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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, short communications and book reviews – subject to peer review) and *African Herp News*, the Newsletter (which includes short communications, life history notes, geographical distribution notes, herpetological survey reports, venom and snakebite notes, short 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 long manuscripts by e-mail or on disc in Word 6.0 or 7.0, or Windows XP format. Shorter articles may be submitted as typescripts.

The views and opinions expressed in articles are not necessarily those of the Editor.

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COVER PHOTO Flap-necked Chamaeleon *Chamaeleo quilensis* Bocage, 1866
Photo: Angelo Lambiris

EDITORIAL

This issue of the Newsletter heralds a new development in its history. At the General Meeting of the H.A.A. held during the Symposium in November, it was suggested that the Newsletter be made available in PDF format for those members who may wish to receive their copies electronically. We do not plan to abolish the printed Newsletter, for many members still prefer to have hard copies. Members who wish to receive the PDF version are asked to ensure that Mandi Alblas has their correct e-mail addresses. I am sure that the first attempt will have some problems, but I hope that it will be available for distribution, purged of any gremlins that might be present, in January.

The Symposium was a resounding success, and we all thank Mike Cunningham and Kate Henderson for their outstanding efforts. We shall give a full account of the Symposium in the next Newsletter for those who were not able to attend.

On behalf of the H.A.A. Committee, I wish you all well over the festive season and for the New Year, and thank all those who have contributed to this year's issues.

Angelo Lambiris,
Editor

IMPORTANT ANNOUNCEMENT

At the 2006 and 2008 H.A.A. Symposia it was agreed that overseas members of the H.A.A. should have voting rights. It is therefore requested that all African members of the Association vote on the following proposed amendment to the H.A.A. Constitution:

Paragraph 12: Opening sentence to change from: "Only African Honorary Life Members, African Life Members, and African Ordinary Members over the age of 18 years and in good standing have voting rights."

To: "Only Honorary Life Members, Life Members, and Ordinary Members over the age of 18 years and in good standing have voting rights."

Please mark with an X:

I agree with the amendment

I disagree with the amendment

Votes to be sent to Mike Bates by post (Box 266, Bloemfontein 9300, South Africa) or e-mail (herp@nasmus.co.za) no later than 31 January 2009.

ASSESSMENT OF THREATENED SOUTH AFRICAN FROGS. IS CHYTRIDIOMYCOSIS A THREAT?

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INTRODUCTION

Chytridiomycosis, a fungal disease caused by *Batrachochytrium dendrobatidis*, has been identified as a major cause of recent global amphibian declines. In addition to assessing direct threats such as habitat disturbance and chemical contamination, this study will examine the presence/absence of *Batrachochytrium dendrobatidis* in the top twenty threatened frog species across five regions in South Africa. Attention will be focussed on threatened species that occur in KwaZulu-Natal, with particular emphasis on whether the effect of the chytrid disease is exacerbated in the presence of additional anthropogenic stressors.

AMPHIBIAN DECLINES

At least 42% of the world's approximately 6300 amphibian species are experiencing population declines (Stuart *et al.*, 2004; Frost *et al.*, 2006; Mendelson *et al.*, 2006; Gascon *et al.*, 2007). This far exceeds the proportion of threatened species in any other class of animals. Recently, a further 366 amphibian species have been added to the 2008 IUCN Red List, with the confirmed extinction of two additional species (<http://www.iucnredlist.org>). The rate of amphibian extinction is approximately 200 times that of the mean extinction rate over the last 350 million years (Roelants *et al.*, 2007). Frogs are frequently referred to as "canaries in the coalmine" and the recent declines and unprecedented extinctions of amphibians are a demonstration of how the world is changing.

Fifteen percent of South Africa's frog species are currently listed as threatened according to IUCN categories (Minter *et al.*, 2004). The primary driver of declines in these species is habitat loss and deterioration due to urbanisation, afforestation, mining and agricultural land use. This project aims to review these threats and to assess to what extent conservation recommendations made in the Atlas and Red

Data Book (2004) are being followed. In addition, each species will be tested for the presence of the fungal pathogen *Batrachochytrium dendrobatidis* (*Bd*), which causes the disease chytridiomycosis. This disease has been identified as an important cause of amphibian declines and extinctions, even in relatively pristine habitats, throughout the world (Bosch *et al.*, 2001; Garner *et al.*, 2005; Lips *et al.*, 2006; Schloegel *et al.*, 2006; Daszak *et al.*, 2007). This study will provide important presence/absence baseline data for *Bd* occurrence in threatened species in South Africa within five regions (Table 1), which can be used in the design of biodiversity management plans.

Declines observed globally are frequently due to a complex array of causative agents, many of which are currently poorly understood (Garner, 2006). The incidental international movement of parasites as a result of trade has now also been recognized as a significant threat to biodiversity (Cunningham *et al.* 2003). A link was recently uncovered between *Xenopus gilli* imports and *Bd* related declines in captive Mallorcan Midwife Toad, *Alytes muletensis*, which were released back to their natural habitat in Spain (Walker *et al.* 2008), emphasizing the complexities of cause-and-effect processes of invasive pathogens. Improved insight into the interactions between the various factors that influence declines, including how they may exacerbate the effect of infectious disease, will be essential to the conservation of amphibian communities.

CHYTRIDIOMYCOSIS

Outbreaks of diseases threatening both wildlife and humans have increased in recent years (Belden & Harris, 2007). These outbreaks have been linked to environmental change, changes in human behaviour and changes in human demography (Daszak *et al.*, 2007). Infectious diseases, especially chytridiomycosis, have been identified as one of the most important drivers of the current amphibian crisis (Berger *et al.*, 1999; Gascon *et al.*, 2007). The disease is one of the most virulent pathogens of amphibians and is responsible for population declines in the Americas (Carnaval *et al.*, 2006; Lips *et al.*, 2006; Ouellet *et al.*, 2005), Europe (Bosch *et al.*, 2001; Garner *et al.* 2005) Australia (Berger *et al.* 1999; Schloegel *et al.* 2006), New Zealand (Waldman *et al.*, 2001) and Africa (Weldon & Du Preez, 2004; Hopkins & Channing, 2003) and has now been linked to several species extinctions in some of these regions. In addition, the disease has been reported in captive amphibians in zoos, research collections and commercial collections (Ouellet *et al.*, 2005). Currently, the disease is associated with approximately 100 declining amphibian species worldwide (Daszak *et al.*, 2007).

