Miscellanea Herpetologica Gabonica VIII

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Abstract
We present new Gabonese locality records for Kinixys eosa (Testudinidae), Mecistops cataphractus, Osteolaemus tetraspis (Crocodylidae), Hemidactylus fasciatus (Gekkonidae), Feylinia grandissquama (Scincidae), Varanus ornatus (Varanidae), Calabaria reinhardtii (Boidae), Hapsidophrys smaragdinus, Rhamnophis aethiopissa aethiopissa and Toxicodryas pulverulenta (Colubridae), Dendroaspis jamesoni jamesoni (Elapidae), Python sebae (Pythonidae) and Atheris squamigera (Viperidae). We refer all Gabonese records of Boaedon fuliginosus and B. lineatus to B. perisilvestris and B. littoralis, respectively. We report predation cases of Python sebae on cattle (Cetartiodactyla: Bovidae: Bos taurus, N’dama breed). We illustrate the resemblance of the defensive display of a caterpillar of Papilio demodocus (Lepidoptera: Papilionidae) to three green arboreal colubrids found in Gabon. We add one species each to Estuaire, Moyen-Ogooué, Nyanga, Ogooué-Lolo and Woleu-Ntem Provinces’ reptile lists.

Keywords
Biodiversity, herpetofauna, herpetology, Testudines, Crocodylia, Squamata, protected areas, conservation, Gabon, Equatorial Africa, defensive display, mimicry.

Introduction
The series Miscellanea Herpetologica Gabonica is a forum created in order to gather and present various new data on the zoogeography and the natural history of the reptiles of Gabon (see Pauwels, Carlino et al., 2016; Pauwels, Le Garff et al., 2016). The present volume includes data collected during field work performed by the teams of the Max Planck Institute for Evolutionary Anthropology and the forestry company Precious Woods Gabon. A record in Mabounié was made in the frame of environmental surveys for a project by Maboumine company to exploit a polymetallic deposit, and the Bendé Islet records were made during environmental monitoring for Shell Gabon. New records by NT in Ogooué-Lolo Province were made in the frame of botanical surveys organized by the Missouri Botanical Garden to list the endangered plant species of Gabon.

Material and Methods
New photographic material was identified based on the keys provided by Pauwels and Vande weghe (2008). Paired meristic characters are given left/right.

Abbreviations: MNHN, Muséum National d’Histoire Naturelle, Paris, France; SEEF, Société Equatoriale d’Exploitation Forestière. Morphology: A = anal plate; AT = anterior temporals; DSR = number of dorsal scale rows; IL = number of infralabials, followed in brackets by the number of IL in contact with the first pair of sublinguals; Lor = number of loreal scales; M = male; PoO = number of postoculurs; PreO = number of preoculars; PV = number of preventrals; SC = number of subcaudals; SL = supralabials, followed in brackets by the SL in contact with orbit; U = unkeeled; VEN = number of ventral scales. Varia: Dept = Department; NP = National Park; Prov. = Province.

Results
Testudines
Testudinidae
Kinixys eosa (Schweigger, 1814)
On 9 June 2016 one of us (EJN) photographed a hatchling individual, still having its egg tooth, in a SEEF logging concession (0°20’37.7”N, 10°22’50.2”E), about 2 km S of the southernmost point of the eastern part of the Monts de Cristal National Park, Komo Dept, Estuaire Prov. (Figure 1; for the park limits see Vande weghe et al., 2016). EJN photographed another individual, adult, in the same locality on 9 Oct. 2015. New locality record (Pauwels et al., 2002; Pauwels and Vande weghe, 2008).

Crocodylia
Crocodylidae
Mecistops cataphractus (Cuvier, 1824)
Zinga Koumba et al. (2016) reported “Tomistoma schlegelii” from a swampy clearing, the “Bai de Momba.” They provided the coordinates “0.027°N, 13.424°E,” a point located in Sébé-Brikolo Dept of Haut-Ogooué Prov., just along the border with Ogooué-Ivindo Prov. They provided the French common name faux gavial, a name normally applied to the Southeast Asian species Tomistoma schlegelii (Müller, 1838), and sometimes

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applied to *Mecistops cataphractus* in Gabon, hence the confusion made by these authors. The slender-snouted crocodile had not yet been recorded from this dept (Pauwels, 2006; Pauwels and Vande weghe, 2008).

**Osteolaemus tetraspis** Cope, 1861
On 2 July 2016 one of us (EJN) photographed an adult individual on the ground in a SEEF logging concession (0°20'37.7"N, 10°22'50.2"E), about 2 km S of the southernmost point of the eastern part of the Monts de Cristal National Park, Komo Dept, Estuaire Prov. New locality record (Pauwels et al., 2002; Pauwels and Vande weghe, 2008).

