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Two centuries of confusion: the status of *Boaedon fuliginosus* and *Boaedon capensis*, and the resurrection of *Boaedon unicolor* (Serpentes: Lamprophiidae: Lamprophiinae: Boaedontini)

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Abstract. As many as twelve new species of *Boaedon* have been described in the last decade, yet the status of one of the oldest and most commonly used names, *Boaedon fuliginosus*, remains unresolved. It has been the subject of much debate because the type specimen of *Lycodon fuliginosus* F. Boie, 1827 is lost, its type locality is unknown, and the brief description lacks sufficient detail to allow for an unambiguous determination of species identity. As it is not possible to determine with any certainty which species of snake it is, *Lycodon fuliginosus* is here declared a species inquirenda. Boulenger (1893), under the name *Boodon fuliginosus*, synonymised all previous usages of the names *L. unicolor*, *L. fuliginosus* and *B. unicolor*, and described five specimens from various parts of Africa, probably referable to two or three different species of *Boaedon*. This represents the first available usage of the name *Boaedon fuliginosus*. We designate as lectotype of *Boaedon fuliginosus* Boulenger, 1893 a specimen from Zemio in southern Central African Republic, to which locality we restrict this name. *Lycodon unicolor* F. Boie, 1827, that was described a few lines before *L. fuliginosus*, based on an earlier illustration and description by Russell (1801), is now considered a junior synonym of either *Lycodon aulicus* or *Lycodon capucinus*. Schlegel (1837a,b) discussed and 'described' snakes from the vicinity of one of the former Danish forts on the coast of present-day Ghana in West Africa under the same name, *'Lycodon unicolor'*, but these snakes were obviously not conspecific with the Asian species *L. unicolor*. Designation of a lectotype of *Lycodon unicolor* by Hughes & Barry (1969), based on the material from Ghana reported on by Schlegel (1837b), is invalid as the name is pre-occupied by the Asian species. Although there is no indication that Schlegel's 'description' of the African *L. unicolor* constituted a new species description, the name *Boaedon unicolor* was subsequently used by Duméril et al. (1854), when describing five specimens from the Gold Coast (Ghana), which are clearly the same species of snake discussed by Schlegel (1837a,b). We propose that the latter be used as the first available name for the dorsally plain, dark-coloured, West and North-West African species currently identified as *B. fuliginosus*. As the syntypes are lost, and in order to objectively define the species, we designate and describe as neotype of *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 a specimen from Accra, Ghana. In the same work, Duméril et al. (1854) described *Boaedon capensis* from the Western and Eastern Cape provinces of South Africa. This species is currently considered to have an extensive range from the southernmost tip of Africa through east Africa to southern Somalia. As the syntypes are lost, and in order to objectively define the species, we designate and describe as neotype of *Boaedon capensis* Duméril, Bibron & Duméril, 1854 a specimen from near Herbertsdale in the Western Cape Province, South Africa.

Key words. African house snake, systematics, taxonomic history, nomenclature, type designations.

Introduction

The nomenclature and species boundaries of 'house snakes' of the genus *Boaedon* Duméril, Bibron & Duméril, 1854 have been, for nearly 200 years, the subject of much confusion and debate. *Boaedon* currently contains more than 20 species found almost throughout sub-Saharan Africa, as well as in Morocco, Western Sahara and southwestern Arabia. As many as twelve new species were described in the last decade, most of which were previously classified as *Boaedon fuliginosus,* even though the identity of the species, described as *Lycodon fuliginosus* F. Boie, 1827, was uncertain and the status of its name unresolved. The reason for this is that the type specimen of *L. fuliginosus* is lost, its type locality is uncertain, and the description lacks sufficient detail to allow for an unambiguous determination of

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species identity. Even the proposition that the holotype was from Africa is conjecture rather than fact. Certainly, this is a nomenclatural issue of some gravity, affecting as it does a very widespread set of populations to which the epithet *fuliginosus* has, at different times, been applied.

Recently, authors such as Trape & Mediannikov (2016), Hallerman et al. (2020), and Ceríaco et al. (2021) chose West Africa as the origin of the holotype of *Lycodon fuliginosus*. This seems to have been influenced significantly by the description of colouration in F. Boie (1827), which suggests a plain dark brown to blackish snake lacking any other markings, which indeed matches the appearance of snakes in several populations in western Africa, such as *B. fuliginosus*. Most of the recently described species of *Boaedon* are from populations previously identified as, or morphologically very similar to, *B. fuliginosus*. However, the geographical range of *B. fuliginosus* is uncertain. For example, Hallermann et al. (2020) ignored the restriction of this name by Trape & Mediannikov (2016) to dark-coloured, unmarked snakes from West Africa and included as *B. fuliginosus* dark snakes with narrow head bands (probably referable to *B. perisilvestris* Trape & Mediannikov, 2016) from Central Africa to as far south as north-eastern Angola. Perhaps they were suggesting that these two species were sympatric or parapatric in a large swathe of western Africa from Morocco to Angola. Recently, Trape (2023) again mapped *B. fuliginosus* as occurring in West Africa from southern Mauritania to Nigeria, with an isolated population in Western Sahara and Morocco, and *B. perisilvestris* as occurring in Cameroon, Central African Republic and South Sudan, southwards to Gabon, both Congo republics, and north-eastern Angola. Spawls et al. (2018, 2023) treat as *B. fuliginosus* all plain blackish or brown *Boaedon* (but also some with striped or mottled bodies) from eastern and north-eastern Africa irrespective of presence or absence of pale head bands. Most recently, Hallermann & Hawlitschek (2025) recognised a Somalian population of plain dark-coloured snakes as a new species (*B. subniger*), and considered the population of dark-coloured *Boaedon* in the western Ethiopian highlands and Gambela as a candidate new species, even though it may be conspecific with *B. perisilvestris*. For any of these taxonomic actions, clarity about the identity and range boundaries of existing species is of critical importance.

As to the geographical origin of the type specimen of *Lycodon fuliginosus*, at least four possibilities are apparent: (i) not Africa, (ii) West Africa ("Guinea coast"), (iii) Cape (i.e., vicinity of Cape Town, South Africa), (iv) elsewhere on the Atlantic coast of Africa. As long as any one of these possibilities is not supported by evidence, or at least strong arguments that remove all doubt, the validity of any newly described species in this genus can be challenged, and the calamity of chaos that is *Boaedon* taxonomy will continue to grow. While it is obvious that any meaningful taxonomic revision of this genus as a whole, and resolution of the various problems pertaining to species delimitation, will require a species-rich, multi-gene analysis of a comprehensive set of samples, resolution of at least some persisting nomenclatural issues will go a long way towards eventualising some stability in the genus *Boaedon*.

In this treatise we critically examine the early taxonomic history of the genus *Boaedon* (see timeline, Table 1) and current usage of the names *B. fuliginosus* and *B. capensis*. Rather than performing a merely theoretical exercise with potentially catastrophic outcomes in the application of names, we have attempted to resolve the status quo by proposing a more robust and objective nomenclatural framework. Here we wish to refer specifically to the Preamble of the ICZN (1999): "The objects of the Code are to promote stability and universality in the scientific names of animals and to ensure that the name of each taxon is unique and distinct."

Materials and methods

We studied all primary literature on the genera *Lycodon* and *Boaedon* starting from the beginning of the 19th century. Furthermore, we consulted literature on the history of explorations, colonial trade with Africa and the East Indies (Indonesia), history of the Dutch Royal Museum of Natural History (now Naturalis Biodiversity Center, Leiden), biographies of researchers and collectors, and historical maps of Africa. Here, for the first time in a study on *Boaedon*, we have consulted H. Boie's unpublished manuscripts (although these are almost certainly not equivalent to the final manuscript sent for publishing, as discussed below), comprising "Erpetologia Javanica descripta" in German and which for some species accounts included notes in a right side column, as well as a 'description' of snakes illustrated and 'described' by Russell (1801) for which species names were assigned (H. Boie 1825a, filed as RMNH 265.42), and drafts of species descriptions in Latin (H. Boie 1825b, filed as RMNH 265.45) and Dutch (H. Boie 1825c, filed as RMNH 265.46) preserved in the "Archive of the Natural History Commission for Dutch India (1820–1850)" at the Naturalis Biodiversity Center, in an attempt at discovering additional information pertinent to *Lycodon unicolor* F. Boie, 1827 and *L. fuliginosus* F. Boie, 1827. We had hoped that an examination of H. Boie's unpublished manuscripts would reveal clues as to the type locality of *Lycodon fuliginosus.* According to Recommendation 76A.1.2 in ICZN (1999: 87), "collector's notes, itineraries, or personal communications" can be used in attempting to ascertain or clarify a type locality. We interpret "collector's notes" to be equivalent to the above-mentioned materials (H. Boie 1825a–c).

We examined a small number of specimens in museum collections, mainly those that were relevant for the nomenclatural actions taken here. Since all these specimens are mentioned in the text, no list of examined material is provided. In the specimen descriptions, we use the following abbreviations for morphological characters: ED – eye diameter, END – eye-to-nostril distance (measured from posterior border of nostril to anterior border of eye), HL – head length (measured from snout tip to posterior end of the skull), HW – maximum head width (measured at level of posterior borders of parietals), IND – internarial distance (measured be-

Table 1. Timeline of the nomenclatural history of *Boaedon fuliginosus, B. unicolor* and *B. capensis*.

1826	Hermann Schlegel introduces the name *Lycodon fuliginosus* and Leopold Fitzinger introduces the name *Lycodon unicolor*. Both names are attributed to Heinrich Boie and are nomina nuda as they lack descriptions.
1827	Friedrich Boie publishes brief descriptions of *Lycodon fuliginosus* (from an unknown locality) and *Lycodon unicolor*. The name *L. fuliginosus* is based on an unpublished description by his brother, Heinrich Boie, but includes a reference to colouration not evident in available texts used for the latter manuscript. The authority for *L. fuliginosus* should therefore be only F. Boie. For *L. unicolor*, F. Boie (1827) refers only to a line drawing of a snake from 'India' in a book by Patrick Russell (1801), which is accompanied by descriptive text; it is considered a valid species description.
1837	Hermann Schlegel publishes an account for African '*Lycodon unicolor*' that he clearly states to be of a species 'described' by H. Boie (in F. Boie 1827). He describes specimens from the Gold Coast in West Africa as being of this species, even though the description of *L. unicolor* in F. Boie (1827) pertains to a snake from 'India'.
1854	André M. C. Duméril, M. Gabriel Bibron and Auguste H. Duméril introduce the genus *Boaedon*. They refer *Lycodon unicolor* to the synonymy of *Lycodon aulicus* (Linnaeus, 1758) and describe a new species, *Boaedon unicolor*, as the first member of the new genus, including *L. unicolor* sensu Schlegel (1937b) in its synonymy. They also describe *Boaedon capense* from vicinity of Cape Town and 'Cafrerie' [Kaffraria], i.e., parts of present-day Western and Eastern Cape provinces of South Africa.
1858	Albert Günther changes the gender of the noun *Boaedon* to masculine and its spelling to "Boodon".
1892	George A. Boulenger uses the combination "Boodon fuliginosus" for the first time, for material from "Sudan" region. The name is without a description and is therefore a nomen nudum.
1893	George A. Boulenger provides a description for "Boodon fuliginosus" (from various African localities) and treats *Lycodon unicolor* F. Boie, 1827, *Lycodon unicolor* Schlegel, 1837 and *Lycodon fuliginosus* Boie, 1827 as junior synonyms.
1962	Vivian F. M. FitzSimons designates "Africa" as type locality of *Lycodon fuliginosus*.
1965	Rolande Roux-Estève and Jean M. R. Guibé refer *Boaedon lineatus* Duméril, Bibron & Duméril, 1854 to the synonymy of *Boaedon fuliginosus*.
1969	Barry Hughes and David H. Barry erroneously designate a lectotype for *Lycodon unicolor* based on specimens collected after H. Boie's manuscript was prepared, using material 'described' by Schlegel (1837a, b) as *L. unicolor*.
1971	Donald G. Broadley restricts the type locality of *Boaedon fuliginosus* to "probably Cape of Good Hope."
1978	Roger S. Thorpe and Colin J. McCarthy revive *Boaedon lineatus* Duméril, Bibron & Duméril, 1854 in West Africa from the synonymy of *Boaedon fuliginosus*.
1982	Kenneth Welch refers *Boaedon* to the synonymy of *Lamprophis*.
1997	Barry Hughes resurrects *Boaedon capense* Duméril, Bibron & Duméril, 1854 from the synonymy of *Lamprophis fuliginosus* as *L. capensis*, a species distributed across eastern and southern Africa.
2011	Christopher Kelly and co-authors resurrect the genus *Boaedon* from the synonymy of *Lamprophis* and include six species (including *B. fuliginosus* but excluding *B. capensis*).
2014	Van Wallach and co-authors include both *Bodaedon fuliginosus* and *B. capensis* in a list of eleven species of *Boaedon*.
2016	Jean-François Trape and Oleg Mediannikov restrict *Boaedon fuliginosus* to western Africa north of Cameroon and describe three new species previously treated as *B. fuliginosus*: *Boaedon perisilvestris* distributed at the margins of the Congo forest, from Cameroon to Central African Republic and south to Cameroon; *Boaedon subflavus* from the savannah zone of Chad, north-eastern Cameroon and Central African Republic; and *Boaedon littoralis* from the Congolese coast. For the first time since 1893, while comparing their new species to other *Boaedon*, the name *Lycodon unicolor* is mentioned outside of synonymy.
2020	Jakob Hallermann and co-authors, in a revision of the Angolan species of *Boaedon*, restrict the type locality of *Boaedon fuliginosus* to Gold Coast (Ghana) and define its range as from Morocco to Angola, thus ignoring Trape & Mediannikov's (2016) restriction of this species to West Africa.
2026	Arthur Tiutenko and Michael F. Bates (in this paper) declare *Lycodon fuliginosus* F. Boie, 1827 a species inquirenda and designate one of Boulenger's (1893) "Boodon fuliginosus" specimens as lectotype of *Boaedon fuliginosus* Boulenger, 1893, thus preserving the usage of this established name. They also resurrect the name *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 for dorsally dark brown to black West and North-WestAfrican snakes without pale head bands, previously referred to as *B. fuliginosus*.

tween upper borders of nostrils), IOD – interorbital distance (measured as the direct distance between the outer medial points of the supraoculars), L – total length (SVL + TL), Sc – number of pairs of subcaudals, SND – snout-to-nostril distance (measured from the snout tip to the anterior border of nostril), Sq – midbody scale rows number, SVL – snout-to-vent length, TL – tail length, V – number of ventral plates. Scale counts on the head refer to one side (left and/or right) only, with any variations reported.

For the institutions mentioned in this article we use the following abbreviations: MNHN – Muséum national d'histoire naturelle, Paris, France; NHMUK – Natural History Museum (formerly British Museum of Natural History), London, United Kingdom; NMB – National Museum, Bloemfontein, South Africa; RMNH – Nederlands Centrum voor Biodiversiteit Naturalis (formerly Dutch Royal Museum of Natural History), Leiden, The Netherlands.

Nomenclatural acts

This published work containing nomenclatural changes is registered in ZooBank, the online registration system for the ICZN. The Life Science Identifier (LSID) for this publication is urn:lsid:zoobank.org:pub: 5803A557-2748-4638-B47D-6B1EDD458442. The electronic edition of this article is published in a journal with an ISSN, has been archived and is available from the following digital repositories: salamandra-journal.com, zenodo.org.

Results and discussion

The early taxonomic history of the genus *Boaedon* is closely associated with that of *Lycodon*, an Asian colubrid genus introduced in 1826. *Lycodon* initially included many aglyphous snakes with enlarged anterior maxillary teeth. In this section we explore various nomenclatural and taxonomic issues related to *Boaedon*, starting from its roots in *Lycodon*, and follow the chronology presented in Table 1.

Boie brothers and the genus *Lycodon*

While his brother Heinrich was in Java, Friedrich Boie (1789–1870) published a "Generalübersicht der Familien und Gattungen der Ophidier" [General overview of the families and genera of the Ophidians] in which he included, the names of a few taxa which he credited to his brother, including the genus name *Lycodon* (see Boie 1826). Because Boie had included under this genus the name *Coluber aulicus* Linnaeus, 1758, it should, according to Article 12.2.5 of the ICZN (1999), be considered a valid genus name by indication (similar to *Calamaria* H. Boie in F. Boie, 1827 – see Savage & Myers 2006).

