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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, geographical distribution notes, herpetological survey reports, venom and snakebite 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.

COVER PHOTOGRAPH: *Bitis caudalis* from an unknown locality in South Africa. Photograph by: David McGuire. Canon EOS 60D (1/250, F18, ISO 200).

BOOK REVIEW

Turtles of the World. Vol. 1: Africa, Europe and Western Asia. By Holger Vetter. Terralog Edition. Chimaira, Frankfurt am Main. 2011. 152 Pages. Hard cover. Second Edition. €34.80. ISBN 978-3-930612-27-7.

Volume 1 of the Terralog Turtle series deals with the chelonians of the Afrotropic and Western Palaearctic. It is superbly illustrated, with a series of colour plates and a distribution map for each species. Each picture has a code number, followed after a hyphen by a numeral indicating the age of the specimen, then scientific name and author, locality, sex, approximate straight carapace length of adults, and photographer. This is followed by a series of pictograms to indicate the basic requirements of the species in husbandry. I was pleased to see some excellent photos of the poorly known species *Pelusios upembae* and *P. broadleyi.*

The second edition differs from the first (2002) edition in using the current taxonomic list provided by the Turtle Taxonomy Working Group (2007, 2009, 2010) and Rhodin *et al.* (2008). However, some recently published molecular phylogenies have produced additional taxonomic changes. The changes affecting Sub-saharan African taxa are as follows:

Family Cheloniidae

Valid subspecies are no longer recognised for *Chelonia mydas* or *Eretmochelys imbricata.*

Family Testudinidae

The dispute over the correct generic name for the Seychelles giant tortoises (*Aldabrachelys* Loveridge & Williams or *Dipsochelys* Bour) has yet to be resolved by the International Commission for Zoological Nomenclature, but the name *Dipsochelys dussumieri* is used here, with the subspecies *arnoldi* Bour and *holissa* (Günther) in captivity on Mahe and introduced onto other islands.

Genus *Centrochelys*

Le *et al.* (2006) suggested that the African Spurred Tortoise *C. sulcata* should be retained in the genus *Geochelone* with the Asian species *elegans* and *platynota.* However, Lapparent de Broin (2000) had earlier proposed the revival of *Centrochelys* Gray, 1872, for this species, and this is now generally accepted.

Genus *Kinixys*

Kinixys belliana belliana has a much wider range than indicated on the map, as it extends south from Cameroon through the Lower Congo region to Angola (Broadley, 1991, 1993), and also mapped in Broadley (1992). Molecular data has now been published for three specimens from central Angola (Kindler *et al.*, 2012). I have examined two specimens from the western Democratic Republic of the Congo on loan from Tervuren (MRAC 4648 from Lukolela and MRAC 10736 from Kwango River). Few specimens were available from Angola as Bocage's material was destroyed by fire in Lisbon, but I have examined specimens from 20 km S of Cassinga, Chitau, Cubal, Gauca, Huila and Hungueria. Unfortunately the available molecular data for typical *K. belliana* is only

from Burundi and Angola (Kindler *et al.*, 2012), so the Horn of Africa remains unsampled. The true type specimen of *K. belliana* (BM 1979.919) is a mounted female with a worn shell lacking pattern and without locality data, but it seems to come closest to Ethiopian material (topotypical of *K. schoensis* Rüppell), and also just falls within the range of variation of *K. b. mertensi* Laurent from northeastern DRC (Broadley, 1989). The molecular phylogeny of Kindler *et al.* (2012) confirms the validity of *K. natalensis* (basal), *K. lobatsiana, K. spekii,* and also *K. zombensis,* the Southeastern Hinge-back Tortoise (with *K. domerguei* of Madagascar as a synonym). *K. nogueyi* is also recognised as a full species ranging to the eastern Central African Republic. The forest species *K. erosa* and *K. homeana* form a subclade, sister to another subclade including *K. lobatsiana* and *K. zombensis* (Kindler *et al.*, 2012).

When I attempted to map the distribution of *K. spekii* in 1989, no material was available from Angola, and as this species occurred throughout Zambia and southern DRC (Katanga) it seemed likely that it ranged across the Angolan plateau. However, of the nine Angolan specimens examined subsequently, seven had the radiate dorsal pattern of *K. belliana,* and only two (FMNH 18490 Gauca and NMHG 1545/2 Vila da Ponte) had the zonary pattern of *K. spekii,* the former specimen was sympatric with *K. belliana* (FMNH 18489). I have recorded two possible hybrids between *K. belliana* and *K. spekii* from Ikelenge in northwestern Zambia, an area close to the Angolan border (Broadley, 1991). *K. spekii* is sister to a subclade including *K. belliana* and *K. nogueyi* (Kindler *et al.*, 2012).

Genus *Stigmochelys*

The TTWG has accepted the allocation of the Leopard Tortoise to the genus *Stigmochelys* Gray, and does not recognise a subspecies *S. pardalis babcocki,* despite the arguments of Le *et al.* (2006).

Family Pelomedusidae

Genus *Pelomedusa*

No subspecies of *Pelomedusa subrufa* are recognised. However, the molecular phylogeny of Vargas-Ramirez *et al.* (2010) revealed nine distinct clades, five in the north, two in the north-east (Somalia and Arabia) and two in the south (DRC to South Africa and Madagascar), so this is probably a species complex.