Records of *B. dendrobatidis* infection roughly coincide with the first observations of amphibian declines (Carnaval *et al.*, 2006). The majority of these declines

have occurred in the tropics, including protected areas, where reasons for decline were not immediately obvious. The relatively abrupt appearance of *B. dendrobatidis* in the Americas and Australia suggests that the fungus has been introduced to these regions through anthropogenic means, such as the international laboratory animal trade, the pet trade and the global food trade (Daszak *et al.*, 2004; Kriger & Hero, 2006). The “Out of Africa hypothesis” proposes that spread of chytridiomycosis is partly due to the international trade of the African Clawed Frog, *Xenopus laevis*, which has been used extensively for lab work and pregnancy testing in humans since the 1930s (Weldon *et al.*, 2004).

The first record of *B. dendrobatidis* infection in *X. laevis* collected in South Africa dates to 1938 (Weldon *et al.*, 2004), supporting the suggestion that the disease has been present in Africa for many decades and has spread to other continents relatively recently. The earliest cases of infection outside of Africa are from Quebec, Canada in 1961 (Ouellet *et al.*, 2005). It appears that some species (such as *X. laevis* and the American Bullfrog, *Rana catesbeiana*, an important food species) are immune to the detrimental effects of the disease and thus act as reservoirs able to transmit the infection to more susceptible species. Recent findings suggest that the ability of such species to resist lethal infection by *B. dendrobatidis* may be related to the presence of certain antimicrobial peptides in the skin (Apponyi *et al.*, 2004; Rollins-Smith & Conlon, 2005).

Little is known about the effect of different environmental factors on the rate of infection, and how different amphibian species vary in susceptibility to this pathogen (Briggs *et al.*, 2005; Carey *et al.*, 2006). As such, the loss of biodiversity due to infectious disease is probably underestimated. A better understanding of the factors responsible for the spread of emerging infectious disease is necessary in order to develop methods to mitigate further amphibian declines. Where mass die-offs have been observed, particularly in Australia and Central America, the declines have been extremely rapid (only a few weeks in some cases) and have removed a large proportion of the amphibian community (Daszak *et al.*, 2007).

The effect of *B. dendrobatidis* at population level has not been studied on a wide geographical scale in South Africa and major declines related to the disease have not been documented. Studies on tadpoles of two montane southern African species, the Maluti River Frog (*Amietia vertebralis* [formerly *Strongylopus hymenopus*, *sensu* Tarrant *et al.*, in press]) and the Natal Ghost Frog (*Hadromophryne natalensis*) showed both species to have a high prevalence of infection (Smith *et al.*, 2007). Significant numbers of dead adults and metamorphosing tadpoles of *A. vertebralis* have been observed, supporting the hypothesis that high altitude species are more susceptible to chytridiomycosis than those from lowland areas. Studies on the Table Mountain Ghost Frog (*Heleophryne rosei*) and Hewitt’s Ghost Frog (*H.*

hewitti) found tadpoles of both species to be heavily infected, suggesting that species of this genus are susceptible to the disease (Weldon, *pers. com.*). A study by Hopkins & Channing (2003) found 42% of Cape River Frog (*Amietia fuscigula*) from various sites in the Western Cape to be infected with chytrid; however, no mass die-offs of this species were documented during this study.

PROJECT SUMMARY

In South Africa 15% of the 135 described species are currently considered Threatened (Minter *et al.*, 2004). The broad aims of this PhD project are to review all threats facing the twenty species that currently fall into the top three threatened categories (i.e. Critically Endangered, Endangered and Vulnerable) of South African frogs, and to participate with all relevant stakeholders (conservation bodies, companies and land-owners) to assist with the design of comprehensive and sustainable conservation plans for each of these species. Emphasis will be placed on investigating the presence or absence of *B. dendrobatidis* in these species and determining whether other threats, such as water pollution, exacerbate the effects of disease. The threatened taxa are distributed through 5 main regions in South Africa (Table 1), namely the Northern Cape (2 species), Western Cape (8 species), Eastern Cape (3 species), KwaZulu-Natal (6 species) and Limpopo (1 species). The four threatened species in the Eastern Cape will be studied by Werner Conradie.

PROJECT METHODS

This project has three main objectives in terms of methodology. Firstly, to test for the presence or absence of *B. dendrobatidis* in all twenty threatened species. This will be done by actively searching for individuals (adults and tadpoles) of each species and swabbing them for chytrid. This simple procedure is entirely non-invasive. It involves running a cotton tip over the ventral surface of the legs, belly, drink patch and feet of the frog. Frogs are immediately released at the point of capture. Protocol to prevent the spread of *B. dendrobatidis* between sites will be strictly adhered to (Weldon, 2005). Detection of *B. dendrobatidis* from the collected samples will be conducted using two methods: examination of tadpole mouthparts by microscopy and extraction of DNA from swab by real-time PCR (Boyle, 2004) at the National Zoological Gardens. In addition to testing threatened species, all sympatric species encountered during the study will be tested for disease ecology purposes.

Secondly, *B. dendrobatidis* samples from the five different regions will be isolated and cultured to determine whether any genetic diversity exists among strains of the fungus on both a geographical and taxon scale. This will require isolates

from as many localities and species as possible. Isolates will not be restricted to only threatened species, as it will be important to determine whether the disease is present in each area, and thus have the potential to spread to threatened species. This procedure will require collection of tadpoles as infection is localised and limited to the mouthparts and is therefore relatively easy to isolate.

Thirdly, additional threats will be evaluated for each species by conducting thorough habitat assessments. For sites in KwaZulu-Natal that are particularly disturbed, water and sediment samples will be collected and analysed for harmful elements and pesticides. Water samples will be taken for analysis of water quality parameters such as nitrates and nitrites, and major metal ions on a regular basis. The elements of interest are calcium and the heavy metals associated with developmental side-effects. These are cadmium, mercury, arsenic, lead, and selenium. Additional elements that are important in water quality assessment or as essential nutrients are chromium, copper, iron, molybdenum, nickel, silver, thallium, and zinc. Other parameters that will be measured at each site include: depth of the water body at a reference point; dissolved oxygen; conductivity; pH; and the air and water temperature. Populations of selected species in KwaZulu-Natal will be monitored for the duration of the study.

DISCUSSION

Lethal outbreaks of chytridiomycosis in amphibian communities appear to have complex causes and may be the result of underlying predisposing factors (Ouellet *et al.*, 2005). Evidence suggests that the disease may be more prevalent at mid and high elevations, while lowland areas may act as reservoirs for the disease, suggesting that environmental factors play an important role in mediating the impact of *B. dendrobatidis* (Carnaval *et al.*, 2006). Often, anthropogenic disturbances such as land disturbance and introduction of alien species have been associated with the emergence of wildlife diseases, and this appears to also be the case with the introduction of *B. dendrobatidis* to previously unaffected areas (Daszak *et al.*, 2004). Furthermore, changes in the composition of skin microbiota due to anthropogenic stressors may diminish the ability to resist infection by *B. dendrobatidis* (Belden & Harris, 2007). Scientists believe that chytridiomycosis will continue to play a role in amphibian extinctions and that human activity may be creating conditions that are cumulatively causing amphibians to become increasingly susceptible to this disease (Gascon *et al.*, 2007).