Therefore, despite some confusion among authors (e.g., O'Shea et al. 2018), the correct authority for *Lycodon* may not be 'Fitzinger, 1826', but 'H. Boie in F. Boie, 1826.' It can be noted here that the latter is now a form commonly used (in accordance with Article 50.1 of the ICZN 1999) when referring to new species and genus names published by F. Boie but credited by him to his brother H. Boie (e.g., Savage & Myers 2006, O'Shea & Kaiser 2016, O'Shea et al. 2018). Boie's (1826) list was preceeded by Fitzinger's (1826) lists which included a country or region for most species as well as a German translation of the species binomial, neither of which constitute a description, definition or indication (Article 12.3 of the ICZN 1999). Fitzinger (1826: 57) did include "*L. aulicus* Boie" under *Lycodon* (together with two other *Lycodon* species names, including *L. unicolor* from "India", both attributed to H. Boie) but as this species was at that time known as *Coluber aulicus* Linnaeus, 1756, *L. aulicus* may not represent an available name (see Article 12.2.5 of the ICZN 1999) and Fitzinger (1826) would then be the authority for *Lycodon* even if its publication date preceded that of other authors. As mentioned above, Schlegel (1826: 238), who actually referred to Fitzinger's (1826) paper, also published on H. Boie's manuscript, and listed seven species in the 'new genus' *Lycodon*, including "Lyc. fuliginosus B. n. esp.", but excluding *L. unicolor*. Why Fitzinger (1826) and Schlegel (1826) listed only one or the other of these two species is unknown, even though both were reporting on the findings of H. Boie. Fitzinger (1826) also did not list *L. fuliginosus* under any other snake genus, and neither did Schlegel (1826) do so for *L. unicolor*. A possible explanation may be that they consulted different manuscripts (or parts thereof) as *L. unicolor* features only in a translation of Russell's (1801) account found among handwritten notes and draft materials of his manuscript (H. Boie 1825a, see below) while *L. fuliginosus* is mentioned in the descriptions of species in Latin (H. Boie 1825b). While this 'contradiction' is interesting to note, both Fitzinger's (1826) and Schlegel's (1826) *Lycodon* names mentioned above, which lacked descriptive text, are in fact nomina nuda.

Heinrich Boie and the "Erpétologie de Java"

Heinrich Boie (1794–1827) was a young German zoologist who, in 1821, was appointed as curator of vertebrates at the Rijksmuseum van Natuurlijke Historie (now Nederlands Centrum voor Biodiversiteit Naturalis, or Naturalis Biodiversity Center) in Leiden, Netherlands (Holthuis 1995). Soon after the founding of the museum (1820), a commission for the scientific exploration of the Dutch Indies (mostly present-day Indonesia) was established. Its first collectors were Heinrich Kuhl (1797–1821) and Johan Coenraad van Hasselt (1797–1823) who sailed to Java in 1820 and landed there early in 1821, after stopovers in Madeira, Cape Town and the Cocos Islands (Bischoff 2018: 240). They were followed by several other collectors even after the commission was ended (Holthuis 1995, Hoogmoed et al. 2010). These individuals collected in Dutch colonies in Asia, Africa and the Americas (Holthuis 1995).

In the years 1823 to 1825, H. Boie prepared a manuscript based largely on the collections of H. Kuhl and J. C. van Hasselt (Schlegel 1837a, Holthuis 1995: 29). The draft materials of the manuscript are now preserved in the archive under the Latin title "Erpetologia Javanica descripta" better known by the French title "L'Erpétologie d'Ile de Java" [Herpetology of the Island of Java], as introduced by Schlegel (1826), or just "Erpétologie de Java" [Herpetology of Java], the title that H. Boie himself used in his notes (H. Boie 1825a). Hoogmoed (1980: 10) reported on a manuscript that he found in the archives of the museum that was neatly hand-written "on unlined folio paper, the pages are not numbered and both sides of the paper have been used." It must be noted here that the text in the German manuscript (H. Boie 1825a), which contains references to plates, is not neatly written and words are almost impossible to decipher (Fig. 1A). It also contains numerous strike-throughs and added notes. This must have been a draft which formed the basis for the final version of the manuscript, the one that was being typeset but was never

printed (see below). The latter was quite possibly written in French, hence the title "Erpétologie de Java." The Latin and Dutch descriptions (H. Boie 1825b, c) are indeed neatly written, but each in different handwriting (Fig. 1B–C), which also differs from that used for the German document (H. Boie 1825a). The handwriting in the latter is that of H. Boie: We confirmed this by a comparison with other materials handwritten by H. Boie and preserved in the archive of the museum, such as letters, specimen tags and notes. Unfortunately, we could not identify the writers of the two manuscripts of 'descriptions.' We compared them, for instance, to handwritten texts (letters and manuscripts) by F. Boie and H. Schlegel and found that the handwriting is not similar. It is also notable that the "N Sp." is used in Dutch accounts (H. Boie 1825c) as a marker of a new species (Fig. 1C), whereas H. Boie used "m." (Fig. 1A) or "mihi" in such cases (see below). The Latin (H. Boie 1825b) and Dutch (H. Boie 1825c) 'description' manuscripts have no titles and consist entirely of brief accounts for genera and species from various parts of the world, not only Java

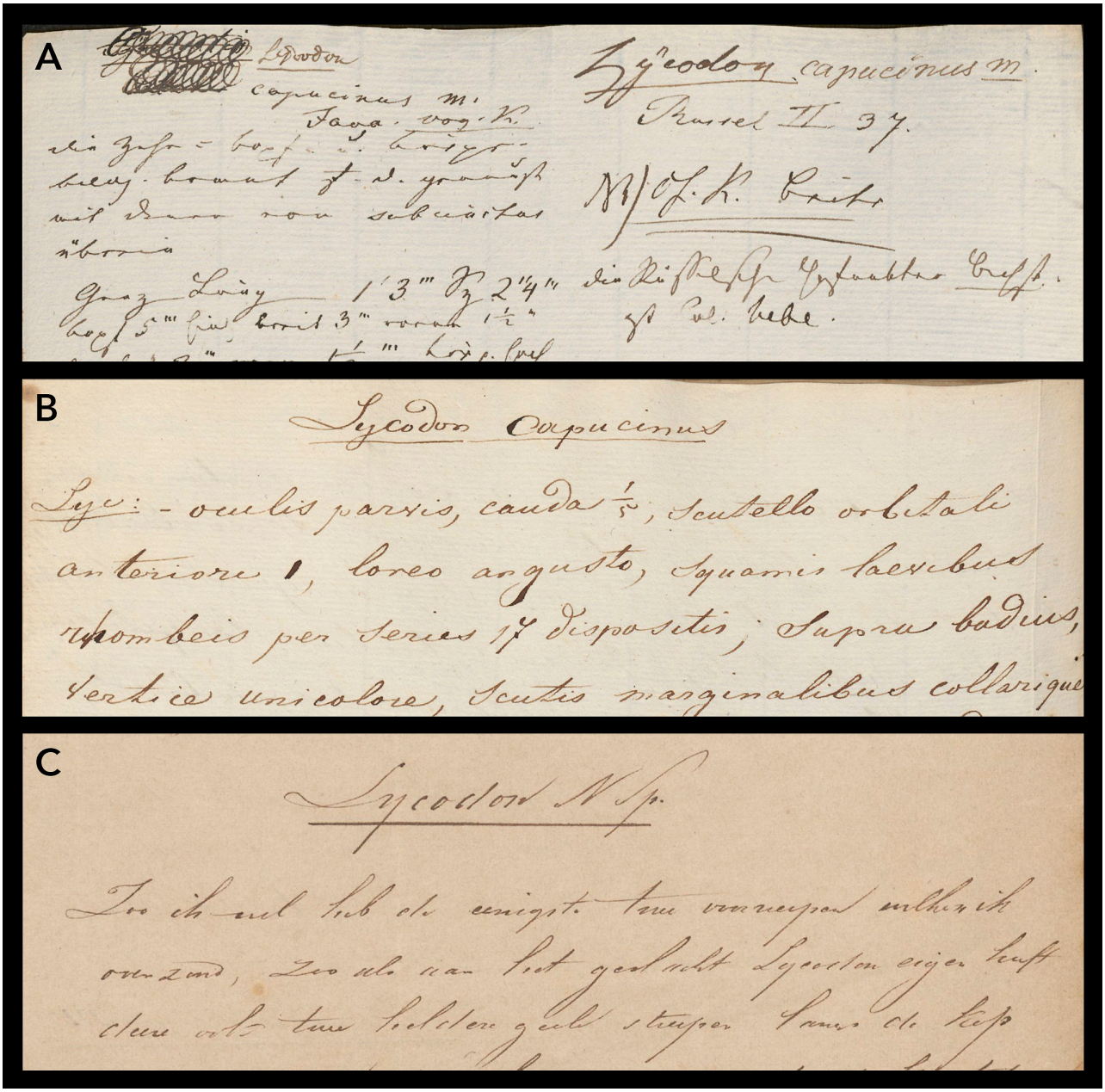

Figure 1. Comparison of the handwriting in three manuscripts attributed to Heinrich Boie: (A) "Amphibia in Erpetologia javanica descripta. Serpentes" (H. Boie 1825a), (B) descriptions of amphibians and reptiles in Latin (H. Boie 1825b), (C) descriptions of amphibians and reptiles in Dutch (H. Boie 1825c).

or even Asia (see also Hoogmoed 1980, 1982, Köhler et al. 2020). These accounts, such as the Latin 'description' of *Lycodon fuliginosus* (Fig. 2), may thus not have been intended (by H. Boie) for inclusion in "Erpétologie de Java", even though they were indicated as such by F. Boie (1827). Also, the name "Lycodon unicolor" appears only in H. Boie's notes (Fig. 3), taken from the book by Russell (1801). This species may also have been excluded from "Erpétologie de Java" by H. Boie – it is from the Indian subcontinent and not Java – although it was included by F. Boie (1827).

According to Schlegel (1826: 233), who published a paper "Notice sur l'Erpétologie de l'ile de Java; par M. Boïé (Ouvrage manuscrit.)" [Notice on the herpetology of the island of Java; by Mr Boie (handwritten work)], the manu-

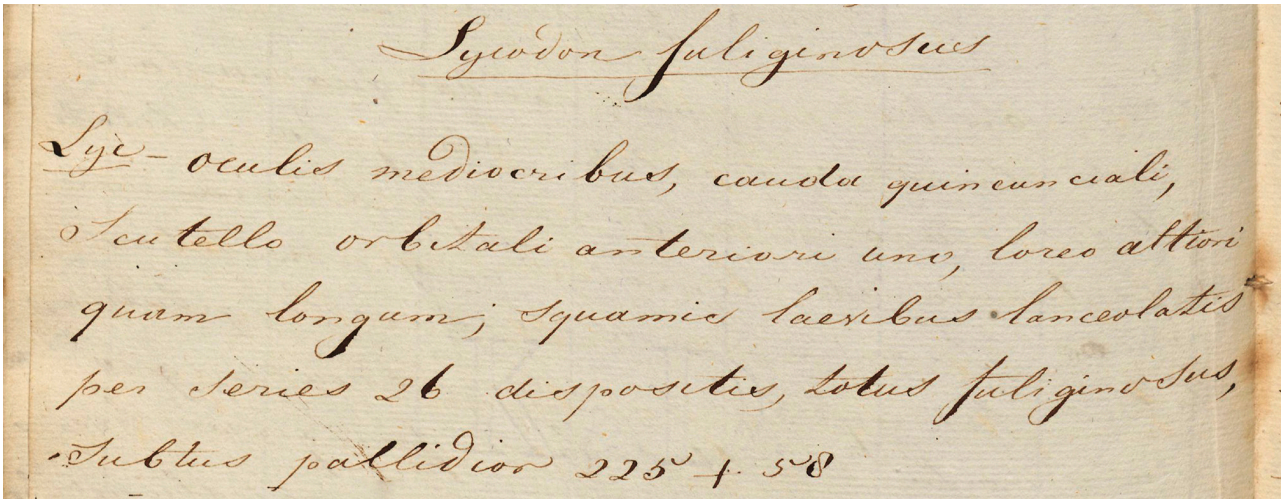

Figure 2. Original 'description' of *Lycodon fuliginosus*, attributed to Heinrich Boie, that appears in an unpublished manuscript written in Latin (H. Boie 1825b). The handwriting suggests that it was penned by a different person. Courtesy of RMNH.

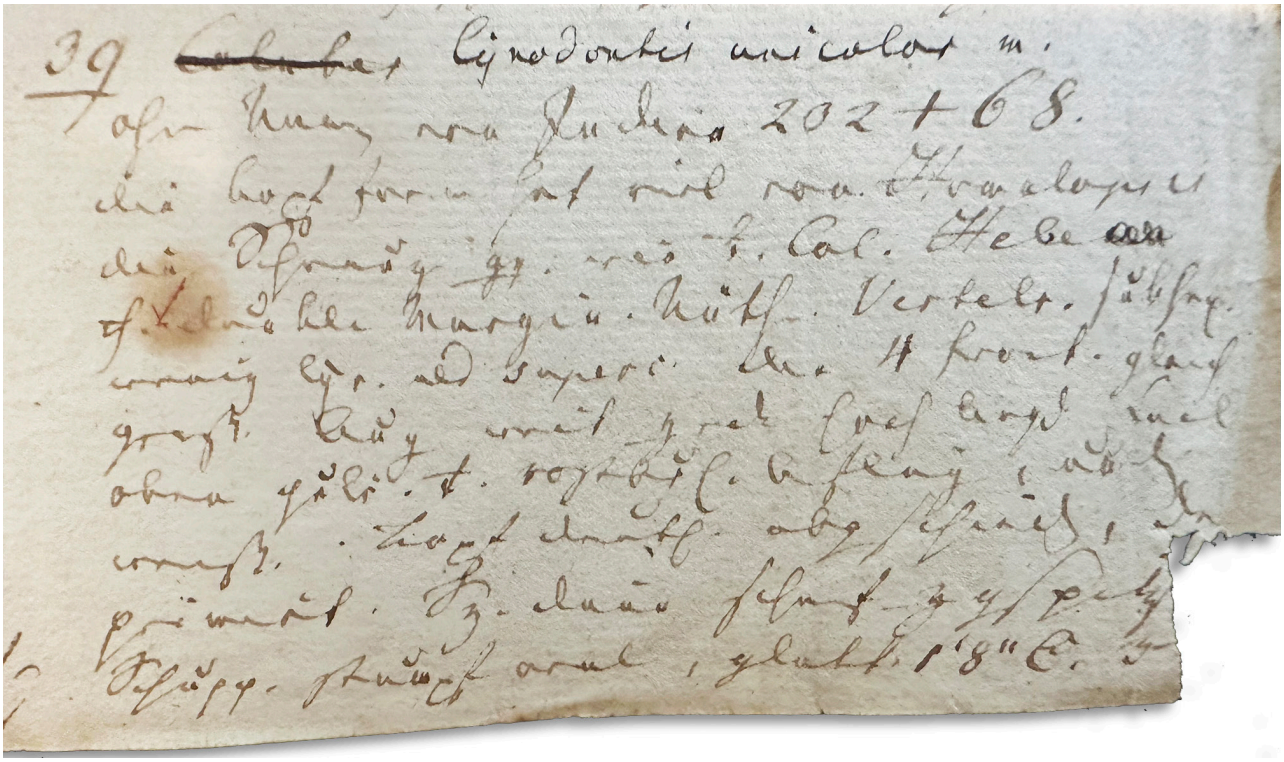

Figure 3. Heinirch Boie's (1825a) handwritten account of the snake illustrated and 'described' by P. Russell (1801, pl. 39), with a proposed new species name ("Lycodontis unicolor"). Courtesy of RMNH.

script had been "finished quite a long time ago." F. Boie (1827) noted that his brother was "travelling through the Dutch colonies in the East Indies" and that the manuscript was to constitute the first volume of the yearbook of the Leyden Museum. According to Holthuis (1995: 29), it was "completely ready, and typesetting had already begun at the printing house in Brussels", but this was stopped as a result of the Belgian Revolution (1830–1831). This would mean that the publication of the manuscript, that was according to Schlegel (1826) completed even before Boie's departure to Java in 1825, was in fact much delayed. Hoogmoed (1982) was of the opinion that the delay may have been due to a lack of finances. Heinrich Boie left on an expedition to Java in in November 1825 (Holthuis 1995) and unfortunately succumbed to gall fever two years later while still there. His ready-for-the-printers manuscript was never published, even after his death, and is apparently lost.

It should be made clear at this point that none of H. Boie's manuscripts (H. Boie 1825a–c; as well as the lost "Erpétologie de Java") constitute publications according to Article 8 of the ICZN (1999) and thus any names 'described' in them are unavailable.

