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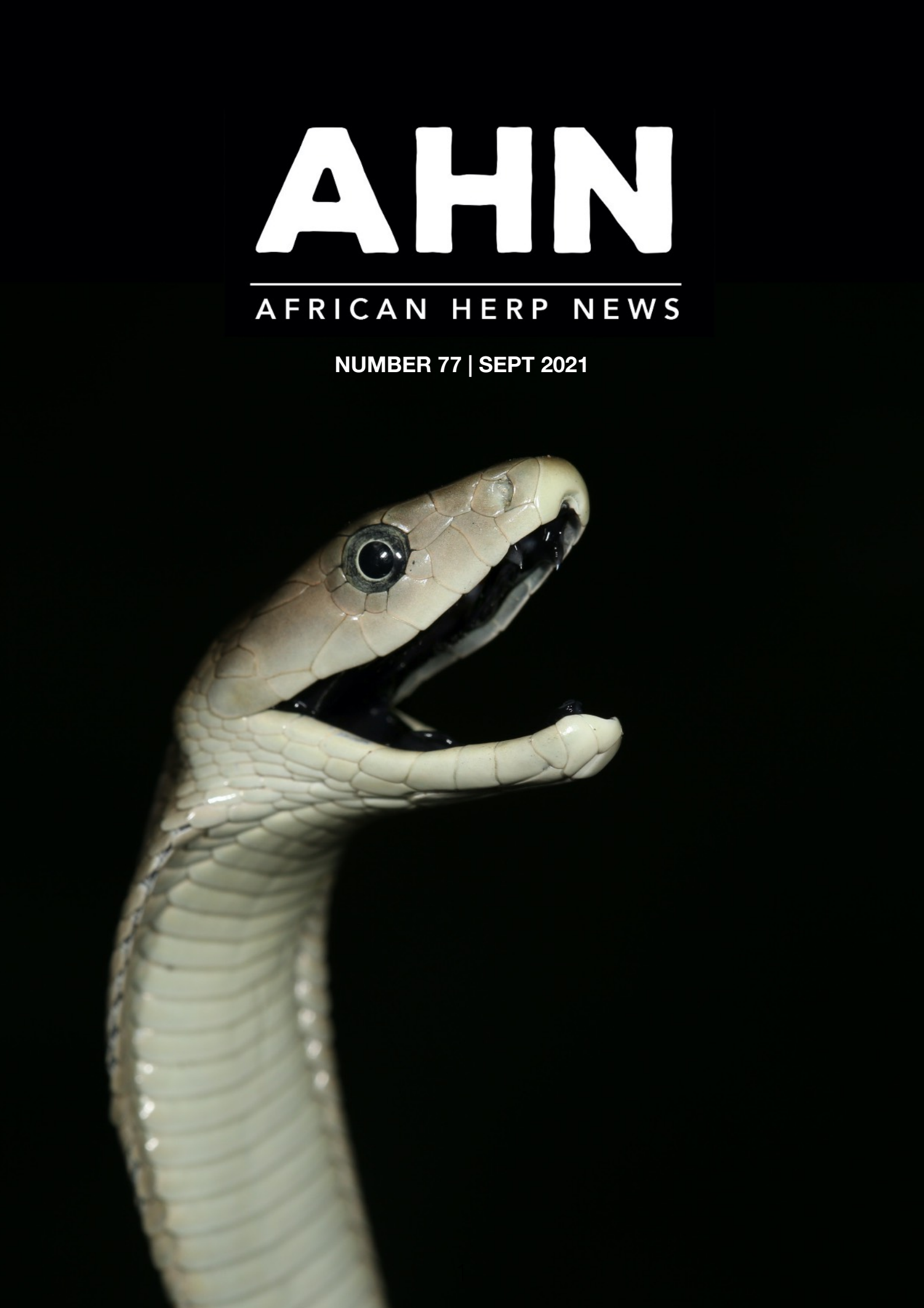

HAA | HERPETOLOGICAL ASSOCIATION OF AFRICA
www.africanherpetology.org

FOUNDED 1965

The HAA is dedicated to the study and conservation of African reptiles and amphibians. Membership is open to anyone with an interest in the African herpetofauna. Members receive the Association's journal, African Journal of Herpetology (which publishes review papers, research articles, and short communications – subject to peer review) and African Herp News, the Newsletter (which includes short communications, natural history notes, book reviews, bibliographies, husbandry hints, announcements and news items).

NEWSLETTER EDITOR'S NOTE

Articles shall be considered for publication provided that they are original and have not been published elsewhere. Articles will be submitted for peer review at the Editor's discretion. Authors are requested to submit manuscripts by e-mail in MS Word '.doc' or '.docx' format.

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NEWSLETTER SUPPORT

Darren Pietersen, Acting Co-Editor
Jody Barends, Administrative Support

COVER PHOTOGRAPH

Dendroaspis polylepis (Durban, KwaZulu-Natal, South Africa)
Image Courtesy: Nick Evans

:: COMMITTEE OF THE HAA ::

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AHN EDITORIAL

Your opinion matters and we want to hear it!

Since taking on the role of Editor for African Herp News in 2017 (AHN65), I have tried really hard to listen to the needs of our members – these have mainly come in as concerns, opinions and requests voiced during conference AGMs, survey inputs, emails to the HAA committee or by reaching out to me directly. I have valued all of these inputs as they have resulted in every HAA newsletter being digitized and freely available on our website (pending a one year embargo), the creation of two new newsletter sections intending to inform and connect young African herpetologists (Tomorrow's Herpetologist Today and Tracks in the Sand), the early makings of an online database enabling anyone to search for AHN content quickly and easily (almost ready to be released…so stay tuned), and the addition of some behind-the-scenes support to help improve the quality of the newsletter. Thank you to everyone for your input, and please keep it coming.

At the end of August, a survey was emailed out to all members and authors of the HAA's two publications – African Herp News and African Journal of Herpetology – in order to gauge your satisfaction with the association's publications. We want to ensure your opinions and concerns reach us so that we can further improve upon the products and services we provide you. Please take the time to complete this short survey (also available here)!

Jessica da Silva
Editor

15th Conference of the Herpetological Association of Africa

Hoedspruit, Limpopo
South Africa
Tentatively January 2023

Further details will be announced as they become available!

Social Media and the HAA

The HAA is inviting you to better connect with the organization, its members and African herpetology in general, through the various social media platforms available.

Website: https://africanherpetology.org/

Facebook: https://www.facebook.com/HerpetologicalAssociationofAfrica
@HerpetologicalAssociationofAfrica

Twitter: https://twitter.com/AfricaHerp @AfricaHerp #HAA

YouTube: https://www.youtube.com/channel/UC3GCljjwDno_gfiDdsOLX8A (HAA webinars)

***Slack**: HAA-CSD (HAA Collaborative Skills Development) https://haa-csd.slack.com/

*See additional announcement for details about the Slack platform

Jeanne Tarrant
Webpage/Social Media

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TRACKS IN THE SAND

Following the journeys of professional herpetologists

GRAHAM ALEXANDER

GRAHAM ALEXANDER

As a seven-year-old boy I had a deep fear of snakes. I remember having nightmares about them, but the gift of a brown house snake by one of my uncles when I was eight changed all that (Seminal Moment 1). Maybe it was the conquering of my fear that resulted in my sense of wonderment – I was mesmerized by every aspect of my new and unusual pet. Every time I visited my (now firmly favourite) uncle, I would page through his copy of *Snakes of Southern Africa* (FitzSimons 1962) and absorb the contents like a sponge.

A young Graham Alexander with House snakes.
Photo: Mary Alexander

These events might not seem strange by today's standards, but in the late 1960s people simply did not keep snakes as pets – my newfound interest was seen by all around me as utterly bizarre. But there was one other person who did not think it weird: my aunt Anne Alexander, a professor in the Biology Department at the (then) University of Natal. She carefully nurtured my interest in reptiles and biology over the following years. This resulted in a very strong bond and friendship between us until she was tragically killed in an accident while 'doing biology' in 1995. To quote Paul Simon, these were the days of miracle and wonder for me.

In the years following my introduction to snake biology, my interest in reptiles grew as did my snake collection. Fortunately, it was then legal to keep all but a few of Natal's indigenous species. By my high school years, it was a *fait accompli* that I would be going to university to study biology.

After a two-year interlude that included military training and the participation in the war in Namibia and Angola, I enrolled for a BSc Biology degree at Natal University in Durban. I think that being dragged into a war against my will – a war that people in South Africa seemed largely ignorant of – deeply affected me. I promptly failed Chemistry 101 but did manage to become an accomplished pool player at the local pub, supporting Malcolm Gladwell's hypothesis of the 10,000-hour Rule (Gladwell 2008).

