

## Miscellanea Herpetologica Gabonica X

Olivier S. G. Pauwels<sup>1</sup>, Jean-Louis Albert<sup>2</sup>, Heather Arrowood<sup>3</sup>, Cyrille Mvele<sup>3</sup>, Morgane Casanova<sup>4</sup>, Jean-Baptiste Dodane<sup>5</sup>, James Morgan<sup>6</sup>, Lyse Primault<sup>7</sup>, Laure Thepenier<sup>8</sup> and Jack N. Fenner<sup>9</sup>

### Abstract

We present new Gabonese locality records, ecological data or unpublished museum material for *Kinixys erosa* (Testudinidae), *Cycloderma aubryi*, *Trionyx triunguis* (Trionychidae), *Agama picticauda* (Agamidae), *Chamaeleo dilepis* (Chamaeleonidae), *Calabaria reinhardtii* (Boidae), *Grayia ornata*, *Thrasops jacksonii*, *Toxicodryas blandingii* (Colubridae), *Naja a. annulata* and *N. melanoleuca* (Elapidae), *Psammophis cf. phillipsii* (Lamprophiidae), *Natriciteres fuliginoides* and *N. olivacea* (Natricidae). We refer all Gabonese records of *Gonionotophis capensis* to *G. savognnani* (Lamprophiidae). We provide the first report on Albert Schweitzer's snake collection at Lambaréné Hospital Museum, part of the oldest natural history collection settled in Gabon. We add one new snake species record to Woleu-Ntem Province and one reptile species each to Minkébé and Pongara national parks.

### Keywords

Biodiversity, herpetofauna, herpetology, Testudines, Squamata, conservation, Gabon, Equatorial Africa, Albert Schweitzer, kyphosis.

### Introduction

The book *Reptiles du Gabon* [Reptiles of Gabon] by Pauwels and Vande weghe (2008) provided an update on knowledge of the reptiles of the country, and stressed that much remained to be learned about the distribution, ecology and conservation status of most species. The series *Miscellanea Herpetologica Gabonica* was initiated in 2008 precisely to fill these gaps progressively, and to keep track of the literature bringing taxonomic changes and other new information for Gabon reptiles. The new observations presented here were opportunistically made during field work for the conservation NGOs *Organisation Ecotouristique du Lac Oguemoué* (OELO) and World Wildlife Fund (WWF) Gabon, or during recreational tourist activities. The observations made by JM took place during a photographic documentary on the work of anti-poaching patrols in northeastern Gabon (see <https://jamesmorgan.co.uk/photo/gabon/>). Those by JBD were done in the course of a bicycle journey from Switzerland to South Africa through 24 countries (see <https://freewheely.com/>).

### Material and Methods

New photographic material was identified using the keys and morphological information provided by Pauwels and Vande weghe (2008). Abbreviations: Dept = Department; NP = National Park; Prov. = Province.

### Results

Testudines

Testudinidae

*Kinixys erosa* (Schweigger, 1812)

On 9 August 2012, one of us (LP) observed two adult individuals *in copula* in a forest 1.5 km E of Camp Beti Castorène, Nyonié, Komo-Océan Dept, Estuaire Prov. (Figure 1). New locality record (Pauwels and Vande weghe, 2008; Pauwels, Chirio et al., 2017). It is known that nesting occurs throughout the year in Gabon but dated observations of mating in the wild are rare (Maran, 2006; Maran and Pauwels, 2005).



Figure 1. *Kinixys erosa* mating in Nyonié, Estuaire Prov., northwestern Gabon. Photograph by L. Primault.

1. Département des Vertébrés Récents, Institut Royal des Sciences naturelles de Belgique, Rue Vautier 29, B-1000 Brussels, Belgium.

osgpauwels@yahoo.fr; corresponding author

2. BP 5423, Libreville, Gabon. jlalbert@mac.com

3. Organisation Ecotouristique du Lac Oguemoué (OELO), BP 3292, Libreville, Gabon. harrowood@yahoo.fr

4. Pongara Lodge, Gabon. pongaralodge@outlook.fr

5. jb@freewheely.com

6. james@jamesmorgan.co.uk

7. lyse.primault@gmail.com

8. laure\_thep@yahoo.fr

9. College of Asia and the Pacific, The Australian National University, 9 Fellows Road, Acton, ACT 2601, Australia. jack.fenner@anu.edu.au



**Figure 2.** Live adult *Cycloderma aubryi* on the beach in Nyonié, Estuaire Prov., western Gabon. Photograph by L. Thepenier.

