. Most snake vouchers derive from dead-on-road individuals. Snake ventral scales were counted according to Dowling's (1951) method. Snake dorsal scale rows were counted at one head length behind head, at midbody (above the ventral corresponding to half of the total number of ventrals), and at one head length before vent; subcaudal counts exclude the terminal pointed scale. Paired meristic characters are given left/right. The sex of preserved snakes was determined by dissection of the tail base. Specimens' main diagnostic morphological characters are provided in Appendix 1 and within the species accounts.

Abbreviations: CIRMF = Centre International de Recherches Médicales de Franceville, Franceville, Gabon; Dept. = Department; Prov. = Province; MNHN = National Museum of Natural History, Paris, France; MSNS = Natural History Museum of Salento, Calimera, Italy; NP = National Park; RBINS = Royal Belgian Institute of Natural Sciences, Brussels, Belgium; RMCA = Royal Museum for Central Africa, Tervuren, Belgium.

Results

TESTUDINES PELOMEDUSIDAE

Pelusios gabonensis (Duméril, 1856)

On 4 October 2016 SM photographed a subadult individual in a forest stream in Lékédi Park. It showed the typical brown carapace with a black vertebral line, a

poorly marked median keel on the carapace, a brown head without vermiculations but with a black dorsal triangle. This constitutes the first record for the park. Within the same Dept., the species had already been recorded from Bakoumba by Maran and Pauwels (2005). On 22 January 2017 at 17h25 Nil Rahola (~ NR) photographed a subadult individual in the northwestern suburbs (1°36'58.3"S, 13°34'48.7"E) of Franceville in Passa Dept. (Fig. 1). This represents a new locality record (see the compilation on the distribution of this species in Gabon by Maran and Pauwels 2005). Widely distributed in Gabon, this terrapin is heavily hunted for food, and is so far known from only three protected areas in the country (Pauwels 2016).



Fig. 1. Subadult *Pelusios gabonensis* in Franceville, Haut-Ogooué Prov., southeastern Gabon. Photograph by N. Rahola.

TESTUDINIDAE

Kinixys erosa (Schweigger, 1812)

On 9 October 2016 SM photographed a young individual in a savanna area in Lékédi Park (Fig. 2). This constitutes the first record for the park. Within the same Dept., SM also photographed on 18 January 2018 an individual in Bakoumba, from where the species had already been recorded by Maran and Pauwels (2005). This tortoise, evaluated as Data Deficient by the International Union for the Conservation of Nature (IUCN; see Tortoise & Freshwater Turtle Specialist Group 1996), is a very popular food item in all parts of Gabon, but it seems to cope with it and is the most common and widely distributed chelonian in the country, reported from nearly all national protected areas (Pauwels 2016).

Table 1. Main localities for new herpetological records in Haut-Ogooué Province, Gabon.

Locality name	Administrative department	Geographic coordinates
Bakoumba	Lékoko	ca. 1°49'43.5"S, 13°00'08.7"E
Franceville	Passa	ca. 1°36'58.3"S, 13°34'48.7"E
Lékédi Park	Lékoko	ca. 1°45'32"S, 13°03'16"E
Lemanassa	Lékoko	2°00'07.9"S, 12°56'05.6"E
Moanda	Lébombi-Léyou	1°32'13.2"S, 13°14'35.9"E
Mounana	Lébombi-Léyou	1°24'05.0"S, 13°09'41.0"E



Fig. 2. Young *Kinixys erosa* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

**CROCODYLIA
CROCODYLIDAE**

***Mecistops cataphractus* (Cuvier, 1824)**

Pearson et al. (2007) presented the picture of an individual in Plateaux Batéké NP, clearly showing the whole body and the long snout. Fig. 3 shows an adult individual photographed on 17 October 2016 in Lékédi Lake (Lac Lékédi) in Lékédi Park. This individual is regularly observed on this dead tree when one navigates on the lake, and it jumps forward when it is too closely approached. It climbs on this tree on sunny days as well as on cloudy days, and often keeps its mouth widely open. No census of the *Mecistops* population of the 120 ha Lékédi Lake was ever done, but a 45 minutes canoe trip by night on the lake in June 2017 by SM revealed ten distinct individuals, mostly juveniles and subadults. A second canoe tour on the lake on 21 July 2017 between 18h30 and 21h30 revealed 25 distinct individuals, indicating that further search efforts might demonstrate the existence of a viable population. Our observations represent a new Dept. record and a new record for the park (not listed from this Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017e).



Fig. 3. Adult *Mecistops cataphractus* on a dead tree in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Osteolaemus tetraspis* Cope, 1861**

On 13 November 2017 at 17h00 SM photographed an adult individual in a ditch in Lékédi Park (Fig. 4). New record for the Dept. and for the park (not listed from this Dept. by Pauwels and Vande weghe 2008; Pauwels 2016). The Dwarf crocodile is often sold as food, but it still ubiquitous in Gabon, even in degraded areas; it has been recorded from nearly all protected areas in the country (Pauwels 2016).



Fig. 4. Adult *Osteolaemus tetraspis* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle

**SQUAMATA
AGAMIDAE**

***Agama agama* (Linnaeus, 1758)**

This highly anthropophilic species was already recorded by Pauwels et al. (2016b) from Bakoumba, where both *Agama* species probably co-exist, like in an increasing number of localities in Gabon. The propagation of *Agama agama* within Gabon is facilitated by human activities and the development of roads (Pauwels et al. 2004).



Fig. 5. Ventral view of an adult dead-on-road male *Agama lebretoni* found on the road between Lékédi Park and Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Agama lebretoni* Wagner, Barej & Schmitz, 2009**

Fig. 5 illustrates the ventral surface of a dead-on-road individual found in June 2016 by SM on the road between Lékédi Park and Bakoumba. Other individuals were observed by SM in Lékédi Park where the species is common. The male RBINS 18497 was caught by SM

in Léconi Park, Plateaux Dept., on 25 December 2017. It shows a pale vertebral stripe, a reticulated throat color pattern, 71 scale rows at midbody, a snout-vent length of 93 mm, and a tail length of 144 mm. It feigned death while handled. New records for both Depts. and for the parks (not recorded from these Depts. by Pauwels et al. 2016a–b, 2017b).

CHAMAELEONIDAE

Trioceros cristatus (Stutchbury, 1837)

In a booklet on the animals of Gabon, Le Garff (2015) presented the photograph of an adult male *Trioceros cristatus* with a well-developed dorsal crest, without a precise locality. This photograph was actually taken in the vivarium of Lékédi Park (Le Garff, pers. comm. to OSGP 2015). The exact locality where the individual was captured is unknown, but it was certainly caught within the Dept. in the vicinity of Lékédi Park. New Prov. record. The species is uncommon in Gabon and known from only two protected areas in the country (Pauwels et al. 2016a; Pauwels 2017).

Trioceros owenii (Gray, 1831)

On 28 March 2017 at 14h00 SM encountered a young male individual in Lékédi Park, showing three short horns (Fig. 6). On 9, 12, and 15 January SM encountered and photographed three distinct adult males in Bakoumba, all on bare ground between houses in the village. They had distinctly more developed horns than the young individual shown on Fig. 6. Put in presence of each other before being released, two males immediately began a fight. New record for the park and new Dept. record. In Haut-Ogooué Prov., this species had been recorded so far only from Franceville in Passa Dept. (Pauwels et al. 2007) and from Akiéni in Léconi-Lékori Dept. (Pauwels et al. 2016a).