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Several of the academics in the faculty were of the opinion that I was simply 'not university material' and proceeded to tell me so. This crushing failure was probably what I needed to shake my world view and get me to focus on my studies. My second attempt at first year followed a very different trajectory and I ended up conquering my nemesis by coming top of the chemistry class of 350 students.

During a biogeography lecture in my third year, the eminent herpetologist Prof John Poynton, who lectured the course, mentioned that a new edition of FitzSimons' snake book (Broadley 1983) had recently been published with updated distribution maps. He asked if anyone in the class might like to use this new dataset to do a biogeographic analysis of snake distributions in southern Africa for an honours project under his supervision.

I remember running to see him immediately after the lecture (Seminal Moment 2). Never in my wildest dreams had I thought that I would actually get an opportunity to do research on reptiles – herpetology was certainly not a mainstream research thrust in those days. It is only a relatively recent phenomenon that species of herpetofauna have risen in prominence as model organisms in several biological fields (with a few notable exceptions such as *Xenopus* for developmental biology). And so, I ended up analysing Broadley's (1983) updated maps as one of my two honours projects.

Scratching around in 1984 with Richard Russel. Photo: J Marais

TRACKS IN THE SAND

Following the journeys of professional herpetologists

Snake demo. Fitzsimons Snake Park Postcard.
Photo: G. Coulon

The focus on herpetology in my honours' year set the scene: John introduced me to several of the most prominent South African herpetologists of the day and encouraged me to attend HAA conferences, which were a relatively new thing then. I was even witness to the very public and famous heckling and shouting match between John Visser and Bill Branch during one of Bill's presentations (July 1985; Pietermaritzburg)! Suffice to say, interactions during conference presentations seem to have become ever more sedate and polite over the years. In my honours year I also met Johan Marais. We instantly forged a friendship that persists today, and together, we established a Natal Branch of the HAA which functioned for several years. In addition to mentoring me on the photographic side of herpetology, he introduced me to Fritz Muller, then owner of FitzSimons Snake Park, and I secured a part-time job on the spot. As a student I worked weekends, performing snake demonstrations to the public, and curating the snake collection for a princely sum of R25 per day. Being thrown in the deep end like this provided me with a 'sink or swim' opportunity, and out of necessity, my snake handling skills improved very rapidly.

My work at FitzSimons Snake Park provided other significant benefits. For my MSc, also under John's supervision, I tapped into an amazing data source by recording the details of all snakes brought to the snake park by members of the public. This, and several other data streams including good old fieldwork (or as Johan likes to call it 'scratching around'), allowed me to map the distributions of the herpetofauna in Durban at a previously unheard-of resolution (500-m grid; laughable by today's standards). I still hope that this dataset (Alexander 1990) will one day be used as a comparison to measure how distributions of the herpetofauna have changed in Durban since the 1980s. I believe that this comparison would reveal nuances of the impacts of climate change and urbanization on the herpetofauna.

While employed by Westville Municipality in 1988 as its very first Environmental Officer, I was approached by Dr John Mendelsohn, then director of the State Museum in Namibia. He asked if I would be interested in the position of Curator of Herpetology. Of course, I accepted (Seminal Moment 3). While employed at the museum, I was invited on a collaborative field trip to Port Nolloth

with Dr Mary Sealy, then director of the of Gobabeb Research Centre, several researchers from (then) University of Port Elizabeth and three researchers from Wits. A week after this trip, Wits contacted me with an invitation for an interview which resulted in me being employed as a Visiting Associate from July 1989 (Seminal Moment 4), completing a PhD under the supervision of Prof Duncan Mitchell and Prof Shirley Hanrahan, and working my way through the ranks to become a full professor in the School of Animal, Plant and Environmental Sciences.

I have now been at Wits for more than 30 years. It is my home. My interests in herpetology have broadened to include aspects of physiology, ecology, biogeography, evolution, conservation biology and life history across the breadth of the herpetofauna. I have established a research lab, 'The Alexander Herp Lab', which is a vibrant, active and nurturing environment for students, and which is currently home to a diverse crop of postgraduate students and postdoc fellows. I am also part of several national and international collaborations.

My personal research interests now focus mainly on snake ecology: snakes are truly remarkable predators and are model organisms in ecology and physiology due to their simplicity and because they are extreme in many ways. The importance of snakes as ecosystem stabilizers is greatly underappreciated and so some of my research is now aimed at investigating aspects of predator-prey relationships to reveal their importance in ecosystems.

TRACKS IN THE SAND

Following the journeys of professional herpetologists

Graham Alexander fieldwork in the Kalahari 2018. Photo: Bryan Maritz

I am also passionate about conservation and have for a long time been involved with IUCN conservation assessments of South Africa's reptiles, and the frog and reptile atlas projects. I believe that these research thrusts have already had significant impacts on the conservation of South African herpetofauna and will continue to improve our knowledgebase. I also regularly participate in a wide range of activities that can be grouped under the title of academic citizenship. These range from journal editorial duties, reviewing journal manuscripts, and serving on ethics committees and specialist groups. And of course, I lecture at all undergraduate levels, and have acted as external examiner for undergraduate courses and postgraduate students for several universities.

I am truly privileged that my passion became my occupation and career, and if I had to make these choices again, it would follow the same path. You may be interested to know the life lessons I've learned and significant observations I have made over this time. So here is my top-10 list – and I am shooting from the hip:

1. *Passion and enthusiasm are massively important*. You need to love doing what you choose as a career. When I was an undergraduate, my parents recommended that I should major in geology – there were many available jobs for geologists at the time and very few for biologists. But Anne advised that I should follow my passion, and said that if I did, I would shine. For every one of the positions that I have held in my career,

my employers sought me out – my passion for my work made me stand out. I have never once had to actually look for employment.

2. *Research should be fun*. If it is not, stop and change track. I do not mean 'fun' in the frivolous sense, but rather in the sense that your research should be engaging, interesting, challenging and broaden your horizons. You must never stop learning. This is one of the reasons why an academic or research-based job is so much better than mundane jobs which are mastered within a few years and then bore you all the way to retirement and death.

3. If you are lucky enough to hold an academic position, or even if you are still a postgraduate student, *take your academic citizenship seriously*. For example, you should review manuscripts for scientific journals – see this as your duty. Any journal editor will tell you how difficult it has become to find willing reviewers in today's selfish world.

4. As Black Adder once said, "Baldrick, thinking is so important". In the drive to maximise number of publications, science has become more simply mechanistic in its approach – it explains the rise of the 'smallest publishable unit'. Think about those truly influential papers that have had the biggest impact on your way of thinking and views in science. That should be your target – *spend time thinking so you can produce those impactful papers yourself*. Don't be like Baldrick and focus on bean counting.


Graham Alexander and student Shivan Parusnath. Photo: Bryan Maritz


Graham Alexander and Harry Greene, Kwalata. Photo: Kelly Zamudio


Graham Alexander photographing in Madagascar. Photo: Kim Wilson

5. *Don't accept co-authorship on papers when you don't really deserve it* – it is not ethical. Co-authorship is not earned simply by the provision of a few tissue samples. You deserve co-authorship only if you have significantly added to the academic stature of the publication. You will know deep down when you deserve it – do not become a co-author prostitute.

6. I have already mentioned the 10,000-hour Rule. *You need to do the time*, engaged – that means meaningful work – to achieve mastery of your chosen discipline. Get down and do it.

7. Although I do not profess to be a taxonomist or systematist, I think that it is time we revisited the ideas around species concepts and how these are applied in the modern synthesis of biodiversity. In my opinion the documentation of biodiversity and description of 'new' species has become too formulaic and sometimes lacks biological meaning – it should not be the same as stamp collecting. *Taxonomic inflation devalues species as conservation units*.

8. *The rampant proliferation of red tape threatens productivity and advancement in science*. This includes ever increasing requirements for permits and ethical clearances. It seems that biological researchers are often lumped with collectors when being evaluated by the authorities for permit applications. This needs to change – conservation depends on thorough science.

Photo: Bryan Maritz

9. I have seen the face of publishing change over the last decades: predatory journals, ever shortening papers and smaller publishable units. It is devaluing good science. Where will this end – will theses end up being submitted on Twitter?

10. And realise that in all of this, your success also depends on luck. Life can seem unfair and sometimes you need to wait for what has gone around to come around. Remember that once the toys are out the cot, you can no longer play with them, so refrain from throwing them. *Be patient*.

