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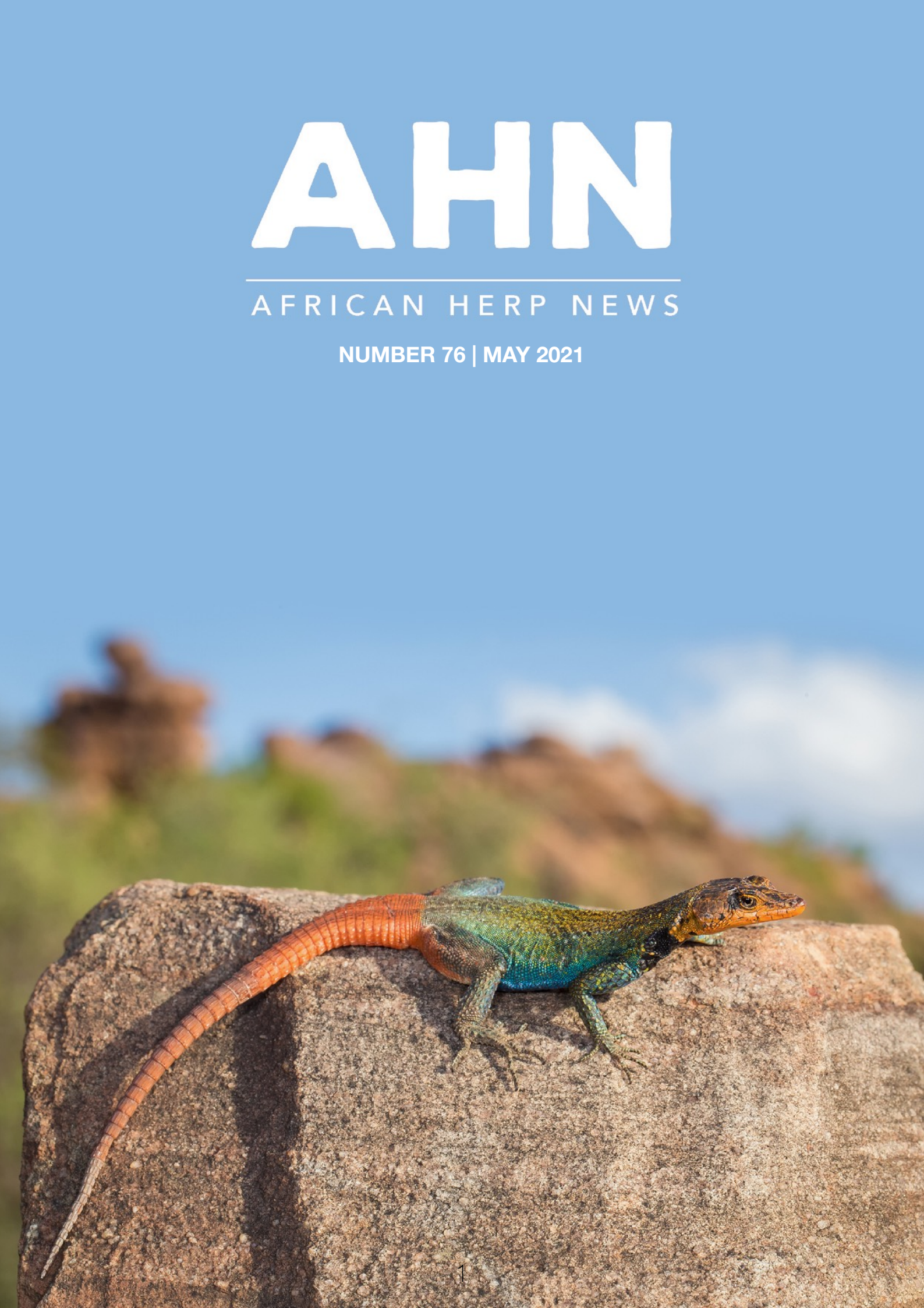

HAA | HERPETOLOGICAL ASSOCIATION OF AFRICA
www.africanherpetology.org

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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COVER PHOTOGRAPH

Platysaurus monotropis (near Ga-Sebotlane at the foot of Blouberg Mountain, Limpopo Province, South Africa)
Image Courtesy: Luke Verburgt

:: COMMITTEE OF THE HAA ::

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EDITORIAL

Peer review — the process by which professional work is reviewed by individuals qualified to determine the quality of the work.

The very nature of peer review is that one cannot do it alone. As the editor of *African Herp News*, I am very aware of this. I rely heavily on peer reviewers to ensure the credibility and integrity of the newsletter and the editorial review process, as a whole. The key to the success of this process is pulling together the right community of reviewers. This requires a great deal of knowledge on who is doing what and where, which has not always been an easy task. For this reason, I had a questionnaire ("Interested in acting as a Reviewer for AHN") sent out to the HAA community asking for your willingness to participate in the review process and provide me with some insight into your areas of expertise. My intention is to involve a wider range of herpetologists across Africa in the publishing process, reviewing and critiquing the content presented, to ensure that accurate knowledge on African herps across the continent is presented and shared with the greater community.

To date, 27 members have responded, which has helped build upon my current database and proven invaluable in processing the increasingly varied submissions I am receiving. I am hoping this number will continue to grow, so for those of you who still have not had the chance, please take the time to complete the short questionnaire. A word to students - even those just beginning their herpetological careers: you can provide informed insights. Many of you are or will become knowledgeable on certain species and/or locations. This is a great platform to gain experience in the review process and become involved in the African herpetological community. If you have lost the link to the questionnaire, you can access the form here, or contact Melissa Petford or myself for a copy (contact details on page 2).

Jessica da Silva
Editor

Cancellation of conference

Dear HAA community

Regretfully, the 15th HAA conference that was scheduled for September 2021 in Kimberly will be cancelled due to issues around the Covid-19 pandemic. The HAA conferences are exceptional because there is a strong, interpersonal component to them, which is a primary reason many people attend. The conference promotes a highly collegial atmosphere that has led to strong professional bonds being forged and maintained. We therefore have decided to keep the conference in-person rather than opting for other virtual platforms. Unfortunately, this necessitates a delay of about a year.

This decision was not taken lightly and both the Conference Organising Committee and the HAA Executive Committee discussed the pros and cons in detail. Both committees have agreed that the wisest decision would be to hold the conference in 2022, most likely in the second half of the year. The reasons for cancellation in 2021 relate to uncertainties around international and domestic travel restrictions, changes in school and university schedules, difficulties in booking and then changing or cancelling venue and hotel reservations, and fluctuating exchange rates which could result in difficulties for the HAA in refunding conference fees.

We realise how disappointing this is, as the conference is a true highlight for most attendees.

We are working on alternative venues and dates, and will inform the membership of the outcome as soon as possible.

Beryl Wilson
Conference Convenor

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

Slack: HAA Collaborative Skills Development (HAA-CSD)

Become part of the HAA Collaborative Skills Development (HAA-CSD) initiative on Slack.

The purpose of this platform is to foster creativity and skill development amongst our HAA student members via peer learning. We would also like to encourage experts to assist where necessary.

Please do:

- post your messages (queries, related literature, and useful links) under the relevant channel.
- assist where you can (i.e., respond to a question if you are knowledgeable on the topic).
- volunteer for a webinar (see details under the #volunteer channel).
- invite a writing buddy (see details under the #writing channel).

Feel free to send a direct message (DM) to HAA-CSD if you do not feel comfortable with posting publicly, or should you have any questions/suggestions.