Fig. 6. Young male *Trioceros owenii* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Rhampholeon spectrum (Buchholz, 1874)

On 8 September 2016 SM photographed an adult male individual of this relatively common forest leaf litter chameleon in Lemanassa (ca. 23 airline km S-SW of Bakoumba), Lékoko Dept. (Fig. 7). New Prov. record (not

listed from this Prov. by Pauwels and Vandeweghe 2008; Pauwels et al. 2008). This village is located at about five km from the border with the Republic of Congo. Like the two chameleons above, this species has been evaluated as Least Concern by the IUCN (Mariaux and LeBreton 2010).



Fig. 7. Adult male *Rhampholeon spectrum* in Lemanassa, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.



Fig. 8. Adult *Hemidactylus mabouia* in Léconi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

GEKKONIDAE

Hemidactylus mabouia (Moreau de Jonnés, 1818)

This anthropophilic gecko was regularly observed by SM on the buildings of Lékédi Park. We examined the photograph of a hatchling and its egg taken by A. Willaume on 3 March 2016 at 17h41 in a house in Bakoumba. The hatching date of this gecko falls within the hatching period (December to April) known for the species in Gabon. On 28 March 2016 SM photographed an adult individual on a tree in Léconi Park (Parc de la Léconi), Plateaux Dept. (Fig. 8). We examined the photograph of an adult individual taken in July 2017 (exact date unknown) by N. Longin inside a house in Moanda in Lébombi-Léyou Dept. New Dept. records and new records for Léconi and Lékédi parks (not listed from these Depts. by Pauwels and Vandeweghe 2008; Pauwels et al. 2016b, 2017b; Pauwels 2017). Olivier S.G. Pauwels (~ OSGP) exam-

ined three adult individuals (RMCA 28230–28232, not individually numbered) collected on 20–22 November 1964 in “Franceville, Riv. [=River] Passa.” One has a snout-vent length of 62 mm, a tail length of 59 mm (last 39 mm regenerated), 35 femoro-precloacal pores, and 16 dorsal tubercle rows at midbody. Another has a snout-vent length of 58 mm, a tail length of 54 mm (only first 8 mm original), 32 femoro-precloacal pores, and 16 dorsal tubercle rows at midbody. The last one has a snout-vent length of 57 mm, a tail length of >30 mm (tail original, but tip missing, healed), 35 femoro-precloacal pores, and 15 dorsal tubercle rows at midbody. The species was already known from Franceville (Pauwels and Vandeweghe 2008).

GERRHOSAURIDAE

Gerrhosaurus nigrolineatus Hallowell, 1857

A juvenile (RBINS 18472) was found dead-on-road on 2 November 2016 by SM near the camp of the Projet Protection des Gorilles (PPG) of the Aspinall Foundation in the northern part of the Plateaux Batéké NP. It has a snout-vent length of 47 mm and a tail length of 105 mm. Its dorsal scales are keeled, its ventral scales smooth; its caudal scales are all keeled, except the ventral ones at the base of the tail. New locality record. This lizard is common in the savannas and coastal grasslands of Gabon and has already been recorded in nine national protected areas (Christy et al. 2008; Pauwels and Vandeweghe 2008; Vandeweghe 2008: 156–157).



Fig. 9. Adult *Ichnotropis bivittata* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

LACERTIDAE

Ichnotropis bivittata Bocage, 1866

On 22 November 2016 at midday SM encountered an adult individual in Bakoumba (Fig. 9). It shows strongly keeled scales on the dorsal surface of its head, smooth and imbricate cycloid ventrals; its dorsals and supracaudals are lanceolate and strongly keeled. A short fold in front of each arm houses red mites, and mites are also gathered in a pocket above the posterior insertion of the hind limbs. This represents only the second locality for the whole country. The species was recently reported for

the first time from Gabon based on a single specimen from Lékédi Park (Ineich and Le Garff 2015). This lacertid species is most probably widespread in the savannas of southeastern Gabon and is expected to occur in Plateaux Batéké NP.

SCINCIDAE

Feylinia currori Gray, 1845

On 10 April 2016 at 17h00 SM found an adult individual (RBINS 18473) active along a road in Lékédi Park. It has a snout-vent length of 156 mm, a tail length of 60 mm, 25 scale rows at midbody, two supranasal scales, one loreal on each side separating the supranasal from the preocular; on each side the ocular scale is in contact with the 3rd supralabial. Another adult individual (RBINS 18474) was found at 17h00 by SM on 11 October 2016 in a natural ditch in the park; it was then active and quickly moved in the soft soil to hide under a rock. It had a snout-vent length of 164 mm, a tail length of 67 mm, two supranasal scales, 26 scale rows at midbody; its ocular scale is in contact with the 3rd supralabial. A third individual (RBINS 18498) was found in the park by SM on 7 July 2017 at 17h30; it has a snout-vent length of 128 mm, a tail length of 49 mm, 26 scale rows at midbody, two supranasal scales, and on each side the ocular scale is in contact with the 3rd supralabial. On 14 November 2017 Jean-Louis Albert (~JLA) found a young individual (total length 120 mm), freshly dead-on-road in Franceville in Passa Dept. (Fig. 10). New record for the park and new Prov. record; Haut-Ogooué Province was the last Gabonese province from which this common species had not yet been recorded (see distribution given by Pauwels and Vandeweghe 2008).



Fig. 10. Young *Feylinia currori* in Franceville, Haut-Ogooué Prov., southeastern Gabon. Photograph by J.-L. Albert.

Trachylepis affinis (Gray, 1839)

This species was regularly observed in open areas in Lékédi Park by SM in 2016 and 2017, and is locally common, especially near human settlements. It had already been recorded and documented from the park by Ineich and Le Garff (2015).

***Trachylepis albilabris* (Hallowell, 1857)**

A clutch of five eggs, half-buried in the ground, was found in Lékédi Park by SM on 10 October 2016. They were carefully collected and kept in a box in the park. They all safely hatched three days later. All were released except two (RBINS 18499–18500), which show a transparent disk in each lower eyelid; separated supranasals; prefrontals in contact; 4/4 supraoculars; on each side one scale separating the last supraocular and the anterior supratemporal; three keels per dorsal scale; and a tail length of 31 mm. One has 30 scale rows at midbody and a snout-vent length of 23 mm; while the other has 32 scale rows at midbody and a snout-vent length of 24 mm. So far clutches of only two or three eggs were reported for this species in Gabon (Pauwels and Vande weghe 2008; Pauwels et al. 2017c); however it cannot be excluded that more than one clutch was here involved. New record for the park and for the Dept.; within Haut-Ogooué Prov., this skink was known so far only from Franceville in Passa Dept. (Pauwels et al. 2016a).

