

A note on behaviour of the peninsular rock agama (*Psammophilus dorsalis*) at Yellampet, in Telangana, India

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The Peninsular rock agama (*Psammophilus dorsalis*) is, as its name suggests, an agamid lizard associated with rocky terrain in hilly areas of Southern India (Das, 2002; Daniel, 2002). It is a sexually dimorphic species; males are large and unique with bright red and black breeding colour on the head and dorsal surface of the body, females are smaller than males and are dull grey in colour without any contrasting markings. Perch height also differs between sexes; males prefer to perch at greater heights than females, which may vary during breeding season (Radder et al., 2005). It is very rare to see this species associating with water with only one previous reported observation. This concerned a lizard observed entering water at Hampi, Karnataka by Veeranagoudar et al., (2010). These authors concluded that entering water was a way of reducing body temperature since the difference between the body temperature of the lizard in water was almost 4°C lower than when it was out of water. In this paper we describe a second instance of this behaviour in *P. dorsalis* in a rock pool and suggest another possibility for the behaviour. The observation was made during a faunal survey at Yellampet village Gunti Thanda (18.426794° N, 78.511673° E, 527 m asl.) Machareddy Mandal, Nizamabad district, Telangana state, situated in the central Deccan landscape, on 9th October 2012, at 0900hr. A female *P. dorsalis* was sighted in a small water pool between the rocks, which was formed by rain water from the previous months. Habitat of this area consisted of rocky boulders and scrub jungle. Maximum temperatures in this area may reach 40°C during the summer months with minimum winter temperatures around 18-23°C. The lizard was observed in water for more than 50 minutes and the activity recorded using a NIKON COOL PIX P100 camera. The lizard was seen to move into water and make rhythmic circular movements including placing the ventral surface of its abdomen in the water while simultaneously splashing water on to the belly using its fore limbs (Fig. 1a). Frequently the two hind limbs were stretched and plunged into the water many times (Fig. 1b) and the forelimbs and hind limbs were also rubbed against the abdominal region (Fig. 1c & 1d). The snout was wiped on the ground similar to that described by Veeranagoudar et al., (2010). The lizard was also observed to shuttle between the pool and dry area. When in water, respiration was very fast as observed by abdomen movement, again as noted by Veeranagoudar et al., (2010). No observations of drinking (orally) were made during the 50 minute period. Veeranagoudar et al., (2010) concluded



Figure 1. Behaviour of *P. dorsalis* in a shallow rock puddle. See the text for details.

that this behaviour involved thermoregulation and was a way of reducing body temperature, indicating that this is particularly important for gravid females. For instance, another agamid, *Calotes versicolor* resists prolonged embryonic growth by lowering body temperature when environmental conditions are less than favourable (Shanbhag et al., 2003). However, given the lack of good evidence for thermoregulatory behaviour (2 body temperature measurements; Veeranagoudar et al., 2010) consideration must also be given to other possibilities for the behaviour, for example water uptake. In certain agamid and iguanid lizards that live in arid regions water uptake is by means of transporting water across the skin (Sherbrooke, 1993, Withers, 1993). This includes the Australian agamid *Moloch horridus* that transports water to the mouth from damp sand by rapid actions of the ventral body surface in the sand (Sherbrooke, 1993; Withers, 1993; Wade et al, 2007). Further studies are therefore needed to determine if the behaviour of *P. dorsalis* involves water uptake rather than thermoregulation as indicated by Veeranagoudar et al., (2010) or both.

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