We hope that you will use this platform to your benefit and that you will impart your knowledge and expertise with your fellow HAA members.

Note: this platform is ONLY available to HAA members.

Please contact Student Support for further information and access: Hanlie Engelbrecht (Hanlie.Engelbrecht@wits.ac.za)

Hanlie Engelbrecht
Student Support

Outcome of HAA Professional Award & HAA Student Award 2021

The Herpetological Association of Africa is proud to announce the recipients of the 2021 Professional and Student Awards. The awards were adjudicated by a panel of seven independent reviewers.

The 2021 recipient of the HAA Professional Research Award, valued at R15 000, is **RUTH COZIEN** from the University of KwaZulu-Natal for her proposed work on lizard ecology.

The 2021 recipient for the HAA Student Award, also valued at R15 000, is **RYAN VAN HUYSSTEEN** from the University of the Western Cape for his proposed work on snake systematics.

Congratulations to both recipients.

Bryan Maritz
HAA Awards Portfolio

TRIBUTE TO BULA PHIL

A letter from Peter Narins

The exact moment on July 6, 1984 that I met Phil Bishop will be forever etched in my mind. I was working at the El Verde Field Station in Puerto Rico doing research on the Coqui frog. When my close colleague Meg Stewart arrived at the station with her group, she announced: “Peter- I would like to introduce you to my new student, Phil Bishop.” She called him over and I extended my hand to greet him but just before he reached me he abruptly dove into a nearby bush and emerged with a rather startled snake.

We then shook hands- a truly unforgettable meeting! That was the start of a life-long friendship that included many joint field projects and meetings at scientific conferences which were often attended by Debs and my wife Olivia, giving the two women a chance to develop their long-lasting friendship.

TRIBUTE TO PHIL BISHOP

Then on June 28, 1987, on my first trip to South Africa, Phil met me at the Johannesburg airport accompanied by Debbie Stevenson and Neville Passmore with his 6-year old daughter Jane. A few hours later, Phil and I were zipping along the highway in a fully-loaded Suzuki jeep that Phil named "*Zanzara*" (Italian for mosquito- its engine sound) for a three-day exploration of Kruger National Park. This was my introduction to the Southern African flora, fauna and customs as seen through Phil's unique lens. We were soon enthralled sighting, and then pronouncing- with a heavy English aristocratic accent- the names of some of Phil's favorite South African birds: the *Burnt-necked eremomela*, the *Rattling cisticola*, the *Long-billed crombeck*, etc. He enjoyed pointing out the ubiquitous impala *drolickies* (feces) and the *grockles* (tourists), while we snacked on *kudu biltong*. I still treasure to this day the small leather box embossed with the gold letters "Drolickies" and filled with some, that he later sent to my office in Los Angeles.

Then in 1989 we met up again at the 1st World Congress of Herpetology in Canterbury, UK. This was an auspicious occasion for those of us who study and love frogs and it was obvious at that time that Phil was clearly in his element. But who would have predicted that over 30 years later, Phil would be the Secretary General Elect and host of the 9th WCH in Dunedin, NZ?

Phil and I shared a love of travel and working on exotic frogs in exotic places, so in July, 1996 we teamed up with Les Minter, Ted Lewis and Dwight Lawson to carry out a study of *Petropedetes parkeri* in anglophone Cameroon. Phil was in charge of food during the expedition, so there was plenty of *boerewors* and *biltong* in various flavors, and he even made the occasional *chakalaka* or *bobotie*. One night we came across a multispecies assemblage of calling frogs. It was the loudest chorus I had ever heard. We were all amazed that somehow Phil was able to enter the pond and withstand this hyper-intense frog chorus while the rest of us were forced to retreat.

In 2005, Phil organized another expedition for us to study the Fijian ground frog, *Platymantis vitianus*, on the island of Viwa, Fiji. We were immediately struck by the massive females and the small males in this species, and (despite our guide's insistence) were frankly skeptical that these were in fact the same species. To verify this, Phil took back samples to New Zealand where the DNA of both sexes were compared and confirmed to be the same species. As was characteristic of Phil, he was then inspired to explore the distribution and to ponder the possible evolutionary drivers of sexual size differences in frogs this large (Bishop and Narins, 2020).

Much to Phil's delight, and unlike what had been reported for other species, males of the Australian frog *Litoria chloris* found in mated pairs with females were significantly *smaller* than non-mated males. This unique observation motivated our 2012 expedition to Springbrook, Australia on which we were joined by Luke Bishop as well as Mark Hero, Ikkyu Aihara, and Michel Ohmer. Phil traveled first and by the time the rest of us arrived, he had single-handedly constructed a massive indoor enclosed arena complete with acoustic

damping material and loudspeakers to be used for our female discrimination experiments. The arena experiments predictably showed, in contrast to the field observations, that females of this species approached the loudspeaker broadcasting the calls of the *larger* males. With his typical sharp insight, Phil brilliantly solved this conundrum in the paper he entitled: "Successful sexy small males ignore female preferences in the Red-eyed tree frog (*Litoria chloris*)."

A second expedition to Ravenshoe, NE Australia, with the same crew followed in 2013. Although this was the last field work we did together, we did meet on several memorable occasions at scientific meetings including the 6th World Congress of Herpetology in Manaus, Brazil (2008), the 3rd Chilean Colloquium on Amphibians and Reptiles in Licanray, Chile (2012), the International Society for Behavioral Ecology Meeting in NYC, New York (2014), and in Dunedin (2015) when, at Phil's invitation, I gave the Commencement Address at the University of Otago. Immediately following this event, Phil and Debs organized a magical tour for Alison and Andy Mercer and Olivia and me around the South Island including an overnight cruise on Milford Sound. It would be the last time we saw each other, although we communicated frequently by e-mail, WhatsApp and Zoom.

These beautiful lines written by The Amphibian Survival Alliance (https://www.amphibians.org/news/thank-you-phil-we-will-miss-you-so-much/) sum up so well the feelings of all of us who knew Phil:

"Life always seems to be far too short, and yet few people could have possibly crammed more into a single life than Phil. For many of us who tour the world as part of conferences, meetings and expeditions in the name of amphibians, Phil and his wife Debbie have been a common and joyous sight, delivering a message of fun and unity amid even the bleakest and most serious work events. Phil demonstrated how life and work can be interwoven with great purpose and enjoyment of every moment."

Bula, Phil, I miss you. You have left your legacy of infectious enthusiasm for everything, particularly amphibia, and especially observing their behavior in their natural habitat. As a field biologist, no one is your equal. You are blessed with boundless energy and an encyclopedic mind for species distributions, behaviors and calls. We have many more expeditions to carry out; I know you will be there with us. You are the best and will never be forgotten.

PHIL BISHOP (AKA BOYO) – A PERSONAL TRIBUTE TO AN INDOMITABLE SPIRIT

A letter from Neville Passmore

Phil passed away peacefully on 23 January after a short illness. He was only recently diagnosed with an aggressive brain tumour and his passing has come as a great shock not only to his loving family, but to the great many people whose lives were enriched through knowing and working with him. I was fortunate to walk with Phil (mostly in 'silk stockings', AIGLE thigh waders of his choosing) over a period of about 15 years at the beginning of what became a fine career in Herpetology and Conservation. What follows is not an obituary, but is intended as a tribute to a good friend who was an outstanding field biologist and a tireless and dedicated colleague and mentor to his students. Phil and his sense of humour were never far apart. If some of what follows is humorous, it is not out of disrespect but because he would have preferred it that way!