Although *B. dendrobatidis* is present in a number of frog species in South Africa, it appears that most populations are able to persist without suffering major declines. However, further research into the ecology of the disease in South Africa is essential to understanding why some amphibian populations seem unaffected by

the disease, while others are facing extinction. This requires further knowledge of the persistence of the pathogen, reservoir hosts, mechanisms of spread and the interaction of the disease with other environmental factors and stressors. There is increasing evidence that amphibians become more susceptible to the disease in fragmented and damaged habitats and that pollutants may also interfere with the pathogen. Climate change and innate immunity (e.g. antimicrobial skin peptides) are also key influences on pathogenicity. The effect of these factors on chytridiomycosis remains unclear, and may mean that South African species could potentially still face the threat of deadly outbreaks of the disease.

Improved baseline data of the presence of chytridiomycosis in South Africa and a better understanding of the interaction between the effect of this disease and other threats will be important in designing effective biodiversity management plans for frogs.

TABLE 1: Top three categories of red list species of South Africa

No.	Frog species	Province for main distribution
Critically endangered		
1	Mistbelt Moss Frog (<i>Anhydrophryne ngongoniensis</i>)	KwaZulu-Natal
2	Hewitt's Ghost Frog (<i>Heleophryne hewitti</i>)	Eastern Cape
3	Table Mountain Ghost Frog (<i>Heleophryne rosei</i>)	Western Cape
4	Micro Frog (<i>Microbatrachella capensis</i>)	Western Cape
Endangered		
1	Knysna Leaf-folding Frog (<i>Afrixalus knysnae</i>)	Western Cape
2	Hogsback Frog (<i>Anhydrophryne ratrayi</i>)	Eastern Cape
3	Pickersgill's Reed Frog (<i>Hyperolius pickersgilli</i>)	KwaZulu-Natal
4	Long-toed Tree Frog (<i>Leptopelis xenodactylus</i>)	KwaZulu-Natal
5	Kloof Frog (<i>Natalobatrachus bonebergi</i>)	KwaZulu-Natal
6	Western Leopard Toad (<i>Amietophrynus pantherinus</i>)	Western Cape
7	Amatola Toad (<i>Vandijkophrynus amatolicus</i>)	Eastern Cape
8	Cape Platanna (<i>Xenopus gilli</i>)	Western Cape
Vulnerable		
1	Natal Leaf-folding Frog (<i>Afrixalus spinifrons</i>)	KwaZulu-Natal
2	Cape Rain Frog (<i>Breviceps gibbosus</i>)	Western Cape
3	Desert Rain Frog (<i>Breviceps macrops</i>)	Northern Cape
4	Northern Forest Rain Frog (<i>Breviceps sylvestris</i>)	Limpopo Province
5	Cape Caco (<i>Cacosternum capense</i>)	Western Cape
6	Rose's mountain Toad (<i>Capensibufo rosei</i>)	Western Cape
7	Spotted Shovel-nosed Frog (<i>Hemisus guttatus</i>)	KwaZulu-Natal
8	Namaqua Stream Frog (<i>Strongylopus springbokensis</i>)	Northern Cape

REFERENCES

- APPONYI, M.A., PUKULA, T.L., BRINKWORTH, C.S., MASELLI, V.M., BOWIE, J.H., TYLER, M.J., BOOKER, G.W., WALLACE, J.C., CARVER, J.A., SEPAROVIC, F., DOYLE, J., & LLEWELLYN, L.E., 2004. Host-defence peptides of Australian anurans: structure, mechanism of action and evolutionary significance. *Peptides* **25**: 1035-1054.
- BELDON, L.K., & HARRIS, R.N., 2007. Infectious diseases in wildlife: the community ecology context. *Frontiers in Ecology and the Environment* **5**(10): 533-539.
- BERGER, L., SPEARE, R., DASZAK, P., GREEN, D.E., CUNNINGHAM, A.A., GOGGIN, C.L., SLOCOMBE, R., RAGAN, M.A., HYATT, A.D., McDONALD, K.R., HINES, H.B., LIPS, K.R., MARANTELLI, G. & PARKES, H. 1998. Chytridiomycosis causes amphibian mortality associated with population declines in the rain forests of Australia and Central America. *Proceedings of the National Academy of Sciences of the United States of America* **95**: 9031-9036.
- BERGER, L., SPEARE, R., & HYATT, A.D. 1999. Chytrid fungi and amphibian declines: overview, implications and future directions. In: CAMPBELL A., (ed), *Declines and disappearances of Australian frogs*. Environment Australia: Canberra. 1999: 23-33.
- BOYLE, D.G., BOYLE, D.B., OLSEN, V., MORGAN, J.A.T., & HYATT, A.D., 2004. Rapid quantitative detection of chytridiomycosis (*Batrachochytrium dendrobatidis*) in amphibian samples using real-time Taqman PCR assay. *Diseases of Aquatic Organisms* **60**: 141-148.
- BRIGGS, C.J., VREDENBURG, V.T., KNAPP, R.A., & RACHOWICZ, L.J., 2005. Investigating the population-level effects of chytridiomycosis: an emerging infectious disease of amphibians. *Ecology* **86** (12): 3149-3159.
- CAREY, C., BRUZGAL, J.E., LIVO, L.J., WALLING, M.L., KUEHL, K.A., DIXON, B.F., PESSIER, A.P., ALFORD, R.A. & ROGERS, K.B. 2006. Experimental Exposures of Boreal Toads (*Bufo boreas*) to a Pathogenic Chytrid Fungus (*Batrachochytrium dendrobatidis*). *EcoHealth* **3**: 5-12.
- CARNAVAL, A.C.O., PUSCHENDORF, R., PEIXOTO, O.L., VERDADE, V.K., & RODRIGUES, M.T., 2006. Amphibian chytrid fungus broadly distributed in the Brazilian Atlantic rain forest. *EcoHealth*, Published Online.
- COCKBURN, J., WILLIAMS, G., DOWNIE, D., BELLINGAN, T., CROUS, K., GOBLE, T., & MAZUNGULA, N., 2008. Putting an evolutionary perspective on biological invasions. *Science in Africa*. Available from: <http://www.scienceinAfrica.co.za/2008/may/evolution.htm>. Accessed 2 June 2008.
- CUNNINGHAM, A.A., DASZAK, P., & RODRIGUEZ, J.P., 2003. Pathogen pollution: Defining a parasitological threat to biodiversity conservation. *The Journal of Parasitology* **89**: S78-S83.
- DASZAK, P., STRIEBY, A., CUNNINGHAM, A.A., LONGCORE, J.E., BROWN, C.C., & PORTER, D., 2004. Experimental evidence that the bullfrog (*Rana catesbeiana*) is a potential carrier of chytridiomycosis, an emerging fungal disease of amphibians. *Herpetological Journal* **14**: 201-207.
- DASZAK, P., LIPS, K., ALFORD, R., CAREY, C., COLLINS, J.P., CUNNINGHAM, A., HARRIS, R. & RON, S., 2007. Chapter 4: Infectious Diseases. In: *The Amphibian Conservation Action Plan*. Eds. GASCON, C., COLLINS, J.P., MOORE, R. D., CHURCH, D.R., MCKAY, J., & MENDELSON, J., International Union for Conservation of Nature and Natural Resources.
- EHRlich, P.R., 1998. *Recent developments in environmental sciences*. Speech at the H.P. Heineken Prize for Sciences by the Royal Netherlands Academy of Arts and Sciences. Sept, 25, 1998.
- FROST, D.R., GRANT, T., FAIVOVICH, J.N., BAIN, R.H., HAAS, A., HADDAD, C-L. F.B., DE SA, R.O., CHANNING, A., WILKINSON, M., DONNELLAN, S.C., RAXWORTHY, C.J., CAMPBELL, J.A., BLOTTO, B.L., MOLER, P., DREWES, R.C., NUSSBAUM, R.A., LYNCH, J.D., GREEN, D.M., & WHEELER, W.C., 2006. Amphibian tree of life. *Bulletin of the American Museum of Natural History*. **297**: 370 pp.
- GARNER T.W.J., WALKER S., BOSCH J., HYATT A.D., CUNNINGHAM A.A., & FISHER, M.C., 2005. Chytrid fungus in Europe. *Emerging Infectious Diseases* **11**: 1630-1640.
- GARNER, T.W.J., PERKINS, M.W., GOVINDARAJULU, P., SEGLIE, D., WALKER, S., CUNNINGHAM, A.A. & FISHER, M.C., 2006. The emerging amphibian pathogen *Batrachochytrium dendrobatidis* globally infects introduced populations of the North American bullfrog, *Rana catesbeiana*. *Biology Letters*. Published online.
- GASCON, C., COLLINS, J.P., MOORE, R.D., CHURCH, D.R., MCKAY, J.E. AND MENDELSON, J.R. III, (eds), 2007. *Amphibian Conservation Action Plan*. IUCN/SSC Amphibian Specialist Group. Gland, Switzerland, and Cambridge, UK. 64 pp.
- HERRERA, R.A., STECIOW, M.M., & NATALE, G.S., 2005. Chytrid fungus parasitising the wild amphibian *Leptodactylus ocellatus* (Anura: Leptodactylidae) in Argentina. *Diseases of Aquatic Organisms* **64**: 247-252.
- HOPKINS S., & CHANNING A., 2003. Chytrid fungus in Northern and Western Cape frog populations, South Africa. *Herpetological Review* **34**(4): 334-336.
- JOHNSON, M.L., & SPEARE, R., 2003. Survival of *Batrachochytrium dendrobatidis* in water: Quarantine and disease control implications. *Emerging Infectious Diseases* **9** (8): 922-925.