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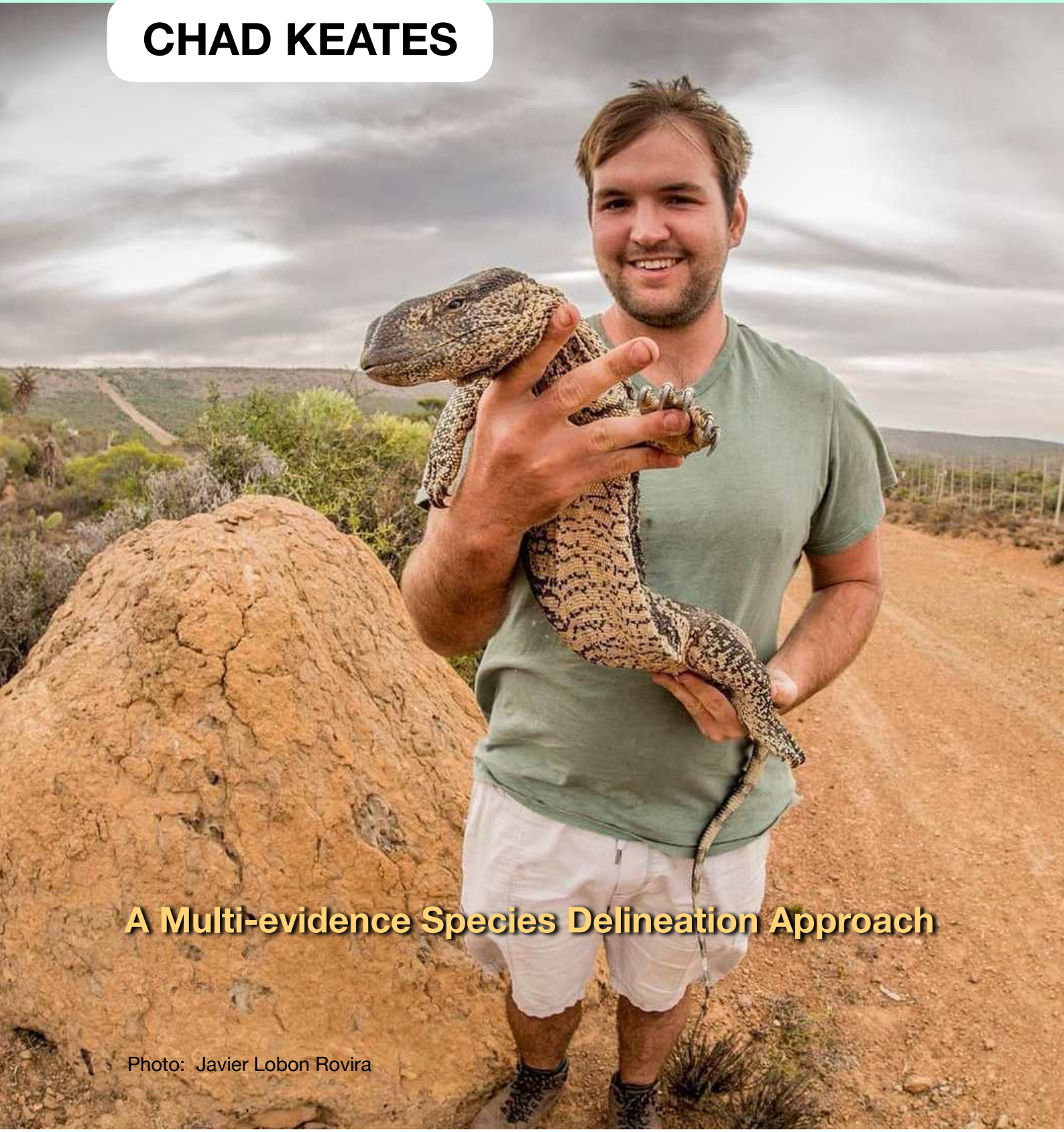
TOMORROW'S HERPETOLOGISTS TODAY

CHAD KEATES



A Multi-evidence Species Delineation Approach

Photo: Javier Lobon Rovira

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TOMORROW'S HERPETOLOGISTS TODAY

CHAD KEATES

Chad Keates with *Chondrodactylus bibronii Photo: David Taylor*

Species form the foundation upon which we build our understanding of the natural world; however, our understanding of what exactly constitutes a species is stunted by the intrinsic 'fuzziness' of the boundaries within nature. Due to the complexity of evolutionary processes, coupled with an ever-changing physical environment, many species are difficult to delineate, even at the best of times. This is because taxonomy is a discrete ordering system imposed upon the continuous and intercalated structure of life. Whilst various species concepts and methods of species delimitation have helped scientists tease species apart, many taxonomical conundrums persist.

One such group is Psammophiidae, a cross-continental family of lamprophiids, approximately 55 species strong. With a distribution that stretches from the southern-most tip of South Africa through southern Europe, the Middle East and all the way to southeastern Asia, it is one of the largest snake families around. An infamous snake family, the group has been tackled by many of the best herpetologists, each building on our knowledge of these snakes. Irrespective of this, the group remains problematic with several glaring gaps in our knowledge persisting.

Chad Keates, a post-doctoral fellow at the Wetland Ecology Laboratory at Rhodes University, sought to remedy some of these knowledge gaps in his PhD dissertation entitled *'Integrative Systematic Structuring of the Widespread Psammophiid Snakes (Psammophiidae): A Multi-evidence Species Delineation Approach',* which he handed in just a few months ago. As the title suggests, the thesis was systematic-based and utilized both molecular and morphological biology to elucidate the most accurate systematic structuring of the family across multiple taxonomic levels. To do this, the thesis was split into three distinct sections, with the first focusing on the family level (Psammophiidae), the second on the genus level (*Psammophylax*) and third on the species level (*Psammophylax rhombeatus*).

The first chapter, the most ambitious of the thesis, utilized a near-complete sampling approach, with representative sampling from every sequenced species of the family. In addition to what was already found on online molecular repositories, the study was supplemented with two newly sequenced animals (*Hemirhagerrhis nototaenia* and *Psammophis zambiensis*) and countless novel samples for many species of the family. The chapter used several genetic methods (standard and time-calibrated phylogenetic modelling, distance/threshold-based species delimitation) to elucidate the finer-level structuring within the family.

Chad Keates with *Psammophylax rhombeatus*. Photo: Luke Kemp

Geometric morphometrics (body shape analysis) was also used to determine whether there were diagnosable differences in head structure between the different genera. The final phylogenetic tree incorporated 320 samples, representing the most comprehensive phylogenetic reconstruction of the family to date. The robust sampling afforded to the study helped resolve several previously unsupported relationships within the family whilst also highlighting several novel instances of an under- and over-appreciation of species diversity. Geometric morphometrics also identified clear distinctions between genera based on head shape (head width and 'beakedness').

In the next component of the thesis, Chad implemented the methodology from the family-level component at the genus level. *Psammophylax* (Fitzinger 1843), an African endemic, is a widespread family of African grass snakes with a suite of widespread, sympatric species. The presence of multiple enigmatic subspecies, coupled with the recent placement of *Rhamphiophis acutus* within the synonymy of *Psammophylax,* made the genus the ideal candidate for a multi-faceted systematic assessment to elucidate its most accurate taxonomy of the group. This section, which has since been published in the *Journal of Zoological Systematics and Evolutionary Research,* represented a massive step forward in our understanding of the grass snakes.

Molecular analyses recovered a similar topology to past studies, but with better molecular support (phylogenetic resolution and node support was improved). In addition to resolving the placement of several subspecies within the genus, Chad also found molecular evidence enough to warrant the recognition of a new genus to house *Ps. acutus* and *Ps. togoensis*. The molecular results were supported by morphological data which retrieved *Ps. acutus* as significantly different to the rest of *Psammophylax*. Based on the 'beakedness' of the snakes, the name '*Kladirostratus*' was chosen in honour of the late Bill Branch. Increased sampling in East Africa (Tanzania, Kenya, and Ethiopia) revealed that *Psammophylax multisquamis* represented two species (polyphyletic), necessitating the description of a new, morphologically cryptic species from northern Tanzania (*Ps. kellyi*). This species was named in honour of Christopher Kelly for his remarkable contribution to our understanding of Psammophiidae, during his own PhD. The distribution of true *Ps. multisquamis* is likely restricted to Kenya and Ethiopia. Whilst effective at teasing apart genera within the family, geometric morphometrics was unable to effectively delineate species, indicating a potential for convergence of form in relation to ecology for members of the grass-adapted genus. In the final component of the thesis, Chad investigated the evolutionary structuring within the Southern African endemic, *Psammophylax rhombeatus.*