It was in late 1979 that I received a letter from an MSc graduate in Parasitology from the University of Cardiff, exploring the possibility of reading for a PhD in amphibian behaviour at the University of the Witwatersrand in Johannesburg. I later learned that his other PhD alternative was Murray Littlejohn's lab in Australia. Fortunately, he chose to come to South Africa and arrived (together with his pet *Bufo bufo,* Gertrude (which was somewhat later found in amplexus with a local toad) at a small regional airport near our field station at Mtunzini in northern KwaZulu-Natal, where I met the plane. Recognition was easy, 'short, balding git' (his words) with skin white as a potato, Dr Martens boots, camo outfit and a miniature dagger piercing his earlobe.

What have I let myself in for, I thought?

On arriving at our camp, he leapt from the moving vehicle and dived into a roadside bush, quickly emerging with a sizeable green snake, having no idea what it was. After meeting the other students, he almost immediately embarked on a sunbathing marathon and was quite badly burned. Undeterred, he quickly assumed more than his fair share of camp duties often with the accompaniment of Vivaldi's Four Seasons. His fascination with frogs was immediately apparent and within days he was trying his hand at call recording and mastering the experimental equipment. I recall wondering how he could tolerate wearing a thick woollen Arran jersey on our nightly expeditions to the breeding sites. After all, the air temperature was often 30 C and the humidity was equally frightful. He explained that the jersey was thicker than a mosquito proboscis was long!

During his PhD research Phil rapidly became a very competent field biologist who was focused and adaptable. He had a huge capacity for hard work even under the most difficult of conditions.

When in 1984, tropical cyclone Demoina dumped large amounts of rain on the study sites, he was happy to ford the swollen streams and even tolerate a washed-away Water Monitor attaching to his leg midstream! Phil was fortunate to be able to work with Robert Capranica, then at Cornell University, when he spent a sabbatical at several of our study sites conducting a series of sophisticated acoustical field experiments.

TRIBUTE TO PHIL BISHOP

He also conducted field research in Puerto Rico, where he was fortunate to establish friendships with several leading researchers in his field. His energy and enthusiasm were boundless. I recall an occasion when, while other team members were concerned only with catching up on sleep during the day, Phil busied himself with tracking down the source of an unknown soft call emanating from dense grass on a thickly misted Ixopo hillside (his description of the latter was 'a cheese mist' because it had the consistency of cream cheese). This turned out to be the new species *Anhydrophryne ngongoniensis* that he described. On completion of the PhD, Phil was employed as a Research Assistant. Together we embarked on a number of ambitious and very demanding field studies. Despite all odds, long hours, adverse weather and clouds of mosquitoes, each one was brought to completion. This was due in no small part to his unwavering determination, an absolute refusal to submit to fatigue or very real discomfort and his gift of being able to keep the whole team motivated and focused on the task at hand – all the while without losing his characteristic and sometimes somewhat irreverent sense of humour. With Phil's departure for New Zealand in 1996, our team lost its key member and the impetus that he brought to its work. Several other members went their separate ways shortly afterward.

Phil was a fine example to others and an exceptional mentor to generations of younger students – always available to help whenever asked, often over a beer or two. At this early stage in his career, as in later life, he was an inspiring teacher and especially so when choosing to illustrate a point using live animals either in captivity or in the field. He welcomed all with an interest in frogs to visit our research station, with the exception of museum types who were prone to pickling too many specimens (and on one occasion a foreign visitor who consumed the legs of specimens before pickling)!

The South African Frog Atlas Project (SAFAP) which culminated in the Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland published in 2004 was originally the brainchild of Phil and Les Minter (again over a couple of beers after a meeting at Wits). The work itself was a team effort involving many herpetologists and members of the public and Phil served as one of the regional organizers and as a co-editor. Although he had relocated to New Zealand by the time it was published, he was one of the early drivers of this important project and he continued to contribute to its successful completion after his emigration. He went on from this start to become a leading light in amphibian conservation in his later career.

I recall writing a letter of reference in support of his first job application in the new country. It was not a long letter but it took several days to write. The gist of it was that the potential employer had in this applicant a rare opportunity to secure the services of an absolutely first-rate young Zoologist and a fine human being who would become a considerable asset to the department, the institution and beyond. And so it was.

Phil Bishop will be remembered by many, not only with respect and profound gratitude but with a great fondness for a very long time.

TRACKS IN THE SAND

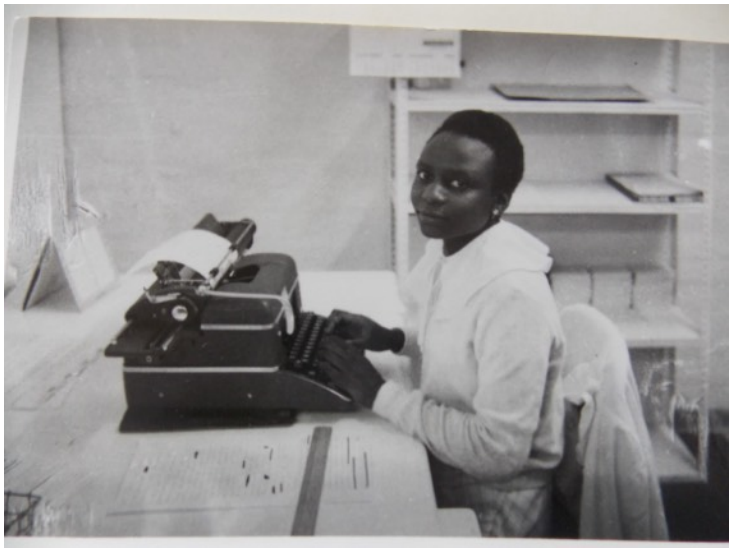
Following the journeys of professional herpetologists

SHIELA BROADLEY

SHIELA BROADLEY

While growing up in Zimbabwe I had no encouragement from my family on reptiles. They were considered to be dangerous creatures. I was told not to go anywhere near them, especially snakes, for fear of being bitten. This instruction I obeyed because the only knowledge I had about reptiles, amphibians and for that matter any other animal, came from descriptions given by my parents, who shared the same beliefs and myths as the public, especially relating to venomous snakes. It was actually a long time before I saw my first live snake.

In 1983, at the age of 22, I joined the Natural History Museum of Zimbabwe as an Assistant Clerical Officer in the Department of Mammalogy, where I stayed for three years. It was during this time that things started to change in my life – where my interest in wildlife was kindled.



The Mammalogy department is where I was introduced to specimen preparation, which included skinning and stuffing small mammals that were road casualties, cataloguing and labelling specimens and the general maintenance of the collections, both wet and dry. This work laid the foundation for my future move to herpetology.

The museum director at the time had a policy that staff, especially ones new to the organisation, could visit other departments to familiarise themselves with them. So, one day I visited the Herpetology Department to view their collection of live snakes. From that day on, whenever I took a break from typing - which back then was done on a manual typewriter and, at times, involved typing and retyping the same script repeatedly – I would visit those snakes and learn more about herpetofauna. With my developing interest I started borrowing and reading some of the reptile books they had in the departmental library. Unbeknownst to me, my interest in herpetology had also been noticed by Dr Donald G. Broadley and then Curatorial Assistant, such that when the position of an assistant in the Herpetology Department became vacant, I was their first choice. I was given the opportunity to choose whether I was interested in taking it on. I immediately replied that I was more than willing to join the department.