- KRIGER, K.M., & HERO, J.-M., 2006. Large-scale seasonal variation in the prevalence and severity of chytridiomycosis. *Journal of Zoology*, **271** (3): 352-359.
- LIPS K.R., BREM, F., BRENES R., REEVE, J.D., ALFORD, R.A., VOYLES, J., CAREY, C., LIVO, L., PESSIER, A.P., & COLLINS, J.P., 2006. Emerging infectious disease and the loss of biodiversity in a Neotropical amphibian community. *Proceedings of the National Academy of Sciences of the United States of America* **103**: 3165-3175.
- MENDELSON, J.R., LIPS, K.R., GAGLIARDO, R.W., RABB, G.B., COLLINS, J.P., DIFFENDORFER, J.E., DASZAK, P., IBÁÑEZ, R., ZIPPEL, K.C., LAWSON, D.P., WRIGHT, K.M., STUART, S.N., GASCON, C., DA SILVA, H.R., BURROWES, P.A., JOGLAR, R.L., LA MARCA, E., LÖTTERS, S., DU PREEZ, L.H., WELDON, C., HYATT, A., RODRIGUEZ-MAHECHA, J.V., HUNT, S., ROBERTSON, H., LOCK, B., RAXWORTHY, C.J., FROST, D.R., LACY, R.C., ALFORD, R.A., CAMPBELL, J.A., PARRA-OLEA, G., BOLAÑOS, F., DOMINGO, J.J.C., HALLIDAY, T., MURPHY, J.B., WAKE, M.H., COLOMA, L.A., KUZMIN, S.L., PRICE, M.S., HOWELL, K.M., LAU, M., PETHIYAGODA, R., BOONE, M., LANNOO, M.J., BLAUSTEIN, A.R., DOBSON, A., GRIFFITHS, R.A., CRUMP, M.A., WAKE, D.B., & BRODIE, E.D., 2006., Confronting amphibian declines and extinctions. *Science*. **313**: 48.
- MIDGLEY G., RUTHERFORD, M., & BOND, W., 2001. *The heat is on – Impacts of climate change on plant diversity in South Africa*. World Wide Fund for Nature, South Africa.
- MINTER L.R., BURGER, M., HARRISON, J.A., BRAACK, H.H., BISHOP, P.J., & KLOEPFER, D. (eds.), 2004. *Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland*. SI/MAB Series # 9. Smithsonian Institution, Washington, DC.
- OUELLET, M., MIKAEIAN, I., PAULI, B.D., RODRIGUE, J., & GREEN, D.M., 2005. Historical evidence of widespread chytrid infection in North American amphibian populations. *Conservation Biology* **19** (5): 1431-1440.
- ROELANTS, K., GOWER, D.J., WILKINSON, M., LOADER, S.P., BIJU, S.D., GUILLAUME, K. MORIAU, L. & BOSSUYT, F., 2007. Global patterns of diversification in the history of modern amphibians. *Proceedings of the National Academy of Sciences of the United States of America* **104** (3): 887-892.
- ROLLINS-SMITH, L.A., & CONLON, J.M., 2005. Antimicrobial peptide defenses against chytridiomycosis, an emerging infectious disease of amphibian populations. *Developmental and Comparative Immunology* **29**: 589-598.
- SCHLOEGEL, L.M., HERO, J., BERGER, L., SPEARE, R., McDONALD, K., & DASZAK, P., 2006. The decline of the sharp-snouted day frog (*Taudactylus acutirostris*): The first documented case of extinction by infection of a free-ranging wildlife species? *EcoHealth* **3**: 35-40.
- SMITH, K.G., WELDON, C., & DU PREEZ, L.H., 2007. Relationships between size, development, and *Batrachochytrium dendrobatidis* Infection in South African tadpoles. *Diseases of Aquatic Organisms* **74**: 159-164.
- State of the world's species*. Available from: <http://iucn.org>. Accessed 15 October 2008.
- STUART S., CHANSON, J.S., COX, N.A., YOUNG, B.E., RODRIGUES, S.L., FISCHMAN, D.L., & WALLER, R.W., 2004. Status and trends of amphibian declines and extinctions worldwide. *Science* **306**: 1783-1786.
- WALDMAN, B., VAN DE WOLFSHAAR, K., KLENA, J.D., ANDJIC, V., BISHOP, P.J., & NORMAN, J., 2001. Chytridiomycosis in New Zealand frogs. *Surveillance* **28** (3): 9-11.
- WALKER, S.F., BOSCH, J., JAMES, T.Y., LITVINTSEVA, A.P., VALLS, J.A.O., PINA, S., GARCIA, G., ROSA, G.A., CUNNINGHAM, A.A., HOLE, S., GRIFFITHS. R., & FISHER, M.C., 2008 Invasive pathogens threaten species recovery programs. *Current Biology* **18** (18) : 853-854.
- WELDON, C., & DU PREEZ, L.H., 2004. Decline of the Kihansi Spray Toad, *Nectophrynoides asperginis*, from the Udzungwa Mountains, Tanzania. *Froglog* **62**: 2-3.
- WELDON, C., DU PREEZ, L.H., HYATT, A.D., MULLER, R., & SPEARE, R., 2004. Origin of the amphibian chytrid fungus. *Emerging Infectious Diseases* **10**: 2100-2105.
- WELDON, C., 2005. Chytridiomycosis, an emerging infectious disease of amphibians in South Africa. Ph.D. Dissertation, North-West University, Potchefstroom.