Genus *Pelusios*

A genetic study by Fritz *et al.* (2011) suggested that *P. chapini* is doubtfully distinct from *P. casteneus* at the species level, and *P. castanoides intergularis* of the Seychelles may not be a valid subspecies. This was also the conclusion of Silva *et al.* (2010), while the same applied to *P. subniger parietalis.* Fritz *et al.* (2011) also found that both the wide-ranging species *P. rhodesianus* and *P. sinuatus* showed some geographic variability.

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OBITUARY: JOHN DUCKITT VISSER

John Visser passed away in Singapore on 15th May 2012, following two heart attacks a week earlier. He had planned to return to Swakopmund to celebrate his marriage to Carol Sohrada on 18th May, of whom he wrote:

"I have to protect her from handling venomous snakes, as she is fearless and wandering into croc. infested vleis at night does not faze her, is very computer literate, does things on time, not domineering or hysterical, so I look forward to many happy years with her."

John Visser was born in Umkomaas, South Africa, on 21st May 1938. His father was Jack Visser, who had a wood-working factory. John went to school in Pietermaritzburg

and then to South African College Schools in Cape Town. His boarding school days enabled him to begin capturing and breeding wild animals, and he became adept at illegally keeping snakes, squirrels and other rodents in his dormitory. He went to the University of Natal in Pietermaritzburg in 1974 as a mature student to study for a M.Sc. in Zoology, being awarded the degree for his thesis on frogs of the genus *Heleophryne* in 1990. John married Joy Thurgood in 1960, and they had three sons, Brent (1961, died in 2004), Gavin (1964) and Dion (1966). John and Joy were eventually divorced in 2011.

In 1958, when John first made contact with DGB, he was Manager of FitzSimons' Snake Park in Durban. In the middle of that year he moved to the Department of Nature Conservation in Stellenbosch to work on waterfowl, and was then posted to Bredasdorp. John was collecting large numbers of reptiles and amphibians, and exchanged specimens with DGB, then working with the Roads Department in Matabeleland.

John began more serious fieldwork in November 1959. For six weeks he followed gorillas through the forests of the Kisoro National Park in Uganda for the Gorilla Research Unit (headed by Raymond Dart). When this study ended, he spent some time in Kenya collecting reptiles for export, then did stints as a professional game catcher in Tanzania and Somalia, ending up with a game catching team in Kenya, catching black rhino with a lasso on a bamboo pole. John returned to Port Elizabeth at the beginning of 1962 as Manager of the Game Immobilisation Division of Reckitt & Coleman, demonstrating the use of M99 for the immobilisation of game. He was then working on his first book on venomous snakes and the treatment of snake bite, which was sponsored by the College of General Practitioners and published by Howard Timmins in 1966.

In mid-1964 John took up a post in south-eastern Rhodesia with the Tsetse and Trypanosomiasis Control Branch of the Veterinary Department, but within a few months he was back in South Africa at Hout Bay, collecting mammals, reptiles and amphibians full-time for zoos, universities and research centres, and travelling all over the world. John and Joy made trips to Marion Island in May/June 1980, and to Gough Island in November/December 1980, 1981 and 1984 with the Antarctic supply ship SA Agulhas. At the beginning of 1998 the Vissers moved to Durbanville, as Hout Bay 'just became too crowded'. At the end of 2000 John established the Shark Aquarium at Jeffreys Bay and caught and exported many sharks to the Far East, travelling with them to ensure that they arrived in good condition. He sold the Shark Aquarium in 2007 and moved to Namibia the following year, settling down at Swakopmund and concentrating on herpetology.

John Visser's amphibian contributions

From 1971 John studied *Heleophryne*, producing many beautiful and instructive phorographs of the torrent habitat and being the first to find eggs. John completed his Masters degree work on *Heleophryne*, entitled: "The biosystematics of the *purcelli* group of the frog genus *Heleophryne* (Amphibia : Leptodactylidae)" at the University of

Natal, Pietermaritzburg, in 1990 under the direction of Eddie van Dijk. This work made some novel discoveries, for example that individual jaw serrations lacking a common sheath occur as transitory structures in some young tadpoles of *Heleophryne*. He also investigated multiple aspects of the biology of ghost frogs, including morphometrics, tadpole variation and sperm morphology. In the late 1970's John collected many anurans, and produced exquisite Alizarin/Alcian-Blue and dry preparations, that have made possible the identification of bones from scats and owl pellets, as well as palaeontological preparations (E. van Dijk, pers. comm.)

His ability in the field was legendary. During his life, he collected everything from live great white sharks to rare spotted rubber frogs. He had a deep knowledge of the habitat requirements of his quarry and the biogeographic zones where they were found. He paid attention to all life stages of frogs during his long collecting career, amassing large collections of tadpoles and eggs. He recorded the calls of many frog species, spending sufficient time to capture all the individual variations and chuckles. He was interested in breeding phenology of southern African frogs, and gathered copious data on this, particularly for *Amietia (Afrana)*. He collected large series of specimens whenever the chance presented itself, sometimes earning him scorn, but these large series remain utterly invaluable for thorough taxonomic research. Africa has lost one of its best ever all-round collectors.

He had a keen eye for spotting local variations, and was suspicions of population differences or subspecies from differing localities. He had collected various new records and new species of many frogs, including a possible undescribed species of *Hemisus*.

His interest in tadpoles remained throughout his life, and he was working on describing the tadpoles of *Phrynomantis affinis*. He particularly enjoyed *Pyxicephalus*, spending many hours in the field hunting and observing them, and was instrumental in initiating revisionary work underway on bullfrogs. He published numerous biological observation notes on reptiles and amphibians, but sadly, only a fraction of what he knew. He was, at the time of his death, working on various projects on frogs and snakes at or below the species level.