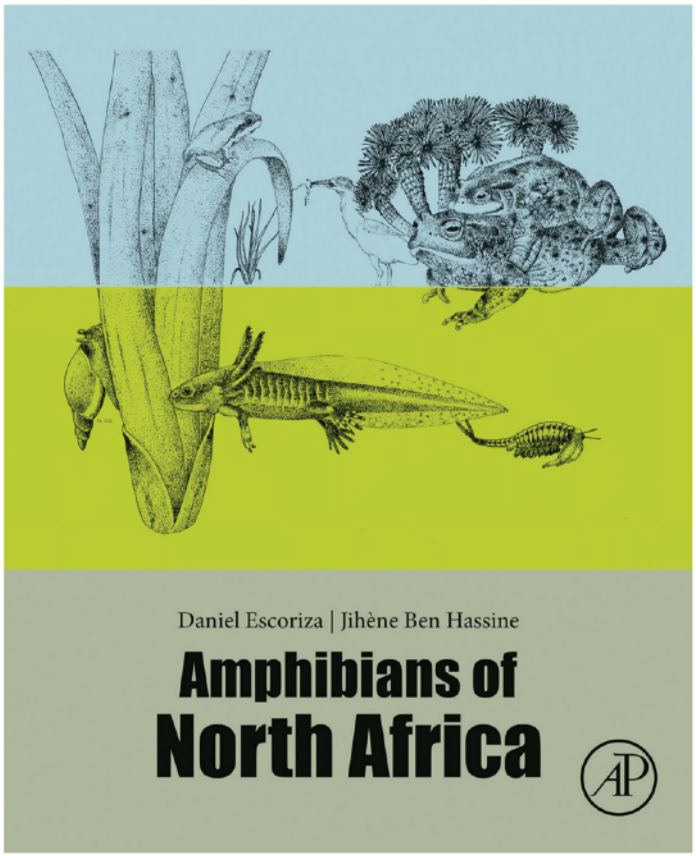
The structural and environmental variability of Southern Africa has given rise to several distinctive morphological forms of *Ps. rhombeatus*. Building on the work of Donald Broadley, who mapped out the geographical boundaries of the different morphotypes of the species, this component of the thesis aimed to test the validity of these boundaries within a phylogeographic (geographic genetics) framework. Once again, using the techniques applied to the family and genus level, this section represented the most thorough systematic, and more specifically genetic, study of any species in the family to date.

Chad holding a many-horned adder (*Bitis cornuta*), Photo: Luke Kemp

Genetic (phylogenetic and haplotype) analyses retrieved four well-supported groups: southeast South Africa (SESA), southwest South Africa (SWSA), north-eastern South Africa (NESA) and western South Africa (WSA). Although geographically separated and genetically distinct, the differences were not great enough to warrant the recognition of a new species. This is likely a product of the snake's habitat-generalist lifestyle, enabling them to bypass geographic (vicariant) barriers that might otherwise cause speciation in less adaptable species such as rock dwelling geckos and tree-dependant chameleons. Whilst head shape is not variable between populations of spotted skaapsteker, body colour, scalation, and snout-vent length has been linked to morphotypes within the species based on the work of Donald Broadley's work from 1966.

The thesis represented the most thorough evolutionary and systematic study of the family currently possible. In addition to identifying and describing both a new genus and species, the thesis also highlighted several instances of an over- and under-appreciation of species diversity within Psammophiidae. By applying a multi-evidence species delineation approach, Chad highlighted the intricacy of the evolutionary process and showcased the ease with which taxonomy can be confounded when certain lines of evidence are followed to the exclusion of others. These findings also highlighted the importance of sample size, sample range and species delimitation method on the outcome of results. Whilst the study answers several of the questions left by previous biologists, it also highlights how much we do not know and much we are still yet to learn.

Chad is currently stationed in the Wetland Ecology Laboratory at Rhodes University where he is currently embarking on a joint post-doctoral fellowship with the South African Institute for Aquatic Biodiversity (SAIAB) and Rhodes University. Whilst much of his work, up until now, has been reptile-centric, his post-doc will see him dedicating his time to aquatic herpetofauna, and more specifically frogs. While Chad aims to continue his evolutionary and systematic work with Werner Conradie and company, Chad aims to broaden his skillset through ecological work under the supervision of his new post-doc supervisor, Prof. Ryan Wasserman. While the future is uncertain for Chad, one thing is for sure, Chad wants to see more herps, many, many more.



AMPHIBIANS OF NORTH AFRICA

by Daniel Escoriza & Jihène Ben Hassine.
Published by Academic Press, Softback, 350 pp.
ISBN 978-0-1281-5476-2. 16th March, 2019.

When visiting a new country or region, a field guide represents a way to connect to and educate yourself on the biodiversity within the area. Given that North Africa is an attractive region for herpetologists, a field guide to its species is surely warranted. So I was very pleased to see the release of Amphibians of North Africa. However, this book is more than just a field guide. The authors present a broad overview of North Africa, covering a region of 5.03 million km2 divided into North West Africa (Algeria, Libya, Morocco, Mauritania, Tunisia and Western Sahara), the Atlantic archipelagos of Madeira (Portugal) and Canary Islands (Spain), the Mediterranean island of Lampedusa (Italy) and North East Africa (Egypt and Mauritania). They also provide a stimulating introduction to the more than thirty amphibian species that occur there, discuss their natural history and geography, and highlight key features to help readers of all levels of expertise identify species.

In the preface, the authors state that the fundamental goal of the book is to be the first one dedicated to the amphibians of North Africa, describing all the species and their distribution, and providing nature lovers and expert readers a tool to identify them, with a strong hope of increasing awareness of these species to aid in their conservation. In my opinion, this book is well equipped to do just that.

The book is divided into two sections – the first being an interesting look at North Africa, its amphibians and the issues affecting them. Specifically, it starts with a discussion on the global decline of amphibians (Chapter 1), then moves on to a general overview of North Africa and its amphibians, describing aspects of the environment, fossil records and conservation efforts (Chapter 2), and subsequently delves into the ecology of amphibians in the region, describing the main habitats and the role amphibians play in the ecosystem (Chapter 3). The authors also provide a detailed account of the field survey methods they employed, explaining the advantages and disadvantages of each technique (Chapter 4).

Finally, it offers a history of batrachology in North Africa, from the pioneering studies to recent issues (Chapter 5).

The second section is focused on amphibian identification, and includes keys used to identify animals from Order (Caudata – Anura) to species level for all life stages (larvae and adults) using morphometric data, taxonomic characters, pictures and drawings (Chapter 6). The book also delves into species descriptions, briefly detailing terminology (Chapter 7) and describing the etymology, synonyms, systematics, geographical variation, geographic range and habitat, life stages, natural history information and conservation issues for each species, divided by region: North West Africa (Chapter 8) and Mauritania and Egypt (Chapter 9).

I would like to highlight that the authors' paid considerable attention in presenting key features for each species. In particular, they provide comprehensive pictures of oral discs, as well as images of the variation in tadpoles and hand morphology from various locations across a species range, which are invaluable tools to help correctly identify an animal in the field. Moreover, the hand drawn sketches not only provide a creative aspect to the book, but also provide further details that are not always easy to detect from images or written descriptions. My only criticism is that the general appeal of sketches and other pictures presented in the book would strongly improve if they were in colour.

If I have managed to persuade you on the value of this book, it can be purchased online for 335.00 DT (around 120 US dollars). Although the price could be hard to afford for some, the classically styled appeal and the complete picture that it provides, makes it an excellent candidate for your bookshelf.

ACKNOWLEDGEMENTS

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Lamprophis guttatus
(Smith, 1843)
Spotted House Snake
DIET

R. I. STANDER & L. KEMP

On 28 June 2020, a sub-adult male Spotted House Snake *Lamprophis guttatus* (Smith, 1843) was found in a vertical crevice of a large boulder, on a south-west facing slope (1 900m a.s.l.) in the Strydpoort mountains of the Limpopo Province, South Africa (QDGC 2429AA; 24°09'22.6"S, 29°14'13.5"E; ReptileMap no. 175478).

It was noted that the snake had recently fed. This was surprising, as the observation was made in mid-winter. Since no location-specific weather data is available for the site, simulated weather data was used to approximate the lowest and highest minimum and maximum temperatures, as well as the average minimum and maximum temperatures for the 14 days preceding the observation and 14 days following it (Table 1).

Feeding during winter, in general, is not entirely unheard of (see for example Greenwald and Kanter 1979; Slip and Shine 1988) and, though surprising, feeding during winter has been documented in *L. guttatus* before (Taft et al. 2017). These are notable records since snakes are generally assumed to cease feeding if winter temperatures are very cold (Shine 1981), with Naulleau (1983) reporting a 100% regurgitation rate in *Vipera aspis* Linnaeus, 1758 at 10°C, and a 56% incidence at 15°C.

Table 1. Simulated weather data for Portugal, RSA, 24.17°S, 29.25°E from 14 June 2020-12 July 2020 (Meteoblue, 2021a,b). Note that the simulation was performed for an elevation of 1 482m asl, while actual elevation where the observation was made is 1 900m asl., where temperatures would be expected to be even lower.