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TRACKS IN THE SAND

Following the journeys of professional herpetologists

At the beginning of 1986 I moved to the Department of Herpetology as Assistant Technical Officer. This was the beginning of my life-long journey in herpetology. This position saw me being responsible for the maintenance of the department's live snake collection, which involved making sure the snake cages were cleaned and the snakes fed.

This presented no problems as I had already been volunteering to help with their maintenance before I officially moved departments. Having live snakes meant that the department hosted school and tertiary students who visited the department seeking knowledge about these fascinating, but most feared animals. The guided tours that I gave made me realize how uninformed the public is about reptiles, especially snakes. There were so many myths and unfounded fears about reptiles in general. These talks to the students and the public gave me the opportunity to learn more through their questions, which became an asset to my interest and journey in herpetology.

Besides taking care of the live snake collection, my work involved conservation of the national herpetological collection. This involved making sure the specimen jars in the collection were always topped up

TRACKS IN THE SAND

Following the journeys of professional herpetologists

with the appropriate preservatives, cleaned and shelved since our collection is not stored in closed cabinets.

This work requires one to have a lot of energy as taking the heavy bottles off the shelves, dusting them, and putting them back can be exhausting!

When all other departmental chores were dealt with, the late Dr D.G. Broadley, who was my mentor, started to introduce me to taxonomy, which is an integral, if not the most essential, part of biology. The 'lessons' on different species made me aware of key characteristics and how to identify different reptile and amphibian species. With this mentorship, I quickly learned that nature has many ways of catching out even the trained eye on identification. Taking reptile meristic data, on which I spent many hours, was another way of helping with the identification of voucher specimens.

While on our travels to various museums, Dr Broadley and I spent time looking through their collections and gathering as much data as we could in the time we had. This was always hectic as it was race against time. At our museum more data was taken from specimens on loan from various museums. With all the data that was collated, many publications were produced, some of which I co-authored.

Part of my work involved a few museum-funded field trips (or local expeditions), which took me to different parts of Zimbabwe. My first trip took me to Hwange National Park for three weeks.

Dr Broadley and I went around the National Park collecting what we could. This field work was filled with adrenalin rushes and interesting moments. There were some instants when I feared for the worst. For example, we decided to camp for three days in one particular area of the park. After choosing a spot to lay down camp, we scouted for water bodies where night hunting for frogs was feasible. To our disappointment, that first night was not fruitful, as wherever we stopped to check our chosen pans for frogs, the sound of roaring lions forced us to give up. The following night we changed our tactic and decided to go on a road cruise, which produced a few voucher specimens. During daylight hours we turned over rocks and logs, which was especially exhausting in the heat, with temperatures exceeding 35° C. Despite these challenges, I learned a considerable amount on these trips - including that some reptiles are quick to escape; they leave you no time to hesitate! I quickly became reptile-wise, developed some strategies of honing in on them without spooking them. The importance of teamwork became very apparent. Overall, the field procedures remained fairly standard from trip to trip, until years later with the introduction of pitfall traps which greatly aided us in collecting voucher specimens. Unfortunately, since the late 1990s', the museum has not been able to pay for local field trips. Any field work that has been undertaken has been externally funded, making the trips few and far between.

Some externally funded trips we took were to neighboring countries, funded by the Biodiversity Foundation for Africa, the World Wide Fund for Nature and the World Congress of Herpetology. On one such trip in December 1991, I had an opportunity to be part of a team that went to Bazaruto Archipelago off the coast of Mozambique – a very different environment from what I was used to. Here, we had to walk long distances to find specimens for our collection, but it was gratifying as we found some very interesting species, including *Lycophidion semiannule, Prosymna janii, Scelotes duttoni*, which was the highlight of the trip. But not everything was a highlight. On this trip, we decided to investigate a small patch of forest and it was there that I quickly understood what people meant when they spoke about hordes of mosquitoes. Two other trips were made to Zambia in 1998 and early 1999 which also produced some interesting reptiles and experiences. I have never experienced a trip with as many tire punctures as during our first trip,

on our way to Mongu in western Zambia. I remember replacing the punctured tire for the spare tire on top of the Land Rover's bonnet. It felt so heavy that I was convinced it weighed more than my own weight at the time.

On getting back to the museum, my time would be filled preparing specimens for the national collection. This involved the usual scale counting - which required a lot of microscope work, and hence patience and focus – and finally registering the specimens, labelling and storing them. In recent years, with the advent of molecular phylogenetics, I have had the opportunity to collect tissue samples for other researchers.

On a more academic level, I have had many opportunities to attend herpetological conferences. This gave me an idea of the varied research going on throughout Africa and other parts of the world. I have also had an opportunity to help Biological Science students from various universities throughout Zimbabwe achieve their required 10-month work experience qualifications and find a topic for their dissertation.

In 2010, I was offered a place as a mature student to complete a degree at the National University of Science and Technology in Bulawayo, Zimbabwe. I welcomed this opportunity as a chance to open more doors for me in herpetology.

After completing my degree in Forest Resources and Wildlife Management, I became Assistant Curator in 2016 – a position I still hold today. In 2018, I had the privilege of receiving funding to conduct a project with the Global Biodiversity Information Facility (GBIF) digital platform, which helped expand the knowledge I gained during a Biodiversity Information Development (BID) workshop on uploading and sharing data onto the GBIF platform.

As I continue in herpetology, I cannot emphasise enough the importance of herpetology as part of biological studies. More discoveries and knowledge are still needed in all spheres of herpetology. Proper environmental decisions, management strategies and policies, conservation methods, and proper identification of taxa are all paramount to the success of herpetology. All this leaves more scope for the young and upcoming amateur and enthusiast.

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TOMORROW'S HERPETOLOGISTS TODAY

NATASHA KRUGER

AHN

TOMORROW'S HERPETOLOGISTS TODAY

NATASHA KRUGER

South Africa's wonderful ecological diversity has earned it the title of one of the world's "megadiverse" countries. It is a member of a group of 18 countries on the planet where the majority of Earth's species is concentrated with many endemic species among their ranks. Notoriously, some of these species can also be found beyond their native soil. As successful global invaders, their high impact on native fauna has made them the subject of extensive study.

One infamous South African invader is the African Clawed Frog, *Xenopus laevis*, which is the third most studied invasive amphibian globally. Its atypical characteristics, such as clawed toes, slippery skin and primarily aquatic lifestyle, were the features that initially fascinated researchers. It soon rose to the status of "model amphibian", as it is easily maintained in laboratories and can be stimulated to reproduce throughout the year with the use of hormones. This important characteristic provided, and still provides, researchers with virtually unlimited access to the other life stages, such as eggs and tadpoles. All things considered, it is an ideal model for studies in Developmental Biology, Endocrinology, Pharmaceutics, Genetics and Molecular Biology.

The broad scientific applicability of *X. laevis* facilitated its distribution into laboratories worldwide. Accidental or deliberate release of individuals from laboratories or breeding facilities resulted in the invasion of this amphibian on four continents. This invasion into novel environments brought *X. laevis* to the fore as a model in Invasion Biology.

It's many negative impacts on and adaptations to new surroundings contribute to the invasion success of *X. laevis.* Although this species is principally aquatic, it can move overland between waterbodies for several kilometres, resulting in an invasion pathway reflecting that of terrestrial amphibians and crayfish. Adults can ingest a range of vertebrate and aquatic macro-invertebrate prey and can therefore compete with and prey on native amphibians. Adult *X. laevis* have been found to reduce their parasite diversity and tadpoles have been found to recognise novel predators when invasive.