John Visser's reptile contributions

John's most important publications on reptiles were his series of books and posters on venomous snakes and the treatment of snake bite, followed by the well illustrated multi-part series in *Landbouweekblad* covering snakes (1972), frogs (1979) and lizards (1984).

Surprisingly, John only described one new reptile species, but this was an important one – *Homopholis mulleri* in 1987. John borrowed material of the small East African species *H. fasciata* from American museums and concluded that his new species was closer to it than to *H. wahlbergii*.

While studying at the University of Natal, John investigated the internal anatomy of many snakes, especially the Scolecophidia, possibly as an alternative topic for his M.Sc. thesis, but this work was never published. In 1996, John said that he had 'three crammed files' with data on the internal anatomy of snakes and lizards, which he eventually hoped to write up.

At the 1991 HAA Symposium in Bloemfontein, DGB was asked to read a paper entitled 'The 'large-eyed' *Lamprophis fuliginosus* from the arid areas of the Cape Province and Namibia' on John's behalf, as he was unable to attend. Unfortunately he failed to provide an abstract for publication, and this preliminary paper has passed into oblivion! John continued to work on the 'large-eyed' and 'thin-striped' house snakes on and off as time allowed, but only really got to grips with this project after he moved to Swakopmund in 2008.

John built up an important collection of preserved reptiles and amphibians, but was also generous in his donations to museums in southern Africa and the United States, including 400 gecko specimens given to Aaron Bauer for his 2006 revision of the *Pachydactylus serval/weberi* revision. He also provided Aaron and other researchers with many tissues of lizards and snakes for sequencing. John was a skilled photographer and had an enormous collection of colour slides and black and white photos, which he generously made available to other herpetologists.

After moving to Swakopmund in Namibia, John concentrated on herpetological projects and started to publish notes in African Herp News. John will be sadly missed, and it is very unfortunate that he was unable to complete his major projects, but we hope that we shall be able finalise some of them.

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HAA representatives at the 7th World Congress of Herpetology held at the University of British Columbia, Vancouver, Canada from August 8 –14, 2012. The conference was a joint meeting of several other societies including the American Society for Ichthyology and Herpetology (ASIH), the Society for the Study of Amphibians and Reptiles (SSAR) and the Herpetologist's League (HL) and hosted nearly 1700 delegates.

NATURAL HISTORY NOTES

REPTILIA: CHELONIA

TESTUDINIDAE

***Homopus femoralis* Boulenger, 1888**
Greater Padloper

DIET

The ecology of *Homopus femoralis* is mostly unknown. Captive individuals ate a wide range of plant species (Loehr 2009), but published records on the natural diet of this taxon appear to be lacking. During a field study in Beaufort West municipality from 2006 to 2011, I made two observations of *H. femoralis* feeding. In addition, one individual produced faeces with clearly distinguishable plant material.

On 19 March 2006, a female (straight carapace length [SCL] 98.4 mm) was seen eating the leaves of *Hermannia filifolia*. A second female (SCL 127.4 mm) fed on the leaves of *Gazania rigens* on 11 October 2011. Finally, a female (SCL 130.5 mm) caught on 6 October 2011 produced faecal matter that contained a large volume of leaves and flowers of *Leysera* sp.

Hermannia spp. and *Leysera* spp. have been noted as food items for other South African tortoises, including the congener *Homopus signatus* (Rall & Fairall 1993; Mason et al. 1999; Loehr 2006). *Gazania rigens* appears to be a new dietary item, although *Gazania* spp. have been recommended as food items for captive tortoises (e.g, http://www.thetortoisetable.org.uk/site/plants_19.asp?catID=14).

ACKNOWLEDGEMENTS

I would like to thank CapeNature for permission to study *H. femoralis* (permit numbers AAA-004-000185-0035, AAA-004-00020-0028, AAA-004-000392-0035, and AAA-004-00027-0028). Jos van der Maesen, Terry Trinder-Smith and David Gwynne-Evans are thanked for their help identifying *Hermannia filifolia*.

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TESTUDINIDAE

***Stigmochelys pardalis* Bell, 1928**
Leopard Tortoise

PREDATION

During an analysis of Spotted Hyena (*Crocuta crocuta*) faeces to determine prey species included in the diet from north-eastern Namibia (Bwabwata National Park, BNP), the remains of an adult Leopard Tortoise (*Stigmochelys pardalis*) were discovered. Remains of parts of the telltale scutes were observed within one faecal sample – i.e. not incidentally recovered whilst collecting the faecal samples in the field – collected during 2011. Spotted hyena faeces were opportunistically collected throughout the study area (Kwando River area – i.e. the eastern core area of the BNP) with a total of 72 faecal samples analysed for prey remains which were predominantly Impala and Kudu (Hanssen 2011). This specific faecal sample was collected within the home range of the Kwando Clan which falls between the Horse Shoe bend in the Kwando River and just north of the tar road between Divundu and Kongola. This was the first Leopard Tortoise remains observed in the faeces from this area.

The eggs and hatchlings of Leopard Tortoise are the most vulnerable and fall prey to a variety of mammalian, reptilian and avian predators such as ants, jackals, dogs, mongooses, suricates, monitor lizards, puff adders, hornbills, crows, storks, secretary birds, ostriches and humans (Boycott & Bourquin 2000; Branch 1998). Except for humans, adult Leopard Tortoises have few natural predators although Verreaux's Eagle (*Aquila verreauxii*) has been known to kill smaller adult specimens (Cunningham & Nicholas 2005). Other threats include electric fences, vehicles and veld fires (Cunningham & Adank 2003; Boycott & Bourquin 2000; Branch 1998).