Temperatures (Rounded to nearest °C)	14 Days prior (14-27 June 2020)	14 Days after (29 June-12 July 2020)
Lowest Minimum	-1°C	1°C
Highest Minimum	7°C	8°C
Lowest Maximum	12°C	14°C
Highest Maximum	19°C	22°C
Average Minimum	4°C	5°C
Average Maximum	16°C	18°C

The snake was photographed before its release, and in the process of being handled, regurgitated a freshly consumed Granite Dwarf Gecko *Lygodactylus graniticolus* Jacobsen, 1992. This observation shows that the snake was actively foraging in very low temperatures and that *L. guttatus* is probably well-adapted to live in such cold conditions, with feeding possibly resuming throughout winter.

Another *L. guttatus* was observed on the same day and both animals were resting at the entrance to their respective crevices. This leads to some postulation that *L. guttatus* may be ambushing during the day. It has indeed been described as an opportunistic feeder and has been observed feeding during the daytime (see for example Helme 2015; van Huyssteen and Petford 2018; Maritz and Maritz 2020). Another, perhaps more plausible hypothesis, however, is that the snakes are utilising basking opportunities, since both refugia received significant amounts of sun exposure. This would also help to explain the feeding in winter and Shine (1980) has in fact suggested that snakes with relatively small body sizes can, even in cold conditions, efficiently thermoregulate to continue feeding throughout winter. Marais (2004) notes that the bulk of its diet consists of geckos belonging to the genera *Pachydactylus* and *Afroedura,* while Branch (1998) mentions that *Trachylepis* and Lacertids are also taken. At present, there are no records of *Afroedura* in the Strydpoort mountains and *Pachydactylus* are uncommon in the high-elevation habitats, while *L. graniticolus* is locally abundant (R. I. Stander pers. obs.). The only previous mention of *L. guttatus* feeding on any *Lygodactylus* species was made by Porter (1999). This would suggest that *Lygodactylus* are not generally a staple in the diet o*f L. guttatus.* The absence or scarcity of commonly consumed species at this locus, alongside the predation described here, however, indicate that *Lygodactylus* geckos are likely a staple diet of *L. guttatus* in the Strydpoort mountains. A list of specific prey species that have been documented for *L. guttatus* are provided in Table 2.

Table 2. List of prey species consumed by Spotted House Snakes *Lamprophis guttatus*. (*) indicates captive feeding records.

Common name	Scientific name	Source
Aves		
Cape Starling	*Lamprotornis nitens* (Linnaeus, 1766)	African Snakebite Institute ASI SNAKES APP record
Atlantic Canary	*Serinus canaria* (Linnaeus, 1758)	Maritz and Maritz, 2020
Mammalia		
House Mouse	*Mus musculus* (Linnaeus, 1758)*	Amy Panikowski and Gareth Coleman pers. comm.
Unidentified bat	*Chiroptera* (Blumenbach, 1779)	Byron Zimmerman pers. comm.
Reptilia		
Southern Tree Agama	*Acanthocercus atricollis* (Smith, 1849)	Byron Zimmerman pers. comm.
Southern Rock Agama	*Agama atra* (Daudin, 1802)	Helme, 2015
Karoo Girdled Lizard	*Karusasaurus polyzonus* (Smith, 1838)	Taft et al., 2017
Drakensberg Crag Lizard	*Pseudocordylus melanotus subviridis* (Smith, 1838)	Branch and Burger, 1991
Waterberg Dragon Lizard	*Smaug breyeri* (van Dam, 1921)	van Huyssteen and Petford, 2018
Flat Gecko species	*Afroedura sp.* (Loveridge, 1944)	Marais, 2004
Moreau's Tropical House Gecko	*Hemidactylus mabouia* (Moreau De Jonnes, 1818)*	Amy Panikowski and Gareth Coleman pers. comm.
Wahlberg's Velvet Gecko	*Homopholis wahlbergii* (Smith, 1849)	Maritz and Maritz, 2020
Cape Dwarf Gecko	*Lygodactylus capensis* (Smith, 1849)	Porter, 1999
Granite Dwarf Gecko	*Lygodactylus graniticolus* (Jacobsen, 1992)	This note
Thick-toed Gecko species	*Pachydactylus sp.* (Wiegmann, 1834)	Marais, 2004
Wahlberg's Snake-eyed Skink	*Panaspis wahlbergii* (Smith, 1849)*	Amy Panikowski and Gareth Coleman pers. comm.
Skink Species	*Trachylepis sp.* (Fitzinger, 1843)	Branch, 1998; Jacobsen, 2005
Striped Skink	*Trachylepis striata* (Peters, 1844)*	Byron Zimmerman pers. comm.
Variable Skink species complex	*Trachylepis varia sensu lato* (Peters, 1867)*	Byron Zimmerman pers. comm.

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Duberria lutrix lutrix
Linnaeus, 1758
Common Slug-eater
MICROHABITAT UTILISATION

K. M. VAN WYK

The Common Slug-eater (*Duberria lutrix lutrix*) feeds exclusively on slugs and small land snails, foraging in damp locations (Bates 1998; Branch 1998). Where the species' distribution enters the Cape Floristic Region (CFR), it is a common species in Fynbos habitats (Bates et al. 2014). The Fynbos Biome hosts an extremely high level of botanical diversity and relies on fire for nutrient cycling and germination (Rebelo et al. 2006). As such, fire management is a prominent feature of the landscape in this region and includes the maintenance of firebreaks (Kraaij and van Wilgen 2014). This creates various open habitats for movements of animals and enhances the detectability of certain species due to improved human accessibility (Chergui et al. 2019). However, significant effects of fire on reptile assemblages through changes in habitat structure have been noted (Masterson et al. 2008). Linear infrastructure, including roads and firebreaks, has produced marked impacts on dispersal, gene flow and survival in reptiles (Clark et al. 2010; Hermann et al. 2017) and amphibians (Pilliod et al. 2003; Baker and Lauck 2006). The bisection of habitat by fire management infrastructure may, therefore, create tracts of unsuitable habitat that may adversely affect herpetofaunal communities (Pilliod et al. 2003). Between August and November 2020, four *D. l. lutrix* were individually observed beneath the leaves of two species of Amaryllid in disturbed habitats on Grootbos Private Nature Reserve, Overstrand District Municipality, Western Cape. One neonate (<110mm) and two subadults (<250mm) were observed beneath the Candelabra Lily (*Brunsvigia orientalis*). The neonate and one of the subadults were found on the side of a dirt road through pristine Fynbos, and the second subadult was found in a firebreak. Another neonate was observed beneath the Smooth Bloodlily (*Haemanthus sanguineus*) in a firebreak.

Conversations with colleagues in the area revealed additional observations gathered over the past two years, including four more *D. l. lutrix* under *B. orientalis*. Of these, two were found separately on dirt roadsides in Grootbos Private Nature Reserve, and two were found together in a suburban garden. A juvenile Yellow-throated Plated Lizard (*Gerrhosaurus flavigularis*) and, interestingly, a juvenile Cape Girdled Lizard (*Cordylus cordylus*) were also found beneath *B. orientalis* on roadsides in the same reserve. A Spotted Skaapsteker (*Psammophylax rhombeatus*) was found beneath *H. sanguineus* in a firebreak on private property in the Walker Bay Fynbos Conservancy, on the same day that one of the aforementioned

Figure 1. A: Common Slug-eater (*Duberria lutrix lutrix*), as found between the leaves of a Candelabra Lily (*Brunsvigia orientalis*). Note the condensation on the lower leaf in the upper left-hand corner of the image. B: Location of the same plant (large leaves, lower right), growing in the middle of a firebreak on Grootbos Private Nature Reserve. C: Spotted Skaapsteker (*Psammophylax rhombeatus*), one of the species found beneath the Smooth Bloodlily (*Haemanthus sanguineus*).

subadult *D. l. lutrix* was found beneath *B. orientalis* on Grootbos (11/11/2020, Fig. 1).

In all instances, condensation was visible on the concealed surfaces of the leaves. Both plant species are deciduous and flower in late summer when the region is driest (Privett and Lutzeyer 2010). The cover they provide is therefore temporary, as leaf growth is restricted to the winter and spring months (June-November) when conditions are more mesic. Given the proclivity of *D. l. lutrix* for mesic conditions, these leaves could provide refugia in habitats that are otherwise not favourable.

What is more, diverse invertebrate taxa were observed beneath the leaves of these two plants, including the molluscs that form the diet of *D. l. lutrix*. It is therefore possible that these plants provide temporary forage sites for these snakes in habitats that would otherwise not host appropriate microclimates. It is arguable that the capacity for *D. l. lutrix* to disperse and maximise their forage opportunities may benefit them during the summer drought period.