Friedrich Boie and the descriptions of *Lycodon unicolor* and *Lycodon fuliginosus*

In 1827, Friedrich Boie published a paper "Bemerkungen über Merrems Versuch eines Systems der Amphibien, 1. Lieferung: Ophidier" [Remarks on Merrem's attempt at a system of amphibians, 1st delivery: Ophidians] in which several new species were based on his brother Heinrich's unpublished manuscript, credited as "H. Boie Erp. de Java" (F. Boie 1827). It is interesting to note that the paper was prepared while H. Boie was away in Java (as noted by F. Boie in column 508), not after his death. In column 293 of the paper, F. Boie (1827) listed *Lycodon* as a 'new genus' and included "fuliginosus Boie n. sp." but not *L. unicolor*. In column 551, under a heading indicating 'Asian' species, he listed among others *L. unicolor* and *L. fuliginosus*. *Lycodon unicolor* was 'described' as: "6 unicolor H. Boie Erp de Java Russel T. H. pl. 39." A few lines after this short 'description', also in column 551, F. Boie (1827) provided a description for *L. fuliginosus* as follows: "9 fuliginosus H. Boie Erp. de Java ist das Vaterland bekannt. Oculis mediocribus, cauda quincunciali scutello orbitali anteriori altiori, quam longo. Squamus laevibus lanceolatis per series 26 dispositis. Totus fuliginosus, subtus pallidior. 225 + 58 [i.e., ventrals and subcaudals, respectively]. Ist in der Farbe dem Col. Rufulus Lichst. sehr ähnlich." [9 fuliginosus H. Boie Herpetology of Java. Country of origin known. With medium-sized eyes, a quincuncial tail with an anterior orbital scute higher than long. Smooth lanceolate scales arranged in 26 series. Sooty throughout, paler beneath. 225 + 58. The colouration resembles Col. rufulus Licht.]. The Latin part of F. Boie's (1827) description of *L. fuliginosus* can be attributed to H. Boie (Fig. 2, H. Boie 1825b), although the handwriting used is different from that in H. Boie's draft manuscript in German (H. Boie 1825a). However, F. Boie (1827) started his account with a comment in German about the snake's provenance (see discussion below) and ended with a comment in German about its colour being similar to *Coluber rufulus* (= *Lycodonomorphus rufulus*). As there is no mention of either provenance or (especially) colouration in H. Boie (1825a–c), and because we cannot check for this possibility in the lost print-ready version of H. Boie's manuscript (where it may have been added), and F. Boie's (1827: column 508) comments about having access to collections and "collaborative work with his brother" do not entirely preclude the possibility that he (F. Boie) may in fact have examined some '*Lycodon*' material and added to H. Boie's description (see Fig. 2), we assign only F. Boie as the authority of *L. fuliginosus*. Savage et al. (2025: 184) actually noted that F. Boie "travelled to Leiden to study his brother's manuscript and accompanying watercolors" even before his 1826 paper. Our action seems appropriate as the final, published description (F. Boie 1827) may not have been the version presented and/or accepted by H. Boie.

For the description of *L. unicolor*, F. Boie (1827) referred to a moderately detailed line drawing (plate 39) in an 1801 account of Indian serpents by Scottish surgeon and naturalist Patrick Russell (1726–1805). Despite its terseness, F. Boie's (1827) one-line treatment of *L. unicolor* does indeed constitute a species description because although H. Boie's manuscript was unpublished, F. Boie (1827) did include a bibliographic reference to an illustration (see Article 12.2.7 of ICZN 1999). It can be noted that H. Boie (1825a) did not examine any additional specimens of this species, as he did in the case of *L. capucinus* (for which the authority is therefore H. Boie in F. Boie, 1827). Russell's (1801) illustration of the snake from "India" was accompanied by a brief description (p. 43) containing at least a few features of likely value, including a ventral count of 202, subcaudals 68, total length 59.7 cm (SVL 50.8 cm, tail length 8.9 cm), and a description of colour: "The head dark brown, the cheeks striped with the same colour; the back is of a lighter brown, having a dull greenish tint, which grows fainter at the sides, and is lost as it approaches the scute [ventral plate]. The belly is white." As the name *L. unicolor* was later also applied to West African *Boaedon* (discussed in detail below), we carefully studied Russell's (1801) drawing (Fig. 4) and the accompanying text. It is immediately apparent that the head of the illustrated snake is somewhat swollen in the temporal region and tapers until the level of the eyes, after which it no longer tapers, resulting in a squarish snout. Also, the dorsal scales are relatively large and indicative of a low midbody scale count. This head shape and scale size combination is typical of the genus *Lycodon*, and the scale counts and total length provided also fall within the known range of variation for both *Lycodon aulicus* and *L. capucinus* (e.g., Whitaker & Captain 2007, Vogel & Harikrishnan 2013, Ganesh & Vogel 2018). The head of a *Boaedon* is usually less swollen at the temples and tapers more gradually towards the snout (see figures below). The midbody scale rows in *Boaedon*

(21–35, compared to 17 in both *L. aulicus* and *L. capucinus*) are relatively numerous (Duméril et al. 1854, Smith 1949, FitzSimons 1962, Trape & Mediannikov 2016, Ganesh & Vogel 2018). *Lycodon unicolor*, presumably on the basis of Russell's (1801) drawing, was treated as a junior synonym of *L. aulicus* as early as Duméril et al. (1854; but see discussion below), and also by others such as Smith (1949) and Bauer (2015). Smith (1949) actually referred to plate 37 in Russell (1801), but presumably this was in error for plate 39. Plate 37 shows a patterned snake later named *L. capucinus* (see F. Boie 1827). It should be noted that the geographical ranges of *L. aulicus* (mostly Indian subcontinent) and *L. capucinus* (mostly south-east Asia), which were and sometimes still are considered the same species, overlap in Myanmar (Whitaker & Captain 2007), which in P. Russell's time formed part of British India. The two species both have unicoloured, patternless morphs, and very similar scalation (O'Shea et al. 2018), and are genetically very closely related (Lei et al. 2014), so it is debateable as to which species *L. unicolor* should be a junior synonym of.

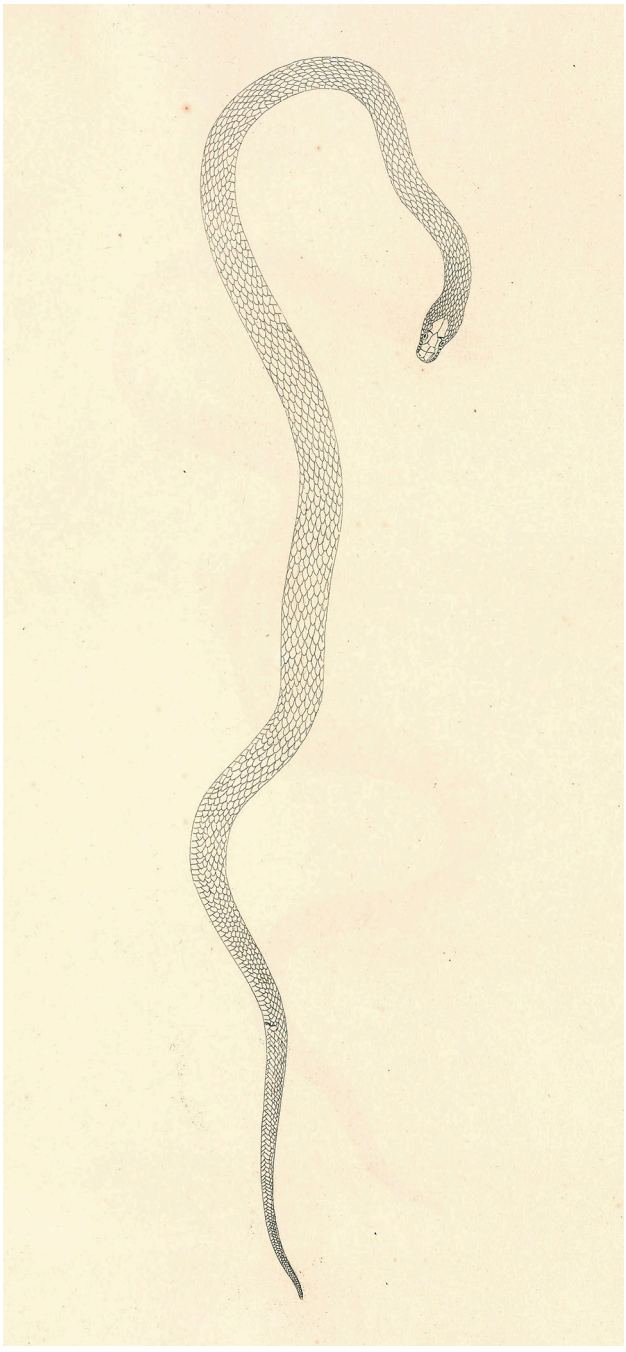

Figure 4. Plate 39 in "A Continuation of an Account of Indian Serpents" by P. Russell (1801) showing a snake "Coluber" later described in F. Boie (1827) as *Lycodon unicolor*.

The title of Russell's (1801) publication includes the words "Specimens and Drawings, Transmitted from Various Parts of India." There were in fact also several specimens from Java that were included. The type locality of *L. unicolor*, which is "India", probably referred specifically to areas which in P. Russell's time were under control of the British (sometimes called the "Indian Empire"), comprising more than just 'India' as currently defined. It can be added that the number "I" following "India" in Russell (1801) refers merely to the first snake/species with the locality "India" in this section/publication (pp. 39–57, plates 33–42), and not to a subdivision of the country. In reviewing the snakes illustrated and 'described' by P. Russell, Bauer (2015) did not provide any additional detail or comments on this locality. Therefore, as there is no way of knowing the exact provenance of the snake depicted in Russell's (1801) plate, and as both species are known to occur in "India", we revise the type locality of *Lycodon unicolor* to 'India, Pakistan, Bangladesh and Myanmar.' The same reasoning can be applied to the type locality of *Cerberus rynchops* (Schneider, 1799), see "Coluber", p. 43, pl. 40, in Russell (1801).

As mentioned above, F. Boie's (1827) description of *Lycodon unicolor* included a reference to his brother's unpublished manuscript, as well as Russell's (1801) plate (and by implication also its associated description). The name *Lycodon unicolor* does not appear in the manuscript draft (H. Boie 1825a), but "Lycodontis unicolor" appears on one of eight pages of snake accounts extracted from Russell's (1801) book and translated into German (Fig. 3). Perhaps H. Boie used these as reference and aid while writing his own texts. He wrote P. Russell's accounts using their original names and plate numbers, in two columns, double-sided on sheets of paper, and subsequently added comments to them. One example was for the snake depicted in Russell's (1801) plate 39. H. Boie struck through the original name ("Coluber") using a different ink and wrote "Lycodontis unicolor m.", obviously having mis-spelled or mis-represented the genus name *Lycodon* (Fig. 3), because *Lycodontis* (Lacepede, 1803) is a fish genus. Even though H. Boie may not have intended to publish on Russell's (1801) "Coluber", perhaps because the specimen was not present in the RMNH collection, or because he was not aware of any records of it from Java, he

was of the opinion that the snake was a "Lycodontis" and therefore named it. He even marked the name as being his, by adding a small letter "m." ('mihi', the dative form of the personal pronoun 'ego', which means 'me' and is equivalent to 'nobis'; see below), as he did with new names in his manuscripts. Boie (1827) credited H. Boie with the name because of that. However, H. Boie did not contribute anything additional to Russell's (1801) figure and description and therefore we do not credit him as an authority of *L. unicolor* (Boie 1825a). Even though the published description of *L. unicolor* is based on the plate and description in Russell (1801), the latter is also not credited as an authority for the species because he did not provide a species name, using only the name "Coluber." The description of *L. unicolor* is therefore based on Russell's (1801) plate 39 (and accompanying text), which clearly depicts an Asian snake in the genus *Lycodon*, and not an African (or Arabian) species in the genus *Boaedon* (see below). Bauer (2015: 18) noted that "Russell's illustrations were unambiguously based on single individuals and many of these then became types, whether or not the specimens had been preserved."

According to Bauer (2015), the specimen used for plate 39 was not specifically listed by the Royal College of Surgeons Museum in 1859 as being amongst others used by Russell (1801), it is also not present in the Natural History Museum (London), and it is therefore not known to be available for examination. In his Table 1 (p. 23), Bauer (2015) treats P. Russell's specimen as a syntype of "*Lycodon unicolor* F. Boie, 1827" and lists it as "lost." According to him, "The original description is based on unspecified specimen(s) referenced in H. Boie's manuscript 'Erpétologie de Java' (1823–1825) and presumably in Leiden [at Naturalis Biodiversity Center] if still extant, and Russell's [...] plate 39." This reasoning explains why Bauer (2015) treated the specimen illustrated and described by Russell (1801) as a syntype, but the mere reference by F. Boie to H. Boie's manuscript (H. Boie 1825a) does not in itself imply that the latter's 'description' was necessarily based on anything more than P. Russell's illustration (and probably its accompanying text as well). In fact, examination of H. Boie's unpublished manuscripts (see H. Boie 1825a) indicated that he had based his 'description' of *L. unicolor* entirely on the plate and accompanying description of Russell (1801). It should also be noted here that even if H. Boie's manuscript 'described' specimens additional to the one depicted in the plate, such specimens could not constitute syntypes as unpublished descriptions do not constitute 'published work' (Article 8 in ICZN 1999) and such designations would therefore be invalid. This reasoning is similar to that of Vogel et al. (2007) with regard to *Cophias wagleri* Boie, 1827. As the description of *L. unicolor* is based only on the snake illustrated by Russell (1801), that specimen constitutes the holotype of this species (Article 73.1 of ICZN 1999). By referring to Russell's (1801) plate, F. Boie (1827) fixed its status as holotype, and therefore Recommendation 73F of the Code (ICZN 1999) does not apply as it is not necessary to proceed as if syntypes may exist.

Schlegel's African *'Lycodon unicolor'*

Hermann Schlegel (1804–1884) apparently worked through much of the material examined and reported on by H. Boie in his unpublished manuscripts. H. Schlegel's "Essai sur la physionomie des serpens" [Essay on Physiognomy of Snakes] was produced in two parts, the first being the "General part" (Schlegel 1837a) and the second the "Descriptive part" (Schlegel 1837b). In the introduction to the first part, Schlegel (1837a: xv–ii) states that the collection used by H. Boie for preparing his "great work on the reptiles of Java" was "entrusted to my care" (translated from French). He should therefore have had access to H. Boie's *Lycodon* specimens, including *L. unicolor* and *L. fuliginosus*, yet he makes no mention of the latter (perhaps because it did not appear in H. Boie 1825a). Regarding the Rijksmuseum's West African holdings, Schlegel (1837a: xxi) noted only that (translated from French): "The climate is unhealthy and destructive for most Europeans who visit the coast of Guinea, and is the cause for natural history objects reaching us in such small numbers from our colony, established on this promising land; however it is due to Professor Eschricht [Daniel Frederik Eschricht, 1798–1863] in Copenhagen that we owe around thirty snakes, collected in the surroundings of Fort Danois ['Danish Fort'], on this same coast." By the end of the 18th, and beginning of the 19th, century only five functioning African forts remained in Danish hands, all in the area of what was later the city of Accra, now the capital of Ghana (DeCorse 2010, Hopkins 2018). The largest, most important and best known was Christiansborg (now also known as Osu Castle), the last Danish stronghold on this coast, which was sold to England in 1850 (Dantzig 1999). It is thus likely that D. F. Eschricht referred to this Danish estate. His collection was made after H. Boie's manuscripts were completed, but it is not inconceivable that a few West African reptiles, perhaps acquired by the museum, were examined by H. Boie.

Later in his publication, Schlegel (1837a: 142–144) lists the various species in the Leiden collection, including 13 species of *Lycodon* (but excluding *L. fuliginosus*), each accompanied by general descriptive information and a region of occurrence. The 'description' of *L. unicolor*, as is the case with all the *Lycodon* 'descriptions', appears to be based on a single specimen (one set of scale counts is presented), and "côte de Guinée" (i.e., 'coast of Guinea') is given as place of occurrence. The term "côte de Guinée" was used at that time for the area in West Africa more-or-less between contemporary Guinea and Cameroon (Fig. 5). Schlegel (1837a) noted that *L. unicolor* is one of only two species of *Lycodon* found in Africa, along with *L. horstokii*, i.e., *Lycophidion capense* (Smith, 1831), distributed in "Cape and the Gold Coast".

In the second part of the "Essai" (Schlegel 1837b) there is an indication that H. Boie may in fact have examined a specimen that he considered to be *L. unicolor*. On page 112, at the beginning of the *L. unicolor* account, H. Schlegel writes: "It is under this name [*L. unicolor*] that the late [H.]

Boie designated the unique individual of a *Lycodon*, which arrived at the Museum from the old academic collection." H. Boie (1825a) refers to only one specimen of *L. unicolor*, namely Russell's (1801) snake which he did not examine personally. So, was H. Schlegel referring to the specimen of *L. fuliginosus* 'described' in H. Boie's (1825b) notes? Perhaps H. Boie had initially assigned the specimen to, and labelled it as, '*L. unicolor*' and it was later considered a new species (*L. fuliginosus*), but the latter was not considered 'final' as the 'description' was not part of the main manuscript (H. Boie 1825a). The "old academic collection" apparently refers to the collection of the "Leidse Universiteit" which contained material collected in the 1600s and 1700s (Holthuis 1995: 11), possibly including specimens from the Dutch Gold Coast. It is not inconceivable that a specimen examined by H. Boie (and perhaps H. Schlegel) was from that area and source. Schlegel (1837b: 112) continued: "Professor Eschricht in Copenhagen was kind enough to give us a small collection of reptiles from the coast of Guinea [collected in the vicinity of "Fort Danois", as noted on page xxi of Schlegel 1837a], this collection contained, among other interesting subjects, about six individuals of our *Lycodon* [i.e., *L. unicolor*]." Schlegel (1837b: 112) then provided a moderately detailed description of the six specimens, noting that the largest had a SVL of 66 cm and TL of 8 cm, and that their colour was uniform sooty brown, becoming lighter at the ventrum. His comments suggest that H. Boie had at least one specimen at hand that H. Schlegel later treated as *L. unicolor*, perhaps akin to the "Fort Danois" snakes and if so, a different species to the one depicted and described by Russell (1801). However, H. Boie does not mention this in his handwritten documents.

