

African Herp News

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NATURAL HISTORY NOTES

AMPHIBIA: ANURA

BREVICEPTIDAE

Breviceps adspersus adspersus Peters, 1882

Bushveld Rain Frog

TRANSPARENT WINDOW

The presence of a translucent area (a window) on the ventrum of *Breviceps macrops* and *B. namaquensis* and four species of *Hyperolius* (*H. acuticeps*, *H. beneguellensis*, *H. nasutus*, and *H. pusillus*) is unique amongst African frogs. Recently, a population of *Breviceps adspersus adspersus* from between Karibib (2115DD) and Omaruru (2115DB), Namibia, were also found to possess a window (Fig.1). In this population the area is continuous, clearly demarcated and less translucent than in *B. macrops* (Fig. 2). In total the patches in the Usakos/Omaruru *B. a. adspersus* are about 75% of the transparent area seen in *B. macrops* and translucent to the degree that some internal organs can be seen. As earlier references to a translucent area in *B. a. adspersus* cannot be traced from the literature, I assume that this intraspecific variation has escaped earlier notice in Namibia and other regions within the nominate form's wide distribution. Intraspecific variation in the presence or absence of a window, as reported here for *B. a. adspersus*, has not been reported for any of the other windowed species in Africa or for any species elsewhere, viz., *Boophis rappoides* and *B. luteus* in Madagascar, *Eleutherodactylus augusti* in New Mexico, *Centolene ilex*, *Hyalinobatrachium pellucidum*, *H. fleischmanni* and *H. pulveratum* in South America, *Rana archotaphus* in Indochina.

All three *Breviceps* spp. that possess a window occur in arid regions thus the relatively mesic habitats of the other windowed species does not correlate with that type of habitat. A possible hypothesis may be evolutionary pressure by the many demands of habitat-partitioning in the mesic species.

Morphologically the translucency of the skin over the window in the pelvic region does not imply that it is thinner than in frogs without a window as this apparent thinness may be an optical illusion due to the region being pigmentless (Channing 2001). Further valuable and highly interesting preliminary input to this note by Angelo Lambiris, as deduced from examination of the photograph of *B. macrops* in Fig. 1, has been made. He concluded that the skin does not seem to be obviously thinner than elsewhere, and that the network of fine blood vessels that one would expect to see at least in the areas of the lateral margins of the transparent window (based on cutaneous vascular patterns in other species) are not at all apparent. The ventral thigh muscles are clearly visible and normally coloured whereas the *m. rectus abdominis* is transparent.



Fig. 1: Translucent window in *Breviceps a. adpersus* from between Usakos and Omaruru (SMR1066/JV 9177).



Fig. 2: *Breviceps macrops* from Kleinzee, Northern Cape Province, South Africa.

This raises some fascinating questions about myoglobin and other muscle constituents. The assumed thinness of the skin is not just a matter of reduction or absence of pigment cells, but some kind of true translucency or transparency of skin, muscle and coelomic membrane - a condition that I am quite certain does not occur in any other African amphibians.

In conclusion, the intraspecific variation in the presence of a window in *Breviceps* spp. and for the properties and function of window in the other 15 species requires further elucidation.

Acknowledgments

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References

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REPTILIA: SQUAMATA: SERPENTES

ELAPIDAE

Naja nigricincta nigricincta Bogert, 1940 Western Barred Spitting Cobra

DIET

The Western Barred Spitting Cobra, or commonly known as the Zebra Snake (*Naja nigricincta nigricincta*), has a varied diet which includes reptiles, amphibians, fish, eggs, small mammals and even insects (Marais 1992, Branch 1998, Cunningham & Shilongo 2002, Alexander & Marais 2007). Although snakes form part of their diet (Hebbard 1990, Spawls & Branch 1995, Marais 2004, Alexander & Marais 2007) it is not well documented (Johan Marais *pers. comm.*).

On 1 May 2010, between 18h00 and 18h30 an adult *N. n. nigricincta* (800 - 900 mm total length) was observed preying on an adult Horned Adder (*Bitis caudalis*) (280 - 350