**Squamata**
**Gekkonidae**
*Hemidactylus fasciatus* Gray, 1831

In a report on a field survey of blood-sucking arthropods of the caves located in the surroundings of Lastoursville, Mouloundou Dept, Ogooué-Lolo Prov., Obame Nkoghe (2013: 13) provided a photograph of a gecko taken in “Siyou 2” cave. They did not identify the species, but its light brown dorsal color, red eyes, and the three dark brown saddle-shaped blotches on the dorsum between the fore and hind-limb insertions with white tubercles on the blotches’ edges allow us to unambiguously identify it as *Hemidactylus fasciatus*. In the same dept, one of us (LC) observed an adult individual and a clutch of two eggs in Mbera Cave (Grotte de Mbera; 0°54'49.3"S, 12°50'21.2"E) on 10 July 2015. The eggs had been laid on the bat guano covering the floor of the cave, 7 m in from the entrance. They hatched in mid-August in captivity, allowing a confirmation of their specific identity. The species is thus currently recorded from three caves in this dept (Pauwels et al., 2017; Figure 2 above). Egg deposition by geckos in caves had not been recorded previously in Gabon.

**Scincidae**
*Feylinia grandisquamis* Müller, 1910
An adult individual (Figure 3) was found on 30 January 2012 by one of us (LC) near Mabounié, 40 km ESE of Lambaréné, Ogooué & Lacs Dept, Moyen-Ogooué Prov. It was hidden by day under a corrugated iron sheet. New prov. record (Pauwels et al., 2002; Pauwels and Vande weghe, 2008).

**Varanidae**
*Varanus ornatus* (Daudin, 1803)
On 29 Jan. 2015 one of us (CR) photographed an adult individual basking on an old overgrown road in secondary forest (0°19'19.5"N, 12°34'00.9"E) in Lopé Dept of Ogooué-Ivindo Prov., less than one km W of Ivindo NP (Figure 4). New locality record (Pauwels and Vande weghe, 2008). Mindonga-Nguelet et al. (2016) reported an observation of the species (under *V. niloticus* and *V. nititicus* [sic]) from a swampy clearing, the “Baï de Momba,” in Sébé-Brikolo Dept of Haut-Ogooué Prov. The ornate monitor had not yet been recorded from this dept (Pauwels and Vande weghe, 2008; Pauwels, Le Garff et al., 2016).
Boidae
*Calabaria reinhardtii* (Schlegel, 1851)
One of us (LC) examined on 21 July 2013 a dead-on-road individual in a rubber tree plantation (Siat Gabon company) in Bitam, Ntem Dept, Woleu-Ntem Prov. New prov. record. Woleu-Ntem is the only Gabonese province from where the Calabar boa had not been recorded so far (Pauwels and Vande weghe, 2008). LC also photographed on 13 June 2014 an adult individual in Kango, Komo Dept, Estuaire Prov. (Figure 5). New locality record (Pauwels and Vande weghe, 2008). These new records illustrate the ubiquity of this species in Gabon and its ability to live in both pristine and highly disturbed environments.

Colubridae
*Hapsidophrys smaragdinus* (Schlegel, 1837)
In the morning of 26 Feb. 2010, one of us (OSGP) observed an adult individual on the jetty of Bende Islet in Ndogo Lagoon, Ndogou Dept, Ogooué-Maritime Prov. New record for the islet (Pauwels et al., 2006). About 20 meters away and a few minutes later, OSGP photographed a caterpillar of *Papilio demodocus* Esper, 1798 (Lepidoptera: Papilionidae) displaying a defensive behavior making it remarkably similar to a snake fore-body (Figure 6). Its leaf-green color with black bands and its large eye-like ocellae evoke three arboreal colubrids which are well known from the same area, *Hapsidophrys smaragdinus, Rhamnophis aethiopissa aethiopissa* and *R. batesii* (Boulenger, 1908). To a lesser extent it is also reminiscent of *Thelotornis kirtlandii* (Hallowell, 1844), including by its horizontally elliptical “pupil” and its black furcated “tongue” with reddish tips (although these colors are inverted in the tongue of the latter snake, see Pauwels and Vande weghe, 2008: Fig. 243). The tongue of *R. a. aethiopissa* is uniformly black (see front cover illustration of Pauwels and Vande weghe, 2008). The tongue of *H. smaragdinus* found in the area is dark bluish (OSGP, pers. obs.).

*Rhamnophis aethiopissa aethiopissa* Günther, 1862
Figure 7 illustrates an adult individual encountered on 26 July 2013 on a road in Mayumba, Haute-Banio Dept, Nyanga Prov. When approached, it raised its head and inflated its throat (as is visible on the photograph), a common defensive display for this species. New prov. record (Pauwels and Vande weghe, 2008).