The more detailed account of *L. unicolor* in Schlegel (1837b) does not differ in any meaningful way from that in Schlegel (1837a). The primary scale counts in the latter (V 220, Sc 60, Sq 27) are within the ranges presented in the former (V 208–242, Sc 45–74, Sq 27), and these are favourably comparable to the ranges given for West African *Boeadon fuliginosus* by Trape & Mediannikov (2016), i.e., V 201–247, Sc 47–72, Sq 27–33. Of course, there is the possibility that the account in Schlegel (1837a) was merely an 'averaging' of the scalation data presented for the series detailed in Schlegel (1837b), because "as happened often in that period the scale counts of several specimens may have been combined" (Hoogmoed 1980). Both the locality "coast of Guinea" and H. Schlegel's description of D. F. Eschricht's snakes does indeed indicate that they are what is now regarded as *B. fuliginosus* (see Trape & Mediannikov 2016, Trape 2023). However, neither of Schlegel's (1837a, b) 'descriptions' of *L. unicolor* should be considered new species descriptions, even though one

Figure 5. "A New & Correct Map of Negroland and Guinea" by G. Rollos (Fenning & Collyer 1765).

or both seem to have been treated that way by Duméril et al. (1854), Boulenger (1893), Roux-Estève & Guibé (1965), and Hughes & Barry (1969). It is clear from Schlegel's (1837b) own text under *L. unicolor* that he did not consider his 'description' to be that of a new species ("It is under this name [i.e., *L. unicolor*] that the late Boie designated the unique individual of a *Lycodon*, …"). Therefore, Schlegel's (1837a, b) use of the name *L. unicolor* is not equivalent to a homonym as suggested by the aforementioned authors. Also, the '*L. unicolor*' specimens reported on by H. Schlegel are not to be considered types (see below). Schlegel (1837a, b) did not mention Russell's (1801) plate and may not have realised that his West African snakes were not conspecific with the Asian snake (plate 39) as referred to by the Boie brothers.

Introduction of the genus *Boaedon* by Duméril, Bibron & Duméril, and the description of *Boaedon unicolor*

Duméril et al. (1854), in "Erpétologie Général ou Histoire Naturelle Complète des Reptiles" [General Herpetology and Complete Natural History of Reptiles], listed (p. 354) the eight "Asian" species of *Lycodon* recognised by F. Boie (1827), and then (p. 355) 13 *Lycodon* species recognised by Schlegel (1837a, b) that inexplicably excluded *L. fuliginosus*. Duméril et al. (1854) then (p. 357) state that they divide the family "Lycodontiens" into various "tribes", including "Boèdoniens" containing the new "Sous-genre. Boèdon." They apparently use "sous-genre" (subgenus) in the meaning of genus because the next higher category that directly includes it is "tribu" (tribe).

On p. 359, they describe "Boædon unicolor. Nobis." The Latin pronoun 'nobis', literally meaning 'us', was used at that time to mark the introduction of a new taxon. Four species were accommodated in the new genus. In the synonymy of *Boaedon unicolor*, Duméril et al. (1854) list *Lycodon unicolor* Boie, 1827 and *Lycodon unicolor* Schlegel, 1837. Their description of *B. unicolor* is astonishingly detailed and spans more than three pages. Distinguishing characters provided for this species are (p. 359, translated from French): "Reddish brown above, without any streaks on the head or on the body. Greyish white belly." The scale counts (V 220–235, Sc 51–58, Sq 29 or 31) given by Duméril et al. (1854) are, except for midbody scale rows, within the ranges (V 208–242, Sc 45–74, Sq 27) given by Schlegel (1837b). Duméril et al. (1854) note (p. 362) that the species is "native to Upper Guinea [see De Chardin (1889) and Domann (1907) for definitions]; from Cape Lao [= Cap-Lahou, now Grand-Lahou (ca. 5°8' N, 5°1' W), in Ivory Coast – see Domann (1907)]", but the specimens that they examined were from the Gold Coast (i.e., Ghana).

Unfortunately, the five specimens of Duméril et al. (1854) cannot be located because neither accession numbers nor other specific information was provided in their account. We enquired at Muséum national d'histoire naturelle in Paris about the whereabouts of the types and were referred to the online catalogue, but such specimens were not listed. We found only one specimen entry (MNHN RA-0.1334) that may be contemporary with the description of the new genus, as it had been acquired by M. G. Bibron. However, this specimen (that we also examined) cannot be assigned to any of the species described by Duméril et al. (1854) because neither the locality nor the year of its collection are known. With a SVL of about 350 mm and TL 34 mm, Sq 29, V 228 and Sc 63, this snake could belong to any of the first three species of *Boaedon* (the fourth species now belongs to the genus *Pseudoboodon* Peracca, 1897) described by Dumeril et al. (1854) (see FitzSimons 1962, Trape & Mediannikov 2016), although fairly broad bands on the head and a faint medial dorsal stripe indicate that it is most likely referable to the *B. capensis* species complex.

On page 366, Duméril et al. (1854) introduce the tribe "Lycodoniens" and on page 369, they present an account for *Lycodon aulicus*. For this species they provide a number of synonyms, listed under varieties "A" to "F". Under variety "A" they reference Russell's (1801) plate 39 and its accompanying text on p. 42, as well as Boie ("1825" perhaps in error for F. Boie (1827 or in reference to H. Boie's unpublished work) and Fitzinger (1826). It can be noted that in their description of variety "A" of *L. aulicus*, Duméril et al. (1854) refer specifically to P. Russell's snake and add "includes individuals whose entire upper body is uniformly tawny or reddish brown and entirely whitish underneath" and that such a "colouring mode" (presumably in *L. aulicus* specifically) had been observed only in adults "from the continent of India."

The synonymisation of *L. unicolor* by Duméril et al. (1854) under both *Boaedon unicolor* and *Lycodon aulicus* might be explained as follows: They thought that *L. unicolor* F. Boie, 1827 was composite in that it included both the snake from "India" (plate and description in Russell 1801) referred to by H. Boie, which they considered a junior synonym of *L. aulicus*, and at least one snake from West Africa 'described' as *L. unicolor* by Schlegel (1837a, b) which they considered a different species and synonymous with their *Boaedon unicolor*.

In current practice, when using in a synonymy list a species name that includes material referable to more than one species, the bracketed term 'part' is usually added after the name, but this was not the practice at that time. However, because the name *Lycodon unicolor* is associated only with Russell's (1801) figure and description, the West African species (currently called *B. fuliginosus*) cannot be associated with it. The name *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 is therefore the first available name for West African snakes currently called *Boaedon fuliginosus* and it should be applied to them (see Article 23 of the IUCN 1999).

"Boèdon du Cap"

Among the first members of their new genus *Boaedon*, Duméril et al. (1854: 364) described the form from South Africa as a new species, "Boèdon du Cap – Boædon Cap-

ense", based on two specimens. For this Duméril et al. (1854) give as its "patrie" the following: "Cette espèce a été trouvée dans les environs du Cap par le docteur Smith, et en Cafrerie par M. Krauss" [This species was found in the vicinity of Cape Town by doctor Smith, and in Kaffraria by Mr. Krauss.]. While "les environs du Cap" is clearly in reference to the Cape Town area (because 'le Cap', when capitalised, means 'Cape Town' in French), the geographic concept of "Cafrerie" varied in different historical periods. Apparently the most common meaning of this term, as defined in dictionaries at the end of the 18th century, was the following (translated from French): "Cafrerie, feminine, also Cafria, a large country in southern Africa, bounded to the north by Negroland and Abyssinia, west by part of Guinea, the Congo and the sea, south by the Cape of Good Hope, and east by the sea. It is divided into several kingdoms, almost all inhabited by idolaters. [...]" (Erchard 1782: 133). "Cafrerie" thus initially included almost the entire interior of the African continent, including all of southern Africa. However, the mention of "M. Krauss" as the collector of the Kaffraria syntype hints at a more concrete locality. By "M. Krauss", Duméril et al. (1854) are probably referring to Christian Ferdinand Friedrich Krauss (1812–1890), German botanist and malacologist, who collected southern African flora and fauna in the years 1838–1840. In this context, the meaning of the French term 'Cafrerie' should be limited to the area between Cape Colony and Natal that was at that time called 'Kafraria' (also, 'Kaffraria', 'Kaffiria', or 'Kaffirland'), not only in English, but also in German (Fig. 6). The 8th edition of the Encyclopaedia Britannica (1853–1860) explains this term as follows: "Kafraria, or Kafirland, taken in its widest sense as denoting the country chiefly peopled by the Kafirs [Xhosa], extends along the eastern shores of South Africa, from the River Keiskamma, the eastern boundary of the colony of Cape of Good Hope, to Delagoa Bay, a distance of about 700 miles, and stretches inland to a distance varying from 150 to 400 miles from the sea. [...] In the narrower sense

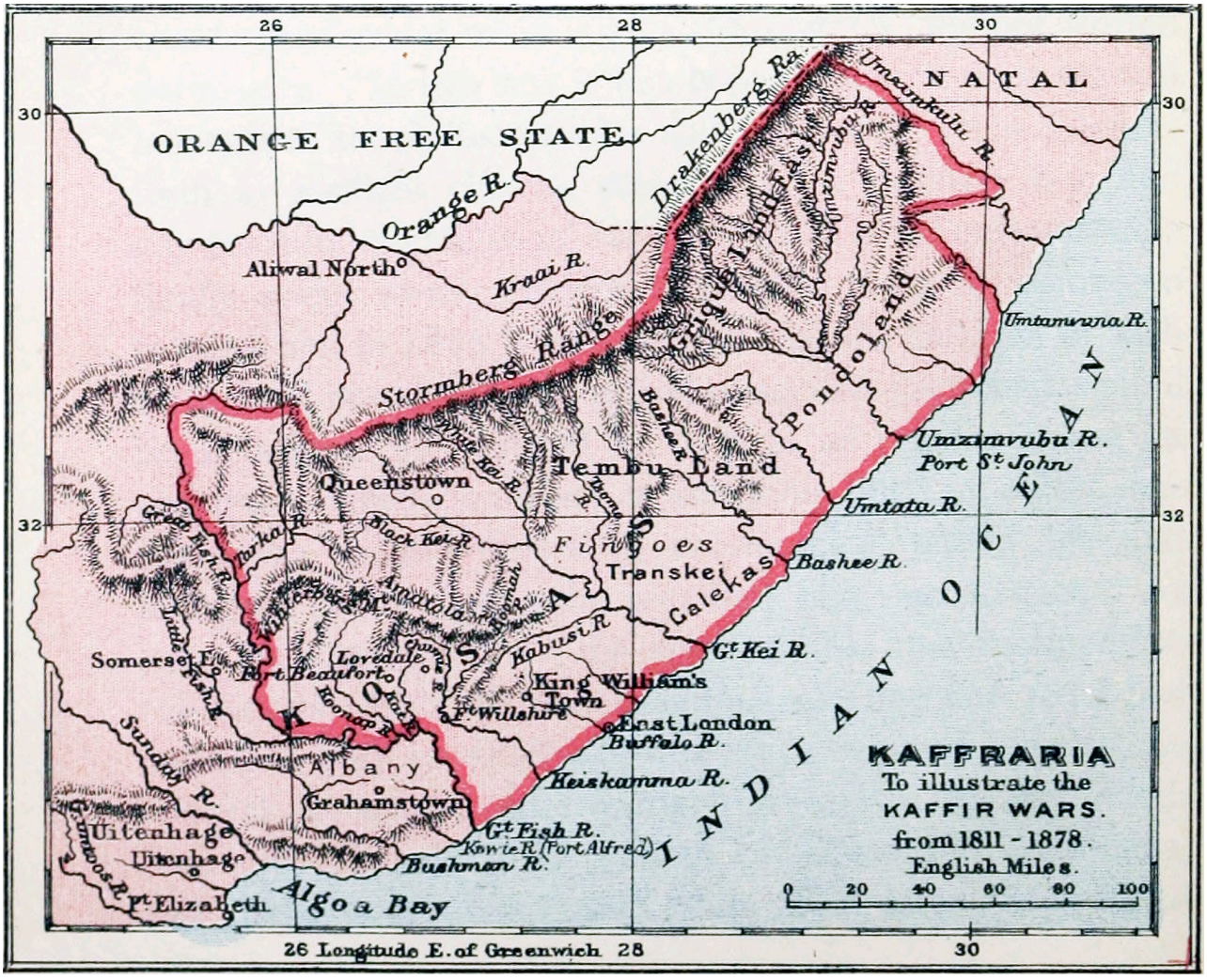

Figure 6. Map of Kaffraria from Lucas C. P. (1897): A Historical Geography of the British Colonies. Volume IV. South and East Africa. – Clarendon Press, Oxford.

of the term, however, Kafraria is taken to include only the two [...] districts lying between the eastern boundary of the Cape Colony and Natal. [...]" (Pine 1857).

The dentition of the new species was described by Duméril et al. (1854), and scale counts given as: Sq 29, V 214–220, Sc 46–51 (within range of variation for southern African females of this species according to FitzSimons [1962]: V 210–228, Sc 45–56). There is no mention of colour by Duméril et al. (1854) or later on by Duméril (1861). This may have been because of confusion with *Lycophidion capense* (A. Smith, 1831), a dorsally blackish snake with fine white speckles, which Duméril et al. (1854) erroneously included in the synonymy of *Boaedon capense*. After Duméril (1861), for well over a century, the name *B. capense* was not used, apparently because it was considered a junior synonym of *B. fuliginosus*, a species thought to occur throughout southern Africa and further north to Senegal in West Africa and Sudan and Eritrea in northeast Africa, with *B. f. mentalis* Günther, 1888 in Namibia (e.g., FitzSimons 1962), until Hughes (1997) revived it as *Lamprophis capensis*, for snakes with a "reticular pattern on the head" (this was almost certainly in reference to the network of brown blotches surrounded by paler scales, present on the neck and often also other parts of the body anteriorly) found from the tip of Africa, through eastern Africa to Somalia. Hughes (1997) also changed the gender of the specific epithet from neuter ("capense") to masculine ("capensis"), in order for it to match the gender of *Lamprophis*.

Gender and spelling of the genus name *Boaedon*

The names of the first *Boaedon* members, including *B. capense*, were introduced by Dumèril et al. (1854) using incorrect grammatical gender. Until the middle of the 20th century the specific epithets, in accordance with the genus name *Boaedon,* were usually neuter. Duméril et al. (1854: 357) explained the etymology of the new noun "Boædon" as "with teeth like in a boa" ("à dents de boa"). In classic Latin the letter 'æ' (letters 'a' and 'e' combined) denotes the diphthong 'ai', pronounced like the 'i' in 'fine'; but the two letters were often written separately (as in '*Boaedon*'), from at least as early as Loveridge (1957). The initial reason might have been technical: Although the letter 'æ' had existed in the old English alphabet, the modern alphabet did not contain it, and therefore it may have been unavailable in typesets used by publishers.

Although this compound of the Latin noun 'boa' and the Greek 'οδόν' (that means 'tooth') should be of masculine gender, because the Greek noun is masculine, Duméril et al. (1854) started using it with specific epithets in neuter. Four years later, Günther (1858) decided to amend the spelling and the grammar. He placed all specific epithets in the masculine gender and spelt the generic name as "Boodon", presumably because the first letter of the word 'odon' was missing in the original spelling. This amended spelling was accepted and adopted by Boulenger (1892, 1893, 1905), Bocage (1895), Ferreira (1897), Monard (1937) and others. However, numerous scientific and popular publications in the 20th century (e.g., Loveridge 1957, FitzSimons 1962, Pitman 1974, Branch 1998) adhered to the original spelling, possibly because Günther's (1858) amendment rendered the first component ('boa'), and thus the etymology, of the name unrecognisable, but even more likely because it did not meet the provisions of the Code (see Article 32 of ICZN 1999: 39). We follow the established use of the genus name – in masculine gender and spelt 'Boaedon' – complying with Articles 30 and 32 of the Code (ICZN 1999: 34, 39).

In the majority of research and popular publications, the genus name *Boaedon* and its species epithets were presented in masculine gender, but neuter forms were used occasionally, even in the 20th century (e.g., Hughes & Barry 1969).

Boulenger's *'Boodon fuliginosus'*

Günther (1858: 199) used the name "Boodon unicolor" (with *Lycodon unicolor* Boie, 1827 and *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 as synonyms) subsequent to Duméril et al. (1854). Duméril (1861) used the name "Boædon unicolor" (with *L. unicolor* Boie as synonym) and noted that the species was native to Cap-Lahou (in Ivory Coast) and the Gold Coast in West Africa. Jan (1863, 1870) also recognised *B. unicolor*, as did Boettger (1881) who added Nianing on the west coast of Senegal as a locality. Therefore, by the end of the 19th century, at least as far back as Schlegel (1837a, b), all authors had used either *Lycodon unicolor* or *Boaedon* (or *Boodon*) *unicolor* for what they considered the same dark-coloured, unpatterned species from West Africa. Quite remarkably, for 65 years following its description, not a single author even mentioned *Lycodon fuliginosus*.