NATURAL HISTORY NOTES

REPTILIA: SQUAMATA; SAURIA

AGAMIDAE

Uromastix aegyptius microlepis (Blanford, 1874) Egyptian Spiny-tailed Lizard

PREY

On 12 November 2008 at 09h20 I observed 1 Lappet-faced Vulture (*Torgos tracheliotus*) feeding on the carcass of an adult *Uromastix aegyptius* while 4 Lappet-faced Vultures, 1 Griffon Vulture (*Gyps fulvus*), 3 Steppe Eagles (*Aquila nipalensis*) and 2 Brown Necked Ravens (*Corvus ruficollis*) were gathered around in the Mahazat as-Sayd Protected Area (28.15°N, 41.40°E, between 900 - 1 100 m above sea level), in western central Saudi Arabia. Mahazat as-Sayd Protected Area is a flat arid desert steppe located approximately 150 km northeast of Taif and 700 km west of Riyadh covering an area of 2 244 km².

On investigation of the tracks in the immediate vicinity I determined that the *Uromastix* individual had emerged from its burrow, basked and set off to forage. Approximately 10 m from the burrow I came upon the vultures that were feeding on its carcass. The *Uromastix* seemed to be in a reasonable condition as determined from the firmness of the tail which serves as fat deposit indicating that it probably did not succumb naturally whilst foraging.

Raptors are known predators of *Uromastix* in the United Arab Emirates (Jongbloed 2000) with Long-legged Buzzard (*Buteo rufinus*) – albeit not present at this specific incident – identified as often preying on *Uromastix* (Jennings 1995). Brown-necked Ravens have not been reported, neither expected to kill *Uromastix*. Other potential *Uromastix* predators in the Mahazat as-Sayd Protected Area include Arabian Red fox (*Vulpes vulpes arabica*), Ratel (*Mellivora capensis*) and Sand Cat (*Felis margarita*) (Cunningham 2002; Mendelssohn 1989) and the Desert Monitor (*Varanus griseus*) although the monitors mainly target juvenile *Uromastix* (Baha El Din 1996; Disi *et al.* 2001; Jongbloed 2000). The mammalian predators mentioned above are predominantly and/or strictly nocturnal and not thought to have been responsible for the death of the *Uromastix* due to lack of evidence thereof – i.e. no tracks observed.

U. aegyptius are herbivores that feed on a wide variety of plants usually with a bimodal foraging activity dependant on the season and ambient temperature (Disi *et al.* 2001; Cunningham 2000; Cunningham 2001a, b; Mandaville 1965). During cooler periods they emerge to bask for a few hours and forage later during the day generally moving shorter distances away from the burrow. During the beginning of November 2008 the Protected Area received rainfall together with overall cooler temperatures after a prolonged dry spell which in turn stimulated new vegetative growth. It is conceivable that the *Uromastix* ventured out to forage earlier than usual – i.e. before reaching optimal foraging temperature – to benefit from the new growth and was sluggish and/or less observant than usual when it was killed by one of the raptors.

Which of the three raptor species present were responsible for the *Uromastix* death remains unconfirmed. However, Lappet-faced Vultures are known to occasionally kill small prey including some gazelle lambs (e.g. Springbok & Thomson's Gazelle) and hare (Mundy *et al.* 1992) and are furthermore prepared to descend for smaller carcasses (Cunningham 2003). According to Shobrak (pers com) Lappet-faced Vultures have often been observed 'waiting' around *Uromastix* burrows to prey on them. Indications – albeit unconfirmed – are that Lappet-faced Vultures may well have been responsible for the *Uromastix* death.

Acknowledgements

My appreciation goes to Ernest Robinson (Director KKWRC, Thumamah) for commenting on a draft of this note.

References

- BAHA EL DIN, S., 1996. *Terrestrial reptiles of Abu Dhabi*. In: P. E. Osborne (ed.) *Desert ecology of Abu Dhabi – a review and recent studies*. Pisces Publications, Newbury, UK.
- CUNNINGHAM, P.L., 2000. Daily activity pattern and diet of a population of the Spiny-tailed Lizard, *Uromastix aegyptius microlepis* (Blanford 1874), during summer in the United Arab Emirates. *Zoology in the Middle East*, **21**: 37-46.
- CUNNINGHAM, P.L. 2001a. Spiny-tail Lizard *Uromastix aegyptius microlepis* diet – a study in the United Arab Emirates. *Tribulus* **11**(2): 28-29.
- CUNNINGHAM, P.L., 2001b. Notes on the diet, survival rate, and burrow specifics of *Uromastix aegyptius microlepis* from the United Arab Emirates. *Asiatic Herpetological Research*. **9**: 30-33.
- CUNNINGHAM, P.L., 2002. *Status of the Sand Cat, Felis margarita, from the United Arab Emirates*. *Zoology in the Middle East* **25**: 9-14.
- CUNNINGHAM, P.L. 2003. Why do Lappet-faced Vulture's favour smaller carcasses? *Lanioturdus* **36**(1): 5-6.