***Trachylepis maculilabris* (Gray, 1845)**

The individual RBINS 18501 was encountered by SM on 4 January 2017 in Lékédi Park. It shows a transparent disk in each lower eyelid, 4/4 supraoculars, 5/5 supraciliaries; 6/6 supralabials; supranasals separated by a narrow gap, prefrontals separated by a narrow gap; 54 scales on a line between the nuchals and a point above the base of the tail; a snout-vent length of 71 mm, a tail length of 125 mm; and 30 scale rows at midbody, each dorsal scale with 5, sometimes 6 or 7, keels. RBINS 18502 was found by SM in the park on 19 August 2017. It shows a transparent disk in each lower eyelid, 4/4 supraoculars, 5/5 supraciliaries; 7/7 supralabials; supranasals separated, prefrontals in contact; 54 scales on a line between the nuchals and a point above the base of the tail; a snout-vent length of 64 mm, a tail length of 132 mm; and 30 scale rows at midbody; each dorsal scale with 5 keels. This species is locally common in open areas in the park, and was regularly observed by SM in 2016 and 2017. It had already been recorded and documented from the park by Ineich and Le Garff (2015).



Fig. 11. Young *Trachylepis polytropis polytropis* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Trachylepis polytropis polytropis* (Boulenger, 1903)**

A young individual was photographed on 28 December 2017 at 17h00 by SM in Lékédi Park (Fig. 11). It shows the species' typical dorsal black zig-zag and green belly. New record for the park and new Prov. record (not listed from the Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016b). This species is found in pristine as well as in degraded environments, but is still poorly documented in Gabon, probably due to the fact that it is more shy and arboreal than its congeners.

VARANIDAE***Varanus ornatus* (Daudin, 1803)**

Pearson et al. (2007) presented a picture of a monitor taken in Plateaux Batéké NP that they identified as “*Varanus* sp. (probably *V. niloticus*).” The photo shows a juvenile individual with five transversal rows of ocellae on the back between the fore and hindlimbs, as is typical for *V. ornatus*. A photograph of another individual from Plateaux Batéké NP was presented by Pauwels and Vande weghe (2008:127). On 25 March 2016 SM photographed an adult individual in Bakoumba (Fig. 12). On 22 October 2016 at midday SM photographed a subadult individual (total length about 70 cm) inside a dead tree standing above the surface of Lékédi Lake in Lékédi Park. New Dept. record and new record for the park (not listed from the Dept. by Pauwels et al. 2007, 2017d,e). Although heavily hunted, this monitor is still abundant in all parts of the country and in all kinds of environments, from pristine forests and savannas to urban areas; it was recorded from nearly all protected areas of Gabon (Pauwels, 2016). Dowell et al. (2015) did not fully resolve the systematics within the *Varanus niloticus* complex and called for “urgent taxonomic revisions in this group;” until more conclusive results are obtained, we prefer to maintain here the use of the name *Varanus ornatus* for the *Varanus* populations found in Gabon.



Fig. 12. Adult *Varanus ornatus* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

BOIDAE***Calabaria reinhardtii* (Schlegel, 1851)**

An adult individual was photographed by day on 16 May

2016 by SM in Lékédi Park (Fig. 13). When encountered, it was entering a crack in a brick wall. When handled, it never tried to bite, and displayed several times the species' typical defensive behaviour, i.e., forming a ball with its body and raising its rounded tail. Another individual was photographed by SM in the park on 13 November 2017; while being photographed, it adopted the same defensive behaviour. New record for the Dept. and for the park (not listed from the Dept. by Pauwels and Vande weghe 2008). This common species was first recorded from Haut-Ogooué Prov. by Pauwels et al. (2007).



Fig. 13. Adult *Calabaria reinhardtii* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

COLUBRIDAE

Crotaphopeltis hotamboeia (Laurenti, 1768)

An adult individual was photographed by SM on 5 January 2017 in Bakoumba (Fig. 14). New locality record. Two other individuals (RBINS 18475–76; see Appendix 1) were found by SM in Lékédi Park on 17 March 2017, and another was photographed by SM in the park on 11 December 2017. All were aggressive, attempting to bite when approached. The species was already recorded by Pauwels et al. (2016b) from Lékédi Park where it can be regarded as common. It was mentioned for the first time from Haut-Ogooué Prov. by Pauwels and Sallé (2009).



Fig. 14. Adult *Crotaphopeltis hotamboeia* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Dasypeltis confusa Trape & Mané, 2006

An adult individual was encountered by SM in Lékédi Park at 17h00 on 14 June 2017 (Fig. 15). It was inflat-

ing itself and adopted a threatening posture all the time it was approached. New Dept. record and new record for the park. This recently described egg-eating species was first reported from Gabon by Pauwels and Sallé (2009).



Fig. 15. Adult *Dasypeltis confusa* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Dasypeltis fasciata Smith, 1849

The adult specimen RMCA 29891 (see Appendix 1) was collected by M. Gauduin in 1969–1970 in “Munana, près de Moanda” [= Mounana near Moanda, in Lébombi-Léyou Dept.]. SM encountered an adult individual in Bakoumba at 20h00 on 12 February 2017 (RBINS 18477; Appendix 1; Fig. 16). Contrary to the *Dasypeltis confusa* individual above, it was very calm when approached and handled. Its poorly defined black dorsal bands are due to the black color of the interstitial skin between scales, which allows to easily distinguish this species from *Dasypeltis confusa* which shows black scales forming well-defined saddle-shaped marks on the dorsum, like in the individual shown on Fig. 15. Another individual was found by NR while it was being preyed upon by a *Naja melanoleuca* on the compounds of the CIRMF in Franceville, Passa Dept., on 25 December 2014 (Fig. 24). First records for the Prov. (not listed from the Prov. by Pauwels and Vande weghe 2008; Carlino and Pauwels 2015; Pauwels et al. 2016a). This species was evaluated as Least Concern by the IUCN; the former species was not yet evaluated.



Fig. 16. Adult *Dasypeltis fasciata* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Grayia ornata* (Barboza du Bocage, 1866)**

A young individual was photographed by SM in Lékédi Park at midday on 28 December 2017 (Fig. 17). New record for the park and for the Prov. Haut-Ogooué Prov. is the last province of Gabon from which this common freshwater species had not yet been recorded (Pauwels and Vande weghe 2008).



Fig. 17. Young *Grayia ornata* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Hapsidophrys lineatus* Fischer, 1856**

A dead-on-road adult individual was found by SM on 5 June 2016 between Lékédi Park and Bakoumba (Fig. 18). It shows a round pupil, one loreal, one preocular, no subocular, three postoculars, two supralabials in contact with the orbit, two anterior temporals and two posterior temporals, strongly keeled dorsals with the vertebral row not widened, and keeled ventrals. New Dept. record (not listed from the Dept. by Pauwels and Vande weghe 2008). *Hapsidophrys lineatus* being rarely encountered in Gabon and difficult to approach due to its shyness and fastness, Pauwels and Vande weghe (2008:165) also had to illustrate it with the photograph of a dead-on-road individual. This strongly contrasts with its congener *H. smaragdinus*, which is one of the most commonly encountered snakes in the country and easier to approach.