Although the principal food of Spotted Hyenas depends on what is available and varies between locations, they feed predominantly on large or medium-sized ungulates although a wide range of other items – e.g. small mammals, birds, fish reptiles, crabs,

snails, termites, elephant dung and fruit – are also included (Hanssen 2011; Skinner & Chimimba 2005). Spotted Hyenas have not previously been recorded to prey on Leopard Tortoise in Tanzania (B. Wachter Pers. Comm.) although tortoise remains – not identified – have been observed in the stomach contents of Brown Hyena (*Hyena brunnea*) from the Sperrgebied in south-western Namibia (I. Wiesel Pers. Comm.).

Although unusual, but not unexpected, this confirmation of Leopard Tortoise included in the diet of Spotted Hyena from Namibia, is viewed as opportunistic foraging behaviour by Spotted Hyena and increases the known natural predators of Leopard Tortoise.

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REPTILIA: SQUAMATA

COLUBRIDAE

***Pseudaspis cana* Linnaeus, 1754**
Mole Snake

CANNIBALISM/REPRODUCTION

On 2012/04/09 I noted that the captive gravid *Pseudaspis cana* female (F1 - TL: 1910mm: VL: 288) in my live collection had given birth. A male *P. cana* (M1 - TL:

1816mm; VL: 361mm) and an additional female *P. cana* (F2 - TL: 1515; VL: 230mm) were still in the terrarium along with the *P. cana* (F1) and the juvenile *P. cana*. On closer inspection I found evidence of different stages of *P. cana* neonates (Fig. 1) from the female (F1), namely; 30 undeveloped ova, nine still-born *P. cana*, seven live but deformed *P. cana* (from slightly deformed to severely deformed (Fig. 2)), and 11 normal juvenile *P. cana*. Interestingly, two of the undeveloped ova were in the mouth of the second female *P. cana* (F2) in the terrarium, who proceeded to swallow them (Fig. 3). All snakes were weighed, measured and sexed by cloacal probing (Table 1).

Figure 1: Various stages of development for a litter of captive bred *Pseudaspis cana*. Clockwise from top-left: Undeveloped ova, Still-born, Live (normal), and Live (deformed).

Figure 2: Severely deformed *Pseudaspis cana* neonates

Figure 3: Adult female Pseudaspis cana (F2) swallowing undeveloped ova produced by female F1.

Table 1: SVL (mm), mass (g) for and sex-ratios of live neonate *Pseudaspis cana*.

			SVL (mm)		Mass (g)	
Neonate stage	n	% Female	Mean	Range	Mean	Range
Live (deformed)	7	0	190	170 - 214	1.4	0.5 - 2.0
Live (normal)	11	64	183	170 - 197	1.9	1.5 - 2
Total	18	22	-	-	-	-

Marais (2004), Branch (1998), Fitzsimons (1974) and Broadley (1990) all mention of *P. cana* eating eggs, but do not specify what type of eggs. Moreover, there is no reference in Marais (2004), Branch (1998), Fitzsimons (1974) and Broadley (1990) of *P. cana* showing cannibalistic tendencies. *P. cana* (F2) was found eating the undeveloped ova from *P. cana* (F1). She was observed only eating the two slugs but could probably have eaten more.

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COLUBRIDAE

***Philothamnus semivariegatus* Smith, 1840**
Spotted Bush Snake

MORTALITY

During a trip to South Africa in 2006 we visited in Kruger National Park and stayed in Letaba Rest Camp from 29 November to 01 December. When walking in the camp-site, we heard a cracking rhythmic sound from the vicinity of the electric fence. We went in the direction of the cracking sound and found a dead snake on the electric fence. When the snake was examined more closely, we could see from its injuries that it was killed by the electric fence earlier that day. The snake had climbed up one of the fence poles and was electrocuted the moment in touched one of the wires. As the electric fence slants at an angle, it does not appear as though the snake had accidentally fallen onto the electric fence. A single pulse from an electric fence does not necessarily kill a snake but snakes tend to curl up in defence when they feel the first pulse and then get electrocuted (Beck 2010).

There are hundreds of kilometers of electric fence in the nature parks of South Africa and on various farms. The effect of electric fences on animals other than those that they are intended for has been well documented (Boycott & Bourquin 2000, Branch 2008, Beck 2010). Tortoises, especially the Leopard tortoise (*Stigmochelys pardalis*) are particularly at risk (Branch 2008, Beck 2010). Small and medium-sized terrestrial snakes and most lizards appear to easily evade electric fences but bigger reptiles are at risk. Arboreal snakes like the Boomslang (*Dispholidus typus typus*) are often killed on the higher strands of electrified fences (Beck 2010). The Spotted Bush Snake hunts

among shrubs and bushes (Branch 1998) and is an agile climber. This snake is subjected to the danger of the electricity cable when climbing on higher cables from the bushes as in this case it went. Because of this behaviour it is exposed to danger where electric fences are installed and easily killed while hunting.

Figure 1: Electrocuted Spotted Bush Snake (*Philothamnus semivariegatus*) found in the Kruger National Park, South Africa.

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Our thanks to Deon Swart for his assistance in obtaining the necessary permits and to Johan Marais for commenting on the text.