The detection of three additional reptile species – including one rupicolous species – beneath the leaves of *B. orientalis* and *H. sanguineus* supports the hypothesis of temporary refugia, perhaps also facilitating dispersal across disturbed habitats. Threats to general biodiversity are heightened in lowland Fynbos habitats (Rebelo et al. 2006), and landscape management that accounts for the biome's diverse array of species at various spatial scales will ensure the long-term resilience of this ecosystem.

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Dendroaspis polylepis
Günther, 1864
Black Mamba
MAXIMUM CLUTCH SIZE

N. EVANS

The Black Mamba (*Dendroaspis polylepis*) is a commonly encountered species in homes in the Greater Durban Area, KwaZulu-Natal. Their mating season is in winter and early summer. As a snake remover, I occasionally catch gravid females. I keep the heavily gravid snakes either at home or at Dangerous Creatures (Ushaka Marine World), to provide the snake with a quiet, safe place to lay her eggs. After laying, the female is released into the closest reserve from the location she was caught. After the young hatch (~2-3 months later), they too are released in the same area as the mother. On the 23rd of November 2019 I responded to a request to remove a Black Mamba from a property on Varsity Drive, Reservoir Hills, Durban, South Africa (29°48'21.82"S; 30°57'39.96"E). The snake was a large gravid female with a total length of 2410 mm and mass of 2610 g. After capture, the snake was housed in a warm room (> 25°C; temperature not monitored) at Ushaka Marine World where she laid a clutch of eggs on the 2nd of December 2019. The clutch totalled 20 eggs (Table 1), which exceeds the species' previously recorded maximum range of 6-17 (Marais 2004). Post-laying, the female weighed 2300 g. Only seven of the eggs were viable and these hatched on 9th of March. Two of the neonates were badly deformed and were subsequently euthanized. It is unlikely that incubation temperature was responsible for

Table 1. Egg metrics for the clutch. Joined eggs were not separated and were thus weighed together.

Mass (g)	Width (mm)	Length (mm)
42.8	35	58.5
41.7	35	58
38.1	34	53.5
46.2	34.5	60
39.3	30.5	60.5
40.0	33	58.5
32.5	31.5	51
28.2	28	50
19.6	27	43.5
20.9	28	45.5
21.4	27	47
20.8	28	45
18.1	26.5	41
20.5	27.5	46
86.7*	32.5	62
	33	68
77.7*	32.5	61
	32	53
70.4*	33.5	50
	31.5	51

the low hatch success as there was 100% hatch success of two other clutches of mamba eggs housed concurrently in the room. Total length of females ranged from 532 to 586 mm and males, 591 to 595 mm. The remaining five hatchlings averaged between 532 – 591 mm total length (Table 2). The five healthy juveniles were released in the Palmiet Nature Reserve very close to where the mother was captured.

Table 2. Measurements and sexes of five healthy *Dendroaspis polylepis* hatchlings (measured after first shed, approximately 2 weeks after hatching).

Sex	Total length (mm)
Female	586
Female	561
Female	532
Male	595
Male	591

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Dendroaspis polylepis
Günther, 1864
Black Mamba
DIET

O. BOURQUIN

Endothermic prey of Black Mambas includes birds, and mammals such rodents and rock hyraxes (Branch 1998, Broadley 1983, Alexander and Marais 2007). Alexander and Marais (2007) also noted "there is even a record of a Black Mamba eating a Blue Duiker", without referencing the record. I subsequently found out that the record was from Blamey and Jackson (1965), who reported a 10-foot Black Mamba which had swallowed a piti fawn (iphithi – Zulu for Blue Duiker *Philantomba monticola* Thunberg 1789). No locality or date was given.

On 6 January 1964, I received a telephone call from the officer-in-charge (the late Barry Clements) of the Kenneth Stainbank Nature Reserve (29° 54´ 26" S, 30° 50´ 03" E), Durban, KwaZulu-Natal saying his labourers had killed a large Black Mamba, and would I like it as a specimen. The snake had swallowed a baby female Blue Duiker, and the lump formed by the ingested duiker had impeded the snake from going through a diamond mesh fence, and it was there killed by reserve labourers. The mamba measured 2554 mm total length (snout-vent length: 2017mm; tail: 537 mm) and the duiker had a total length 455 mm – compared to female adult Blue Duiker that have a total length between 855-950 mm (Skinner and Smithers 1990). Digestion had hardly begun, with only some hair loss on the head, so the duiker must have been killed and swallowed a short time previously.

I deposited two specimens - the head of the Black Mamba and the skull and skin mount of the Blue Duiker - in the Durban Museum in 1964, with appropriate labels. I was unable to obtain accession numbers for the specimens from the Museum, receiving no reply to my emails sent in October 2020. In May 2021 I asked Dr. A. J. Lambiris about the records. He had been Honorary Curator of the herpetology collection at the Durban Museum for over five years. He said "…. I unpacked my copies of all the DNSM records and have carefully compared my Reptile records...against the original records. However, there is nothing in the original records either, and considering that I had repeatedly checked originals against database throughout the whole mammoth recovery project, have to assume that either no written contemporaneous record ever did exist (or was lost without evidence of it having existed), or the specimen was never accessioned. There is, interestingly enough, the record of a Black Mamba head - DNSM.R 136: Coedmore Nature Reserve, Bellair, Durban. B. Clements, December 1963."

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Philothamnus ruandae Loveridge, 1951 Rwandan Green Snake REPRODUCTION

O. S. G. PAUWELS & J. BRECKO

Philothamnus ruandae Loveridge, 1951 is an Albertine Rift endemic colubrid found in Burundi, eastern Democratic Republic of Congo, Rwanda and southwestern Uganda, from 700 to 2900 m a.s.l. (Roelke and Smith 2010; Wallach et al. 2014). Although some aspects of its natural history are relatively well known about its reproduction, Spawls et al. (2002, 2018) reported "Lays eggs, no clutch details known".

To contribute towards filling this knowledge gap on the biology of this species, we digitally examined five adult females in the collections of the Royal Belgian Institute of Natural Sciences and of the Royal Museum for Central Africa, including the holotype and three paratypes (Loveridge 1951, 1958; Table 1).

Table 1. Data for five gravid adult female *Philothamnus ruandae*. *Dimensions of the eggs are only based on intact eggs.

Accession number	Locality	Snout-vent length (mm)	Clutch size	Average egg dimensions (length x breadth, in mm)*
RBINS 2053 (holotype; formerly RBINS 4268)	Mulungu (ca. 1800 m a.s.l.), South-Kivu, DRC	649	9	28.5 x 11.9
RBINS 2054 (paratype; formerly RBINS 2614)	Kamatembe (2100 m a.s.l.), Kivu, DRC	552	4	29.5 x 11.1
RBINS 2055 (paratype; formerly RBINS 4253)	M'Pala (ca. 760 m a.s.l.), Rég. Kanzenze, Lualaba, DRC	680	12	29.1 x 12.7
RBINS 2056 (paratype; formerly RBINS 4254)	Mulungu (ca. 1800 m a.s.l.), Sud-Kivu, DRC	710	9	30.2 x 13.2
RMCA 76-58-R-1	Bugarama (ca. 2200 m a.s.l.), Burundi	603	8	31.4 x 12.8

We used high resolution x-ray computed tomography (RX EasyTom 150, 110 kV, 30 W, 30.8–33.4 µm voxel size), with segmentation and rendering done using Dragonfly software version 4.0 for Windows (Object Research Systems Inc., Montreal, Canada, 2019; software available at http://www.theobjects.com/dragonfly). Each specimen examined contained eggs (Figs. 1–2 and Table 1), which we measured in Dragonfly ORS using the measuring tool.

The smallest gravid female has a snout-vent length of 552 mm, and clutch size varies from 4–12. RMCA 76-58-R-1 was collected on 7 August 1976.

Thus, it seems that the eggs would have been laid during the short rainy season. RBINS 2054 was collected between the 11th and the 21st April 1934, and RBINS 2056 was collected in October 1947, thus during the long and the short wet seasons, respectively. There is no information on the precise collecting date for RBINS 2053 or RBINS 2055. The wide elevational gradient occupied by the species possibly plays a role in its reproductive phenology.