There is an indication that the global invasion of *X. laevis* will continue for years to come. An understanding of the traits which appear to favour or limit its invasion potential can assist us in the development of control and eradication measures. The development of tadpoles of *X. laevis* have been extensively studied and is well described. However, little is known about the impact of tadpoles on the invasion potential of *X. laevis*.

Historically, tadpoles have been considered as a single life stage in ecology, when in fact the tadpole stage can comprise of several stages and stage categories. The tadpoles of *X. laevis* undergo 66 stages of development from egg to metamorphosis. They are semi-translucent during the early stages of development with pigmented spots on the top of their heads and are primarily pelagic filter feeders. During their intermediate developmental phase, they develop hind legs and barbs next to their snout, which can be used to identify *X. laevis* tadpoles. The climax phase includes metamorphosis from filter feeding tadpoles to predatory metamorphs.

During metamorphosis, tail absorption occurs and individuals decrease in size.

Size and other traits can be crucial factors that determine invasion success. For instance, smaller and younger tadpoles are more vulnerable to novel predators due to the gape-size limitations of some predators or the naivety of tadpoles. Therefore, understanding the traits of tadpoles of invasive *X. laevis* in different stage categories might help us understand whether all life stages should be considered when producing plans for eradication or control.

During her PhD studentship at Stellenbosch University in South Africa and the University Claude Bernard Lyon 1 in France, Natasha Kruger investigated whether tadpoles would limit or enhance the invasion potential of *X. laevis*. The invasive population of *X. laevis* in western France provided a suitable study population with which to explore this question.

Firstly, the introduction history of this population is well studied. In fact, the exact point of introduction has been identified – a breeding facility of *X. laevis* near the French town of Saumur, which closed down in the 1980s. This information allows us to pinpoint the date of origin of the invasive population of *X. laevis* around 40 years ago. In that time, it has spread to cover an area of ~5000 km^2.

Secondly, the population is unique, as it has been found to originate from two populations in South Africa that occur in contrasting climatic regimes. Other invasive populations have been found to originate from only one population. The genetic admixture and available population history provided Natasha with a great natural experiment to study certain aspects of Invasion Biology and the role tadpoles play in the invasion success of *X. laevis*.

Predator-prey dynamics are known to be an evolutionary arms race. When a species is introduced, it might be vulnerable to novel predators due to naivety. Tadpoles have been found to acquire relevant experience to evade predators in as early as the egg stage. Consequently, an effective anti-predator tactic against a novel predator must also be learned through experience. Therefore, young tadpoles with little or no experience might be vulnerable to novel predators in their introduction site, which may limit the invasion potential of *X. laevis*.

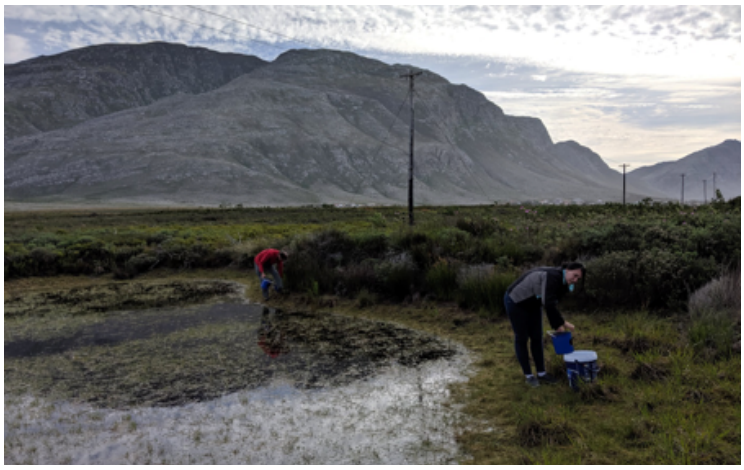
Collecting African clawed frogs

Rearing tadpoles in the laboratory in France.
Photo credit: Jan-Hendrik Marais

Armed with this knowledge, Natasha set out to study whether young tadpoles with little or no experience would display an anti-predator response when exposed to a novel predator. Some of the tadpole predators in France are functionally similar to tadpole predators in South Africa. Therefore, one would expect that tadpoles would recognise these predators and display an anti-predator response. However, there is also a novel predator in France which is not present in the native range of South Africa, namely the invasive crayfish *Procambarus clarkii*.

During her study, Natasha found that tadpoles with no predator experience did not react differently to either known or unknown predators than they would react to an ordinary water snail. However, when exposed to the predators a second time, tadpoles significantly decreased their activity in both the presence of known and unknown predator scent. This illustrates that *X. laevis* tadpoles do not seem more vulnerable to the novel predator in the invasive range, thus not limiting invasion potential in this aspect.

Previous studies on the adults from the invasive population in France found compelling evidence of an evolutionary process termed spatial sorting. This process is similar to the evolutionary process described by Darwin, except that in the case of spatial sorting adaptation of traits can occur through space rather than time. Specifically, it was found that the dispersal ability of *X. laevis* at the periphery of the population was enhanced by morphological adaptations such as longer hind legs than at the core of the population. Consequently, the individuals with the highest dispersal abilities meet and mate at the edge of the population, resulting in "fast" offspring.



Collecting African clawed frogs in Kleinmond South Africa

However, in amphibians, adults are known to disperse, whereas tadpoles do not. Therefore, Natasha was curious as to how this process that enhances traits in the adult stage would impact the tadpole stage. Adult and tadpole traits can be coupled through carry-over effects and trade-offs. It was hypothesised that differential resource allocation toward dispersal traits would affect tadpole life history traits. However, Natasha found no evidence that spatial sorting affected tadpole size, time to metamorphosis, or survival. This might be due to decoupling between stages which allows for adaptations to occur in one stage without negatively impacting the other stages. Therefore, tadpoles can maintain their functionality without being negatively impacted by adaptations that are occurring in adults, ultimately not limiting the invasion potential in this sense.

In conclusion, even though theory would suggest that tadpoles are vulnerable to novel conditions, Natasha found that *X. laevis* tadpoles are highly adaptive toward novel predators. Moreover, the important tadpole traits necessary for invasion are conserved and maintained across the invasive range regardless of changes in adults. This serves as an indication that *X. laevis* tadpoles do not limit the invasion of the species and should be considered when assessing the potential of *X. laevis* to spread into novel environments.

REPORT BACK ON iNATURALIST CHALLENGE

K.A. TOLLEY

Recently, herpetologists and enthusiasts were challenged to upload their photographic records to citizen science databases, such as iNaturalist or similar databases. We are pleased to report back on some very exciting new records uploaded by keen-eyed iNaturalist observers. In this regard, the iNaturalist members Courtney Hundermark, Clayton Burne, Oliver Angus and 'scelotes' deserve special mention for their prominent contributions highlighted below.

Challenge #1: New records of Jalla's Sand Snake (*Psammophis jallae*)

Historically, this snake has been recorded from a large area in central southern Africa, from central Angola into north-eastern South Africa. However, from across the entire range it has been recorded only five times since the year 2000, and it has not been recorded at all in South Africa since the 1980s. This challenge still stands unmet with no new records contributed.

Challenge #2: Herpetofauna of the southern Drakensberg and adjacent Lesotho

Challenge met! In the last feedback, we reported on 12 observations of nine species made between 1/9/2020 – 15/12/2020. That number has now increased, with a total of 21 observations from 13 species. There had been only a smattering of records from the area prior to this challenge, although the numbers are still small, they are meaningful.