Fig. 18. Dead-on-road adult *Hapsidophrys lineatus* found near Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Hapsidophrys smaragdinus* (Schlegel, 1837)**

On 10 April 2016 SM caught and photographed an adult individual in a garden in Bakoumba. It showed (right side) 9(5-6) supralabials, one loreal, one preocular, no subocular, two postoculars, one anterior temporal, a round pupil, keeled dorsals with a non-widened vertebral row, keeled ventrals and subcaudals, a black lateral stripe on its green head, and a green body with bluish dots on its dorsum. The snake repeatedly bit while being handled. New locality record. Within this Dept., the species was already known from the nearby Lékédi Park (Pauwels et al. 2016b). On 6 December 2017 SM photographed a dead-on-road individual in Moanda, Lébombi-Léyou Dept. It showed the typical uniformly green body, a lateral black stripe on the head, and strongly keeled dorsal scales. New Dept. record (not listed from the Dept. by Pauwels et al. 2016b, 2017b).

***Philothamnus carinatus* (Andersson, 1901)**

On 27 November 2017 at 07h00 SM found a dead-on-road individual (RBINS 18503; see Appendix 1) in Lékédi Park, at 200 m from the guard guerite marking the entrance of the park. Given its poor state, it was probably killed by a car the day before. Its pupil is round; its vertebral row is not widened; its temporal formula is 2+2+2 on each side. First record for the park and for the Dept. This species, which is very common in Gabon, was first mentioned from Haut-Ogooué by Pauwels et al. (2007). Within the Prov., this snake was until now known only from Franceville in Passa Dept.



Fig. 19. Juvenile *Philothamnus hughesi* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Philothamnus hughesi* Trape & Roux-Estève, 1990**

On 13 May 2015 at 13h15 SM encountered a juvenile individual in Bakoumba (Fig. 19). It showed one preocular, two supralabials contacting the orbit, two postoculars, 1+1 temporals, 15 dorsal scale rows at midbody, unkeeled ventrals, a dark green head, irregular blue and black oblique bars on the neck, and a bronze dorsum irregularly dotted with black. On 25 November 2016 at 15h30 SM met an adult individual in Lékédi Park

(RBINS 18478; Appendix 1). It showed 1+1 temporals on each side, a greenish grey head, irregular blue and black oblique bars on the neck, and a bronze dorsum irregularly dotted with black. On 10 April 2017 a third individual was photographed by SM in Lékédi Park. It showed one loreal, one preocular, two postoculars, 8 supralabials whose 4th and 5th in contact with the orbit, ten infralabials, 1+1 temporals, unkeeled ventrals, a greenish grey head, irregular blue and black oblique bars on the neck, and a bronze dorsum irregularly dotted with black. The meristic and chromatical characters of these three individuals perfectly fit with the original description of the species. Their combination of main diagnostic characters (including a single anterior temporal, two rows of temporals, two supralabials in contact with the orbit, and the absence of a vertebral dark band) excludes an identification as *Philothamnus dorsalis*, *P. heterodermus* or *P. nitidus* (compare with photographs and scalation characters presented in original description and by Pauwels and Vande weghe 2008). New record for the park, the Prov., and for Gabon. The species was said in its original description to occur in Gabon, based on the examination by Trape and Roux-Estève (1990) of a paratype (MNHP-A-709) from 'Gabon.' However, this paratype is an old specimen, and the geographical entity then covered by the term 'Gabon' does not necessarily correspond to what is today called Gabon, and Pauwels and Vande weghe (2008:10) thus preferred to not include this species in the country's herpetofaunal list until the species was properly documented with a precise locality.



Fig. 20. Dead-on-road *Rhamnophis aethiopissa aethiopissa* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Rhamnophis aethiopissa aethiopissa* Günther, 1862**

Fig. 20 illustrates an adult dead-on-road individual photographed on 26 August 2016 by SM in Bakoumba. The snake showed distinctly enlarged postparietals, a single loreal, one preocular and two postoculars, one anterior temporal, 17 smooth dorsal scale rows at midbody with a widened vertebral row, keeled ventral scales, a divided anal plate, and divided subcaudals. The female individ-

ual RBINS 18504 (see Appendix 1) was encountered by SM on 12 September 2017 in Lékédi Park. New Prov. record and new record for the park (the species was not listed from the Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016a,b, 2017e). This snake is common in Gabon where it is found in pristine and moderately degraded forest.

***Thelotornis kirtlandii* (Hallowell, 1844)**

Fig. 21 shows an individual displaying the typical defensive posture, photographed on 27 June 2016 at 10h00 by SM in Lékédi Park. New record for the Dept. and for the park (not listed from the Dept. by Pauwels and Vande weghe 2008). The species was first recorded from Haut-Ogooué Prov. by Pauwels et al. (2007). This snake, which avoids primary forests and lives mostly in clearings and cultivated areas, is one of the most commonly encountered species in Gabon.



Fig. 21. Adult *Thelotornis kirtlandii* in defensive posture in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

***Thrasops flavigularis* (Hallowell, 1852)**

On 20 May 2016 SM found a dead-on-road adult individual (RBINS 18479) in Moanda, Lébombi-Léyou Dept. (Appendix 1). It showed uniformly glossy black dorsal and ventral surfaces, except a yellowish underside of head and throat, smooth oblique dorsal scale rows with the vertebral row not widened. Its temporal formula is 1+1 on each side. New Dept. record (this species was not listed from the Dept. by Pauwels and Sallé 2009; Pauwels et al. 2016b). The distribution and ecology of this species in Gabon are still poorly known.

***Toxicodryas pulverulenta* (Fischer, 1856)**

The first record of the species for Haut-Ogooué Prov. (Christy et al. 2008) was based on the examination by OSGP of photos of an adult individual taken in 2007 by Paul Aczel near the camp of the Projet Protection des Gorilles (PPG) of the Aspinall Foundation in the northern part of Plateaux Batéké NP. An adult individual was found by SM on the evening of 10 August 2017 in the

kitchen of the laboratory in Lékédi Park (Fig. 22) and behaved very aggressively. It showed 21 dorsal scale rows at midbody. New record for the park and for the Dept. (not listed from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2017b,e). OSGP examined two specimens (RMCA 29892–29893) collected by M. Gauduin in 1969–1970 in “Munana, près de Moanda” [= Mounana near Moanda, in Lébombi-Léyou Dept.]. The above male and female specimens had their skulls removed, probably for osteological studies, but their head skin is present and generally in good condition, their tails are complete; part of the ventral skin missing in the second specimen. They show a widened vertebral row. Their temporal formula is 2+2 on each side. Their main diagnostic characters are presented in Appendix 1. X-rays revealed a small bird in the stomach of RMCA 29893. On 22 February 2018 JLA found a dead-on-road adult individual on the road to Amissa Hospital (Hôpital Amissa), Quartier Epila, at six km from the center of Franceville, Passa Dept. It showed (left side) one loreal, one preocular, two postoculars, 8(3-5) supralabials, 2+2 temporals; 2 pairs of sublinguals; an orange tongue; its total length was about 100 cm. New Dept. records. The variation in color, pattern and dorsal scale rows numbers within this species in Gabon requires further studies to assess if one or more species are involved.