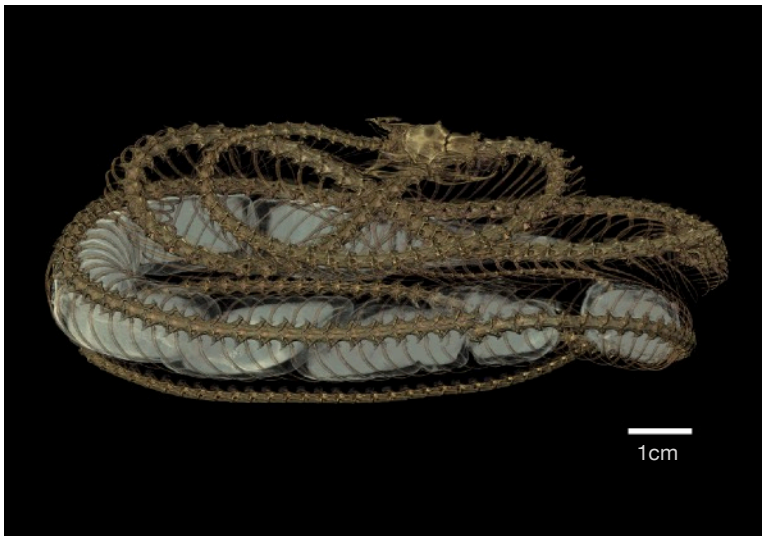

Figure 1. µCT tomogram of the holotype of *Philothamnus ruandae* (RBINS 2053) showing nine eggs in situ. Scale bar represents 1 cm.

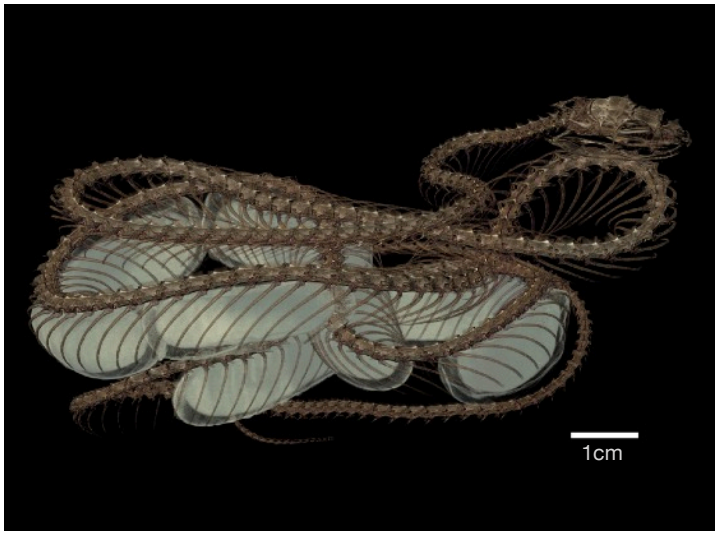

Figure 2. µCT tomogram of another adult female *Philothamnus ruandae* (RMCA 76-58-R-1), showing eight eggs in situ. Scale bar represents 1 cm.

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GEKKONIDAE
Afrogecko porphyreus
(Daudin, 1802)
Marble Leaf-toed Gecko

G.K. NICOLAU & E.A. JACKSON

The Marbled Leaf-toed Gecko, *Afrogecko porphyreus* (Daudin, 1802) is a medium-sized, nocturnal gecko that is generally found in abundance, frequently sheltering underneath the bark of trees and within cracks, crevices, or under rock flakes on outcrops (Branch 1998). The natural range of *A. porphyreus* is southwestern South Africa, from the Cederberg in the north, extending southwards to the Cape Peninsula, and eastwards along the Cape Fold Mountains in the Western Cape. The species also enters into the Eastern Cape along the coast with its eastern limits reaching Cape St. Francis (Branch 2014). The presence and origin of records from Namaqualand, such as Bitterfontein, Nieuwoudtville, and records further into the Northern Cape, remain uncertain (Branch 2014; Bates and Branch 2018). Throughout their natural range, the species has been documented to both occupy and thrive in many urban environments (Branch 1998).

The widespread distribution, abundance, and tolerance to anthropogenic change has aided in the success of *A. porphyreus*, resulting in the species being listed as Least Concern in the IUCN Red List (Bates and Branch 2018). As seen with the prolific invasive dwarf gecko *Lygodactylus capensis* (Rebelo et al. 2019), anthropogenic translocations have assisted in spreading the gecko among larger cities and towns outside of its natural range. The major extralimital *A. porphyreus* records have been from Gqeberha (previously known as Port Elizabeth), Makhanda (previously known as Grahamstown), East London, St. Helena, and several smaller offshore islands off the South African and Namibian coast (Branch 1998; Branch 2014; Bates and Branch 2018).

There are three non-native gekkonid species recorded in Makhanda. A recent paper by Conradie et al. (2020) addressed the introduced Cape Dwarf Gecko, *Lygodactylus capensis* (Smith, 1849) and their establishment in two provincial nature reserves peripheral to the town. Records of the introduced Common Tropical House Gecko, *Hemidactylus mabouia* (Moreau de Jonnès, 1818) are extensive, showing they have also become well established throughout the town, and within at least one provincial reserve (Conradie et al. 2020). Despite Branch (1998, 2014) addressing the introduction of *A. porphyreus* within Makhanda, these claims have been based on only two individuals which were collected over 28 years ago, with no subsequent records documented since. These two specimens are housed in the Bill Branch Herpetology Collection at Port Elizabeth Museum (Bayworld) in Gqeberha, Eastern Cape, South Africa. Both specimens were collected by Marius Burger approximately 2.5 km apart, PEM R06531 from Lucas Ave

(33° 18’ 02” S; 26° 30’ 37” E), collected 01 January 1991, and PEM R07743 from Market Street (33° 18’ 50” S; 26° 31’ 53" E), collected on 02 January 1992. Due to no further observations, it was questionable whether the species successfully invaded the Makhanda region, or if the two known records were once off introductions unable to establish. Through recent findings, we report on the reconfirmation and presence of *A. porphyreus* in Makhanda, Eastern Cape Province.

On the 6 November 2020, several *A. porphyreus* were located at the Worcester Mews Complex, Makhanda, Eastern Cape (33° 18’ 38” S; 26° 30’ 19” E, 3326 BC). This new locality is situated approximately 1.2 km from the PEM R06531 record, and 2.5 km from PEM R07743. A gravid adult female and a juvenile were caught at night on a small stretch of wall at the Worcester Mews locality (Fig. 1). These records were uploaded to the ADU Virtual Museum ReptileMap (Virtual museum (ADU) 2021a, 2021b). While an additional two specimens, another gravid female and a subadult collected from the same location, were donated to the Bill Branch Herpetology Collection at the Port Elizabeth Museum (Table 1). Numerous other individuals were observed active at the same site yet were left undisturbed. All individuals were identified based on the following features (Branch 1998): a dorsoventrally flattened body, smooth rounded and tapering tail, and a large flattened head with a long snout. The colours varied among individuals observed in this note, the dorsal colouration were either light brown or cream, with darker irregular mottled markings, while several individuals had a pale dorsal stripe present. The digits had a single pair of adhesive pads and small claws. This allowed the authors to easily distinguish them from *Hemidactylus mabouia*, which have enlarged claws, multiple adhesive pads, and broad granular scales of the back and tail (Branch 1998). *Afrogecko porphyreus* can also be distinguished from *Afroedura*, which have recently been discovered from the Makhanda region and surrounding areas (GK Nicolau 2021, unpublished data), by the absence of preanal pores, and the single pair of adhesive pads (Branch 1998).

These new observations reconfirm the presence of *A. porphyreus* in Makhanda, with these being the first records in just under three decades. The abundance of juveniles and gravid females show that this population is breeding and likely to be well-established. All three introduced species of geckos known to occur in Makhanda (namely *L. capensis, H. mabouia* and *A. porphyreus*) have been documented at this same locality. The two larger nocturnal geckos, *H. mabouia* and *A. porphyreus*, have been found together (under the same wooden rafter), while *L. capensis* was seen on the walls at this same locality during the day and sleeping under structures on the wall at night. The native *Pachydactylus maculatus* has, on several occasions, been found active either near or along this same wall. It is unknown what impact these invasive geckos have on native species.

Figure 1. A: Adult gravid female *Afrogecko porphyreus* from Makhanda, Eastern Cape Province, South Africa. Inset: developing eggs of the same individual. B: One of the walls the well-established *A. porphyreus* population were found on. C: One of several juvenile *A. porphyreus* found on the same stretch of wall.

Table 1. The two historical *Afrogecko porphyreus* PEM specimens (indicated with *) and the four individuals from this study recently observed in Makhanda, Eastern Cape, South Africa.

Catalogue No.	Age	Sex	SVL (mm)	TL (mm)
PEM R06531 *	Adult	NA	39.0	39.0
PEM R07743 *	Adult	NA	45.0	12.0
ReptileMAP 179173	Adult	Female	52.2	62.1
ReptileMAP 179172	Juvenile	NA	31.0	37.0
PEM R27741	Adult	Female	50.1	51.0
PEM R27742	Subadult	NA	39.0	51.2

ACKNOWLEDGMENTS

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SCINCIDAE

Typhlosaurus lomiae

(Haacke, 1986)

Lomi's Blind Legless Skink

R. VAN HUYSSTEEN & M. PETFORD

Lomi's Blind Legless Skink, *Typhlosaurus lomiae*, is a range restricted fossorial skink endemic to the west-coast of Namaqualand (Bauer 2014). These skinks are currently known from north of Koingnaas in the north (FitzPatrick Institute of African Ornithology 2020a) to Hondeklip Baai in the south (FitzPatrick Institute of African Ornithology 2020b). Even though they are expected to occur in the Namaqua National Park, there have been no records from the park and the species is not known to occur in any formally protected areas (Bauer 2014).