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VIPERIDAE

***Bitis schneideri* Boetger 1886**
Namaqua Dwarf Adder

RELATIVE PREY SIZE

At approximately 17h30 on 24 November 2008, near the farm Noup, on the Namaqualand Coast, Northern Cape Province, South Africa (30°08'S, 17°12'E), I located a juvenile *Bitis schneideri* that had recently fed. As part of a mark recapture study (Maritz & Alexander 2012) the snake was captured and placed into a cotton bag. Later, the snake (length = 130+14 mm, mass = 4.3 g) regurgitated an adult *Meroles knoxii* (length = 55 + 63 mm, mass = 4.3 g) - a relative prey mass of 100% (Fig. 1). Large prey ratios are not unusual for viperid snakes given that most species predominantly exhibit ambush foraging strategies (Greene 1997).

Figure 1: Juvenile Namaqua Dwarf Adder (*Bitis schneideri*) with regurgitated adult Knox's Desert Lizard (*Meroles knoxii*).

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LACERTIDAE

***Meroles knoxii* Milne-Edwards, 1829**
Knox's Desert Lizard

FORCED COPULATION

On 29 Septemeber, 2009, near the farm Noup on the Namaqualand Coast, Northern Cape Province, South Africa, I was walking in semi-vegetated Sandveld dunes when I flushed a female *Meroles knoxii* across an open sandy area. A male *M. knoxii* noticed the female lizard and ran approximately 1.5 m across the open sand to intercept her path. Initially the male bit the female's head, but then released it only to bite her again approximately at mid-body. Concomitantly, the obstructed female turned and bit the male mid-body. The two individuals struggled for approximately 30 s before the female released her bite. The male, still biting the female, forced his cloaca under her tail and appeared to begin copulation, which lasted approximately 5 s. On release, the female turned and bit the male, forcing him to retreat approximately 0.1 m away. The male proceeded to circle the female several times. In response, the female positioned her body to be facing towards the male, all the while holding her mouth open and repeatedly bobbing her head. The male remained approximately 0.15 m away, and she continued to head-bob. The female then lifted the base of her tail, flattened her pelvis and appeared to wipe her cloaca on the sand. She continued to head-bob irregularly, while the male frequently tongue-flicked. Eventually the female moved off and the male did not pursue her. The entire encounter lasted approximately 2 min. Forced copulation is known to occur in several lizard lineages including Lacertids (e.g., Anderson & Vitt 1990, Olson 1995, Moreira & Birkhead 2004), yet this appears to be the first such observation for *Meroles knoxii*.

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GEOGRAPHICAL DISTRIBUTIONS

AMPHIBIA: ANURA

PYXICEPHALIDAE

***Pyxicephalus adspersus* Tschudi, 1838**
Giant Bullfrog

Species distribution modelling is a powerful tool with multiple applications, which are often aimed at improved conservation management of species and their habitat (e.g. Jackson & Robertson 2011; Swanepoel *et al.* 2012; Tarrant & Armstrong, in press). To evaluate the accuracy and usefulness of a model it is important for predicted species' distributions to be validated using, for example, independent test data and ground-truthing.

Yetman *et al.* (2012) recently predicted the geographic range of the Giant Bullfrog (*Pyxicephalus adspersus*) in southern Africa using bioclimatic predictors in the species distribution modelling program MaxEnt (Phillips *et al.* 2006). Suitable conditions for this species were predicted to occur mainly in the temperate interior and not in low-lying subtropical parts of the region (including Mozambique), where the superficially similar African Bullfrog (*P. edulis*) has often been mis-identified. Ground-truthing to validate their model is, however, challenging due to the sporadic activity of these frogs (Yetman & Ferguson 2011).

Two recently metamorphosed *Pyxicephalus* bullfrogs were observed during an environmental impact study for a proposed coal mine near Newcastle in KwaZulu-Natal Province, South Africa. The specimens were found during the evening of 17 February 2012 along the periphery of shallow, temporary pans in disturbed grassland at 27° 48' 23.00" S, 30° 00' 51.05" E and 27° 48' 24.82" S, 30° 01' 31.06" E.

Both Giant Bullfrogs (*P. adspersus*) and African Bullfrogs (*P. edulis*) occur in Kwa-Zulu Natal, and juveniles of the two species are morphologically difficult to distinguish. However, the pans where the two specimens were observed are situated in KwaZulu-Natal Highland Thornveld (Mucina & Rutherford 2006). This vegetation type features tall, open grassland and sparse savanna, and represents ideal habitat for the Giant Bullfrog (Du Preez & Carruthers 2009; Yetman *et al.* 2012). The African Bullfrog has only been recorded in the eastern side of Kwa-Zulu Natal (Minter *et al.* 2004) where it inhabits lower-lying, subtropical savannah (Du Preez & Carruthers 2009). Based on this reasoning the observed specimens were identified as Giant Bullfrogs. The specimens were photographed (Fig. 1) but could not be collected without a permit.

Figure 1: Photographs of one of the observed Giant Bullfrogs (*Pyxicephalus adspersus*).