Fig. 22. Adult *Toxicodryas pulverulenta* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

ELAPIDAE

Dendroaspis jamesoni jamesoni (Traill, 1843)

On 5 October 2016 SM examined a dead-on-road adult individual on the R.24 road between Ndjima and Moanda in Lébombi-Léyou Dept. The individual, very damaged, showed the typical wide black vertebral band on a green dorsum, and a yellow tail with each scale circled with black. On 16 June 2017 SM encountered another dead-on-road adult individual in Moanda, Lébombi-Léyou Dept. Its left side showed no loreal, three preoculars, four postoculars, eight supralabials of which the 4th contacts the orbit, a single elongate temporal scale, and eight infralabials. New Dept. record (the species was not listed from the Dept. by Pauwels and Vande weghe 2008; Car-

lino and Pauwels 2015; Pauwels et al. 2017e, 2018c). Another dead-on-road adult individual was encountered by SM in Franceville, Passa Dept., on 22 June 2017; its head and tail tip were preserved (RBINS 18480); its available meristic characters are provided in Appendix 1. This mamba lives in primary and secondary forests and even ventures in plantations, but is rarely observed due to its shy and arboreal habits.

Naja annulata annulata Buchholz & Peters in Peters, 1876

An individual of this freshwater cobra was photographed by SM on the shore of Lékédi Lake in Lékédi Park (Fig. 23). It quickly escaped to the water after having been photographed. New record for the park and for the Dept. (this cobra species was not listed from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2017a).



Fig. 23. *Naja annulata annulata* in Lékédi Lake, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Naja melanoleuca Hallowell, 1857

On 1 September 2016 an Anatolian Shepherd Dog killed an adult black and white cobra in Bakoumba, biting and chewing its face and throat (RBINS 18481, see Appendix 1). The dog was itself bitten on the face by the snake and quickly showed neurological and shock symptoms (hypersalivation, ataxia, tachycardia, and hyperpnea). The dog was treated with Medetomidine for anaesthesia, and three injections each of a third of a dose of FAV-Africa serum, the first one just after the bite, then 12 hours and 24 hours later. The dog recovered and was eating again 48 hours after the bite. Another cobra was photographed in Bakoumba by SM on 8 February 2018. New Dept. record (this cobra species was not listed from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2017b). The species was first recorded from Haut-Ogooué Prov. by Pauwels et al. (2007) based on an individual from Franceville. Another case of bite of a dog by this ubiquitous cobra in Gabon was mentioned by Pauwels et al. (2017b). See also above, under the account for *Dasy-peltis fasciata*, and Fig. 24.



Fig. 24. Young *Naja melanoleuca* swallowing an adult *Dasy-peltis fasciata* in Franceville, Haut-Ogooué Prov., southeastern Gabon. Photograph by N. Rahola.

***Naja nigricollis* Reinhardt, 1843**

On 15 December 2016 an adult individual was photographed during the day by E. Pendrié in a savanna in Léconi Park, Plateaux Dept. This is a new record for Léconi Park, and the third record of this savanna-dwelling cobra from Gabon (a record from Haut-Ogooué and another from Nyanga provinces had been presented by Pauwels and Vande weghe 2008; Pauwels et al. 2017d).

LAMPROPHIIDAE

***Atractaspis reticulata heterochilus* Boulenger, 1901**

The female specimen RMCA 29902 was collected in “Munana, près de Moanda” [= Mounana near Moanda, in Lébombi-Léyou Dept.] in 1969–1970 by M. Gauduin. It has a round pupil and only one pair of sublinguals. On each side the 2nd infralabial is fused with the sublingual. On both sides the temporal formula is 1+2. Additional morphological characters are provided in Appendix 1. New Prov. record. This is only the third individual of this rare species recorded with certainty from Gabon (Pauwels and Vande weghe 2008; Rödel et al. 2019).

***Boaedon olivaceus* (Duméril, 1856)**

An adult individual was photographed on 28 June 2016 by SM in Bakoumba (Fig. 25). It showed the typical uniform dark grey dorsal coloration and orange eyes with a vertical pupil, an elongate loreal, one preocular, two postoculars, eight supralabials with the 3rd to 5th in contact with the orbit, 1+2+3 temporals, and smooth dorsal scale rows with the vertebral row not enlarged. It was very aggressive when handled. New Prov. record (the species was not recorded from Haut-Ogooué Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016a, 2017b).

***Boaedon perisilvestris* Trape & Mediannikov, 2016**

A young individual was encountered by SM at night near buildings in Bakoumba on 23 March 2016 (Fig. 26). It



Fig. 25. Adult *Boaedon olivaceus* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.



Fig. 26. Young *Boaedon perisilvestris* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

was aggressive and bit when handled. It showed a vertical pupil, one preocular, in contact with the frontal, two postoculars, one loreal, eight supralabials with three (3rd–5th) in contact with the orbit, one anterior temporal, 29 smooth dorsal scale rows at midbody, the vertebral row not widened, a single anal plate, divided subcaudals, two poorly contrasted stripes on each side of the head, and a uniform blackish dorsum without light stripes. An adult female individual showing the same head scalation characteristics, but no stripes on the sides of the head (as is typical for adults, according to Trape and Mediannikov 2016) was found on 26 December 2016 inside a dried well in Lékédi Park. It was resting near the six oblong, white eggs it had just laid. The adult female RBINS 18505 (see Appendix 1) was found by SM in Lékédi Park on 18 November 2016. It contains six large eggs, the largest with a length of 32 mm and a maximum width of 12 mm; its stomach contains the remains of a micromammal. The young individual RBINS 18482 (see Appendix 1) was found in Moanda, Lébombi-Léyou Dept. on 20 November 2016 at 7h00. Its temporal formula is 1+2+3 on each side. Another individual (RBINS 18506; see Appendix 1) was found by SM in Moanda on 5 November 2016; it also shows a temporal formula of 1+2+3 on each side. The adult female RMCA 29885 (see Appendix 1) was collected in “Munana, près de Moanda” [= Mounana near Moanda, in Lébombi-Léyou Dept.] in 1969–1970

by M. Gauduin. It shows vertical pupils. New record for both Depts. and for the park. Within Gabon, this recently described species was known only from Franceville in Passa Dept. (Pauwels et al. 2017e).

***Mehelya poensis* (Smith, 1847)**

SM encountered an adult individual (RBINS 18483) on 17 April 2016 in Bakoumba. It showed two pairs of sublinguals; a strongly widened vertebral row with a double keel, and all dorsal scales keeled, without secondary keels; no white spots on dorsals (see other diagnostic characters in Appendix 1). On each side its temporal formula is 1+2, but on the left side, the anterior temporal is separated from the postocular by a slight contact between the parietal and the 5th supralabial. When handled, the snake never attempted to bite. New Prov. record (the species was not recorded from Haut-Ogooué Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016a).