*Toxicodryas pulverulenta* (Fischer, 1856)
An adult individual was photographed by one of us (NT) on 11 Dec. 2016 in a forest (0°10’22.7"S, 12°31’48.6"E, alt. 581 m asl) in Mouloundou Dept, Ogooué-Lolo Prov., within the southern part of Ivindo NP (Figure 8). New prov. record (Pauwels and Vande weghe, 2008). This species had been so far recorded only from the northern part of Ivindo NP in Ogooué-Ivindo Prov. (Carlino and Pauwels, 2015; Pauwels et al., 2017).
Elapidae

*Dendroaspis jamesoni jamesoni* (Traill, 1843)

On 6 June 2016 at Biboulou, the access point to a logging concession of Rougier Gabon (“CFAD du Haut-Abanga”), SW of Lalara crossroad, Okano Dept, Woleu-Ntem Prov., one of us (SB) observed a 15-minutes-long interaction between two adult males (Figure 9 and cover). They were of comparable length and size, one with a general yellowish green color, the other with a bluish green color. Many photographs were taken by SB, on which it can be seen that the yellowish individual was constantly subduing the bluish one and pinning it to the ground. The numerous photographs allowed noting a number of meristic characters, reported in Table 1. The yellowish male showed one small extra-labial on the left side between SL 6 and 7. It is the first time a combat between males is documented for this species in Gabon.

An adult mamba was photographed on 8 Nov. 2015 by EJN in a SEEF logging concession (0°20'37.7"N, 10°22'50.2"E), about 2 km S of the southernmost point of the eastern part of the Monts de Cristal National Park, Komo Dept, Estuaire Prov. (Figure 10). New prov. record (Pauwels and Vande weghe, 2008). On 17 Nov. 2015 one of us (NT) photographed an adult individual crossing a forest road in secondary forest (0°38'53.2"S, 12°44'42.2"E; alt. 323 m asl) in a Precious Woods concession about 20 km NNE of Lastoursville, Mouloundou Dept, Ogooué-Lolo Prov. Although the photograph was taken from a distance, its specific identity is unambiguously recognizable through the extremely elongate body and the elongate head, the green fore-body with a wide vertebral black stripe and the yellow tail. New dept record (Pauwels and Vande weghe, 2008).

Lamprophiidae

*Boaedon littoralis* Trape in Trape & Mediannikov, 2016

We follow Trape and Mediannikov (2016) in transferring all Gabonese *Lamprophis* species to the genus *Boaedon* Duméril, Bibron & Duméril, 1854. Their review of Central African *Boaedon* restricted *B. fuliginosus* and *B. lineatus* to West Africa, implying that these two species have to be deleted from the list of snakes found in Gabon. In their description of *Boaedon littoralis* they mentioned that the species occurs in Mayumba although not referring to voucher material. Pauwels and Vande weghe (2008: 210) illustrated under the name *Lamprophis lineatus* a preserved individual (MNHN 1899.0129) from Mayumba and referred to three other MNHN specimens from the same locality. We here re-identify these specimens as *Boaedon littoralis* based on the key and diagnosis provided by Trape and Mediannikov (2016). Within Gabon, this species is thus currently known only from Mayumba in Nyanga Prov. Trape and Mediannikov (2016) proposed the French common name *boaedon côtier* as a translation of the specific epithet which stresses that the species lives along the coast in Gabon and Congo, and we hence propose “coastal house snake” as the English common name.

*Boaedon perisilvestris* Trape & Mediannikov, 2016

Trape and Mediannikov (2016) attributed the specimens MNHN 1886.224-226 from “Franceville [Haut-Ogooué Prov.], Gabon” to their new species *Boaedon perisilvestris*. They indicated that the largest known specimen in this species is the female MNHN 1886.224 which has a total length of 1033 mm. They mentioned that the live individual illustrated by Pauwels and Vande weghe (2008, under *Lamprophis fuliginosus*) belongs to this species. We consequently transfer all the current Gabonese records of *B. fuliginosus* to *B. perisilvestris*. Within Gabon, the species is so far known only from Franceville in Haut-Ogooué Prov. (Pauwels

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**Table 1.** Morphological data for two *Dendroaspis j. jamesoni* from Biloubou, Woleu-Ntem Prov. NA = character not available (individual not collected). For the other abbreviations see Materials and Methods.