A potentially exciting record newly added to iNaturalist was an unconfirmed report (albeit dated back to 1998) of a *Montaspis gilvomaculata* from near Ha Lehone, Lesotho. Unfortunately, there were no photos to confirm the identification, but the area could be worthy of further investigation for this snake. Another interesting new record was of *Amietia vertebralis* from near Kokstad in South Africa. Not previously recorded from the area, the ID has been confirmed by the iNaturalist community. This is a high elevation species previously recorded only from the Drakensberg Mountains, yet this record comes from an isolated mountain (Bokkiesberg) approximately 50 km south-east of Qacha's Nek in the Drakensberg. It would be important to verify this locality with additional records and confirm if this is an isolated population of *A. vertebralis*.

Challenge #3: The elusive *Tetradactylus breyeri*, Breyer's Long-tailed Seps

Challenge met! This challenge called for confirmation of Breyer's Long-tailed Seps from the south-central Drakensberg and the KwaZulu-Natal Midlands. We are very pleased to report that two records of this species have been uploaded to iNaturalist. The photos were taken in 2003 and 2017, both from the Howick area. Although this lizard is elusive, the 2017 record suggests that it probably still occurs in the KZN Midlands area. We encourage observers to upload additional recent records from the

KZN Midlands and from the south-central Drakensberg.

NEW CHALLENGE!

Challenge #4: Where is *Philothamnus angolensis*?

There are several historical records of the Angolan Green Snake (*Philothamnus angolensis*) from north-eastern South Africa but no new records since the early 1990s. Historically, the species had been recorded from the Kosi Bay area as far south as St. Lucia in KwaZulu-Natal Province. However, the lack of recent records suggests that the species might have declined in South Africa. Although there have been anecdotal reports of *P. angolensis* from near Kosi Bay in the last decade, there have been no officially logged records in databases or museums. We challenge observers to help confirm if this species still occurs in South Africa.

How to participate

To contribute to these challenges, you will need to sign up on iNaturalist (https://www.inaturalist.org/signup) using your email address or Facebook account. Once you have logged in, please join the project *AfriHerps* if you wish to receive notifications regarding content related to these challenges. To add observations, you can choose to use either the iNaturalist smartphone app or the website upload page. Each observation requires either a photograph or sound recording, a date and an accurate map location. Please make sure to post each individual animal separately, and to merge photographs of the same animal into one observation before submission. Your observations will be automatically added to the HAA challenge projects if they meet the project criteria. You can view the current HAA challenges by clicking on the links from the *AfriHerps* project page. Note that any contributions are welcome on other platforms such as ReptileMap, but report backs on these challenges will be made from data collected by the iNaturalist platform.

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Cacosternum karooicum

(Boycott, de Villiers, Scott, 2002)

Karoo Caco

DEFENSIVE SECRETION

A.D. REBELO

On August 23, 2020 an adult female Karoo Caco (*Cacosternum karooicum*) was found under a stone at Hollanders, Northern Cedarberg, Western Cape (32°04'03"S; 19°02'13" -E, ~447 m asl; iNaturalist: 58124441). While handling this specimen for ventral photographs, a white latex-like substance was produced on the dorsal-lateral areas (Fig. 1). The substance reappeared a second time during handling after being washed away. The specimen was released unharmed. It is likely that this secreted substance is poisonous, as Rose (1926) discovered in the Cape Caco (*C. capense*) that has been reported to affect human skin (Rebelo 2019). However, unlike the Cape Caco, only moderately sized dorsal glands were present for this specimen and the secretion was restricted to the dorso-lateral region and is completely absent from the middle of the back of the frog. The Karoo Caco is poorly known and previously only one live specimen has been observed and submitted to citizen science platforms (FrogMAP: 448) and natural history publications are lacking. In the description, Boycott et al. (2002) suggest that the frog's flattened shape may suggest that they aestivate in rock cracks and crevices. However, no evidence has since been published to support this hypothesis and this may be a long-time coming due to the difficulty of checking deep rock cracks. I hypothesize that the lateral position of the secretions in *C. karooicum* are an adaption to living in rock crevices where the sides are exposed to predators. This is the first report of a secretion produced by the Karoo Caco to my knowledge, and previous handling and photography of male *C. karooicum* has not resulted in similar secretions (A.A. Turner, pers. comm., 4 January 2021). I suspect that the similar Namaqua Caco (*C. namaquense*) may also produce such secretions, which is sister taxon to the Cape Caco (Channing et al. 2013) and also possesses enlarged skin glands. Morphologically the Karoo Caco resembles the Cape Caco and now both species are known to produce such secretions when handled. These secretions made by these species should be investigated biochemically for toxicity. More life history observations are required to test the proposed hypotheses, determine if they are produced in both sexes, and understand the exact purposes of these secretions that are found in both these large *Cacosternum* species.

Figure 1. Before and after dorsal-lateral secretions in the Karoo Caco (*Cacosternum karooicum*).

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Platysaurus monotropis
Jacobsen, 1994
Orange-Throated Flat Lizard
DIET

R.I. STANDER

Platysaurus are known to be omnivorous, with certain species showing a stronger inclination towards frugivory than others (Broadley 1978). The diet of *P. intermedius wilhelmi* has recently been documented by Murray (2014), confirming Broadley's (1978) findings. Murray (2014) provides the only recent investigation into the diet of a particular *Platysaurus* species, with little or no information available at the species level for most congeners. Whiting and Cooper (2003) have noted that *P. broadleyi,* like other *Platysaurus*, is an ambush forager reacting to visual stimuli. They also hypothesised that *P. broadleyi* recognises stationary plant material by taste rather than smell in order to determine fitness for consumption.

On 1 June 2018, at 1 040m asl near My Darling, on the western foothills of the Blouberg massif, Limpopo province, South Africa (2328BB), an adult male *P. monotropis* was observed feeding on fallen flower buds from a *Croton gratissimus*. The lizard consumed multiple flowers, whole. The plant matter was lying on the rock surface near the base of the tree when the lizard approached it and began feeding. Consistent with Whiting and Greeff's (1997) and Whiting and Cooper's (2003) findings, no investigation through tongue-flicking was noted before feeding commenced, nor was the animal responding to any movement.

The feeding area was within 2m of the lizard's frequented shelter and it is possible that the animal had previously learned of food availability at the site (Whiting and Cooper 2003). *P. monotropis* has also been observed feeding on the leaves of *Indigofera circinnata* (Vincent Egan pers. comm., [March 2020]).

The observations herein presented constitute the first published records of *P. monotropis* feeding on plant material, thus adding two new plant species to its known diet. Furthermore, it would appear to confirm Whiting and Cooper's (2003) taste-testing hypothesis in at least one other species of *Platysaurus*.

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Prosymna janii
(Bianconi, 1862)
Mozambique shovel snout snake
ATYPICAL PATTERNING

P.R. JORDAAN

Prosymna janii Bianconi, 1862 is a reasonably common fossorial snake inhabiting forest and woodland habitat on loose sandy substrate in north-eastern KwaZulu-Natal, South Africa and southern Mozambique (Haacke and Bruton 1978). During pitfall and funnel trap surveys across Maputo Special Reserve (MSR) and Tembe Elephant Park (see Jordaan et al. 2020), a male *P. janii* was captured with atypical colouration which to the authors knowledge has not previously been described.