However, George Albert Boulenger (1858–1937), in a key to the genus *Boodon* in a paper documenting a collection of Somalian reptiles (Boulenger 1892: 14–15) used, for the first time, the combination "Boodon fuliginosus". This, however, was a nomen nudum because the binomial was new and a description was lacking (see Article 12, ICZN 1999: 16). As specified by the IUCN (1999: 111): "A nomen nudum is not an available name, and therefore the same name may be made available later for the same or a different concept; in such a case it would take authorship and date [Arts. 50, 21] from that act of establishment, not from any earlier publication as a nomen nudum." A year later, in his "Catalogue of the snakes in the British Museum" (volume 1), Boulenger (1893: 334) clearly considered the name *B. fuliginosus* synonymous with *Lycodon fuliginosus* F. Boie, 1827. On page 334 he provided a description of *Boodon fuliginosus* as a "uniform blackish brown" snake with whitish underparts, V 205–237, Sc 47–67 and Sq 27–31 and listed five snakes (from "Cape Yubi", "Semmio", "W. Africa", and "Africa") with their individual scale counts. Apart

from *L. fuliginosus*, he also listed (p. 334) as synonyms *Lycodon unicolor* Boie, *L. unicolor* non Boie (i.e., presumably the African snakes of Schlegel [1837b], excluding the Asian species illustrated by Russell [1801]), *Boaedon unicolor* Duméril et al. (1854) and his earlier (1892) paper listing "Boodon fuliginosus". In doing so, he clearly indicated that he considered all dark-coloured and unmarked *Boaedon* from western and north-western Africa as conspecific under the name *B. fuliginosus*. But in none of his papers mentioning *B. fuliginosus* did Boulenger (1892, 1893, 1905) make any attempt to explain why he had come to this conclusion. He also did not mention examining the holotype of *Lycodon fuliginosus* described in F. Boie (1827). It seems quite likely, however, that Boulenger's (1892, 1893) decision was based at least in part on the fact that *L. fuliginosus* was described as dark brown and without markings (as were his snakes, although as noted below, the "Semmio" snake has vague cephalic bands), quite different to other *Boaedon* which typically had head banding and sometimes a stripe on each flank. All or at least the majority of authors subsequent to Boulenger (1893) adopted his approach and for 123 years the names *L. unicolor* and *B. unicolor* were not used for any species of *Boaedon* outside of synonymies. Only in 2016 was the name *Lycodon unicolor* used again, without indicating its authority but almost certainly in reference to H. Schlegel's African form, by Trape & Mediannikov (2016) when comparing various species of *Boaedon*. Hallermann (2018: 52) subsequently noted that *B. unicolor* "represents a [junior] synonym of *Lycodon fuliginosus* Boie, 1827 (fide Boulenger 1893)." Nonetheless, Trape et al. (2022) again used the name *L. unicolor* in the same way as Trape & Mediannikov (2016).

It is something of a mystery as to why Boulenger (1893: 334) considered "*Lycodon unicolor* Boie" a synonym of his "Boodon fuliginosus" as the former was already known at that time to be an 'Indian' species (e.g., Duméril et al. 1854). Considering the fact that he treated the names *L. unicolor* (both authorities) and *L. fuliginosus* as synonymous, it is also puzzling as to why he chose the name *B. fuliginosus* instead of *B. unicolor*. Perhaps G. A. Boulenger was influenced by Schlegel's (1837a: 112) comment about a "unique individual of a *Lycodon*" made when he was 'describing' the African '*L. unicolor.*' Boulenger (1892, 1893) might have thought that the comment was in reference to *L. fuliginosus*, and that H. Schlegel was saying that the latter was synonymous with his African *L. unicolor*. But if G. A. Boulenger did consider the above-mentioned names to be synonymous, he should have chosen *B. unicolor*. The name *L. fuliginosus* was in fact mentioned earlier by F. Boie (1827: column 293), but this was merely in a list without an associated description, which means it was nomen nudum. *Lycodon unicolor* was described a few lines up from *L. fuliginosus* on the same page in Boie (1827: column 551), and therefore it would have priority. On the other hand, Boulenger might have realised that the name *L. unicolor* was pre-occupied by the 'Indian' species and therefore listed "*Lycodon unicolor* non Boie", i.e., sensu Schlegel (1837b), as a synonym.

The five specimens of "Boodon fuliginosus" in the British Museum of Natural History (now Natural History Museum, London) listed by Boulenger (1893: 334) appear to be the same five listed by Günther (1848: 199) under the name "Boodon unicolor" in an earlier catalogue of the museum's holdings, although in the latter, the origin of three of these specimens was given only as "from Mr. Rich's collection." Because Boulenger (1892) is the first author to use this name combination, and because of its nomenclatural significance, we provide some detail here about the format that he used in his catalogue. The species accounts were arranged as follows: synonyms, description, measurement of largest specimen (as explained on page vi of the catalogue), then a descriptor for the species' range (e.g., "Interior of South Africa"), and finally a list of all vouchers (but as usual at that time, without museum specimen numbers), often with a set of scale counts (usually midbody scale rows, ventrals and subcaudals, in that order). The ranges of scale counts for all specimens listed at the end of Boulenger's (1893) account (see above) is included in the description, but in the case of his *B. fuliginosus*, there is one discrepancy: the range for subcaudals is given as 47–67, but the highest count in the five specimens listed is only 64.

For "Boodon fuliginosus", Boulenger (1893) gives "Soudan" as geographic range (p. 334). His use of "Soudan" is quite obviously not in reference to the country of Sudan that we know today (or as it was in the 1890s, i.e., "Anglo-Egyptian Sudan", including modern-day South Sudan) but rather in reference to a larger area in Africa known as 'Sudan region'. In the 9th and at that time most up-to-date edition, of Encyclopaedia Britannica, "Soudan" was defined as: "[It lies mainly] between 5° and 18° N. lat., consequently entirely within the tropics, and in its widest sense stretches right across the continent from Cape Verd on the Atlantic to Massowah on the Red Sea. But the term is more usually restricted to the region bounded N. by the Sahara, S. by Upper Guinea and the lands draining to the Congo basin, W. and E. by Senegambia and the Abyssinian highlands respectively (see vol. i, plate II)" (Keane 1887: 227). This region is also shown on some modern physical maps of Africa, such as that of the National Geographic Society (2014).

The specimen from "Cape Yubi" (NHMUK 1889.12.16.50) is attributable to the isolated Moroccan and Western Sahara population of plain-coloured snakes currently identified as *B. fuliginosus* (e.g., Trape 2023). The two specimens labelled "Africa" (of which only NHMUK 1863.10.5.5 is known to still be in the NHM collection), although probably of the *B. fuliginosus* species complex, cannot be assigned species status at this time. However, at least two of Boulenger's (1893) specimens, from "Semmio" (NHMUK 84.5.2.16) and "West Africa" (NHMUK 1851.12.6.14), are probably from within the Sudan region. The latter specimen is almost certainly referable to what is currently considered *B. fuliginosus*, but the Semmio specimen is here considered a separate species (see below), and its collection locality is worthy of special attention.

On maps published at the turn of the century (e.g., Barich 1907) there are two settlements called 'Zemio' in

the same general geographical area, but separated by about 250 km. One of these settlements (ca. 5°01' N, 25°08' E) was situated in contemporary Central African Republic, on the northern bank of Mbomu (now Bomu) River, which forms part of the border with Democratic Republic of the Congo, and the other 'Zemio' was located in what is now Haut Uele district in north-eastern DRC (ca. 4°44' N, 27°18' E). On some older, possibly less complete, maps, only the first Zemio (also spelled "Semmio") is shown (e.g., Wauters 1890: 15). Apparently only the Zemio in Central African Republic still exists, whereas the other place name has disappeared from 20th century maps. We are, however, confident that the present-day town of Zemio in the Haut-Mbomou prefecture of Central African Republic was the collection locality of specimen NHMUK 84.5.2.16, because its collector, Friedrich Bohndorff (1848–1894), also procured other animals, including many bird specimens, from there. One of the main aims of F. Bohndorff's expedition was the exploration of Nyam-Nyam Country where 'Semmio' was situated (Fig. 7), and he spent some time collecting there (Sharpe 1884). Records of collection sites of birds provide more precise information about this locality, e.g., "Semmio (Zemio) on the upper Mbomu R., Oubangui Chari-Congo border" (Clancy 1962: 182). The co-ordinates "6°N 26°E" that appear on the jar containing this specimen are probably a generalisation.

Roux-Estève & Guibé and the status of *Lycodon fuliginosus* and *Lycodon unicolor*

In a paper "Contribution to the genus *Boaedon*", Roux-Estève & Guibé (1965: 307–308) write as follows (translated from French): "*B.* [*Boaedon*] *fuliginosus* was described by Boie (1827) under the name *Lycodon fuliginosus* and was considered to originate from Java. Dr. Brongersma who was so kind as to provide us with information about specimens in the collection of Leiden reported that the type specimen does not exist anymore, and, as to its origin, that it is likely not to have been from Java because the numbers of dorsal and subcaudal scales do not correspond to any genus found in Java. Moreover, he reported to us that it was intended to include in the [unpublished] book 'Herpetology of Java' [by H. Boie] figures of both reptiles and

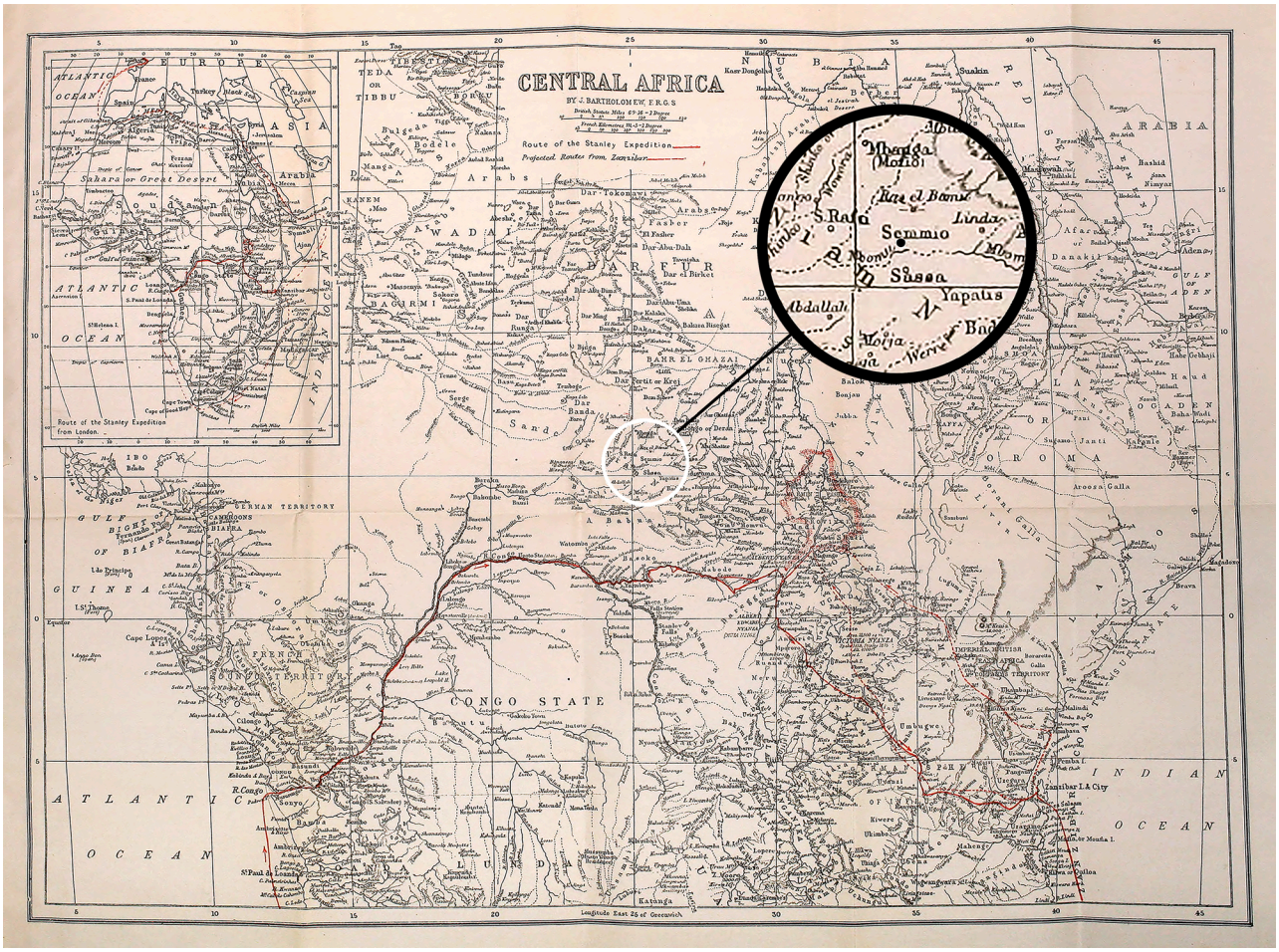

Figure 7. Collection locality "Semmio" in Nyam-Nyam Country (Zemio in present-day Central African Republic) of the proposed lectotype of *Boaedon fuliginosus* Boulenger, 1893 shown on a map of Central Africa by F. R. G. S. Bartholomew (Wauters 1890).

amphibians from Java and from Africa. It appears therefore that *L. fuliginosus* can be considered an African form and even more concretely, from Southern Africa. Actually, according to Dr. Brongersma: 'If Boie had studied the type at Leiden, it is more likely to be a species from the Cape than from Guinea. In the time of Boie we did not have relations with any Dutch colonies at the Guinea coast. At least I never saw any specimen from that region that had been received in the time when Boie worked in Leiden.'"

Roux-Estève & Guibé (1965) continue as follows: "Thus we can consider on the one hand that the type of *L. fuliginosus* Boie has disappeared, on the other hand that the locality of origin is erroneous and that it is an African species. It is curious to note that in 1837, Schlegel [i.e., Schlegel 1837a, b] in his Physiognomy of Serpents makes no mention of *L. fuliginosus*, on the other hand he reports from the coasts of Guinea *L. unicolor*, about which he writes: 'It is under this name that the late Boie described the unique individual of a *Lycodon* which reached the Museum from the old academic collection.' He assimilates to this species a certain number of specimens received from Eschtricht. *L. unicolor* Schlegel does not correspond to *L. unicolor* Boie, which was described from a figure by Russell and since then assimilated to *L. aulicus* Linnaeus: on the other hand, Schlegel's species must be considered as belonging to *L. fuliginosus* Boie."

Roux-Estève & Guibé (1964) report that Brongersma did not locate the holotype of *L. fuliginosus*, but they do not mention any specimens of *L. unicolor* that may have been part of a type series used by H. Boie (apart from the specimen depicted by P. Russell). At that time, *B. fuliginosus* was considered by Roux-Estève & Guibé (1964) to occur almost throughout sub-Saharan Africa and in southwestern Arabia, and *B. lineatus*, *B. capensis* and others were considered its junior synonyms. Therefore, whether the type locality was the Cape or Guinea was of less consequence at that time than it is today.

Roux-Estève & Guibé (1964) noted that Schlegel (1837b) failed to mention *L. fuliginosus*, but that he reported on *L. unicolor* from Guinea. They interpret H. Schlegel's comment "It is under this name [*L. unicolor*] that the late Boie described the unique individual of a *Lycodon* which reached the Museum from the old academic collection," and the fact that Schlegel (1937b) includes under *L. unicolor* a series of Guinea specimens, to mean that "the unique individual" is "*L. fuliginosus* Boie". Roux-Estève & Guibé (1964) also seem to suggest that because "*L. unicolor* Schlegel does not correspond to *L. unicolor* Boie", the specimens 'described' by Schlegel (1837b) under the name *Lycodon unicolor* are *L. fuliginosus*. Presumably they were suggesting that the "unique individual" was the specimen used for the description of *L. fuliginosus*. While this is possible, it is pure conjecture on their part.

So, on the one hand, Roux-Estève & Guibé (1964) strongly suggest that Boie's type of *L. fuliginosus* is from southern Africa, but then they indicate that H. Schlegel's *'L. unicolor'* from the 'coast of Guinea' is conspecific with it.

'Lectotype' of Schlegel's *'Lycodon unicolor'*

More than a century after Schlegel's (1837a, b) accounts, Barry Hughes and David Barry treated "*Lycodon unicolor* Schlegel, 1837" as a junior synonym of "Boaedon fuliginosum" and stated the following (Hughes & Barry 1969: 1013): "Leiden [i.e., RMNH] 295 and 296 include four of the six syntypes collected by [D. F.] Eschricht and on the advice of Mr. M. S. Hoogmoed, number 295a is selected as lectotype and 295b, 296a and b, as paralectotypes; from Gold Coast." These six specimens are the snakes from 'Fort Danois' in Accra reported on by Schlegel (1837b – see above). We have examined colour photographs of the four specimens mentioned above and they are indeed referable to what is now called *B. fuliginosus*. Scalation data for the 'lectotype' RMNH 295a (Fig. 8) are as follows: V 229, Sc 54, Sq 27 or 29, preoculars 1, nasal entire, supralabials 8 (4th and 5th enter orbital), temporals 1 + 2 + 2, anterior and posterior chin shields of equal length, infralabials 8 of which 1st to 3rd are in contact with anterior chin shield, gulars between pair of posterior chin shields and 1st ventral are slightly enlarged and arranged in two pairs. For the 'paralectotypes' RMNH 295b, 296.1 and 296.2, scalation is as follows (Supplementary document 1): V 207, Sc 70; V 243, Sc 58; and V 233 [belly damaged, so possibly 1–2 more plates], Sc 62 [possibly 1–2 more] respectively. These values are within range for plain-coloured *Boaedon* from West Africa currently treated as *B. fuliginosus*. However, these specimens cannot be considered syntypes of *L. unicolor* F. Boie, 1827, which refers to Asian snakes in the genus *Lycodon*. Also, they were donated to the Rijksmuseum after H. Boie's manuscript was prepared (see Schlegel 1837b) and therefore could not have formed part of the original description. However, Hughes & Barry (1969: 1013) seem to have erroneously considered "*Lycodon unicolor* Schlegel, 1837" a separate and valid species, despite the fact that Schlegel (1837b: 112) specifically referred to H. Boie (actually F. Boie, 1827) as the authority of *L. unicolor*. Alternatively, they may have misinterpreted the text in Schlegel (1837b) and thought that the D. F. Eschricht's specimens were in fact examined by H. Boie, which of course they were not.