DISI, A.M., MODRÝ, D., NEČAS, P. & RIFAI, L., 2001. *Amphibians and Reptiles of the Hashemite Kingdom of Jordan. An Atlas and Field Guide*. A.S. Brahm Publishers, Frankfurt am Main, Germany.

JENNINGS, M.C. 1995. *An interim atlas of the breeding birds of Arabia*. National Commission for Wildlife Conservation and Development, Riyadh, Saudi Arabia.

JONGBLOED, M., 2000. *Wild about reptiles. Field guide to the reptiles and amphibians of the UAE*. Barkers Trident Communications, London.

MANDAVILLE, J., 1965. Plants eaten by *Uromastix microlepis* (Blanford) and other notes on this lizard in eastern Arabia. *Journal Bombay Natural History Society* 62(1): 161-163.

MENDELSSOHN, H. 1989. Felids in Israel. *Cat News* 10: 2-4.

MUNDY, P. & BUTCHART, D. & LEDGER, J & PIPER, S., 1992. *The Vultures of Africa*. Acorn Books and Russel Friedman Books, Randburg, South Africa.

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Fig. 1. Vultures preying on *Uromastix*.

(Photo: Peter Cunningham)



Fig. 2. *Uromastix* preyed upon by vultures.

(Photo: Peter Cunningham)

Acanthocercus atricollis (A. Smith, 1849)

Southern Tree Agama

ACACIA GUM DIET

During The afternoon of 18 October 2008, in the garden of our house in Matseumhlope, Bulawayo, an adult male Tree Agama was observed on a small *Acacia Karroo* feeding on the gum which was running down the trunk. The lizard was tugging away at the gum until I disturbed it. Some of the gum was still adhering to its snout when it jumped across to the adjacent hollow tree (*Dombeya rotundifolia*) where it normally lives. This behaviour seemed peculiar, I am not sure whether in times of plenty an agama would still eat the gum. Monkeys and Bush-babies are known to relish it (Timberlake, J., 1999. *Acacias of Zimbabwe*: 78).

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REPTILIA: SQUAMATA; SERPENTES

COLUBRIDAE

Lamprophis fuscus Boulenger, 1893
Yellow-bellied House Snake

COLOUR VARIATION

On 6 April 2007 an unusually coloured specimen of the Yellow-bellied House Snake *Lamprophis fuscus* was discovered in a back yard in Marina Park, Kuils River, Cape Town, South Africa (33°54'50"S, 18°40'01"E). The identification of this specimen was difficult due to the unusual colouration.

Identification by colour: The colour descriptions of *Lamprophis* and of *Lycodonomorphus* species according to Marais (2004) and Branch (1998) did not match the colour of the Kuils River snake. The closest colour match was the Swazi Rock Snake *Lamprophis swazicus*, but which was ruled out due to the distribution and differences in scale counts. The word "*fuscus*" in Latin means "dark or dusky" and this specimen was certainly not that. It is a uniformly caramel creamy (yellowish to mustard colour) colour on the back and flanks, and lighter ventrally. The chin it is uniformly white. Marais (2004) describes *L. fuscus* as plain olive brown to light green above with yellow lower lip, sides and belly, and the sides usually brighter than the belly. Branch (1988) describes *L. fuscus* as being uniformly olive brown above, the upper lip and belly pale yellow-pink, and tail darker below. The Kuils River snake does not fit either of the descriptions provided by Marais or by Branch. The identification of this snake based on colour alone was thus not possible, suggesting that it could be a colour variant of a *Lamprophis* or *Lycodonomorphus* species.

Identification by scale counts: Scale counts of the snake were made by using both a scanner and a photo, as well as by a physical scale count. These were compared to the scale counts in Marais (2004) for *Lamprophis* and *Lycodonomorphus* species. The initial identification matched three species, namely *Lamprophis fuscus*, *Lycodonomorphus rufulus* and *Lycodonomorphus laevisimus*. The last species, *L. laevisimus* was ruled out due to its distribution.

Scale Counts for this snake were: Upper labials 8, with 4th and 5th entering the eye; Lower labials 7; Preocular 1; Postocular 2; Temporals 1+2; Dorsals 19 rows at mid-body; Ventrals 172; Subcaudals 70.

Identification by diet: According to Marais (2004), *Lamprophis fuscus* feeds mainly on lizards; dwarf shrews and other nesting rodents are taken, whereas *Lycodonomorphus rufulus* feeds on frogs, tadpoles, small fish and occasionally on nestlings and rodents; The authors placed the snake in a 2 litre container, half filled with water. Four guppies were placed inside the container, together with the snake, and a bit of water plant. The snake was left with the fish overnight to see if it would eat the fish. It was postulated that if it did, this would tend to support the identification as being *Lycodonomorphus rufulus* and if not, then it could be *Lamprophis*

fuscus. The snake refused to eat the fish, but afterwards accepted several *Afrogecko porphyreus*, which were all constricted.

Additional data: Length - The total length (TL) and snout-vent length (SVL) of the snake were measured by placing a piece of string along its body midline from the tip of its snout to the tip of the tail, and from the snout to the vent, respectively, then measuring the string with a tape measure. The average of three measurements was taken because of movements of the snake.

Measurement	TL	SVL
1	471	348
2	475	349
3	474	346
Average	473	348

Sex and terminal spike: The sex of the animal was determined as male by cloacal probing. The snake did not attempt to bite when picked up, but did try to stab the hand of the handler with the spike on the end of its tail. No spike was mentioned by Marais (2004) or Branch (1988).

Conclusion: The snake is assumed to be a Yellow-bellied House Snake, *Lamprophis fuscus*, on the basis of the scale counts and on food preferences. It is also fair to assume that misidentifications of *Lamprophis fuscus* and *Lycodonomorphus rufulus* could have been made in the past.

This snake was collected under CapeNature Catch-and-release Permit No. AAA004-00014 (specimen record MW R070042 – Catch and Release Register).

The specimen record was submitted to the *South African Reptile Conservation Assessment* (SARCA) – Record No. 002888.