During these surveys, a total of 11 *P. janii* specimens were captured. Of these observed specimens, ten individuals displayed the typical patterning associated with this species, exhibiting a yellow or yellowish-brown to light brown dorsal background and a series of paired black markings which shrink and fade with distal progression along the body, regularly merging to form bands across the neck. The head is generally dark with a lighter yellow rostral area (Fitzsimons 1962; Haacke and Bruton 1978; Branch 1998).

In contrast with the description above, one of the *P. janii* specimens (SVL: 191 mm TL: 223 mm W: 0.0052 kg), captured in a double-sided funnel trap at a rehabilitated Eucalyptus plantation (26°30'30.85"S 32°43'10.06"E), had no patterning on the dorsum but instead exhibited a uniform dark brown colour without any markings (Fig. 1). The colouration on the head, however, appeared normal, being dark with two paired lighter yellow blotches on the neck directly behind the head and a lighter coloured rostrum. The ventral side was of the normal white colour. The identity of the specimen as *P. janii* was confirmed based on scale counts compared to Branch 1998. A comparison between the individual with atypical patterning and the normal colouration of *P. janii* can be seen in Fig 2.

Figure 1. Atypical patterning of the *Prosymna janii* (Bianconi 1862) specimen in question, with a uniform dark brown dorsal colour.

Figure 2. A visual comparison between the typical colouration of *Prosymna janii* (Bianconi 1862) : typical (left) atypical (right)

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Mochlus mabuiiformis
(Loveridge, 1935)
Mabuya-like Writhing Skink
REDUCTION IN MAXIMUM SIZE

G.M. SHEA & J. ROSADO

Mochlus mabuiiformis is a poorly-studied species known from few specimens from between the mouth of the Tana River in Kenya in the south (Loveridge 1935, 1936) and Giahuer, in Somalia in the north (Lanza and Carfì 1966, 1968; Lanza 1983, 1988). The largest recorded individual is one from Villagio Sguss in Somalia reported by Laurent and Gans (1965), with snout-vent length (SVL) 223 mm and tail length 140 mm. It is presumably this record that is the basis for the maximum size for the species reported in field guides (Spawls et al. 2002, 2018) of total length 36.3 cm. A snout-vent length of 223 mm was also used as the maximum size for this species in three major analyses of body size in squamates (Meiri et al., 2011; Feldman et al. 2016; Slavenko et al. 2019). Although the latter three studies did not explicitly state the source of their record, Feldman et al. (2016) stated that they obtained their size data "from an extensive literature search of over 9000 published works". Rodda (2020) similarly gave a very large size for modal SVL (169 mm) and mass (116 g) for this species, and in the supplementary material gave maximum SVL as 223 mm and maximum total length 363 mm, basing his maximum values on Feldman et al. (2016) and Spawls et al. (2002), and his modal values calculated from a regression of the two variables on a different set of taxa. Rodda's mass data were derived from SVL, using the relationships determined by Meiri (2010), who did not include any species of *Mochlus* or its relatives in determining the relationship. In contrast to these other studies, Greer (2001), in his compilation of maximum sizes of skink species, did not include *Mochlus mabuiiformis* among the skinks with SVL > 150 mm.

An SVL of 223 mm is much larger than the 11 specimens in the type series from Ngatana, on the Tana River in Kenya, which were reported to achieve only SVL 95 mm and tail length 141 mm for males and SVL 91 mm and tail length 121 mm for females, with the holotype being recorded as an adult male (Loveridge 1935) yet Laurent and Gans described their much larger specimen as agreeing closely with the type series, and the species as being long-tailed (though their measurements give a tail length of only 63% of SVL). Lanza and Carfì (1968) examined two specimens of the species, the one collected by Gans and one other, and reported SVLs of 83 and 88 mm, but did not indicate which measurement was associated with which specimen, and did not note the discrepancy between their measurements and those of Laurent and Gans. We re-examined the specimen collected by Gans (Museum of Comparative Zoology, Harvard University MCZ R-72041), and the SVL is incorrectly reported by Laurent and Gans – it is only 84 mm, with tail length 140 mm, giving a total length of 224 mm. Laurent and Gans (1965) hence incorrectly gave the total length of the specimen as SVL.

This correction brings the species back into the normal size range for the genus, with other *Mochlus* species (other than the *fernandi* complex, which attains SVL 166.5 mm in the largest species, *M. striatus*; Wagner et al. 2009) having maximum SVLs between 59.5 mm (*M. grandisonianus*; Lanza and Carfì 1966, 1968) and 140 mm (*M. sundevallii*, in its modern concept as including the larger form previously known as *M. afer*; Loveridge 1942; Broadley 1966; Freitas et al. 2019). The remeasurement of the specimen also creates a new maximum relative tail length for the species, of 167% of SVL, confirming the description of the species as long-tailed by Laurent and Gans.

This correction provides another illustration of the importance of voucher specimens as a means of verifying reports in the scientific literature (de Moor 1996; Huber 1998; Clemann et al. 2014).

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GEKKONIDAE

Afroedura namaquensis

(Fitzsimons, 1938)

Namaqua Rock Gecko

R. VAN HUYSSTEEN & M. PETFORD

Afroedura are a diverse group of African geckos with 28 species currently described (Branch et al. 2017a) and they are generally distributed along the great escarpment and adjoining mountain ranges through Southern Africa (Jacobsen et al. 2014). The greatest species richness occurs in the eastern summer rainfall regions of the subcontinent with only five species currently recognised from the western parts of Southern Africa (Jacobsen et al. 2014). These occur from the Hawequa mountains in the south through to the Cuanza Sul Province in Angola in the north (Jacobsen et al. 2014; Branch et al. 2017b).

During a recent trip to the Richtersveld National Park in the Northern Cape of South Africa on the 18th October 2020, we encountered two Namaqua Rock Geckos, *Afroedura namaquensis*, at Kokerboom Kloof Campsite in the arid eastern part of the park, 600m a.s.l. (Quarter Degree Grid 2817AC; S28°18'51.25", E17°17'8.56"). The geckos were found while they were hunting in bushes on rocky outcrops. The geckos were identified as *Afroedura namaquensis* by three pairs of scansors per digit, a verticillate tail, enlarged gular scales and the presence of internasal granules (Fitzsimons 1938; Branch 1998). However, pre-cloacal pore count was only six as opposed to the 8-10 currently recorded for this species (Fitzsimons 1938; Branch 1998). The record can be viewed at https://www.inaturalist.org/observations/63882194.

The gecko was predicted to occur in the park by Bauer and Branch (2001 [2003]) who conducted the most recent herpetological appraisal of the area. Our records are the first confirmation that the species occurs in the Richtersveld National Park and represent a northern range extension of 113 km from the 1987 specimen (TM 65863) collected at the farm Kanikwavlakte, Quarter Degree Grid 2917AC; S S29° 18' 57.6", E 17° 4' 58.8" (Bauer in Bates et al. 2014)). This demonstrates that the gecko is more widely distributed than current records show. Additionally our records also represent the first observations of *Afroedura namaquensis* exhibiting aboreality.

Figure 1. Namaqua Rock Gecko, *Afroedura namaquensis*, Kokkerboom Kloof Campsite, Richtersveld National Park. Photo: R. van Huyssteen

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GEOGRAPHICAL DISTRIBUTIONS

LAMPROPHIIDAE

Prosymna lineata

(Peters, 1871)

Lined Shovel-snout

R. VAN HUYSSTEEN & P.R. JORDAAN

South Africa's KwaZulu-Natal province is rich in reptile diversity with 182 species recorded (Bourquin 2004; FitzPatrick Institute of African Ornithology 2020a). Within the province, the north-eastern regions have the highest species richness and are considered one of South Africa's reptile diversity hotspots (Bates et al. 2014; Tolley et al. 2016). Even though these northern regions are rich in herpetofauna, they are still incompletely sampled (Bourquin 2004; Jordaan et al. 2020).