Hughes & Barry (1969: 1073) were also the first authors to consider *B. fuliginosus* a West African species, indicating its range as "Senegal to Nigeria and perhaps further eastward."

The identity of *Boaedon fuliginosus*

According to Hallerman et al. (2020: 38): "However, meristic scale data and colouration unambiguously identify Boie's *B. fuliginosus* as what most modern authors recognise as the African House Snake, *Boaedon fuliginosus*, although there were no white head stripes noted in the original description, as is occasionally the case in this species." It is unclear which "modern authors" J. Hallermann and colleagues are referring to, because at that time most populations of 'house snakes' across Africa were treated as

B. fuliginosus. But most importantly, the statement about meristic data and colouration is untrue. A similar, but even more holistically formulated claim – that Boie's description of *Lycodon fuliginosus* "unequivocally applies to *Boaedon fuliginosus*" (translated from German) – appeared in an earlier paper (Hallermann 2018).

Regarding the meristic data in the description of *Lycodon fuliginosus*, the only scale counts provided were numbers of midbody scale rows (26), ventrals (225) and subcaudals (58). Here it can be noted that according to Hoogmoed (1980: 11), H. Boie's and H. Schlegel's ventral counts often included "one or more gular scales." In addition, from F. Boie's (1827: column 551) reference to "scutello orbitali anteriori altiori, quam longo" [anterior orbital plate higher than long] one can infer that there was a single preocular. Based on the description of colour in H. Boie (1825b) and F. Boie (1827), i.e., "totus fuliginosus, subtus pallidior" [all sooty, paler beneath], the scale counts given, and the likelihood that the snake originated in Guinea or Cape Town (see above), the only likely species are *B. fuliginosus* (here treated as *B. unicolor*, from West Africa) and *B. capensis* (from south-western Cape of South Africa through southern and eastern Africa to the Horn of Africa). The scale counts provided by H. Boie (1825b) and F. Boie (1827) do match a few species of *Boaedon* in Africa, such as *B. capensis* in southern Africa (FitzSimons 1962) and *B. fuliginosus* in West Africa (e.g., Trape & Mediannikov 2016). *Boaedon lineatus*, another species occurring in West Africa that is often sympatric with

Figure 8. Erroneously designated lectotype (RMNH 295A) of *Lycodon unicolor* F. Boie, 1827 from 'Fort Danois', Accra, Ghana, one of four extant specimens from a series donated by D. F. Eschricht to Rijksmuseum van Natuurlijke Historie (now Nederlands Centrum voor Biodiversiteit Naturalis) and used by H. Schlegel (1837b) for a morphological description of the African '*L. unicolor*'. Courtesy of E. Dondorp, Naturalis Biodiversity Center, Leiden, The Netherlands.

B. fuliginosus (Trape 2023), can be ruled out because it has higher midbody scale counts (29–33) than H. Boie's snake (26), distinct bands on the head, and (usually in that geographical region) a pale stripe extending to at least midbody on each flank (Trape & Mediannikov 2016).

The numbers of ventrals and subcaudals for *Lycodon fuliginosus* given by F. Boie (1827) are within the known range of variation for both *B. fuliginosus* (see Trape & Mediannikov 2016) and *B. capensis* (see FitzSimons 1962). The exception is midbody scale count (26) which is within the lower range for *B. capensis* (25–35, FitzSimons 1962) and slightly too low for *B. fuliginosus* (27–33, Trape & Mediannikov 2016) although, of course, the exact method of counting such scales may differ depending on the examiner. Hoogmoed (1980: 11) was aware of at least one case where H. Boie (1825b) erred with regard to transcribing scale counts from a label to his manuscript. This implies that some scale counts, perhaps even the relatively low 26 midbody rows, were in error or perhaps simply inaccurate. If dorsal scale rows are counted slightly too far anterior of midbody, or too far posterior thereto, it results in lower counts because of scale row reduction (M. F. Bates, unpublished data; see also lectotype of *B. fuliginosus* and neotype of *B. capensis* presented below), which may also explain the count of only 26. On the other hand, since H. Boie usually omitted dorsal scale counts in species accounts but provided such numbers for only a few species, including *Lycodon fuliginosus*, it may indicate that he considered this character important, and he may thus have counted carefully.

Regarding colour, it is impossible to know exactly what was meant by "sooty" (usually defined as dark or blackish), but it can be noted that *B. fuliginosus* (= *B. unicolor*) is dorsally dark brown or blackish (Trape & Mediannikov 2016, Trape 2023) while *B. capensis* in the Western Cape is typically a rich red-brown colour, mottled anteriorly (i.e., the brown is broken up into large blotches set against a lighter background – e.g., photograph in Bates et al. 2014: 358). However, the description in Boie (1827: column 551) also includes the comment: "similar in colour to Col. rufulus Licht. (i.e., *Lycodonomorphus rufulus*). "Coluber rufulus" is not mentioned in H. Boie's (1825a–c) manuscripts. However, F. Boie (1826, 1827) did not specifically mention examining any of the material used by his brother for any of his reptile descriptions, although he did allude to collaborating with him and having access to some European reptile collections, and in the case of at least one species, *Lycodon subcinctus*, he (F. Boie 1827) added two sentences about dentition that suggest he may have examined at least one specimen. At that time in history, F. Boie must have been referring specifically to the description of *Coluber rufulus* by Lichtenstein (1823: 105): "Col. corpore supra sordide rufo infra flavescente-albido, squamis laevibus rhombeatis apice truncatis. 2', Afr. austr." [Col. the body is dirty red above, yellowish-white below, with scales truncated at the left rhombic apex. 2, S. Afr.]. The latter description, regarding dorsal colouration, is most similar to *B. capensis*. A possible explanation is that F. Boie examined a painting of the snake prepared for H. Boie's manuscript, which he used to compare the colouration of the two species. However, no such painting is now present in the archives of the Naturalis Biodiversity Center, although it may have been lost. Alternatively, the "Erpétologie de Java" manuscript presented to the printers (see above) may have included this reference to colouration. Of course, the colouration and colour pattern (e.g., mottling and bands/stripes) of a preserved snake is likely to be less vivid than that of a live one, and depending on its original condition (including where it was in a sloughing cycle) and state of preservation, it could have appeared darker and more uniformly marked than usual. We also observed that a euthanised (but not yet preserved) specimen currently identified as *B. fuliginosus*, that had been uniformly dark brown and even partially olive-brown in life, changed to dark grey less than an hour after death. Moreover, *Boaedon* are known to change between darker and lighter hues depending on environmental conditions (e.g., Knietsch 2006). There is also considerable variation in dorsal colour in southern African *B. capensis*, as described by FitzSimons (1962: 120): "Normally light to yellowish or reddish brown above, or sometimes olive to dark olive brown to almost black in some cases, especially in very old specimens", indicating that some snakes are of a dark brown colour overall. However, in *B. capensis* it is hard not to bear witness to the characteristic pale bands along the head above and (to a lesser extent) below the eyes (Duméril et al. 1854, FitzSimons 1962); and such bands are absent in *B. fuliginosus* (Trape & Mediannikov 2016, i.e., *B. unicolor* Duméril, Bibron & Duméril, 1854). Spawls et al. (2018: 393) noted that in '*B. fuliginosus*', "head stripes and patterns often fade with age."

Two other species of dorsally dark and uniform snakes occur in southern Africa, including the south-western Cape region, but both can be counted out on the basis of their scale counts: *Lycodonomorphus rufulus*, with Sq 19, V 158–179 and Sc 53–86, and *Elaiophis inornatus* (Duméril, Bibron & Duméril, 1854), with Sq 21–25, V 170–196 and Sc 45–70 (FitzSimons 1962).

The type locality of *B. fuliginosus* has been the subject of much speculation. Firstly, it must be noted that even though *Lycodon fuliginosus* was described under the heading "Asiatisch sind" [= Asian are], F. Boie (1827) did in fact (as noted earlier) include the ambiguous comment "Country of origin known" (the last word probably being a misprint for 'unknown') in the actual species description. Even more importantly is the fact that *L. fuliginosus* was initially 'described' in a document (H. Boie 1825b) separate from the main document on the herpetology of Java (H. Boie 1825a), and there was absolutely no indication whatsoever regarding its provenance. FitzSimons (1962: 119) thought that the type locality was given as 'Java' in the original description (i.e., F. Boie 1827). Certainly, some confusion may have arisen because the words "Erp. de Java" followed the name of "H. Boie" whom F. Boie (1827) credited with the description. Although H. Boie's (1825a) manuscript and the actual "Erpétologie de Java" focused on the herpetology of Java, his species 'descriptions' (H. Boie 1825a–c) included taxa from elsewhere, such as Africa and

South America, which had become mixed into the collections (Roux-Estève & Guibé 1965, O'Shea & Kaiser 2016, O'Shea et al. 2018). FitzSimons (1962: 119) 'corrected' the type locality to "Africa", presumably because such snakes were known only from the continent. This was at a time when most described species of *Boaedon* (including *B. lineatus* and *B. capensis*) were considered junior synonyms of *B. fuliginosus*. Broadley (1971: 73) later restricted the type locality to "presumably Cape of Good Hope", but without explanation. Again, this was at a time when southern and western African populations were all treated as the same species, *B. fuliginosus*.

Hallermann et al. (2020: 38) and Ceríaco et al. (2021: 3) were of the opinion that the type specimen of *Lycodon fuliginosus* was collected "en route from Java to Europe." This is indeed a reasonable assumption because the only sea route to south-east Asia at that time was around the western and southern coasts of Africa, although of course the specimen could have been collected on the outward journey. Hallermann et al. (2020: 38) added: "At the time the typical voyages from the Dutch East Indies would have stopped at the Cape of Good Hope (today modern Cape Town) and possibly in West Africa at one of the ports of the 'Dutch Gold Coast', such as Elmina (today in modern Ghana)." This statement was repeated almost verbatim by Ceríaco et al. (2021: 3). Just prior to H. Boie completing his manuscript, the southern tip of Africa had indeed been explored by Dutch naturalists H. Kuhl, J. C. van Hasselt and J. B. van Horstok who all provided material for the Rijksmuseum (Holthuis 1995, Hoogmoed et al. 2010), but there is no direct indication that H. Boie had any West African *Boaedon* available to him (Schlegel 1837a). According to Bischoff (2018: 240), H. Kuhl and J. C. van Hasselt actually collected in Cape Town.

The second part of the claim, i.e., that ships heading to and from the East Indies stopped "in West Africa at one of the ports in 'Dutch Gold Coast', such as Elmina", lacks historical support. While it is not beyond the bounds of possibility that the holotype of *L. fuliginosus* was collected at one of these Dutch ports (in current-day Ghana), it is not unequivocal.

Firstly, before steam vessels were introduced for long-range sea voyages in the second half of the 19th century, only sail ships were used, which obviously depended on winds and oceanic currents (Paine 2014). All such ships going from Europe to Asia and back sailed in the open Atlantic Ocean along the so-called 'Brouwer Route' (devised as early as 1611) and did not approach the West African coast. Their only stop in Africa was at Cape Town (Bruijn 1980: 254). Such ships had no need to call at any other ports, not only of mainland Africa but also in Madagascar and Mauritius, except in extraordinary circumstances. Only ships used for trade with Africa performed dedicated circuit trips along the West African coast (Silva et al. 2010).

Secondly, at that time West Africa was dominated by indigenous rulers and there were no European colonial settlements (unlike, for example, in South Africa), only forts serving defence and as posts for the trade of slaves, gold, ivory and other 'colonial goods' (Elmer & Gommans 2020). In the late 18th and early 19th centuries the exploration of western Africa by Europeans had not yet begun.

Thirdly, the routes of Dutch fleets on the western coast of Africa were not limited to the Guinea coast (i.e., West Africa – Fig. 5) and as early as the 17th century they ranged as far as present-day Angola (Silva et al. 2010). Therefore, a snake could have been brought to the Netherlands (possibly even as a stowaway in cargo) from almost anywhere from contemporary Senegal to Angola, an area that includes at least part of the ranges of several currently recognised *Boaedon* species, although some can be ruled out on account of different scale counts (Trape & Mediannikov 2016, Hallerman et al. 2020, Ceríaco et al. 2021, Trape 2023). Temminck (1835: vi) wrote in the foreword to his "Esquisses zoologiques sur la Côte de Guiné" [Zoological Sketches about the Coast of Guinea] that there were no regularly active collectors on the Coast of Guinea between the time of Willem Bosman (active 1688–1702) and Hendrik Severinus Pel (active 1822–1855). Since H. S. Pel collected after H. Boie's manuscript was written, the holotype of *L. fuliginosus* could not have been collected by him, but there is a theoretical possibility that it was collected by W. Bosman, although this is unlikely considering that fluid preservation had only just been discovered and was not yet commonly used for biological specimens in the 17th century (Simmons 2014: 8–15). If a dead snake specimen was brought to the Netherlands that long ago, it would probably have been a dried animal or just a skin.

Hallermann et al. (2020: 39) then stated the following: "Formerly considered to be distributed in many parts of Africa (Hughes 1997) our results restrict this species to western Africa, from Morocco to northern Angola. On this basis it is likely that the type was collected somewhere on the 'Dutch Gold Coast'." At this point it is prudent to note again that they appear to have ignored the restriction of *B. fuliginosus* by Trape & Mediannnikov (2016) to West Africa, and the fact that the latter authors described *B. perisilvestris* for populations from Cameroon, Central African Republic, Gabon and Republic of the Congo. Also, Angolan populations, for which DNA sequences were not available to J. Hallermann and colleagues – and which have narrow pale bands on either side of the head (visible in specimen MD 5451 from Museo do Dundo, shown in figure 3 in the same paper) – may be referrable to *B. perisilvestris*.

In contrast to their earlier statement about the "unambiguous" identity of *L. fuliginosus*, Hallermann et al. (2020: 38) conclude by suggesting that "a detailed revision of the taxonomic and nomenclatural status of *B. fuliginosus* (with the potential designation of a neotype) is crucial to put to rest all doubts and ambiguities surrounding the identity of true *B. fuliginosus*." Ceríaco et al. (2021: 3) noted that because of the number of taxa currently considered synonyms of *B. fuliginosus* and *B. lineatus*, and "the imprecise data about the type locality of the nominotypical forms, this revision [of the latter two species] may prove to be one of the most challenging taxonomic works of present-day African herpetology."

Considering the above discussion, the comments by Hallermann et al. (2020) and Ceríaco et al. (2021) about the "unambiguous" identity of *L. fuliginosus* are unconvincing to say the least. While Hallermann et al. (2020: 38) seem comfortable with the idea that *Lycodon fuliginosus* is the same snake "that most modern authors recognise as […] *Boaedon fuliginosus*", the name *L. fuliginosus* is without a type specimen, its type locality is uncertain, and as explained above, the description provided clearly does not allow unambiguous species assignment. It is therefore evident that *Lycodon fuliginosus* F. Boie, 1827 is a species of doubtful identity, which we hereby declare a species inquirenda.

Nomenclatural emendations

With *Lycodon fuliginosus* F. Boie, 1827 now designated a species inquirenda, the name *Boaedon fuliginosus* Boulenger, 1893 is available. This name is based on five syntypes (see above) from various localities (type locality: "Africa"). As the name *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 is applicable to the dorsally plain blackish specimens from West Africa (see above and below), we designate specimen NHMUK 1884.5.2.16 as lectotype of *Boaedon fuliginosus* Boulenger, 1893, restricted to Zemio in southern Central African Republic, and describe it below. Boulenger's (1893) other four specimens, labelled "a", "c", "d", and "e", are therefore paralectotypes. Of these, three are extant in the NHMUK collection: 1889.12.16.50 ("Cape Yubi" [Yubi, Morocco]), 1851.12.6.14 ("W. Africa"), and 863.10.5.5. ("Africa"). We could not locate specimen "d" that Boulenger (1893) indicates as subadult ("Hgr."), which was provided by "Prof. Grant."

Description of the lectotype of *Boaedon fuliginosus* Boulenger, 1893

Lectotype: NHMUK 1884.5.2.16 (Fig. 9), from "Semmio, C. Africa" (on bottle label as "6°N 26°E") [= Zemio, Haut-Mbomou, Central African Republic; ca. 5°01' N, 25°08' E], collected by F. Bohndorff, no date. On initial label (by A. Günther) identified as "Boodon unicolor", on additional label (by G. A. Boulenger) as "Boodon fuliginosus". Preserved in ethanol as a skin (i.e., viscera, muscles etc. removed) with complete head. Adult male according to Boulenger (1893), but this could not be confirmed as no everted hemipenes were observed in the base of the tail.