This field observation is significant for three major reasons:

1. The study site is situated in the quarter degree cell (QDC) 2730CC where there are no field- or museum records for Giant Bullfrogs according to Minter *et al.* (2004). There are also no records for Giant Bullfrogs occurring in any of the eight adjacent QDCs (2730CA, 2730CB, 2730CD, 2830AA, 2830AB, 2829BB, 2729DB and 2729DD). The geographic range extension is on the edge of the Giant Bullfrog's recorded distribution range, and is at least a full QDC away from the nearest existing record for this species.
2. This field observation falls within the predicted range of *P. adspersus* and lends support for the predictive model of Yetman *et al.* (2012).
3. There are very few historical records of Giant Bullfrogs in Kwa-Zulu Natal, and this field observation represents the only current record of Giant Bullfrog breeding in this province (Adrian Armstrong, pers. comm.). Although *P. adspersus* is considered to be globally Least Concern (IUCN 2012), it remains Near-Threatened in South Africa due to habitat loss and other factors (Minter *et al.* 2004). In Kwa-Zulu Natal, where it appears that the Giant Bullfrog has a limited distribution and breeding population size, this species should perhaps be regarded as provincially Near Threatened or Vulnerable.

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REPTILIA: SQUAMATA

SCINCIDAE

***Trachylepis planifrons* Peters, 1878**
Eastern Tree Skink

Very few publications on the herpetofauna are available for Malawi and all are outdated and require revision. A lack of easily accessible literature on the lizards of Malawi is particularly apparent. The reptile database (Uetz 2012) collates numerous publications and can easily provide a species list by country through its search function. The eastern tree skink (*Trachylepis planifrons*) is not listed as occurring in Malawi, despite the high likelihood that it should occur there, since it is found in both the

neighboring countries of Zambia and Tanzania (Loveridge 1933, Robertson *et al.* 1962).

During a 2010 herpetofaunal survey at three sites in northern Malawi (1. Bale, 10° 46'52.43" S, 34° 6'51.88" E at 900 m a.s.l.; 2. Lufira, 9°47'55.93" S, 33°48'20.88" E at 521 m a.s.l.; 3. Jalawe, 9°57'26.50" S, 33°45'28.61" E at 571 m a.s.l.), several individuals of *T. planifrons* (Fig. 1) were observed, especially on the tobacco drying sheds built from natural vegetation by local inhabitants. Often these skinks would run up the supporting poles of the tobacco drying sheds and take shelter between the densely packed palm leaves used as a roof. It is relatively easy to distinguish between *T. planifrons* and *T. striata* as the former has a much longer tail (Fig. 1)

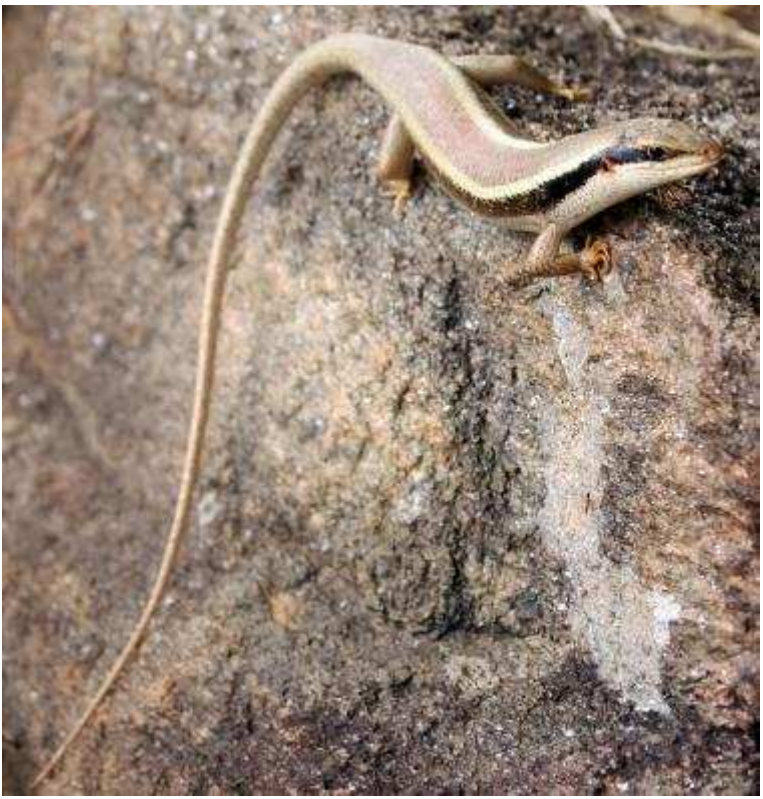

Figure 1: One of several adult tree skinks (*Trachylepis planifrons*) captured near Karonga in northern Malawi.

Drift fence arrays with funnel traps were deployed at the Lufira and Jalawe sites and several skinks were captured in the funnel traps. Two individuals, one from each site, were found dead inside the funnel traps, presumably due to exposure. These individuals were preserved in 70% ethanol and later deposited at the Ditsong National Mu-

seum of Natural History (formerly known as the Transvaal Museum) (Jalawe specimen: TM 86064 & Lufira specimen: TM86065).

As far as we are aware, these are the first published observations of *T. planifrons* in Malawi. The nearest records to Karonga for *T. planifrons* are from the Rukwa Valley in Tanzania, ca. 250 km to the north-west (Robertson *et al.* 1962) and Nyamkolo on the southern shore of Lake Tanganyika, Zambia, 350 km to the north-west (Loveridge 1933).

Description: Supranasals in broad contact; prefrontals in contact; supralabials anterior to subocular 4; no obtusely pointed scales on anterior border of ear opening; midbody scale rows 33 (tricarinate); dorsal scales longitudinally from enlarged nuchals to level of vent 52; ventrals longitudinally (mental to cloaca) 56-57; lamellae beneath fourth finger 13, beneath fourth toe 15; plantar scales smooth. Pale grey-brown above, with a dark brown lateral band becoming paler towards the groin, and with scattered white spots, cream below. Snout-vent lengths 94 and 96 mm, both tails truncated.