***Psammophis cf. phillipsii* (Hallowell, 1844)**

On 5 July 2017 JLA found a dead-on-road adult individual on the road to Amissa Hospital, at six km from the center of Franceville, Passa Dept. Its total length was about 105 cm (including the incomplete tail). A second individual was found dead-on-road in the same locality on 13 July 2017 (Fig. 27); its total length was about 110 cm. Both showed a round pupil, two internasals, two prefrontals, eight supralabials of which the 4th and 5th in contact with orbit, one large preocular, two postoculars, an elongate loreal, two anterior temporals, 17 smooth and oblique dorsal scale rows at midbody (vertebral row not widened), divided anal and subcaudals, and an olive brown dorsum with a black spot in the posterior part of each ventral; the dorsal surface of the head is olive brown with irregular black spots. On 11 August 2017 SM found a dead-on-road individual in Moanda, Lébombi-Léyou Dept. It showed the same head scalation features as the two specimens above, and the same coloration. New Prov. record (not recorded from the Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017a).



Fig. 27. Dead-on-road adult *Psammophis cf. phillipsii* in Franceville, Haut-Ogooué Prov., southeastern Gabon. Photograph by J.-L. Albert.

NATRICIDAE

***Natriciteres olivacea* (Peters, 1854)**

An adult female (RBINS 18484, see Appendix 1 and Fig. 28) was encountered by SM at midday on 10 October 2016 in Lékédi Park. It contains four large eggs between the ventrals 93 and 127, each of a length of about 17 mm. It shows a round pupil and a temporal formula of 1+2 on each side. In life the dorsum of this individual was nearly uniformly black, and the mediodorsal band that is characteristic of this species was nearly invisible. New record for the park and new Dept. record (not recorded from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2017a). In Gabon this snake is much less common than its congener *Natriciteres fuliginoides* (Günther, 1858) which was however not found during our survey; both were evaluated as Least Concern by the IUCN.



Fig. 28. Adult female *Natriciteres olivacea* (RBINS 18484) in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

PYTHONIDAE

***Python sebae* (Gmelin, 1789)**

The record of the species from Plateaux Batéké NP by Christy et al. (2008) was based on a pers. comm. to OSGP by Gaël Vande weghe who observed an individual along Mpassa River in the NP in April 2007, and on a picture of a large adult individual shown in Pearson et al. (2007). On 15 January 2018 at 13h00 SM discovered a juvenile in Lékédi Park (Fig. 29). We examined pho-



Fig. 29. Juvenile *Python sebae* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

tographs taken on 16 July 2017 by A.N. Eyeang Mba of an adult individual of about four meters long that had been shot by a hunter the previous night in Moanda, Lébombi-Léyou Dept. New record for the park and new Dept. records (not recorded from these Depts. by Mocquard 1887; Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017e, 2018c). In spite of a heavy hunting pressure, this python is still common in Gabon, including in urban areas, and is known from twelve Gabonese protected areas (Pauwels, 2016).

TYPHLOPIDAE

Letheobia caeca (Duméril, 1856)

On 15 March 2017 at 14h00 SM found an individual in Bakoumba (RBINS 18507). It shows a uniformly pinkish color; a snout-vent length of 260 mm, a tail length of 4.7 mm, a midbody diameter of 3.8 mm, a ratio total length/midbody diameter of 69.7; 22-22-22 scale rows, all smooth; a rostral with parallel sides; a longitudinally enlarged frontal; long supranasals; and a T-0 supralabial imbrication pattern. Its eyes are invisible. New Prov. record (this fossorial species was not recorded from Haut-Ogooué Prov. by Wallach 2005; Pauwels and Vande weghe 2008). This snake is possibly widespread in the country, but rarely observed due to its subterranean habits.

VIPERIDAE

Atheris squamigera (Hallowell, 1856)

Pearson et al. (2007) presented a picture of a light green *Atheris* with well-spaced yellowish transversal rings from Plateaux Batéké NP, that they identified as a “bush viper (possibly *Atheris squamigera* or *A. chlorechis*).” On 17 September 2016 SM photographed an individual in Bakoumba (Fig. 30). New Dept. record (this arboreal viper species was not recorded from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017d,e).



Fig. 30. *Atheris squamigera* in Bakoumba, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Bitis arietans (Merrem, 1820)

An individual was photographed by A. Willaume on 22 March 2015 at 12h33 in a savanna in Lékédi Park.

It showed the typical dorsal chevron pattern, the beige interorbital band and two beige spots on the back of the dorsal surface of the head. The weather was sunny and the viper was aggressive when approached. New record for the park and for the Dept. This savanna-dwelling viper is known in Gabon only from a handful of localities in Haut-Ogooué and Nyanga provinces (Pauwels et al. 2012, 2017d, 2018a,b).

Bitis gabonica (Duméril, Bibron & Duméril, 1854)

Pearson et al. (2007) mentioned *Bitis gabonica* from Plateaux Batéké NP, but they did not provide a photo nor the reference to a voucher specimen. The species was confirmed from Haut-Ogooué Prov. by Pauwels and Sallé (2009) based on an individual from Franceville in Passa Dept. On 22 April 2016 SM photographed a young individual in Lékédi Park (Fig. 31). The snake was found at 11h15 in a forest within a large enclosure where a group of habituated mandrills (*Cercopithecidae: Mandrillus sphinx*) lives in semi-freedom (Brockmeyer et al. 2015), and was signalled by their alert calls. New record for the park and for the Dept.



Fig. 31. Young *Bitis gabonica* in Lékédi Park, Haut-Ogooué Prov., southeastern Gabon. Photograph by S. Morelle.

Bitis nasicornis (Shaw, 1802)

An adult individual collected a few years ago in Lékédi Park is kept in the park’s vivarium. Another adult individual of this common viper was encountered by SM in the park at midday on 30 April 2016; its head was preserved (RBINS 18485; see Appendix 1) and shows 18/19 circumocular scales (the uppermost the largest); 14 scales separate the orbits. The juvenile RBINS 18508 was found by SM crossing a road in Bakoumba on 11 October 2016 at 9h30. It shows well-developed nasal horns; 18/18 circumocular scales; its umbilical scar extends from its ventrals 111 to 114 included; 15 scales separate its orbits (see also Appendix 1). New Dept. record and new record for the park (this viper species was not listed from the Dept. by Christy et al. 2008; Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017d).

***Causus lichtensteinii* (Jan, 1859)**

On 19 June 2017 at 11h00 SM encountered a dead-on-road individual in a forest road in Lékédi Park (RBINS 18486; see Appendix 1). Its pupil is round. The dorsal surface of the head is grey. The dorsum is dark olive green with regularly-spaced black chevrons. New record for the park and for the Prov. (the species was not recorded from the Prov. by Pauwels and Vande weghe 2008; Pauwels et al. 2016b, 2017b). The distribution and ecology of this forest-dwelling viper in Gabon are still poorly documented.

***Causus maculatus* (Hallowell, 1842)**

In 2017 an adult individual was photographed by R. Pacta in Moanda, Lébombi-Léyou Dept. (Fig. 32). New Dept. record (the species was not recorded from the Dept. by Pauwels and Vande weghe 2008; Pauwels et al. 2017b, 2018c). In his unpublished Masters' thesis on *Causus*, de Massary (1993) listed two specimens (MNHN 1886.233–234) from “Franceville, Gabon”, and three more (MNHN 1980.1100–1102) from “Mounana, 80 km de Francev. [= Franceville], Gabon,” thus in Lébombi-Léyou Dept. This savanna-dwelling viper seems relatively localized in Gabon.