<table>
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<th>Individual</th>
<th>Sex</th>
<th>SVL (mm)</th>
<th>TaL (mm)</th>
<th>DSR</th>
<th>PV + VEN</th>
<th>A</th>
<th>SC</th>
<th>SL</th>
<th>IL</th>
<th>Lor</th>
<th>PreO</th>
<th>PoO</th>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>U</td>
<td>NA</td>
<td>U</td>
<td>8 (4) / 8 (4)</td>
<td>9 (4) / 9 (4)</td>
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<td>3 / 3</td>
<td>5 / 3</td>
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<tr>
<td>Yellowish individual</td>
<td>M</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>U</td>
<td>NA</td>
<td>U</td>
<td>7 (4) / 8 (4)</td>
<td>9 (4) / 9 (4)</td>
<td>0 / 0</td>
<td>3 / 3</td>
<td>4 / 4</td>
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**Figure 9.** Combat between two adult male *Dendroaspis j. jamesoni* at Biboulou in Woleu-Ntem Prov., northeastern Gabon. Photograph by S. Berry.

**Figure 10.** *Dendroaspis j. jamesoni* moving through a tree at a logging concession of the Société Equatoriale d’Exploitation Forestière, Estuaire Prov. Photograph by E. J. Neil.
and David, 2008, providing a morphological description of MNHN 1886.224-226). The common French name boaedon péristre proposes by Trape and Mediannikov (2016) can be translated into English as “peri-forest house snake.”

**Pythonidae**

*Python sebae* (Gmelin, 1789)

One of us (EJN) photographed on 20 April 2016 an adult individual in a SEEF logging concession (0°20'37.7"N, 10°22'50.2"E), about 2 km S of the southernmost point of the eastern part of the Monts de Cristal National Park, Komo Dept, Estuaire Prov. (Figure 11). New locality record (Pauwels and Vande weghe, 2008). Figure 12 shows an adult individual killed after it had killed and eaten on 5 Dec. 2012 a calf of the N’dama cattle breed (*Bos taurus* Linnaeus, 1758) at Siat Nyanga Ranch, Mougoutsi Dept, Nyanga Prov. Another photo of an adult python killed after it ate a calf in the ranch was presented by Anonymous (2010). Predation by pythons on calves is a frequent issue in Nyanga Ranch, which used to offer a financial reward to employees who killed a python, lower if the python was found to have already eaten a calf (Anonymous, 2007a). Employees were encouraged to eat pythons as well (Anonymous, 2007b). Seba’s python was not recorded from Nyanga Prov. by Pauwels and Vande weghe (2008), but was later recorded from two districts within the province, Haute-Banio (Pauwels, 2010) and Mougoutsi (Anonymous, 2010; Figure 12). It is to be noted that Cooke (2012) documented a case of predation by a Seba’s python on a Red-capped Mangabey (Primates: Cercopithecidae: *Cercocebus torquatus* (Kerr, 1792)) in Setté Cama, Ogooué-Maritime Prov., southwestern Gabon. Two interesting photos of a male–male ritual combat taken in 2011 in Wonga-Wongué Presidential Reserve were published by Vande weghe (2012: 124-125). The combat took place at around 5 P.M. in June (i.e., just before the long dry season), in the tall grass of a savanna, with an adult female staying at proximity of the two males. The site was located just near a gallery forest, a few km W of “Vallée morte” (J. P. Vande weghe, pers. comm., Dec. 2016).

**Viperidae**

*Atheris squamigera* (Hallowell, 1856)

One of us (EJN) photographed on 31 Oct. 2015 an adult individual in a SEEF logging concession (0°20'37.7"N, 10°22'50.2"E), about 2 km S of the southernmost point of the eastern part of the Monts de Cristal NP, Komo Dept, Estuaire Prov. (Figure 13). Its swollen belly indicates that it had ingested a large prey. New locality record (Pauwels et al., 2002). On 18 Nov. 2015 one of us (NT) encountered an individual in a forest (0°40'47.7"S, 13°30'30.0"E, alt. 508 m asl) in a Precious Woods concession in Mouloundou Dept near the easternmost point of Ogooué-Lolo Prov. (Figure 14). New dept record (Pauwels and Vande weghe, 2008).
Acknowledgments

OSGP dedicates this contribution to his late father Pascal Angelus Roger Pauwels (Zulte, 25 May 1935 – Brussels, 11 Sept. 2016) who transmitted him his passion for Africa. The observations on Bende Islet by OSGP were made during environmental impacts assessments for Shell Gabon. EJN’s observations were made while she was working for the Max Planck Institute for Evolutionary Anthropology (PanAfrican Programme: The Cultured Chimpanzee). We thank Philippe Jeanmart (Precious Woods Gabon), Ephrem Nzengue (CENAREST, Libreville), Judicaël Obame Nkoghe (CIRMF, Franceville) and Jean Pierre Vande weghe (Agence Nationale des Parcs Nationaux, Libreville) for providing useful information. We are grateful to Mike Dloogatch for editorial support, to Jean-Louis Amiet (Nyons) for the identification of the caterpillar, and to Charlène Brochard (formerly at Siat Nyanga Ranch) for her photo of a python.

Literature Cited