#### Trionychidae

##### *Cycloderma aubryi* (Duméril, 1856)

In December 2012, one of us (LT) photographed an adult individual near Camp Beti Castorène, Nyonié, Komo-Océan Dept, Estuaire Prov. (Figure 2). The turtle was found on its back, on the beach, exhausted by the waves. It probably reached the sea accidentally through the mouth of a nearby small river. It was caught and released in the river. New locality record (Maran and Pauwels, 2005). The other trionychid known from Gabon, *Trionyx triunguis*, was only recently recorded for the first time from Nyonié (Pauwels, Biyogho Bi Essono II et al., 2017).

##### *Trionyx triunguis* (Forskål, 1775)

A hunchback individual was caught by a fisherman as by-catch in a gill net in Ondimba (1°08'09.8"S, 10°00'38.6"E) on Oguemoué Lake, Ogooué & Lacs Dept, Moyen-Ogooué Prov. (Figure 3). The turtle, photographed on 22 June 2013 by one of us (HA), had then already been kept for several months by the fisherman in a barrel due to its deformity. Because of its kyphosis, it was believed by its owner to be a *génie* (a magical spirit) and to bring him good luck. He was however hoping to sell it. This turtle species was already known from Oguemoué Lake (Maran and Pauwels, 2005).

#### Squamata

##### Agamidae

##### *Agama picticauda* Peters, 1877

On 24 Dec. 2011 one of us (LP) photographed an adult pregnant female eating a ripe fruit of the tropical almond, *Terminalia catappa* Linnaeus (Combretaceae), on the *Boulevard de l'Indépendance* [Independence Boulevard] along the beach in Libreville, Estuaire Prov. (Figure 4). This exotic tree is invasive



**Figure 4.** Adult female *Agama picticauda* eating a tropical almond in Libreville, Estuaire Prov., western Gabon. Photograph by L. Primault.



**Figure 3.** Live hunchback *Trionyx triunguis* caught in Oguemoué Lake, Moyen-Ogooué Prov., western Gabon. Photograph by H. Arrowood.

and is spreading along the beaches of northwestern Gabon (Pauwels and Vandeweghe, 2005). The anthropophilic and omnivorous *Agama picticauda* is known to eat fruits, and was for instance observed to eat ripe papayas, *Carica papaya* Linnaeus (Caricaceae), in Libreville (Pauwels and Vandeweghe, 2005; Pauwels and David, 2008), but there are few documented records of fruit consumption by this lizard species.

#### Chamaeleonidae

##### *Chamaeleo dilepis* Leach, 1819

In December 2012, one of us (MC) photographed an adult individual found along the restaurant of Pongara Lodge, Pongara NP, Komo-Océan Dept, Estuaire Prov. (Figure 5). We (MC and OSGP) examined the photograph of another adult individual found the same month in the same locality. First record for the NP (Pauwels, 2016).

#### Boidae

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

See below under *Toxicodryas blandingii*.

#### Colubridae

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

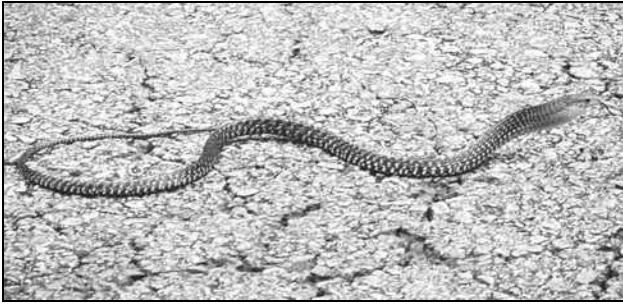
See under *Toxicodryas blandingii*.