Fig. 32. Adult *Causus maculatus* in Moanda, Haut-Ogooué Prov., southeastern Gabon. Photograph by R. Pacta.

Discussion

The first reptile records for Plateaux Batéké NP, the only national park in Haut-Ogooué Prov., were made by Pearson et al. in 2007. Its herpetofauna has never been systematically surveyed, but a compilation of opportunistic observations allowed Pauwels (2016) to provide a preliminary list of 11 species, obviously extremely incomplete. Not a single herpetological record currently exists for the only Ramsar Site in the Prov., the Rapides de Mboundou Badouma et de Doumé site (Pauwels 2016). In this context, records from sites such as the Lékédi safari park, where the savanna-forest mosaic is well represented (Peignot et al. 2008; Brockmeyer et al. 2015) and benefits from a certain level of protection, are important both for the conservation of these species and for

the development of local ecotourism. Zoogeographically, Lékédi Park and its surroundings belong to the Chaillu Massif (Massif du Chaillu), and our new records from the park, Bakoumba and Lémanassa add to the already rich herpetofaunal list gathered for the massif (Pauwels et al. 2002, 2008, 2016a,b, 2017b,d; Carlino and Pauwels 2014; Dewynter et al. 2018).

The total number of reptile species currently known from Lékédi Park is 33. This is obviously an incomplete list, as it is the case for all protected areas of Gabon, but for comparison this is much more than the current totals respectively known for the Arboretum Raponda Walker (18 species), Akanda NP (16), Plateaux Batéké NP (16), Mayumba NP (16), Minkébé NP (17), Pongara NP (25), Mwagna NP (1), Waka NP (2), or Wonga-Wongué Presidential Reserve (26) (Pauwels 2016; Pauwels et al. 2017a,b,c,d, 2018b). Seven of the 28 new species records for Lékédi Park also represent new provincial records. The discovery in Lékédi Park of a new population of *Mecistops cataphractus* is of particular importance for the conservation of this crocodile, evaluated as Critically Endangered by the IUCN (Shirley 2014). It is to be noted that another lake, Missombo Lake (Lac Missombo), exists in Lékédi Park, which has never been herpetologically surveyed, and seems to be ecologically appropriate to house a population of *M. cataphractus*. Searches for crocodiles in the lake will likely also reveal the presence of more aquatic species such as trionychids (*Cycloderma aubryi* and *Trionyx triunguis*), more pelomedusids (*Pelusios* spp.) and water snakes of the genus *Hydraethiops*. Our finding of *Osteolaemus tetraspis* in Lékédi Park is also good news for the conservation of this small crocodile species evaluated as Vulnerable by the IUCN. The first records for Haut-Ogooué Prov. of three venomous snakes (*Atractaspis reticulata heterochilus*, *Causus lichtensteinii*, and *Psammophis* cf. *phillipsii*) are of medical importance. Including our new data, all six viperid species currently known from Gabon are presently recorded from Haut-Ogooué Prov. in addition to, for instance, all three *Naja* species. Although not yet documented, Goldie's Tree Cobra *Pseudohaje goldii* and more burrowing asps of the genus *Atractaspis* are most certainly present in Haut-Ogooué Prov., based on their respective global distributions.

With the recent additions -or confirmations of occurrence- of the gekkonids *Hemidactylus echinus* by Carlino and Pauwels (2015) and *Lygodactylus conraui* by Pauwels et al. (2016a), the lacertid *Ichnotropis bivittata* by Ineich and Le Garff (2015), the colubrid *Thrasops jacksonii* by Carlino and Pauwels (2013), the lamprophiid *Polemon gracilis* by Pauwels et al. (2018c), and the present confirmation of *Philothamnus hughesi*, the reptile fauna of Gabon is now known to include 130 documented species (the record of *Natriciteres variegata* by Hughes in 2017 proved to be based on a misidentified specimen of *N. fuliginoides*, see Pauwels et al. 2017c; the record of *Trachylepis makolowodei* by Gvoždik et al.

in 2018 was based on a misidentified *T. albilabris*, see Pauwels et al. 2018a). This number should still increase with further field research, especially along the borders with Cameroon and the Republic of the Congo.

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New reptile records from southeastern Gabon

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Olivier S.G. Pauwels, born in 1971 in Belgium and graduated in Zoology from the Free University of Brussels (ULB). After having managed environmental programs for a dozen years in Gabon, then for several years in Kazakhstan, he became the permanent curator of the recent vertebrate collections of the Royal Belgian Institute of Natural Sciences. A conservationist and taxonomist, Olivier co-authored about 300 papers and books on the biodiversity of the Old World, and co-described about 100 new taxa from tropical Africa and Asia, mostly reptiles, but also amphibians and some insects.



Stephan Morelle, born in 1989 in Germany, graduated as a doctor in veterinary medicine from the University of Liège in Belgium. Interested in wildlife medicine, he followed courses on chemical and physical restraint of wild animals in Zimbabwe. He worked for two years as a veterinarian in a great apes sanctuary in Gabon, and took the opportunity to be based in Gabon to photograph all reptiles and amphibians he encountered. Stephan is currently working in France in a clinic for small animals.



Jean-Louis Albert was born in France in 1951. Since a young age he has had a strong interest in Nature, especially entomology. He has worked as a biomedical and technical manager in the tropics since 1973. He spent seven years in Gabon in the 70's, then three years in Guatemala, 13 years in Congo Brazzaville, and eventually came back in 1995 to Gabon where he is still based, in Haut-Ogooue Province. He spends all his free time in Gabon exploring all provinces of the country and photographing and documenting its fauna and flora, with an emphasis on butterflies, reptiles, and birds (see <http://www.jeanlou.fr/>).



Piero Carlino was born in 1978 in Italy. He is currently curator of the herpetology department of the Natural History Museum of Salento, and is involved in various projects on biodiversity conservation. His studies focus mainly on the systematics, taxonomy, biogeography, and ecology of the Palaearctic and Afrotropical herpetofaunas. He organizes and participates in numerous expeditions in Europe, the Middle East, and tropical Africa to evaluate the conservation status of various animal species, and is the manager of the Salento sea turtles rescue center.



Nil Rahola, born in 1983 in France, was passionate about entomology from his earliest age. In 2008 he began work at the IRD (Research Institute for Development in Montpellier, France). He made his first field trips to Gabon in 2010 and lived there from 2012 to 2018. He is a medical entomologist interested in taxonomy and systematics of arthropods of medical and veterinary importance, with emphasis on mosquitoes and sand flies. He has discovered and described several new species and is a herpetology and nature photography enthusiast.



Jean-François Trape is a French medical doctor, biologist, and herpetologist with lengthy experience in Africa, where he was born in 1949. Since 1980 he has worked continuously in Central and West Africa for the Institut de Recherche pour le Développement (IRD, formerly ORSTOM), a French public institution for research in Southern countries. Jean-François has authored or co-authored over 300 peer-reviewed papers and books on tropical medicine and herpetology, including the books “Guide des serpents d’Afrique occidentale. Savane et desert” (2006) and “Lézards, crocodiles et tortues d’Afrique occidentale et du Sahara” (2012), and has described 35 reptile and five tick species. Jean-François is also a malaria expert for the World Health Organization, where he has served in several steering committees. In 2010 he received the first IRD prize for research, and in 2013 the Lucien Tartois prize from the French Foundation for Medical Research.

