Arabian sand boa *Eryx jayakari* (Squamata: Boidae) preying on Arabian toad-headed agama *Phrynocephalus arabicus* (Squamata: Agamidae): a nocturnal-to-diurnal species interaction

Tiziano Londei

The Arabian sand boa *Eryx jayakari* Boulenger, 1888, is a small snake from the Arabian Peninsula and southern Iran, highly adapted to life in sandy deserts. It has morphological adaptations for burrowing and moving through soft sand reminiscent of those in the sandfish skink *Scincus mitranus* Anderson, 1871 (Gardner, 2013). While it is quite a common species in suitable habitats, it may remain unnoticed even during extensive surveys (see Kooij, 2001). This snake usually burrows quite deep in the sand during the day, but rises to the surface at night to hunt (Egan, 2007). A recent study of prey remains in stomach contents revealed mainly lizards, rodents and beetles. Diurnal lizards (Schmidt’s fringe-toed lizard *Acanthodactylus schmidti* Haas, 1957) in the stomach contents were considered due to snakes foraging at night for inactive prey (Al-Sadoon and Al-Otaibi, 2014). However, this snake has the most upward facing eyes in its genus, and oblique elliptical pupils, apparent adaptations to detect prey moving behind and beside the snake’s head. This strongly suggests that active hunting in this species may be less important than lying in ambush in the sand with just the eyes above the surface. The following observation gives some evidence that active prey is ambushed not only at night but also in daytime.

On 13 August 2014, 8:18 a.m. local time, near my night camp in Wahiba Sands, Oman, I observed an Arabian sand boa constricting an Arabian toad-headed agama *Phrynocephalus arabicus* Anderson, 1894. The photograph (Figure 1a) suggests that the snake seized the lizard by the foreleg when it approached the concealed predator. When I touched the snake, the lizard was released and immediately ran away, which suggests that not much time had elapsed since its capture. Other Arabian toad-headed agamas, typically diurnal reptiles (see Kooij, 2000), were also active at that time. Meteorological conditions may have favoured diurnal activity of the snake. The locality (20.97291°N 58.62674°E) is not far from the sea, from which at that time (Figure 1b) the south-east monsoon was bringing relatively cool moist air. The nocturnal Arabian sand boa may opportunistically become a diurnal predator under circumstances unfavourable for night ambushing. Its elliptical pupils may serve in this respect, too, as expandable pupils are common in animals that are active during both day and night, though slit pupils are usually vertical, instead of oblique, in snakes (e.g., Werner, 1967).

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References


Figure 1. (a) Arabian sand boa with Arabian toad-headed agama; (b) location of the encounter in the Wahiba Sands, Oman, 13 August 2014.