##### *Thrasops jacksonii* Günther, 1895

On 15 December 2013 at 10:56 A.M. one of us (JBD) photographed an individual while cycling on the N2 road (1°16'38.6"N, 11°41'16.2"E) between Oyem and Mitzic, near Nkomelen, Woleu Dept, Woleu-Ntem Prov. The snake, found crossing a blacktop road through a dense secondary forest, showed a greenish head and a body barred with yellow and black, typical of the young of



**Figure 5.** Live adult *Chamaeleo dilepis* in Pongara NP, Estuaire Prov., western Gabon. Photograph by M. Casanova.



**Figure 6.** Young *Thrasops jacksonii* crossing a road between Oyem and Mitzic, Woleu-Ntem Prov., northern Gabon. Photograph by J.-B. Dodane.

this species (Figure 6). New prov. record and second record for Gabon. This species was only recently confirmed from Gabon, and was previously known only from a single young individual from Ivindo NP (Carlino and Pauwels, 2013).

*Toxicodryas blandingii* (Hallowell, 1844)

The buildings along the Ogooué River in Lambaréné where the Alsatian medical doctor and theologian Albert Schweitzer (1875–1965) and his team practiced have been preserved and constitute today the Schweitzer Hospital Museum (*Ancien Hôpital Schweitzer*). In July 2001 one of us (OSGP) examined Schweitzer's small natural history collection housed in the museum. Among others, it contained three whole snake specimens, from which precise scale counts and measurements could not be recorded, since they are kept in formalin in old sealed jars. They could however be identified with certainty thanks to their characteristic color patterns and the scalation characters visible through the glass: one adult *Calabaria reinhardtii*, one juvenile *Toxicodryas blandingii* and one adult *Grayia ornata*. These well preserved specimens were unfortunately without locality labels. We could find no mention of these particular specimens in Schweitzer's publications, in spite of numerous references to snakes in the hospital compounds and surroundings (Schweitzer, 1950). It is however most probable that these specimens were collected in the direct surroundings of the hospital. These three snake species are indeed well known and common in Lambaréné (Mocquard, 1897a-b; Boulenger, 1909). These jars were re-examined by another of us (HA) in May 2017, and the specimens' condition has much degraded within a dozen years, due to desiccation and exposure to light (Figure 7). Although modest,



**Figure 8.** Dead adult *Toxicodryas blandingii* in Tsam Tsam, Moyen-Ogooué Prov., western Gabon. Photograph by C. Mvele.



**Figure 7.** Natural history collection of Dr Albert Schweitzer in his historical hospital in Lambaréné, Moyen-Ogooué Prov., western Gabon. Photograph by H. Arrowood. The first jar on the left contains a juvenile *Toxicodryas blandingii*, the second an adult *Grayia ornata* and the fourth an adult *Calabaria reinhardtii*.

this natural history collection has a certain historical value, as, besides having been gathered by Dr. Schweitzer, it includes the oldest herpetological collection housed in Gabon.

On 11 Oct. 2014 one of us (CM) photographed a dead adult *T. blandingii*, which had been killed by villagers, in Tsam Tsam Village (1°06'54.5"S, 10°01'18.0"E), Ogooué & Lacs Dept, Moyen-Ogooué Prov. (Figure 8). New locality record (Pauwels and Vande weghe, 2008). Dewynter et al. (2017) illustrated two adult individuals from Tsamba-Magotsi Dept, Ngounié Prov. One was caught in *Grotte Dimany* [Dimany Cave], confirming that caves are commonly used by this snake in Gabon (Pauwels and Vande weghe, 2008; Pauwels, Carlino et al., 2016). To date, only two snake species have been recorded from caves in Gabon, *Toxicodryas blandingii* and *Bitis gabonica* (Duméril, Bibron & Duméril, 1854) (Pauwels, Carlino et al., 2017).

Elapidae

*Naja annulata annulata* Buchholz & Peters in Peters, 1876

In June 2012 one of us (JM) photographed an adult individual killed by villagers in a river in the buffer zone of the southeastern part of Minkébé NP. Several photos of the snake were taken, showing 23 smooth dorsal scale rows at midbody, the vertebral one not enlarged. As is typical for the species, the banded dorsal pattern is very contrasted throughout the body and tail, with the black rings fully encircling the body. The beheaded snake was skinned, eviscerated and cooked on a fire to be eaten (Figure 9). First record for the park (Pauwels, 2016).