Acknowledgements

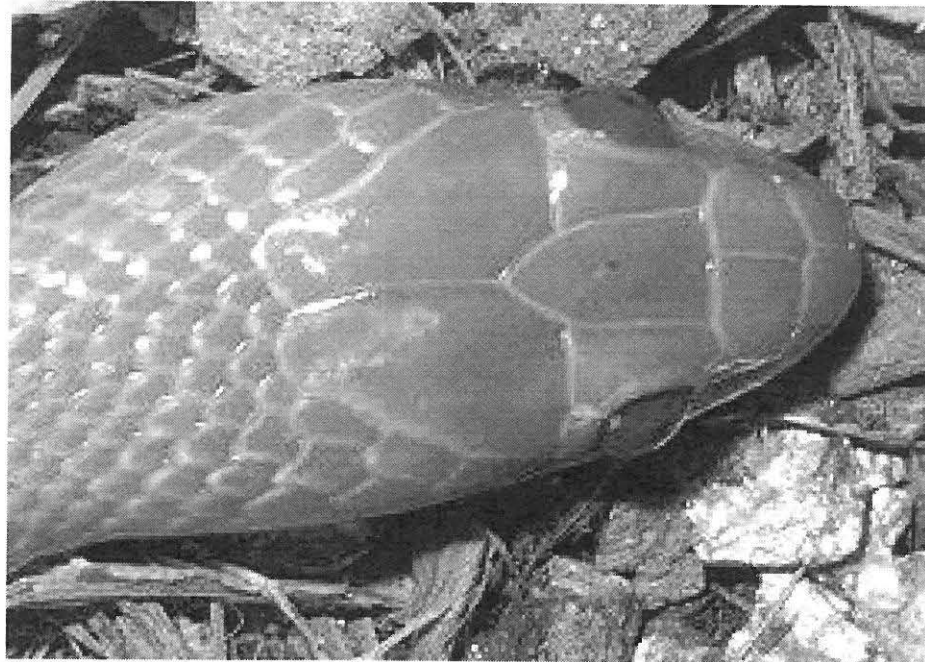
We would like to thank Johannes Els, Dr Tony Phelps (Cape Reptile Institute) and Andrew Turner (CapeNature) who assisted with physical midbody scale counts. I would also like to thank Retief Albertyn (Cape Reptile Club) and Morné Havenga (Cape Reptile Club), who assisted with the various measurements of the specimen, and Dr. Ernst Baard (CapeNature) for supplying comments on the format and contents of this note.

References

- BRANCH, W.R., 1988: *Field Guide to the Snakes and Other Reptiles of Southern Africa*. Third edition. Struik Publishers, Cape Town.
 MARAIS, J., 2004: *A Complete Guide to the Snakes of Southern Africa*. Struik Publishers, Cape Town.

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Figs. 1 and 2. *Lamprophis fuscus* from Kuils River. (Photos: Marcel Witberg)



Fig. 3. *Lamprophis fuscus* consuming an *Afrogecko porphyreus*. (Photo: Marcel Witberg)

ELAPIDAE

Aspidelaps lubricus lubricus (Laurenti, 1768)

CORAL SNAKE

SHAMMING DEATH AND OTHER DISPLAYS

Aspidelaps threat displays are well documented. When molested, all members of the genus will raise their head well off the ground (Broadley, 1983). *Aspidelaps lubricus lubricus* and *Aspidelaps lubricus cowlesi* will spread narrow hoods, and death shamming has been seen in *Aspidelaps scutatus scutatus* (Broadley, 1983) and *Aspidelaps scutatus intermedius*.

While carrying out a road cruising survey in approximately 10 kilometres from Louriesfontein, Northern Cape, South Africa, a juvenile *Aspidelaps lubricus lubricus* was collected for DNA extraction. When the snake was pinned with a hook

stick behind the head, it tried to roll 180° on its axis. The hook stick was moved and the snake positioned itself in an upside down, corkscrew body posture. The animal tensed and assumed a tighter corkscrew when touched. It kept sight of the handler all the while and remained belly up throughout the display, which continued for at least 120 seconds after the animal was last touched. When left unmolested, it righted itself and tried to escape. When the snake assumed the hooding and striking defence display, it was also noted that there was a simultaneous cloacal “popping” with each strike.

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***Naja mossambica* Peters, 1854**
Mozambique Spitting Cobra

CANNIBALISM

By definition, cannibalism is the act of eating conspecifics, or members of ones own species. While carrying out a road cruising survey to collect DNA samples and locality data on a road outside the Kruger National Park, Limpopo Province, South Africa, 60km North of Hazyview, we saw nine live Mozambique Spitting Cobras, *Naja mossambica*, between 20h00 and 01h00.

Air temperatures were 26° – 28°C and road temperatures were 30° – 32°C, and dropped by approximately 1°C per hour until 01h00. At 00h14, an approximately 1.2m long Mozambique Spitting Cobra, *Naja mossambica*, was captured. It immediately regurgitated an approximately 90cm long sub-adult *Naja mossambica*. Minimal digestion had taken place, confined mainly to the head and neck region. *Naja mossambica* is known to take small mammals, birds, amphibians, lizards, other snakes, eggs and even some invertebrates, although true cannibalism has not been widely reported.

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OPPOSITE: Figs. 1 and 2. *Aspidelaps lubricus* adopting corkscrew posture when handled. (Photo: Donald Schultz)



GEOGRAPHICAL DISTRIBUTIONS

AMPHIBIA: ANURA

HYPEROLIIDAE

Leptopelis natalensis (A. Smith 1849) Natal Tree Frog

While visiting Kosi Bay Nature Reserve in KwaZulu-Natal, South Africa, from 7–10 July 2008, numerous male *Leptopelis natalensis* were heard calling from vegetation surrounding the main lake at the Nature Reserve campsite (26°57'33" S, 32°49'37" E, 2632DD). Individuals were heard calling from dense reeds and creepers at the edge of the lake, as well as from within the Swamp Fig (*Ficus trichopoda*) forest at the campsite jetty. On 9 July, two males were captured and photographed, after which they were released.

This species was previously known to occur only as far north as Sodwana Bay (2732DA) (Minter *et al.*, 2004: *Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland*, pp. 160-162, SI/MAB Series #9, Smithsonian Institution, Washington, DC). The current record extends the known distribution of this species 70 km northwards, and raises the probability that this species may occur in suitable habitat in southern Mozambique as well.

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Fig. 1. *Leptopelis natalensis* from Kosi Bay, Zululand. (Photo: Darren Pietersen)

REPTILIA: SQUAMATA; SAURIA

GEKKONIDAE

Lycodactylus capensis capensis (A. Smith, 1849) Cape Dwarf Gecko

INTRODUCED POPULATION

The discovery of the Cape Dwarf Gecko (*Lycodactylus capensis capensis*) in the Western Cape Province was first reported by De Villiers (2006: Geographical Distribution. *Lygodactylus capensis capensis* (A. Smith, 1849). Introduced population. *African Herp News* 40: 29-30), based on introduced populations found at the Aspidistra Garden Centre, Lynedoch, Stellenbosch district (33°59'37" S, 18°45'48" E) and at the Garden Pavilion, Somerset West (34°06'10" S, 18°51'15" E).