On a recent visit to Namaqua National Park we encountered two *Typhlosaurus lomiae* on the 25 and 26 October 2020 in the late afternoon. The skinks were found under moribund plant debris on sparsely vegetated dunes at an elevation of 8.1m and 6.6m asl respectively. Both skinks were found in the vicinity of Koringkorrelbaai Campsite (30° 39' 14.40" S, 17° 27' 50.40" E) Quarter Degree Grid 3017CB. The skinks were identified as *Typhlosaurus lomiae* on the basis of them having pointed snouts, three upper labials, two lower labials, a bright orange pigment on the dorsal side of the body while the lateral and ventral sides were largely free of pigmentation and transparent (Haacke 1986, Branch 1998). These characteristics differ from the sympatric *T. vermis* which have rounded snouts, unpigmented bodies and proportionately larger body size (Branch 1998). The records can be viewed at https://www.inaturalist.org/observations/63882212 and https://www.inaturalist.org/observations/63882209 (Fig. 1).

Figure 1. *Typhlosaurus lomiae*, Namaqualand National Park. Photo: R van Huyssteen.

Our records are the first to confirm the presence of *Typhlosaurus lomiae* in a protected area, namely Namaqua National Park, a southerly range extension of 41 km from the nearest records at Hondeklipbaai (FitzPatrick Institute of African Ornithology 2020b). This nearly doubles the known Extent of Occurrence (EOO) (currently 763 Km^2 (Bauer and Conradie 2018)), with the range extension (40 km) being greater in distance than between all previously known records for this species (max distance 30 km). It is possible that *T. lomiae* occurs further south than currently known and additional exploratory surveys are needed to understand the full range of this species.

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LAMPROPHIIDAE

Prosymna lineata

(Peters, 1871)

Lined Shovel-snout

R. I. STANDER

On 11 December 2020, an adult *Prosymna lineata* was removed from a swimming pool at around 09:00, in the Quarter Degree Grid Cell (QDGC) 2327DB near Lephalale, Limpopo Province, South Africa at 1 120m asl (23°37'53.3"S, 27°57'33.5"E). A photo of the snake was uploaded to the FitzPatrick Institute of African Ornithology's Virtual Museum (FitzPatrick Institute of African Ornithology 2021).

The snake was assigned to the genus *Prosymna* based on the enlarged and flattened rostral, prominent eyes and terminal spine on the tail. It was specifically identified as *P. lineata* based on the internasals that are in contact and the animal's uniform colour.

Another individual was previously observed at the same location and the locus for these two records lies 111 km west of the nearest known distribution point for *P. lineata,* which is at the Blouberg massif in the QDGC 2328BB (FitzPatrick Institute of African Ornithology nd). The habitat in which our records were located consists of Waterberg Mountain Bushveld, surrounded by Roodeberg Bushveld (Mucina and Rutherford et al. 2014). Both of these represent vegetation units in which *P. lineata* has not previously been documented. The individual reported here thus represents the westernmost record for *P. lineata* and extends its known distribution by 111 km, suggesting that the species occurs more widely in the Limpopo province than previously thought.

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COLUBRIDAE

Philothamnus battersbyi

Loveridge 1951

Battersby's Green Snake

R. I. STANDER

Philothamnus battersbyi is a widespread and common colubrid snake ranging from Ethiopia in the north, south to Tanzania and westwards to Uganda. It is associated with montane grassland, woodland and forest margins (Largen and Spawls 2010) while it may also be encountered in mesic savannah (Spawls et al. 2018). Furthermore, it is particularly tolerant of urbanisation and even persists in polluted streams of large cities (Largen and Spawls 2010, Spawls et al. 2018).

On 6 June 2017, in the Harenna Forest near Rira, Oromia region, Ethiopia (6° 39' 23.8" N 39° 44' 48.5" E) at 1960 m a.sl, a juvenile *P. battersbyi* (Fig. 1) was found sheltering beneath a fairly small log. It was in reasonable proximity to a small stream in closed-canopy forest. The animal was identified as a member of the *Philothamnus* by its thin body, large eyes with round pupils, smooth scales, the presence of a loreal scale and bright green colour. It was specifically assigned to *P. battersbyi* based on the presence of only one anterior temporal, the absence of a raised eye ridge (Branch 2014), two labials (4th and 5th) in contact with the ocular and the yellow ventrum. The animal was photographed and the record uploaded to the FitzPatrick Institute of African Ornithology's Virtual Museum under ReptileMAP no. 164930 (FitzPatrick Institute of African Ornithology 2021). The nearest published localities for *P. battersbyi* are 188 km to the NE at Lake Ziway and 205 km SW at Lake Abaya (Largen and Spawls 2010).

Figure 1. *Philothamnus battersbyi* S of Rira, Oromia region, Ethiopia. Photo: Ruan Stander

An undated record is represented by a specimen (ZMUC-R601943) without coordinates housed in the collection of the Natural History Museum of Denmark. The locality is given only as "Dodolo, Ethiopia'' (Johansson 2017). It is suggested here that "Dodolo'' is a misnomer referring to Dodola, which is a mere 72 km NW of the locality where our specimen was photographed. If this is the case, it would be the geographically nearest confirmed occurrence of the species. It is somewhat surprising that such a common and widespread diurnal snake has not been observed in a national park, and the record detailed herein represents the first documented observation of *P. battersbyi* in the Bale Mountains National Park, as well as a confirmed 188 km southeastern range extension in Ethiopia.

ACKNOWLEDGEMENTS

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Every word of the English common name should start with a capital letter (e.g. Namaqua Dwarf Adder).

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ACKNOWLEDGMENTS

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Article: Branch WR. 2007. A new species of tortoise of the genus *Homopus* (Chelonia: Testudinidae) from southern Namibia. Afr. J. Herpetol. 56:1–21.

Book: Spawls S, Howell K, Drewes R, Ashe J. 2002. A field guide to the reptiles of East Africa. London: Academic Press.

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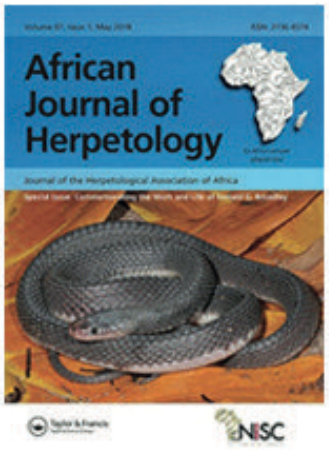

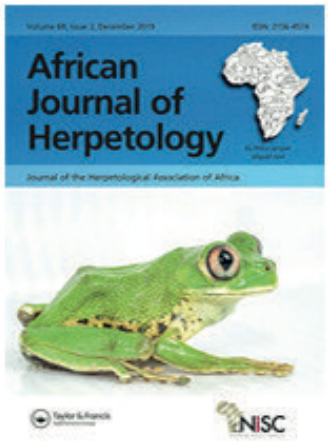

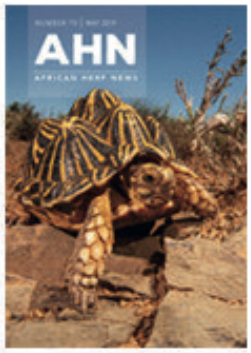

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African Membership	**1 Year**	**R 200 3 Years (10% discount)**	**R 540**
Senior Citizens	**1 Year**	**R 100 3 Years (10% discount)**	**R 270**
Students & Scholars	**1 Year**	**R 150 3 Years (11% discount)**	**R 400**
International Membership	**3 Years**	**$60 or €50 or R775**	

BANKING DETAILS

ACCOUNT NAME	**Herpetological Association of Africa**
ACCOUNT NUMBER	**62614292910**
BANK	**First National Bank**
BRANCH	**Woodlands Boulevard (230732)**
SWIFT CODE	**FIRNZAJJ**

IMPORTANT TO REMEMBER

NOTICE REGARDING ELECTRONIC PAYMENTS

It is essential that your membership reference number (or initials and surname, if you are a new member) be used as a reference for electronic payments, and that you let the HAA Treasurer, Jens Reissig (treasurer@africanherpetology.org), know when you authorise the payment, so that it can be traced.

BANK FEES

Please note that all bank fees for electronic payments to the HAA must be borne by you, the payee. Thus, please ensure that you add an extra 5% to cover bank charges, or that these come directly off your account when electronically transferring money, and NOT off the amount received by the HAA.