Natural History Note

The status of and some notes on the Gaboon adder *Bitis gabonica* in northern KwaZulu/Natal, South Africa and southern Mozambique

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A lot of work has been carried out on the Gaboon adder (*Bitis gabonica*) in KwaZulu/Natal (see Botbijl 1994a, 1994b), but the status of the snake has remained unclear.

The distribution of this snake is associated with tropical coastal forest and thickets, woodland, forest-savanna mosaic, well-wooded savanna and forests (Spawls *et al*. 2002) extending from Nigeria through central to East Africa and southwards to northern KwaZulu/Natal (Branch 1998). This distribution, especially towards the south, is very disjunct and the closest record to the north of the southern African population is from about 450 km in central Mozambique (Broadley 1983).

The snake is reported 'rare' in the region (Branch 1998) and is described as 'vulnerable' in the South African reptile red data book (Branch 1988). In South Africa, it has been reported from localities between Mtubatuba in the south and Kosi Bay in the north (Fig. 1) (Bruton 1982; Bruton & Haacke 1980; Broadley1983; Branch 1988, 1998; Spawls & Branch 1995). On the one hand, this area has been subject to large-scale forest destruction and on the other, has become part of the Greater St. Lucia World Heritage Site. Botbijl (1994b) considered *B. gabonica* threatened by large-scale habitat destruction as well as persistent collection. Most of the intense work focussed on the Dukuduku Forest, which is only a small part of its known range (Botbijl 1994a & 1994b.). In 1995, Ezemvelo KwaZulu/Natal Wildlife (EKZNW) approved a project to translocate as many *B. gabonica* as possible from Dukuduku Forest, to Umlalazi Nature Reserve, since Dukuduku Forest was under serious threat from habitat degradation. Although outside its known range, Umlalazi was considered suitable habitat and was under conservation management (Botbijl 1996). Initially the aims of the project were to capture and translocate 80 snakes (Botbijl 1994b). The translocations were initially infrequent, but increased in frequency until the project was stopped, by EKZNW (Armstrong, A., Ezemvelo KwaZulu/Natal Wildlife, PO Box 13053, Cascades, 3201 *pers. comm.*) in 1998. By this time approximately 200 snakes had been caught, paid for and translocated. The project was terminated due to, among others, concerns about the suitability of Umlalazi, the survival of translocated snakes, and the creation of a market (at R200 each) for a rare animal. The remaining snakes in captivity were released on the eastern shores of Lake St. Lucia.

Bitis gabonica is a cryptically coloured snake that, despite its size, is extremely rarely seen, even though it is probably relatively abundant in some areas. Although it often moves off when encountered, it can bury in leaf litter or even sand (*pers. obs.*) with only its head exposed. Many local residents in the Kosi Bay area, who spend much of their lives in the forests, are not familiar with the species, and are surprised when informed of its presence near to their homes.

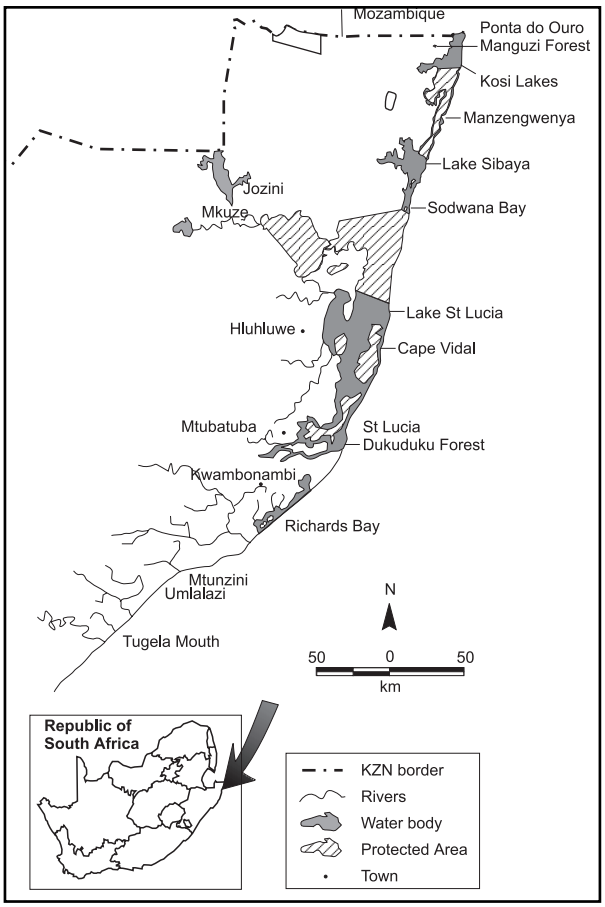

Fig. 1. Map of northern KwaZulu/Natal showing the main conservation protected areas and localities important in the known distribution of *B. gabonica.*

Man has markedly modified much of Dukuduku Forest, the southern known locality in the distribution of *B. gabonica* and an area of high snake density, and snake numbers may be drastically reduced. Although 200 individuals have been released in Umlalazi Nature Reserve, no sightings of *B. gabonica* have been reported in the reserve subsequent to the project. There have been no confirmed reports of the snakes between Umlalazi and Dukuduku, despite large-scale dune mining operations in the area. The area north of Dukuduku, from St. Lucia to the Mozambique border, has progressively improved in conservation status over the last few decades. Almost all known sightings of *B. gabonica* have been made in this coastal strip.