Appendix 1. Diagnostic morphometric and meristic data for snake vouchers. Abbreviations: A = anal plate; AT = anterior temporal(s); D = divided; DSR = number of dorsal scale rows; F = female; IL = number of infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; Juv = juvenile; K = keeled; Lor = number of loreal scales; M = male; NA = not applicable or not available; PoO = number of postoculars; PreO = number of preoculars; PV = number of preoculars; PV = number of preoculars; PV = number of preoculars; SVL = snout-vent length; TaL = tail length; U = unkeeled; VEN = number of ventral scales, followed in brackets by the supralabial(s) in contact with the orbit; SubO = number of suboculars; SVL = snout-vent length; TaL = tail length; U = unkeeled; VEN = number of ventral scales.

Species & collection number	Sex	SVL (mm)	TaL (mm)	DSR	PV+VEN	A	SC	SL	IL	Lor	PreO	SubO	PoO	AT
Colubridae														
<i>Crotaphopeltis hotamboeia</i>														
RBINS 18475	M	548	85	17-19-13*	1+171, U	S	2 S + 39 D, U	8(3-5)/8(3-5)	9(5)/9(5)	1/1	1/1	0/0	2/2	1/1
RBINS 18476	F	483	68	17-19-15*	2+174, U	S	37, D, U	8(3-5)/8(4-5)	10(4)/10(5)	1/1	1/1	0/0	2/2	1/1
<i>Dasyptis fasciata</i>														
RBINS 18477	F	693	126	21-18-17, K	0+235, U	S	69, D, U	7(3-4)/7(3-4)	7(3)/7(4)	0/0	2/2	0/0	2/2	2/2
RMCA 29891		669	135	24-21-18, K	2+240, U	S	73, D	7(3-4)/7(3-4)	8(3)/8(3)	0/0	1/1	0/0	2/2	3/3
<i>Philothamnus carinatus</i>														
RBINS 18503	NA	410	157	13-13-11, K	2+NA, K	S	83, D, K	9(4-6)/9(4-6)	9(5)/9(5)	1/1	1/1	0/0	2/2	2/2
<i>Philothamnus hughesi</i>														
RBINS 18478	F	559	270	15-15-11, U	1+156, U	D	104, D	8(4-5)/8(4-5)	10(5)/10(5)	1/1	1/1	0/0	2/2	1/1
<i>Rhamnophis a. Aethiopissa</i>														
RBINS 18504	F	693	392	17-17-13, U	1+170, K	D	144, D, K	7(4-5)/7(4-5)	9(5)/9(5)	1/1	1/1	0/0	2/2	1/1
<i>Thrasops flavigularis</i>														
RBINS 18479	M	1240	516	14-13-11, K	2+208, K	D	146, D	8(4-5)/8(4-5)	9(4)/9(4)	1/1	2/2	0/0	3/3	1/1
<i>Toxicodryas pulverulenta</i>														
RMCA 29892	M	754	235	19-19-15, U	1+253	S	124, D	8(3-5)/8(3-5)	12(5)/12(5)	?	?	0/0	2/2	2/2
RMCA 29893	F	790	237	19-19-15, U	?	S	113, D	8(3-5)/8(3-5)	11(5)/11(4)	1/1	1/1	0/0	2/2	2/2
Elapidae														
<i>Dendroaspis j. jamesoni</i>														
RBINS 18480	NA	NA	NA	NA	1 +?	NA	>100, D	8(4)/9(4)**	9(4)/9(4)	0/0	3/3	0/0	4/4	1/1
<i>Naja melanoleuca</i>														
RBINS 18481	F	>946	216	?-19-13, U	?+>178, U	S	63, D, U	NA	NA	NA	NA	NA	NA	NA
Lamprophiidae														
<i>Atractaspis reticulata heterochilus</i>														
RMCA 29902	F	389	19	19-23-19, U	4+318, U	D	20, D	5(3-4)/5(3-4)	5/5	0/0	1/1	0/0	1/1	1/1

Appendix 1 (Continued). Diagnostic morphometric and meristic data for snake vouchers. Abbreviations: A = anal plate; AT = anterior temporal(s); D = divided; DSR = number of dorsal scale rows; F = female; IL = number of infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; Juv = juvenile; K = keeled; Lor = number of loreal scales; M = male; NA = not applicable or not available; PoO = number of postoculars; PreO = number of preoculars; PV = number of preoculars; PV = number of preoculars; PV+VEN = number of preoculars and ventral scales; SC = number of subcaudals; SL = number of supralabials, followed in brackets by the supralabial(s) in contact with the orbit; SubO = number of suboculars; SVL = snout-vent length; TaL = tail length; U = unkeeled; VEN = number of ventral scales.

Species & collection number	Sex	SVL (mm)	TaL (mm)	DSR	PV+VEN	A	SC	SL	IL	Lor	PreO	SubO	PoO	AT
<i>Boaedon perisivestris</i>														
RBINS 18482	M	371	77	23-29-21, U	2+207, U	S	63, D, U	8(3-5)/8(3-5)	9(4)/9(4)	1/1	2/2	0/0	2/2	1/1
RBINS 18505	F	681	111	28-29-21, U	3+225, U	S	50, D	8(3-5)/8(3-5)	9(4)/9(4)	1/1	2/2	0/0	2/2	1/1
RBINS 18506	F	790	120	24-31-21, U	1+227, U	S	55, D	8(3-5)/8(3-5)	8(3)/8(3)	1/1	2/2	0/0	2/2	1/1
RMCA 29885	F	786	116	27-31-21, U	3+225, U	S	55, D	8(4-5)/8(4-5)	8(3)/8(3)	1/1	1/1	0/0	1/1	1/1
<i>Mehelya poensis</i>														
RBINS 18483	F	777	190	17-15-15, K	2+258, K	S	96, D, K	7(3-4)/7(3-4)	8(5)/8(5)	1/1	1/1	0/0	1/2	1/1
Natricidae														
<i>Natriciteres olivacea</i>														
RBINS 18484	F	290	114	19-19-17, U	2+135, U	D	70, D, U	8(4-5)/8(4-5)	10(5)/10(5)	1/1	1/1	0/0	3/3	1/1
Viperidae														
<i>Bitis nasicornis</i>														
RBINS 18485	NA	NA	NA	NA	3+?	NA	NA	18(0)/18(0)	19(5)/18(5)	NA	NA	NA	NA	NA
RBINS 18508	Juv	216	25	31-32-24, K	2+125, U	S	27, D, U	17(0)/18(0)	18(5)/19(4)	NA	NA	NA	NA	NA
<i>Causus lichtensteini</i>														
RBINS 18486	F	430	40	15-15-11*	2+142, U	S	18, S, U	6(0)/6(0)	9(4)/9(4)	1/1	3/3	2/1	2/NA	2/2

*Most dorsals are unkeeled, only the posterior ones are very slightly keeled.

**On the right, the 8th SL is horizontally divided.