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SCINCIDAE

Afroablepharus walbergii A. Smith 1849
Wahlberg's Snake-eyed Skink

On 23 and 24 December 2011, *ca.* eight *Afroablepharus walbergii* individuals were recorded in the vicinity of Ruacana, Kunene Province, northern Namibia. This species was commonly seen foraging in leaf litter in the narrow band of riverine vegetation lining the Kunene River as well as the adjoining dry mopane *Colophospermum mopane* woodland just to the southwest of Hippo Pools Community Campsite (17° 24'

32” S; 14° 12’ 56” E; 784 m asl); in dry *Combretum* woodland at the Ruacana Falls lookout point (*ca.* 17° 23’ 49” S; 14° 13’ 15” E, 885 m asl); and in riverine vegetation and adjoining dry mopane woodland along the drainage line to the east of Hippo Pools Community Campsite (*ca.* 17° 24’ 10” S; 14° 13’ 54” E; 820 m asl). No specimens were collected as we did not have collecting permits.

Individuals were readily recognisable by their relatively small size, slender build and behaviour. Those individuals that were captured and examined displayed small limbs with five small but well-developed digits. All individuals examined had a pale back lacking the characteristic stripes that are often present in *A. walbergii*. The pale dorsolateral stripe and dark lateral band were present anteriorly, but faded laterally. The belly was dirty white.

These records are *ca.* 90 km further north than the closest recorded locality (*ca.* Orumana; Branch 1998) and extends the known distribution of this taxon up to the Angolan border. Jacobsen and Broadley (2000) suggest that the isolated population of *A. walbergii* in Namibia may represent an undescribed sibling species, but this requires verification.

ACKNOWLEDGEMENTS

Johan Marais is thanked for commenting on this note.

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GEKKONIDAE

***Pachydactylus katanganus* de Witte, 1953**
Katanga Thick-toed Gecko

A rapid faunal survey was undertaken in association with a proposed development near Karonga, Northern Province, Malawi between 28 February 2011 and 4 March

2011. Active searches along a pre-defined transect of ±6 km were conducted randomly for reptiles and amphibians by two observers on foot. Among nine species of lizard found during the survey were two *Pachydactylus*, one with a regenerated tail and the other with a recently broken tail (Fig. 1), not assignable to any species previously recorded from Malawi. The geckos were found under scattered loose rocks lying on soil in relatively undisturbed habitat at 09°58'0.66" S, 33°40'19.92" E at 862 m a.s.l. and 09°59'55.30" S, 33°40'15.70" E at 1036 m a.s.l., respectively. Although this habitat, characterized as *Baikiae plurijuga – Julbernardia globiflora* tall open woodland (Orban, 2011), has a relatively high rock cover in the form of several rocky promontories, *Pachydactylus* specimens were only observed under the few small loose rocks lying scattered on soil in tall grass dominated by *Brachiaria brizantha*, *Festuca engleri*, *Panicum ecklonii*, *Sporobolus sanguineus* and *Tristachya leucothrix* (Orban, 2011). Both individuals were photographed and released as they were not covered by any collecting permit. Although similar in appearance to *Pachydactylus oshaughnessyi*, which has been recorded from 41 miles [66 km] north of Maimba [sic! Marimba], Central Province (approximately 12°45'S, 34°00'E; California Academy of Sciences [CAS] 85792–93), these specimens are referable to *Pachydactylus katanganus, the apparent sister species to P. oshaughnessyi (Broadley 2003) as confirmed by comparison with the original description of the latter (de Witte 1953) and three of the paratypes (MCZ R54373,* NMZB-UM 10767–88. The northernmost *P. oshaughnessyi* record in Malawi is the type locality, Cape Maclear, at the southern end of Lake Malawi, and ca. 450 km south of Karonga. The nearest Zambian locality is Chipata (NMZB-UM 1547) in the Eastern Province, and again about 450 km south of Karonga. It should be noted that all specimens of *P. oshaughnessyi* from Zimbabwe resemble those from southern Malawi in having only three broad cream crossbands on the body. However, the seven specimens from Zambia have four or five bands on the body, and these may be truncated laterally or broken up. All retain the black-bordered cream crescent on the nape.

This is the first Malawian record for *Pachydactylus katanganus*, which was previously known only from a large series of 119 individuals from several localities in the Parc National de l'Upemba, Katanga Province, southern Democratic Republic of Congo (de Witte 1953). This represents an eastward range extension of approximately 720 km. This discovery necessitates a reconsideration of the status of *P. katanganus* as a narrow endemic to Upemba (Broadley 2003; Broadley and Cotterill 2004) and suggests that it has a broad distribution like most other members of the *P. capensis* complex (Bauer and Lamb 2002). There are no records of *P. katanganus* from Zambia, but its presence in the far northeast of the country is expected based on the new find. There are no obvious barriers within Malawi between the northernmost *P. oshaughnessyi* records and the *P. katanganus* localities reported here. It would be desirable to obtain genetic material from throughout the ranges of both species in order

to confirm their specific distinctiveness and establish any geographic correlates of their distribution.

Figure 1: Two specimens of *Pachydactylus katanganus* found near Karonga in northern Malawi. The specimen with the broken tail (below) has an approximate snout-vent length of 42 mm; measurements are lacking for the other specimen, although it is larger.