On 21 December 2019 at around 21:30, two Lined Shovel-snouts (*Prosymna lineata*) were observed by RVH moving over a sandy patch in degraded sand forest in the research camp at Tembe Elephant Park (S27° 2' 38.4'', E32° 25' 15.6, QDGS 2732AB) at 89 m a.s.l. The snakes were found within three meters of one another and a record was submitted to the Animal Demography Unit's Virtual Museum (FitzPatrick Institute of African Ornithology 2020b). Two days later, PRJ caught another specimen in a funnel trap as part of the Tembe Elephant Park leg of the Lubombo Transfrontier Conservation Area Pitfall and Funnel Trap Faunal Monitoring Project (Permit number: OP 13/2020). This specimen was caught in sand forest with a closed canopy and little to no understory at S27° 2' 42'', E32° 24' 21.6'' (QDGS 2732AB) at an elevation of 96 m a.s.l. In the same week, another two DOR specimens were observed from the P522 road in the same QDGS by a citizen scientist at S27° 2' 42'', E32° 23' 9.6'' (85 m a.s.l.) and 27° 03' 36'' S, 32° 26' 38.4'' E (69 m a.s.l.) (Ueda 2020 a,b). All five individuals were assigned to *Prosymna lineata* based on the paired internasals (distinct from *P. janii* and *P. stuhlmanni*) that are in contact with each other (distinct from *P. bivitatta*) (Broadley 1990). All these specimens exhibited a similar colour and pattern. The ventral and first two scale rows were white, the dorsum grey, with white flecks distributed non-evenly, giving a grey marbled effect. As far as we know, this is the first time this colouration has been documented, showing just how variable colour and patterning can be in this species.

These are the first records of *Prosymna lineata* (Peters, 1871) from Tembe Elephant Park and surrounds (QDGS 2732AB) and represent a range extension of ~ 70 km from the nearest recorded locality at Mkuze Game Reserve, QDGS 2732CA (FitzPatrick Institute of African Ornithology 2020c). The new records reported here indicate that *P. lineata* is likely to be more widely distributed in northern KwaZulu-Natal and that its perceived scarceness may be a result of the snake's low detectability due to its fossorial lifestyle and incomplete sampling in the region.

Figure 1. Lined Shovel-snout (*Prosymna lineata*), Tembe Elephant Park, KwaZulu-Natal, South Africa. Photo: R. van Huyssteen.

Records for *Prosymna lineata* are sparse in KwaZulu-Natal. In his review of reptiles of KwaZulu-Natal, Bourquin (2004) mapped only three localities where this species had been recorded: Pongola River west of Jozini (QDGS 2731BD; no further details on this specimen are available), Mkuze Game Reserve record (QDGS 2732CA, Haagner 1997) and Dukuduku Forest, QDGS 2832AC (FitzPatrick Institute of African Ornithology 2020d). In addition to these records, the ADU lists an additional Mkuze (2732CA) record from the AJ Lambiris Private Collection (FitzPatrick Institute of African Ornithology 2020e) and there is an unpublished record from Mkuze (-27° 36' 2.4732"S, 32° 13' 1.4196", QDGS 2732CA), which was recorded in 2016 (K. Kyle, personal communication, February 9, 2021). In addition, Bates et al. (2014) depicts a record from 2832AD. This record (FitzPatrick Institute of African Ornithology 2020f) refers to a literature record from Broadley (1990), which has no additional details and is represented by a point on the map that signifies Dukuduku Forest. Due to the fact that there is no specimen attributable to this record and both Bourquin (2004) and Broadley (1965) refer to the Dukuduku record, it seems that either the listing of 2832AD as a QDG containing a record of *P. lineata* is in error that has resulted from incorrect geo-referencing, or the QDGS attached to the original record (2832AC) is incorrect (FitzPatrick Institute of African Ornithology 2020g).

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ATRACTASPIDIDAE

Atractaspis branchi

(Rödel et al., 2019)

Branch's Stiletto Snake

P.J. SENTER

On 11 June 1986, some school children brought to my attention a dead *Atractaspis* sp., approx. 735 mm in length, in the city of Yekepa (7°35' N, 8°32' W, approx. 520 m), in northeastern Nimba County, eastern Liberia. They had found it on a road, where its killer had apparently placed it. Disposing of dead snakes by placing them on roads, where they would be destroyed by automobiles, was a common practice in Liberia at the time. I recorded the colour of the snake as "slatey-brown" (grayish brown) with "all skin opalescent." The specimen was discarded after study.

Five species of *Atractaspis* are known from Liberia and/or the nations that border it. Four of them were known to science in 1986: *A. aterrima*, *A. corpulenta*, *A. dahomeyensis*, and *A. irregularis*. The scalation of the specimen did not match any of the four species (Table 1), and its headshields did not match theirs.

In a field journal, I recorded the information reported here and did not pursue the matter further. The identity of the specimen remained a mystery until Rödel et al. (2019) published a description of a new species from Liberia and Guinea: *A. branchi*. The specimen's scalation matches that of *A. branchi* (Table 1), and a sketch of its headshields that I made in 1986 resembles *A. branchi*.

I therefore identify the specimen as *A. branchi*. Nonetheless, it would be ideal to verify the presence of the species in the vicinity of Yekepa with more material.

Atractaspis branchi has previously been recorded only from southeastern Guinea and from one locality in western Liberia, in Lofa County (Rödel et al. 2019). This record of *A. branchi* in eastern Liberia significantly expands the known geographic range of the species. Yekepa is approximately 66 km east of Belefanin, Guinea, the nearest and easternmost location from which the species is previously recorded (Rödel et al. 2019).

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	Dorsal Scale Count	Anal Plate	Subcaudals
A. aterrima	19 - 23	simple	simple
A. corpulenta	23 - 29	simple	simple or with some divided (Villiers 1950); or divided (Chippaux and Jackson 2019)
A. dahomeyensis	29 - 35	simple	some simple, some divided
A. irregularis	23 - 27	divided	divided
A. branchi	17 - 23	divided	divided
specimen documented here	17	divided	divided

Table 1. Scalation details of the specimen documented here, compared with those of the species of *Atractaspis* recorded from Liberia and/or the nations that border it (from Rödel et al. for *A. branchi*, and from Villiers 1950 and Chippaux and Jackson 2019 for the other species).

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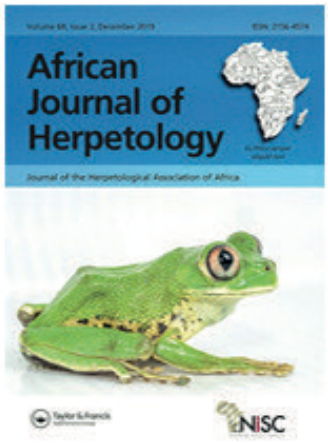

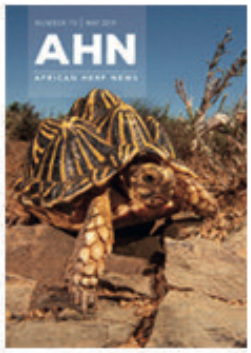

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