On 22 December 2007, the authors observed 15 adult and 8 juvenile Cape Dwarf Geckos (*Lycodactylus capensis capensis*) on the walls and trees at the Cape Garden Centre Nursery, Joostenbergvlakte, Western Cape Province (33°50'00" S,

18°44'18"E, altitude 109 m). The geckos are assumed to have been introduced with of nursery plants from upcountry. Since juveniles were also observed, it can be assumed that a healthy breeding colony has established itself. The authors captured four specimens, to be handed to SANBI – Record numbers MW D07 0046; MW D07 0047; MW D07 0048; MW D07 0049.

This reference strengthens the statement made by De Villiers (2006) that the Cape Dwarf Gecko (*Lycodactylus capensis capensis*) has a much wider distribution in the Western Cape Province than is realized. As a starting point, a survey needs to be done of all the nurseries to see what the extent of the invasiveness is, and what possible effect this could have on the indigenous species in the province.

The gecko photographed (Fig. 1) was collected under CapeNature Catch-and-release Permit No. AAA004-00014 (specimen record MW R070138 – Catch and Release Register).

The specimen record was submitted to the South African Reptile Conservation Assessment (SARCA) – Record No. 004181.

Acknowledgement

We would like to thank Atherton de Villiers (CapeNature) for scrutinising the format and content of this note.

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AMPHISBAENIDAE

Zygaspis vandami arenicola Broadley & Broadley, 1997

Van Dam's Round-headed Worm Lizard

Swaziland: Simunye Primary School, Simunye. 26°10'13"S, 31°54'29"E (2631BB), altitude 250m a.s.l.

A single specimen with a total length of 168.1 mm (SVL 144.8 mm; T 23.3 mm) was collected on 17 April 2008. The specimen was in the process of being killed on the school soccer field when it was collected. It had 194 body annuli and 44 caudal annuli. The dorsal colouration was brownish-olive with a purple sheen. The specimen was examined under a binocular microscope and only a single postocular and single temporal were evident. The specimen has been deposited in the Transvaal Museum (TM 85586).



Fig. 1. *Lycodactylus c. capensis* from Joostenbergvlakke, Western Cape. (Photo: Marcel Witberg)

This is the first, and currently only, record of this species or family in Swaziland. This range extension is not unexpected considering that the species has been recorded from neighbouring southern Mozambique, south-eastern Mpumalanga and northern KwaZulu-Natal (Branch, W.R., 1998: *Field Guide to Snakes and Other Reptiles of Southern Africa*. Third edition. Struik Publishers, Cape Town). Interestingly, this specimen belongs to the subspecies *Z. v. arenicola*, which is restricted to the coastal plains of southern Mozambique and northern KwaZulu-Natal, east of the Lubombo mountains. This species, however, was collected west of the Lubombos in close proximity to the Mbuluzi River suggesting that the species has penetrated through the Mbuluzi gorge.

Submitted by

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INSTRUCTIONS TO AUTHORS

Contributions (preferably in Word 6.0, 7.0 or Windows XP) submitted in an incorrect style (see guide-lines below) will be returned to the authors.

ARTICLES

African Herp News publishes longer contributions of general interest that would not be presented as either Natural History Notes or Geographical Distributions.

A standard format is to be used, as follows: **TITLE** (capitals, bold, centred); **AUTHOR(S)**^(1,2) (bold, centred); Author's address(es) (use superscripts with authors' names and addresses if more than one author); **HEADINGS** (bold, centred) and **SUB-HEADINGS** (bold, aligned left) as required; **REFERENCES**, following the formats given below:

- BRANCH, W.R., 1998: *Field Guide to the Snakes and Other Reptiles of Southern Africa*. Third edition. Struik, Cape Town.
- BROADLEY, D.G. 1994: The genus *Scelotes* Fitzinger (Reptilia: Scincidae) in Mozambique, Swaziland and Natal, South Africa. *Ann. Natal Mus.* **35**: 237-259.
- COOK, C.L., & MINTER, L.R., 2004: *Pyxicephalus adspersus* Peters, 1854. pp. 303-305, in Minter, L.R., Burger, M., Harrison, J.A., Braack, H.H., Bishop, P.J., and Kloepfer, D. (eds.), *Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland*. SI/MAB Series #9. Smithsonian Institution, Washington, DC.

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: **Scientific name** (including author citation); **Common name** (using Bill Branch's *Field Guide to Snakes and Other Reptiles of Southern Africa*, third edition, 1998, for reptiles; and Passmore & Carruthers' *South African Frogs*, 1995, 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 and in abbreviated form); **Locality** (Country; Province; quarter-degree locus; location; latitude and longitude if available; elevation above sea level); **Date** (day, month, year); **Collector(s)**; **Place of deposition and museum accession number** (required if specimens are preserved). **References**, if only one or two, should be incorporated into the text; three or more references should be placed after the main text, as for Articles. **Submitted by:** NAME, Address.

GEOGRAPHICAL DISTRIBUTION

Brief notes of new geographical distributions (preferably at least 100 km from the nearest published the nearest published record) of amphibians and reptiles on the Afri-

can 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: **Scientific name** (including author citation); **Common name** (for sources, see Natural History Notes); **Locality** (Country; Province; quarter-degree locus; location; latitude and longitude; elevation above sea level); **Date** (day, month, year); **Collector(s)**; **Place of deposition and museum accession number** (required if specimens are preserved); **Comments**, including data on the size, colour and taxonomic characters, eg. scalation, webbing, especially for taxonomically problematic taxa; and nearest published locality record(s) in km; **References**, if only one or two, should be incorporated into the text; three or more references should be placed after the main text, as for Articles. **Submitted by:** NAME, Address.

Records submitted should be based on specimens deposited in a recognised collection.

HERPETOLOGICAL SURVEYS

African Herp News publishes sparsely 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.

Survey results should be presented in the following format: **TITLE, including an indication of the survey area or locality** (country, province or state, location, quarter-degree units, or bounding latitude and longitude); **AUTHOR(S)** (format as for long articles, above) **Dates** (day, month, year); **Statement of relevance**; and **SPECIES LIST**, in tabular form comprising **Scientific name** (including author citation), **Location / Habitat**; **Evidence** (including registration numbers and location of vouchers); and **Comments** (where required). The note should end with a **SUMMARY** statement and **REFERENCES**.

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).

PHOTOGRAPHS AND FIGURES

Photographs and figures should be submitted as separate JPEG files, and not embedded in the text. The name of the photographer should be given, if not taken by the author or senior author of the article.

HERPETOLOGICAL ASSOCIATION OF AFRICA
(Founded in 1965)



APPLICATION FOR MEMBERSHIP 2008

Title: Initials: First name:

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.....

.....

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Occupation:

Institution, if not above address:

Herpetological interests (including organisms and general field)

.....

Type of membership

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P.O. Box 19063, Tygerberg 7505, South Africa.

OFFICE USE

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HERPETOLOGICAL ASSOCIATION OF AFRICA
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Scholars (attending high school)	ZAR 100	

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