Surveying for the presence of the snake has proved particularly unsuccessful (Botbijl 1994a) and the only information available is from accidental or incidental sightings. These are clearly biased in favour of areas of high human activity. Most records were initially from Dukuduku Forest, through which a major road was cut, resulting in many snakes being killed or collected on the road. Recent habitat destruction of the forest also resulted in many encounters. Sightings have, however, also been made at virtually all the locations where conservation staff have been active between St Lucia town and the international border (Bruton & Haacke 1980; Broadley 1983; Branch 1988 & Branch 1998; Spawls & Branch 1995). Other sightings have been made on roads through the coastal strip and during alien plant eradication.

There have been four sightings outside the coastal strip. In 1983, workers fencing Manguzi Forest killed an adult. Three separate sightings have been made subsequently in the garden of a Manguzi shop owner (*pers. obs*.).

I have lived at Kosi Bay for twenty-three years and have never seen a 'wild' *B. gabonica*, and yet they have been found in the campsite less than three hundred metres from my residence. Since this species has been recorded throughout the area wherever conservation staff has been active, it seems likely that it occurs in suitable habitat throughout the coastal strip. It also seems probable that within this range, there will be areas of relative high abundance.

Residents of Enkovukeni, a region on the eastern shores of Kosi Bay where there are no confirmed records, also report this species from several locations in the area. When a photograph of *B. gabonica* was shown to people clearing the invasive alien plant *Pereskia aculeata* from the area south west of Kosi Bay, they not only recognised the snake, but also reported killing one while clearing exotic vegetation.

Relying on identification of snakes, particularly venomous species, by lay people is generally not dependable. In this instance, however, although young *B. gabonica* could be confused with puffadders, *Bitis arietans*, adult *B. gabonica* should be easily distinguished as they are much larger than *B. arietans*.

North of the southern Mozambique border there were no known records. However, the habitat appears to be suitable and to continue uninterrupted to just south of Inhaca Island. Recently, there have been unconfirmed reports from the dive camp at Ponta do Ouro and further north (*pers. obs.*). As more of the coastal bush is destroyed in southern Mozambique, it is likely that further records, extending its known distribution to the north, will be made.

Botbijl (1994a) suggests that *B. gabonica* may occur at low densities and gave the total South African population an estimated upper limit of 500. However, the 200 snakes that were caught during the translocation project, almost all from Dukuduku, suggests that population densities are much higher than Botbijl's estimations.

The intrusions into and progressive destruction of Dukuduku Forest opened a window and focussed attention on *B. gabonica* in that area. It seems unlikely that the areas that form the peripheral of the distribution contain the majority of its animals. Recent *B. gabonica* sightings from St. Lucia, Cape Vidal, Manzengwenya, Sodwana Bay and Kosi Bay suggest the continued presence and breeding of the snake throughout the almost 200 km coastal strip. The report from Mozambique further suggests that the species may well extend significantly into that country.

Recent evidence, such as the May 2002 capture of a hatchling in a St. Lucia town garden (Dickson, E., Ezemvelo KwaZulu/Natal Wildlife, PO Box 1, KwaNgwanase, 3973 *pers. comm.*), the continued Manguzi town sightings, and two recent records from inside Sodwana Bay camp, suggest that the species shows an amazing capacity to survive unnoticed very close to human activity.

In summary, it appears that there is probably a secure, though possibly often low density, population of *B. gabonica* along almost the entire coastal strip from St. Lucia mouth to the Mozambique border. Attempts to 'save' the species in South Africa by relocating all wild specimens to Umlalazi were thus possibly misdirected and indicative of our tendency to over-manage in situations where data are lacking.

Habitat destruction, unnatural fires and road kills remain important threats to the conservation status of *B. gabonica*, Collection for the international pet and traditional medicine trade are also likely threats. Although I do not suggest lowering the conservation status of the snake in South Africa by its removal from the 'red data list' (Branch 1988), I am of the opinion that previous population and range estimates seriously underestimate the distribution and abundance of this species.

Acknowledgements

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