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African Herp News publishes manuscripts in four categories, namely Articles, Herpetological Surveys, Natural History Notes, and Geographical Distributions. **CONTRIBUTIONS SUBMITTED IN AN INCORRECT STYLE (SEE GUIDELINES BELOW) WILL BE RETURNED TO THE AUTHORS**. All submissions should be set in 10 pt, Times New Roman font, with 1.15 line spacing throughout. Submitted manuscripts should not contain any consecutive space characters, nor should they contain tab characters. Every word in English common names should start with a capital letter (e.g., Namaqua Dwarf Adder).

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HERPETOLOGICAL SURVEYS

African Herp News publishes succinctly annotated species lists resulting from local surveys of amphibians and reptiles on the African continent and adjacent regions, including the Arabian peninsula, Madagascar, and other islands in the Indian Ocean. The area surveyed may be of any size but should be a defined geographic unit of especial relevance to the herpetological community. For example, surveys could address declared or proposed conservation reserves, poorly explored areas, biogeographically important localities or administrative zones. The relevance of survey results should be judged by the extent that these records fill distributional gaps or synthesise current knowledge. As far as possible survey records should be based on accessible and verifiable evidence (specimens deposited in public collections, photos submitted illustrating diagnostic features, call recordings and sonograms, or DNA sequences accessioned into international databases). Survey results should be presented in the same format as for Articles (described above), and must additionally include a section titled **SYSTEMATIC ACCOUNT** (bold) comprising *Scientific name* (including author citation), location and habitat, evidence (including registration numbers and location of vouchers), and comments (where required). **REFERENCES** should follow the standardised formats described below.

NATURAL HISTORY NOTES

Brief notes concerning the biology of the herpetofauna of the African continent and adjacent regions, including the Arabian peninsula, Madagascar, and other islands in the Indian ocean. A standard format is to be used, as follows: **FAMILY**; ***Scientific name*** (**including author citation**); **English common name** (using Bill Branch's *Field Guide to Snakes and Other Reptiles of Southern Africa*, third edition, 1998, for reptiles; and Du Preez & Carruthers' *A complete guide to the frogs of southern Africa*, 2009, for amphibians as far as possible); **KEYWORD** (this should be one or two words best describing the topic of the note, e.g. Reproduction, Avian predation, etc.); the Text (in concise English with only essential references quoted). The body of the note should include information describing the locality (Country; Province; quarter-degree locus; location; latitude and longitude in D° M' S" format; elevation above sea level), providing the date (day, month, year), naming the collector(s), and stating the place of deposition and museum accession number or describing the fate of the animal. **REFERENCES** should follow the standardised formats described below. **SUBMITTED BY: NAME**, Address, E-mail.

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Brief notes of new geographical distributions of amphibians and reptiles on the African continent and adjacent regions, including the Arabian peninsula, Madagascar, and other islands in the Indian Ocean. Records submitted should be based on specimens deposited in a recognised collection. A standard format is to be used, as follows: **FAMILY**; ***Scientific name* (including author citation)**; **English common name** (using Bill Branch's *Field Guide to Snakes and Other Reptiles of Southern Africa*, third edition, 1998, for reptiles; and Du Preez & Carruthers' *A complete guide to the frogs of southern Africa*, 2009, for amphibians as far as possible). The body of the note should include information describing the locality (Country; Province; quarter-degree locus; location; latitude and longitude in D°M'S" format; elevation above sea level), providing the date (day, month, year), naming the collector(s), and stating the place of deposition and museum accession number, or fate of the animal. The body should also include information on the size, colour and taxonomic characters (e.g., scalation, webbing) used to identify the specimen, as well as the distance to the nearest published locality. **REFERENCES** should follow the standardised formats described below. **SUBMITTED BY: NAME**, Address, E-mail.

REFERENCES

Reference formatting is similar to *African Journal of Herpetology*. References should be listed in alphabetical order and should refer only to publications cited in the text. References should be in the following format:

ALEXANDER, G.J. 2007. Thermal biology of the Southern African Python (*Python natalensis*): does temperature limit its distribution? Pp. 50-75. In HENDERSON, R.W., AND POWELL, R. (eds.), *Biology of the Boas and Pythons*. Eagle Mountain Publishing, Utah.

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Note that author names are set as SMALL CAPS, not ALL CAPS, and that Journal Titles are not abbreviated. Formatting should be achieved using paragraph settings and NOT tabs or spaces. Citations should occur in chronological order: (Branch 1998, Alexander 2007, Cottone 2007, Frost 2010, Lamb et al. 2010). For papers with more than two authors, only the first author should be named in the text (e.g., Masterson et al. 2010) without italicising "et al.". Cite unpublished data as in press, e.g., Marais (in press), which then appears in the list of references, or as J. J. Marais (pers. comm.), in which case Johan J. Marais's name and institutional affiliation should appear under Acknowledgements. Unpublished reports should be cited as personal communications.

TABLES, FIGURES, AND PHOTOGRAPHS

Tables should be submitted as separate MS Excel files. Tables should be small enough to fit onto an A5 page, and should NOT contain any vertical lines. Photographs and figures should be submitted as separate JPEG files, and not embedded in the text. They should preferably be 500—800 KB in size, and not more than 1.5 MB. The name of the photographer should be given, if not taken by the author of the submission. Each table, figure, or photograph, needs to be associated with an appropriate caption that should follow the reference list in the submission.

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