SVL 607 mm, TL 104 mm. V 222 (221 according to Boulenger 1893), Sc. 50 pairs, Sq. 31; scale row reductions anteriorly and posteriorly: 25–27 rows one head length behind head, 28 rows between tip of snout and midbody, 31 rows at midbody, 21 rows between midbody and vent, 21 rows one head length anterior to vent. Supralabials 9 (4^{th}, 5^{th} and 6^{th} enter orbit) on left side of head, 8 (4^{th} and 5^{th} en-

Figure 9. Designated lectotype (NHMUK 1884.5.2.16) of *Boaedon fuliginosus* Boulenger, 1993 from Zemio, southern Central African Republic. Red arrows indicate feeble narrow cephalic bands. Photos by P. Campbell, Natural History Museum, London, UK.

ter orbit) on right side. Nasal divided below nostril. Preoculars 2 left, 1 right (weakly 'divided' horizontally on the anterior part, giving the impression of two preoculars), upper (or only preocular) in contact with prefrontal and frontal; postoculars 2. Loreal about twice as long as high. Temporals 1 + 2. Infralabials 9, three in contact with anterior chin shield. Anterior chin shield about 1.5 times longer than posterior one. Gulars arranged behind posterior chin shields in three pairs. Cloacal shield entire; posterior ventral plate divided more-or-less medially.

Colour (in preservative): dorsum dark brown, but tips of dorsal scales usually paler; ventrum cream, mostly immaculate but with very fine brown dots at the edges of the plates. Indistinct narrow, pale, cephalic and supralabial bands are present on both sides of the head: cephalic bands include a short stripe from the upper postocular extending to the latero-posterior end of the parietal; and there also appears to be a stripe from the lower postocular extending back along 2–3 scales in the temporal region; supralabial band evident mainly as a diagonal stripe on the second last supralabial.

Morphological details for three paralectotypes of *B. fuliginosus* Boulenger, 1893 are given in Supplementary document 2.

The name *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 is available for dorsally plain dark brown or blackish West African populations currently classified as *B. fuliginosus* by Trape & Mediannikov (2016) and others. According to Duméril et al. (1854: 362), the type series of *B. unicolor* is from "Côte d'Or" [= Gold Coast, i.e., Ghana]. It can be added that the specimens studied by Schlegel (1837a, b) and housed in the RMNH (that we have described above) were from the Danish Gold Coast, i.e., current-day south-eastern Ghana, possibly from the surroundings of Osu Castle (formerly Christiansborg) in Accra, capital of Ghana. As the syntypes are lost, we here designate and describe as neotype of *Boaedon unicolor* Duméril, Bibron & Duméril, 1854 specimen NHMUK 2017.1215 from the collection of the Natural History Museum, London, UK.

Description of the neotype of *Boaedon unicolor* Duméril, Bibron & Duméril, 1854

Neotype: NHMUK 2017.1215 (Fig. 10), from Accra, Greater Accra, Ghana, Africa [ca. 5°38'08" N, 0°12'50" W], collected 21.11.1963, at 10 p.m. by B. Hughes in "gutter on north of Legon Hill." Well-preserved male specimen (erroneously as "♀" on specimen tag), with both hemipenes everted.

Body cylindrical, moderately short: SVL 535 mm, TL 112 mm (TL/L 0.17). V 234, Sc 51 pairs, Sq 31. Head narrow, elongate, slightly subtriangular (HL 22 mm, HW 17 mm, HW/HL 0.78), posteriorly ca. 25% broader than neck. END 4.7 mm, SND 1.2 mm, IND 3.0 mm, IOD 5.6 mm. Temporals: 1 + 2. Supralabials 9, 5th and 6th entering orbit (a small additional scale in contact with eye on left side of head between 5th and 6th supralabials). Nasal single. One preocu-

Figure 10. Designated neotype (NHMUK 2017.1215) of *Boaedon unicolor* Duméril, Bibron & Duméril, 1854, from Accra, Ghana. Photos: A. Tiutenko.

lar, in contact with prefrontal and frontal; postoculars 2; infralabials 9, 1st to 4th in contact with anterior chin shield. Anterior and posterior chin shields approximately equal in length. Gular scales between posterior pair of chin shields and first ventral plate are irregular. Hemipenis bilobed, shallowly forked; shaft spinose; approximately 12 rows of spines arranged in chevrons; sulcus spermaticus centrifugal, dividing approximately half-way up shaft.

Colour (in preservative): Uniformly dark brown above, uniformly pale below; dorsal colour gradually becomes paler posteriorly; no pattern on body or tail; upper labials pale; no pale bands on head.

If the name *Lycodon fuliginosus* was applied to populations from the south-western Cape of South Africa, the name *Boaedon fuliginosus* would apply and the name *Boaedon capensis* would become its junior synonym. *Boaedon capensis* is now a reasonably well-established and widely used name for southern and eastern African populations, in use for over 28 years (since 1997), initially as *Lamprophis capensis*. There is no indisputable evidence that H. Boie (1825b) or F. Boie (1827) used the name *L. fuliginosus* for Cape snakes, although such a possibility exists. Absence of a type specimen of *B. capensis* is a problem with regard to the naming of possible cryptic species in large parts of southern and eastern Africa. As the syntypes are lost, and in order to objectively define the species, we designate and describe as neotype of *Boaedon capensis* Duméril, Bibron & Duméril, 1854, specimen NMB R10800 from Farm Mimosa Grove, south-east of the town of Herbertsdale, Western Cape Province, South Africa. This locality is within the area that Duméril et al. (1854) described as 'home country' for this species, i.e., from Cape Town to the eastern border of the Eastern Cape Province.

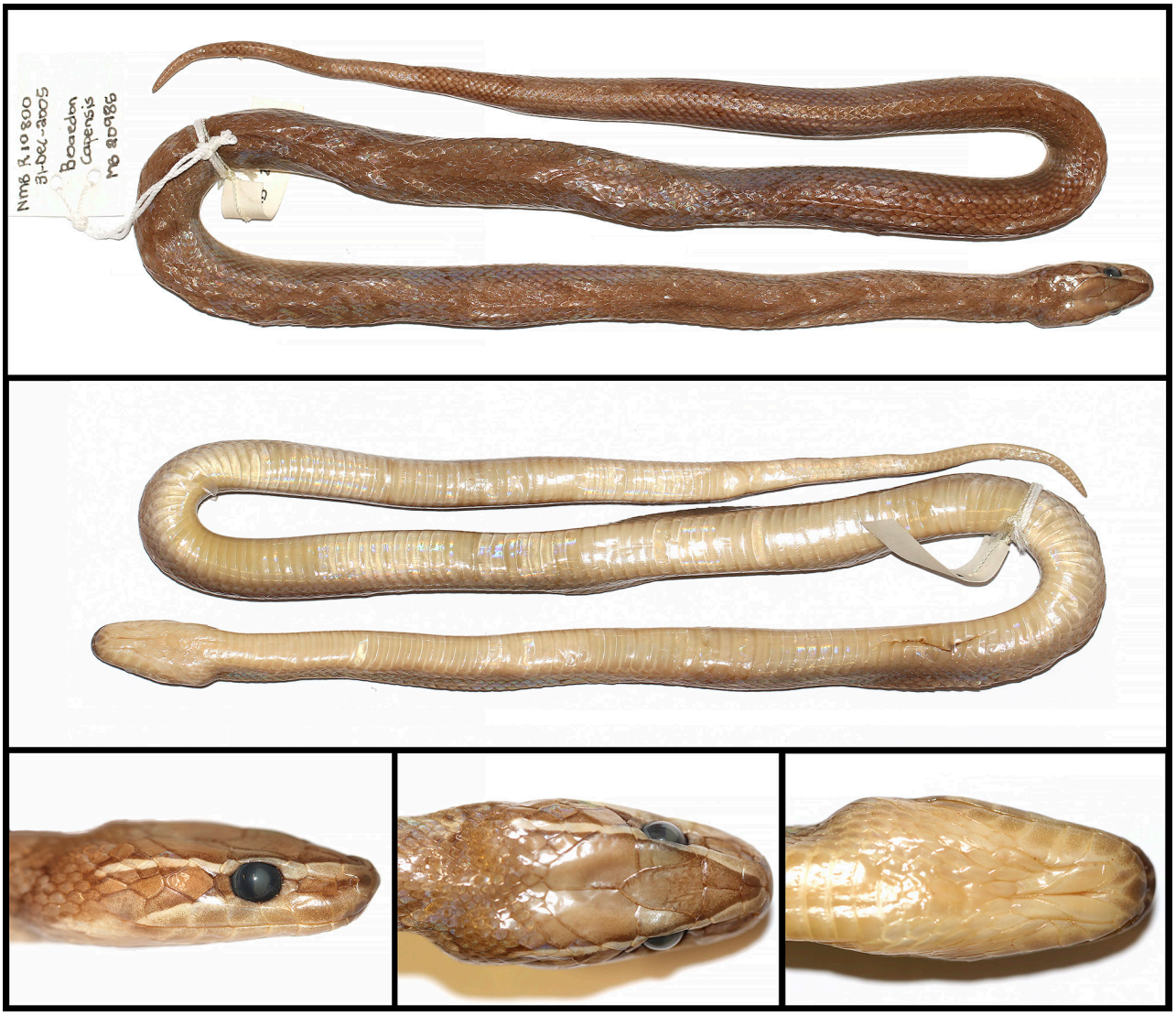

Figure 11. Designated neotype (NMB R10800) of *Boaedon capensis* Duméril, Bibron & Duméril, 1854 from Farm Mimosa Grove, south-east of Herbertsdale, Western Cape Province, South Africa. Photos: M. F. Bates.

Description of the neotype of *Boaedon capensis* Duméril, Bibron & Duméril, 1854

Neotype: NMB R10800 (Fig. 11), from Farm Mimosa Grove, SE of Herbertsdale, Western Cape Province, South Africa [34°05'32" S, 21°47'38" E], collected 31.12.2005, by M. Burger, P. G. Groenewald, S. Stoffberg & K. A. Tolley in a funnel trap in the Fynbos Biome. Well-preserved female specimen, with short ventral incision 15 cm down from tip of snout, and a short incision on the right side of the tail base (to examine for inverted hemipenis, which was absent).

Body cylindrical, moderate: SVL 483 mm, TL 68 mm (TL/L 0.123). Sq [anterior] 27, Sq [midbody] 31, Sq [posterior] 21; V 223; anal plate undivided; Sc 49 pairs. Head narrow, somewhat elongate (HL [tip of snout to angle of jaw, on right side of head] 22.94 mm, HW [greatest width, at level of posterior border of parietals] 11.55 mm, HW/HL 0.503, HD [head depth, at level of posterior border of parietals] 6.69 mm), posteriorly much broader than neck (HW/neck width = 1.57). END 4.43 mm (both sides of head), SND 2.29 mm left, 2.14 mm right; IOD 6.18 mm; IND 3.40; ED 3.12 mm; distance between front of eyes 5.59 mm; prefrontal: 3.09 mm; frontal greatest length: 5.72 mm; frontal greatest width 4.07 mm; frontal (anteriorly) to tip of snout 5.11 mm. Temporals: 1 + 2 (left), 1 + 3 (right). Supralabials 8, 4th and 5th entering orbit. Nostril situated between a large anterior nasal and a much smaller posterior nasal that is weakly divided ('creased') horizontally, and barely separated from the internasal. Preoculars two on either side of head, the upper one in contact with prefrontal and frontal; postoculars 2; infralabials 8, 1st to 3rd (4th narrowly excluded) in contact with anterior chin shields. Anterior chin shields longer than the posterior ones. Gular scales between posterior pair of chin shields and first ventral plate are elongate but irregular.

Colour (in preservative): Body medium brown dorsally, with indications of mottling anteriorly (i.e., groups of darkly pigmented scales, surrounded by weakly pigmented scales, appear as large, indistinct brown spots); dirty-white ventrally, the lateral edges of ventral plates and subcaudals lightly pigmented. Two pale bands are present on either side of the head, running above and below the eye: (i) a distinct, moderately narrow, cream-white band starting from the anterior part of the internasal (where the stripes on either side coalesce) and extending over the top of the eye, terminating abruptly on the nape above the end of the large posterior supralabial; (ii) a slightly shorter, somewhat less distinct (especially anteriorly), cream-white band of similar width starting at the upper part of the third supralabial, extending under the eye where it fades and terminating at the lower anterior tip of the posterior supralabial. The two head bands are 'connected' by a pale lower prefrontal scale. Most supralabials and infralabials are cream and brown.

By declaring *Lycodon fuliginosus* a species inquirenda, the name *Boaedon capensis* remains available for snakes in the south-western Cape which extend in distribution as far north as southern Somalia (Fig. 12C), while *Boaedon unicolor* is limited to the dark plain-coloured *Boaedon* distributed in West and North-West Africa (Fig. 12A). *Boaedon fuliginosus* is now the name of the dorsally dark brown or blackish snakes with patternless bodies and narrow, faint, pale bands on the head (Fig. 12B) that we here associate with the population from Zemio in the Central African Republic, although we predict a more extensive distribution

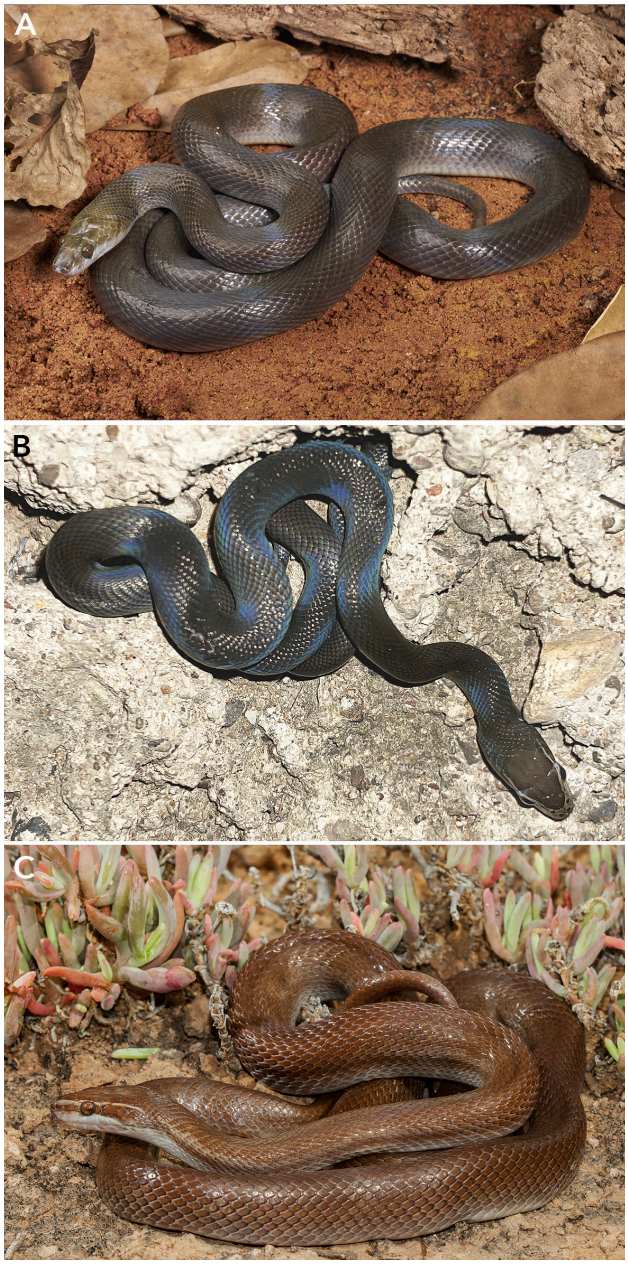

Figure 12. 'Brown house snakes': (A) *Boaedon unicolor* Duméril, Bibron & Duméril, 1854, Tokpli, Maritime Region, Togo (Photo: A. Tiutenko); (B) *Boaedon* cf. *fuliginosus* Boulenger, 1893, Boma National Park, South Sudan (iNaturalist # 253602081); (C) *Boaedon capensis* Duméril, Bibron & Duméril, 1854, Oudtshoorn, Western Cape Province, South Africa (Photo: T. Ping).

east and south of the so-called Cameroon Line, ca. 3°30' N, 8°42' E (Déruelle et al. 1991), i.e., from Cameroon to Ethiopia. Zemio, the type locality of *B. fuliginosus*, is about 1,500 km south-east of the nearest *B. unicolor* record. The Zemio area is considered by Trape (2023) to be one of the easternmost areas of occurrence for *B. perisilvestris*. Should later studies show that the Zemio snake is synonymous with *B. perisilvestris* or some other *Boaedon* species recognised in the region (e.g., Hallermann 2025), then the name *Boaedon fuliginosus* Boulenger, 1893 will have priority.

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References

Barich, C. (1907): Afrika. Bl. 4. – pl. 46 in A. Stieler (ed.): Hand-Atlas über alle Theile der Erde und über das Weltgebäude. – Justus Perthes, Gotha.

Bates, M. F., W. R. Branch, A. M. Bauer, M. Burger, J. Marais, G. J. Alexander & M. S. de Villiers (2014): Atlas and Red List of the Reptiles of South Africa, Lesotho and Swaziland. Suricata, 1. – South African National Biodiversity Institute, Pretoria.