**Figure 9.** Adult *Naja a. annulata* killed for food consumption in the buffer zone of Minkébé NP, northern Gabon. Photograph by J. Morgan.



**Figure 10.** Adult *Naja a. annulata* accidentally crushed and killed by a pirogue at the Tsam Tsam ecotourism site, Moyen-Ogooué Prov. Photograph by H. Arrowood.

On 16 July 2016 one of us (HA) photographed an adult individual accidentally crushed and killed when a dugout pirogue was pulled up onto the sand at the Tsam Tsam ecotourism site near Platform Palmiste (1°06'27.0"S, 10°01'38.1"E), Ogooué & Lacs Dept, Moyen-Ogooué Prov. (Figure 10). New locality record (Pauwels and Lavoué, 2004; Pauwels and Vandeweghe, 2008). It is the first time this peculiar cause of death is documented for a snake in Gabon.

*Naja melanoleuca* Hallowell, 1857

On 14 November 2013 one of us (HA) photographed an adult individual in the Tsam Tsam ecotourism site (1°06'27.0"S, 10°01'38.2"E), at the southern tip of Oguemoué Lake, Ogooué & Lacs Dept, Moyen-Ogooué Prov. Its opaque eyes indicate a pre-shedding condition, and the individual seemed skinny and in poor health (Figure 11). It did not move for at least a day, and appeared quite unconcerned about human activities in close proximity for a platform construction. New locality record and southernmost record within Moyen-Ogooué Prov. (Pauwels and Vandeweghe, 2008; Pauwels, 2017).

Lamprophiidae

*Psammodphis cf. phillipsii* (Hallowell, 1844)

On 12 August 2012 one of us (LP) photographed an adult individual between the beach and a bungalow in a tourist camp in Nyonié (Camp Beti Castorène), Komo-Océan Dept, Estuaire Prov. It raised its neck above the ground (Figure 12), noticed that there were people around, and slowly retreated into a large grass tuft. According to LP's observations, the species is locally common. New locality record (Pauwels and Vandeweghe, 2008; Pauwels, Le Garff et al., 2016).



**Figure 12.** Adult *Psammodphis cf. phillipsii* in Nyonié, Estuaire Prov., northwestern Gabon. Photograph by L. Primault.



**Figure 11.** Adult *Naja melanoleuca* near Oguemoué Lake, Moyen-Ogooué Prov., western Gabon. Photograph by H. Arrowood.

Natricidae

*Natriciteres fuliginoides* (Günther, 1858)

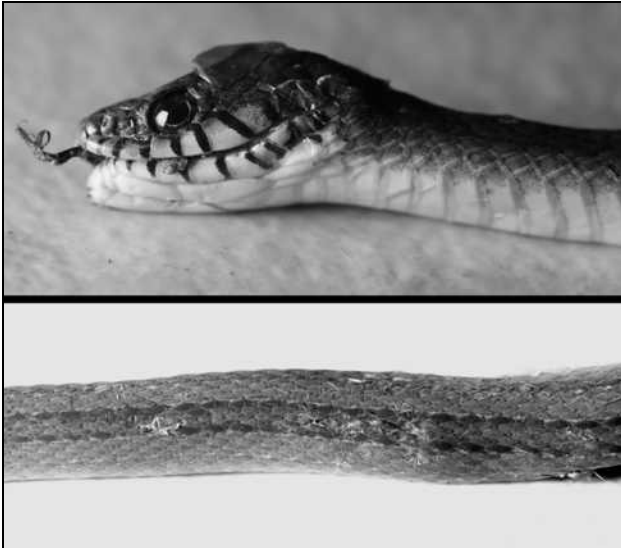
CM photographed on 17 June 2013 an adult individual that had been killed and decapitated by villagers in Tsam Tsam Village (1°06'54.5"S, 10°01'18.0"E), Ogooué & Lacs Dept, Moyen-Ogooué Prov. Although the head and fore body were missing, the photographs clearly show a combination of characters that is unique to this species: brown dorsum with two paravertebral lines of small white vertical stripes separated from each other by two or three dorsals, a white belly with the posterior border of each ventral and subcaudal black, 17 rows of smooth dorsal scales with the vertebral row not enlarged, a single anal and divided subcaudals. Like a large proportion of individuals of this species, it shows a broken and healed tail, with in its case only 11 subcaudals. New locality record (Pauwels and Vandeweghe, 2008).