Bauer, A. M. (2015): Patrick Russell's snakes and their role as type specimens. – Hamadryad, **37**: 18–65.

Bischoff, W. (2018): Heinrich Kuhl (1797–1821). – pp. 238–242 in: Bischoff, W. (ed.): Die Geschichte der Herpetologie und Terrarienkunde im deutschsprachigen Raum II. – Mertensiella, **27**.

Bocage, J. V. B. d. (1895): Herpétologie d'Angola et du Congo. – Ministério da Marinha e das Colónias, Lisbonne.

Boettger, O. (1881): Aufzählung der von Frhrn. H. und Frfr. A. von Maltzan im Winter 1880/81 am Cap Verde in Senegambien gesammelten Kriechthiere. – Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft, **12**: 393–418.

Boie, H. (1825a): Amphibia in Erpetologia javanica descripta. Serpentes. – Unpublished manuscript and separate notes.

Boie, H. (1825b): Beschrijvingen van reptielen en amfibieën. In het Latijn. – Unpublished manuscript.

Boie, H. (1825c): Beschrijvingen van reptielen en amfibieën. In het Nederlands. – Unpublished manuscript.

Boie, F. (1826): Generalübersicht der Familien und Gattungen der Ophidier. – Isis von Oken, **1**: 981–982.

Boie, F. (1827): Bemerkungen über Merrems Versuch eines Systems der Amphibien, 1. Lieferung: Ophidier. – Isis von Oken, **20**: 508–566. Boulenger, G. A. (1892): On some reptiles collected by Sig. E. Bricchetti Robecchi in Somaliland. – Annali del Museo Civico di Storia Naturale di Genova, **XII** (XXXII): 5–15.

Boulenger, G. A. (1893): Catalogue of the snakes in the British Museum (Natural History). – Printed by order of the Trustees, London.

Boulenger, G. A. (1905): Report on the reptiles collected by the late L. Fea in West Africa. – Annali del Museo Civico di Storia Naturale di Genova, **II**(XLII).

Branch, B. [W. R.] (1998): A Field Guide to the Snakes and other Reptiles of Southern Africa. – Struik Publishers, Cape Town.

Broadley, D. G. (1971): The reptiles and amphibians of Zambia. – Puku: Occasional Papers of the Department of Wildlife, Fisheries and National Parks, Zambia, **6**: 1–143.

Bruijn, T. R. (1980): Between Batavia and the Cape: Shipping patterns of the Dutch East India Company. – Journal of Southeast Asian Studies, **11**: 251–265.

Ceríaco, L. M. P., A. L. Arellano, R. C. Jadin, M. P. Marques, D. Parrinha & J. Hallermann (2021): Taxonomic revision of the Jita snakes (Lamprophiidae: *Boaedon*) from São Tomé and Príncipe (Gulf of Guinea), with the description of a new species. – African Journal of Herpetology, **70**: 1–30.

Clancey, P. A. (1962): Miscellaneous taxonomic notes on African birds XIX. – Durban Museum Novitates, **6**: 181–194.

Dantzig, A. van (1999): Forts and castles of Ghana. – Sedco Publishing, Accra.

De Chardin, J. T. (1889): La Guinée supérieure et ses missions. Etude géographique, sociale et religieuse des contrées évangélisées par le Missionnaires des la Société des Missions Africaines de Lyon. – Tours, Paris.

DeCorse, C. R. (2010): Early trade posts and forts of West Africa. – pp. 209–233 in: Klingelhofer, E. (ed.): First Forts. Essays on the Archaeology of Proto-colonial Fortifications. – Brill, Leiden–Boston.

Déruelle, B., C. Moreau, C. Nkombou, R. Kambou, J. Lissom, E. Njonfang, R. T. Ghogomu & A. Nono (1991): The Cameroon Line: A review. – pp. 274–327 in: A. B. Kampunzu et al. (eds.): Magmatism in Extensional Structural Settings. – Springer, Berlin-Heidelberg.

Domann, B. (1907): Afrika. Bl. 3. – pl. 47 in A. Stieler (ed.): Hand-Atlas über alle Theile der Erde und über das Weltgebäude. – Justus Perthes, Gotha.

Duméril, A. H. A. (1861): Reptiles et poissons de l'Afrique occidentale. – Archives du Muséum d'Histoire Naturelle, **10**: 18–240.

Duméril, A. M. C., G. Bibron & A. H. A. Duméril (1854): Erpétologie générale ou Histoire Naturelle complète des Reptiles. – Librairie Encyclopédique de Roret, Paris.

Echard, L. (1782): Dictionnaire géographique-portatif. – À Paris. Chez les Libraires Associés, Paris.

Emmer P. C. & J. J. L. Gommans (2020): Africa. – pp. 212–237 in: Emmer P. C. & J. J. L. Gommans (eds): The Dutch Overseas Empire, 1600–1800. – Cambridge University Press, Cambridge.

Fenning, D. & J. Collyer (1765): A New System of Geography: Or, a General Description of the World. Containing a Particular and Circumstantial Account of all the Countries, Kingdoms, and States of Europe, Asia, Africa, and America. – S. Crowder, London.

Ferreira, J. B. (1897): Sobre alguns reptis ultimamente enviados á secção zooloógica do Museu de Lisboa. – Journal de Sciencias Mathematicas, Physicas e Naturaes, **5**: 111–116.

Fitzinger, L. L. (1826): Neue Classification der Reptilien nach ihren natürlichen Verwandschaften. – J. G. Heubner, Wien.

Fitzinger, L. L. (1843): Systema Reptilium. Fasciculus Primus. Amblyoglossae. – Vindobonae, Apud Braunmüller et Seidel bibliopolas, Wien.

FitzSimons, V. F. M. (1962): Snakes of Southern Africa. – Purnell and Sons, Cape Town/Johannesburg.

Ganesh, S. R. & G. Vogel (2018): Taxonomic reassessment of the Common Indian Wolf Snakes *Lycodon aulicus* (Linnaeus, 1758) complex (Squamata: Serpentes: Colubridae). – Bonn zoological Bulletin, **67**: 25–36.

Günther, A. (1858): Catalogue of Colubrine Snakes in the Collection of the British Museum. – Printed by order of the trustees, London.

Hallermann, J. (2018): Die wechselvolle Geschichte der Gattung *Boaedon* von Duméril bis heute. – Sekretär, **18**: 52–56.

Hallermann, J., L. M. P. Ceríaco, A. Schmitz, R. Ernst, W. Conradie, L. Verburgt, M. P. Marques & A. M. Bauer (2020): A review of the Angolan House Snakes, genus *Boaedon* Duméril, Bibron and Duméril (1854) (Serpentes: Lamprophiidae), with description of three new species in the *Boaedon fuliginosus* (Boie, 1827) species complex. – African Journal of Herpetology, **68**: 29–78.

Hallermann, J. (2025): Taxonomy, morphology and distribution of the house snakes of Northeast Africa. – Proceedings of the 23rd European Congress of Herpetology, Bonn: 69.

Hallermann, J. & O. Hawlitschek (2025): Two new species of *Boaedon* from Ethiopia and Somalia, with a review of the species of East Africa. – Zootaxa, **5569**: 119–137.

Holthuis, L. B. (1995): Rijksmuseum van Naturlijke Historie 1829–1958. – Nationaal Natuurhistorisch Museum, Leiden.

Hoogmoed, M. S. (1980): Revision of the genus *Atractus* in Surinam, with the resurrection of two species (Colubridae, Reptilia). Notes on the herpetofauna of Surinam VII. – Zoologische Verhandelingen, **175**: 3–47.

Hoogmoed, M. S. (1982): Nomenclatural problems relating to *Atractus trilineatus* Wagler, 1828. – Zoologische Mededelingen, **56**: 131–138.

Hoogmoed, M. S., M. E. Gasso Miracle & L. W. van den Hoek Ostende (2010): Type specimens of recent and fossil Testudines and Crocodylia in the collections of the Netherlands Centre for Biodiversity Naturalis, Leiden, the Netherlands. – Zoologische Mededelingen, **84**: 1–41.

Hopkins, D. (2018): The Danish Guinea Coast forts, Denmark's abolition of the Atlantic slave trade, and African colonial policy, 1788–1850. – pp. 148–169 in: Osei-Tutu, J. K. (ed.): Forts, Castles and Society. Gold Coast and Dahomey, 1450–1960. – Brill, Leiden.

Hughes, B. (1997): *Dasypeltis scabra* and *Lamprophis fuliginosus* – two pan-African snakes in the Horn of Africa: a tribute to Don Broadley. – African Journal of Herpetology, **46**(2): 68–77.

Hughes, B. & D. H. Barry (1969): The snakes of Ghana: a checklist and key. – Bulletin de l'Institut francais d'Afrique Noire, **21**(A): 1004–1041.

ICZN (1999): International Code of Zoological Nomenclature. – International Trust for Zoological Nomenclature, London.

Jan, G. (1863): Elenco sistematico degli ofidi. – A. Lombardi, Milano.

Jan, G. & F. Sordelli (1870): Iconographie génerale des ophidiens. – J.-B. Bailiére et Fils, Paris.

Kelly, C. M. R., W. R. Branch, D. G. Broadley, N. P. Barker & M. H. Villet (2011): Molecular systematics of the African snake family Lamprophiidae Fitzinger, 1843 (Serpentes: Elapoidea), with particular focus on the genera *Lamprophis* Fitzinger, 1843 and *Mehelya* Csiki, 1903. – Molecular Phylogenetics and Evolution, **58**: 415–426.

Knietsch, V. (2006): Farbwechsel bei einer Hausschlange. – Reptilia, **11**(4): 8–9.

Köhler, G., P. T. Charunrochana, L. Mogk, N. L. Than, N. Kurniawan, A.M. Kadafi, A. Das, F. Tillack & M. O'Shea (2023): A taxonomic revision of *Boiga multomaculata* (Boie, 1827) and *B. ochracea* (Theobald, 1868), with the description of a new subspecies (Squiamata, Serpentes, Colubridae). – Zootaxa, **5270**: 151–193.

Lei, J., X. Sun, K. Jiang, G. Vogel, D. T. Booth & L. Ding (2014): Multilocus phylogeny of *Lycodon* and the taxonomic revision of *Oligodon multizonatum* Juan. – Asian Herpetological Research, **5**(1): 26–37.

Lichtenstein, H. (1823): Verzeichnis der Doubletten des zoologischen Museums der Königl. Universität zu Berlin nebst Beschreibung vieler bisher unbekannter Arten von Säugetieren, Vögeln, Amphibien und Fischen. – Trautwein, Berlin.

Loveridge, A. (1957): Check list of the reptiles and amphibians of East Africa (Uganda; Kenya; Tanganyika; Zanzibar). – Bulletin of the Museum of Comparative Zoology, **117**: 153–362.

Monard, A. (1937): Contribution à l'herpetologie d'Angola. – Arquivos do Museu Bocage, **8**: 19–154.

O'Shea, M. O. & H. Kaiser (2016): The first female specimen of the poorly known Arfak Stout-tailed Snake, *Calamophis sharonbrooksae* Murphy, 2012 (Serpentes: Colubroidea: Homalopsidae), from the Vogelkop Peninsula of Indonesian West New Guinea, with comments on the taxonomic history of primitive homalopsids. – Amphibian & Reptile Conservation, **10**(2): 1–9.

O'Shea, M. O., K. I. Kusuma & H. Kaiser (2018): First record of the Island Wolfsnake, *Lycodon capucinus* (H. Boie in F. Boie 1827), from New Guinea, with comments on its widespread distribution and confused taxonomy, and a new record for the Common Sun Skink, *Eutropis multifasciata* (Kuhl 1820). – IRCF Reptiles & Amphibians, **25**(1): 70–84.

Paine, L. (2014): The Sea and Civilization: A Maritime History of the World. – Atlantic Books, London.

Pine, B. (1857): Kafraria. – pp. 32–37 in: Encyclopaedia Britannica. 8th Edition. Vol. 13. – Adam and Charles Black, Edinburgh.

Pitman, C. R. S. (1974): A Guide to the Snakes of Uganda. – Wheldon & Wesley, Codicote.

Roux-Estève, R. & J. Guibé (1964): Contribution à l'étude du genre *Boaedon* (Serpentes, Colubridae). – Bulletin du Muséum national d'histoire naturelle, **36**: 761–774.

Roux-Estève, R. & J. Guibé (1965): Étude comparée de *Boaedon fuliginosus* (Boié) et *Boaedon lineatus* D. et B. (Ophidiens). – Bulletin de l'Institut fondamental d'Afrique noire, **27**(A-1): 397–409.

Russell, P. (1801): A Continuation of an Account of Indian Serpents. Containing Descriptions and Figures, from Specimens and Drawings, Transmitted from Various Parts of India, to the Hon. the Court of Directors of the East India Company, and

Published by Their Order. – W. Bulmer and Company Shakespeare Press, Cleveland-Row.

Savage, J. M. & C. W. Myers (2006): Case 3357: *Calamaria* H. Boie in F. Boie, 1827 (Reptilia, Serpentes): proposed conservation of usage by designation of *C. linnaei* H. Boie in F. Boie, 1827 as the type species. – Bulletin of Zoological Nomenclature, **63**: 267–271.

Savage, J. M., M. Sparreboom & G. K. Pregill (2025): The Dutch Indies Commission and the herpetological legacy of Heinrich Boie (1794–1827). – Society for the Study of Amphibians and Reptiles, Villanova.

Schlegel, H. (1826): Notice sur l'Erpétologie de l'ile de Java; par M. Boïé (Ouvrage manuscrit.). – Bulletin des Sciences Naturelles et de Géologie, **8**(203): 233–242.

Schlegel, H. (1837a): Essai sur la physionomie des serpens. Partie générale. – M. H. Schonekat, Amsterdam.

Schlegel, H. (1837b): Essai sur la physionomie des serpens. Partie descriptive. – M. H. Schonekat, Amsterdam.

Sharpe, R. B. (1884): Collection of birds made by Herr F. Bohndorff in the Bahr el Ghazal Province and the Nyam-Nyam Country in Equatorial Africa. – Journal of the Linnean Society, **17**(103): 419–441.

Silva, F. R. de (2010): Dutch vessels in African waters. Routes, commercial strategies, trading practices and intra-continental trade (c. 1590–1674). – Tijdschrift voor Zeegeschiedenis, **2010**: 19–38.

Simmons, J. E. (2014): Fluid preservation: a comprehensive reference. – Rowman & Littlefield, Plymouth.

Smith, M. A. (1949): The Fauna of British India, Ceylon and Burma, Including the Whole of the Indo-Chinese Sub-Region. Reptilia and Amphibia. 3 (Serpentes). – Taylor and Francis, London.

Spawls, S., K. Howell, H. Hinkel & M. Menegon. (2018): Field Guide to East African Reptiles. – Bloomsbury, London.

Spawls, S., T. Mazuch & A. Mohammad (2023): Handbook of Amphibians and Reptiles of Northeast Africa. – Bloomsbury, London.

Temminck, C. J. (1853): Esquisses zoologiques sur la Côte de Guiné. – Brill, Leiden.

Thorpe, R. S. & C. J. McCarthy (1978): A preliminary study, using multivariate analysis, of a species complex of African house snakes (*Boaedon fuliginosus*). – Journal of Zoology, **184**: 489–506.

Trape, J.-F. (2023): Guide de serpents d'Afrique occidentale, centrale et d'Afrique du Nord. – IRD Editions, Paris.

Trape, J.-F. & O. Mediannikov (2016): Cinq serpents nouveaux du genre *Boaedon* Duméril, Bibron & Duméril, 1854 (Serpentes: Lamprophiidae) en Afrique centrale. – Bulletin de la Société Herpétologique de France, **159**: 61–111.

Trape, J.-F., O. Mediannikov, H. Hinkel & H. Hinkel (2022): Un serpent nouveau du genre *Boaedon* Duméril, Bibron & Duméril, 1854 (Squamata: Lamprophiidae) dans la région des Grands Lacs africains. – Bulletin de la Société Herpétologique de France, **181**: 1–18.

Vogel, G., P. David, M. Lutz, J. van Rooijen & N. Vidal (2007): Revision of the *Tropidolaemus wagleri*-complex (Serpentes: Viperidae: Crotalinae). I. Definition of included taxa and redescription of *Tropidolaemus wagleri* (Boie, 1827). – Zootaxa, **1644**: 1–140.

Vogel, G. & S. Harikrishnan (2013): Revalidation of *Lycodon hypsirhinoides* (Theobald, 1868) from Andaman Islands (Squamata: Serpentes: Colubridae). – Taprobatica, **5**: 19–31.

Wauters, A.-J. (1890): Stanley's Emin Pasha expedition. – J. B. Alden, New York.

Welch, K. R. G. (1982): Herpetology of Africa: A Checklist and Bibliography of Orders Amphisbaenia, Sauria and Serpentes. – Robert E. Krieger, Malabar.

Whitaker, R. & A. Captain (2007): Snakes of India. The Field Guide. – Draco Books, Chennai.

Supplementary data

The following data are available online:

Supplementary document 1. Photographs of the specimens RMNH 295b, 296.1 and 296.2, considered by Hughes & Barry (1969) paralectotypes of *Lycodon unicolor* F. Boie, 1827.

Supplementary document 2: Morphological details for three of the available four paralectotypes of *Boaedon fuliginosus* Boulenger, 1893.