*Natriciteres olivacea* (Peters, 1854)

On 13 June 2017 one of us (JLA) encountered a dead subadult individual on a road along a small stream in a savanna area near SOCOBA crushing station in Franceville, Passa Dept, Haut-Ogooué Prov. The snake had been killed by villagers with a machete. Several photographs were taken (Figure 13), showing a round pupil, two internasals, two prefrontals, one loreal, one preocular, three postoculars, one anterior temporal, eight supralabials whose 4th and 5th border the orbit, ten infralabials whose first five are in contact with the anterior pair of sublinguals, 19 smooth dorsal scale rows with a vertebral row not enlarged, unkeeled ventrals, an olive brown dorsum with a wide dark brown stripe on the five dorsalmost rows edged on each side by a beige line, and a discontinuous line of beige dots on the 4th dorsal scale row. There is only one published record of this species in Haut-Ogooué Prov., from "Passa River region, affluent of Ogooué River" (Loveridge, 1958:37), most probably also within Passa Dept. Franceville is thus the first precise locality known for the species in the province. This species is rarely encountered in Gabon, unlike *Natriciteres fuliginoides*, which is one of the most commonly observed snakes in the country and is also known from Franceville (Loveridge, 1958:48; Pauwels and Vandeweghe, 2008).

Discussion

Pauwels and Vandeweghe (2008) regarded *Gonionotophis capensis* (Smith, 1847) and *G. savognani* (Mocquard, 1877) as



**Figure 13.** Subadult *Natriciteres olivacea* found dead on road in Franceville, Haut-Ogooué Prov., southeastern Gabon. Top: head. Bottom: dorsal midbody view, showing the characteristic striped color pattern. Photographs by J.-L. Albert.

synonyms pending the availability and analysis of further material. In their revision, Lanza and Broadley (2014) showed that the subtle characters separating these two species, i.e., mainly a white vertebral row in *G. capensis* absent in *G. savorgnani*, and a generally higher number of ventrals in *M. savorgnani* (211-241 vs. 193-224) were stable. An additional adult specimen from Tsamba-Magotsi Dpt, Ngounié Prov., examined and illustrated by Dewynter et al. (2017), showing 224 ventrals and a uniformly blackish dorsum, including the vertebral row, is referable to *M. savorgnani*. We consequently refer all records placed under *Mehelya capensis* by Pauwels and Vande weghe (2008) and Pauwels (2016) to *Gonionotophis savorgnani*. The latter species is thus currently recorded in Gabon from Haut-Ogooué, Ngounié and Ogooué-Maritime provinces.

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Recent herpetological developments in Gabon include a project put in place in Lambaréné by Arrowood and Mvele (2017) aimed at eliminating local consumption of *Mecistops*; this is the first non-chelonian reptile conservation program in Gabon. It is to be noted that the cover of the 35 (2) (April-June 2016) volume of the Crocodile Specialist Group Newsletter shows a color photograph taken by Matthew Shirley, with the following caption: "Central African slender-snouted crocodile (*Mecistops* sp. nov. cf. *cataphractus*) basking on the Bongo River, Moukalaba-Doudou National Park, Gabon." The possibility that the Central African population of *Mecistops* represents a species distinct from the West African populations reinforces the importance of the conservation program in Gabon. It is also to be noted that Giuseppe Lolli (2017) successfully defended a Masters Degree thesis at Salento University in southern Italy on the current status of knowledge of the herpetofauna of Gabon's protected areas.

Boundenga et al. (in press) sampled reptiles sold as bushmeat in several provinces in Gabon to detect the presence of haemosporidian parasites. Among the five species sampled (*Pelusios castaneus*, *Kinixys erosa*, *Osteolaemus tetraspis*, *Varanus* "sp.," *Naja melanoleuca*, *Python sebae*), only the turtles revealed parasites (*Haemocystidium* sp.). This study follows another one on haemosporidian parasites in Gabonese reptiles by Boundenga et al. (2016), for which we have published additional locality information (Pauwels, Le Garff et al., 2016).

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