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Notes on unusual behavioural ecology of *Acanthodactylus cantoris* feeding on *Bufoniceps laungwalaensis*

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Acanthodactylus cantoris Günther, 1864 is a widely distributed lacertid in India, while the agamid lizard *Bufoniceps laungwalaensis* (Sharma, 1978) is endemic to the Thar Desert of Rajasthan (Sharma, 2002). Both species are diurnal, terrestrial and inhabit sandy areas. *Acanthodactylus cantoris* lives in sand dunes, interdunal areas, sandy, gravelly and clayey plains and in sandy beaches, but *Bufoniceps laungwalaensis* exclusively lives on barren sand dunes (Sharma, 2002; Das, 2004; Pardeshi et al., 2009). Being active foragers and exclusively insectivorous (Minton, 1966; Sharma and Vazirani, 1977; Pardeshi et al., 2009), most common food items of these two species include beetles and ants (Sharma and Vazirani, 1977; Sharma, 2002; Pardeshi et al., 2009). Pardeshi et al., (2009) studied food preference in *A. cantoris* and also noted 'sit-and-wait' mode of foraging.

On March 31st 2013, at *ca.* 0930 h in the interdunal area of barren sand dunes of Sam (26°51'07.40''N, 70°37'24.7''E) of the Desert National Park, Rajasthan (Fig. 1), we observed an adult *A. cantoris* was holding a lizard in its mouth. The sighting was really interesting to our knowledge from the fact that *A. cantoris* is strictly insectivorous. When we attempted to take a closer look from a distance of about one and a half meters, *A. cantoris* escaped the scene and took shelter under the nearby bushes, with the dead lizard still dangling from its mouth. With a careful examination of the spot where *A. cantoris* was first sighted, we found that an intact leg and a part of posterior body half of the carcass with another leg were laying on the spot (Fig. 2A). We took utmost care not to disturb the lizard in the nearby bushes. Sensing no danger, within 2-3 minutes, *A. cantoris* returned back to the spot where the leftover portions of the prey were laying and soon started to devour the lizard held in its mouth (Fig. 2B). During the process of swallowing (Fig. 2B, C, D, E, F), it dropped the lizard (Fig. 2E) several times on the ground giving us the opportunity to see the head of the lizard both dorsally and ventrally. From head, digits and left out body parts we confirmed that the lizard in its mouth was a juvenile of *B. laungwalaensis*. Within a few minutes, *A. cantoris* completely devoured it (Fig. 2F). After feeding, it held breath for long and remained still for some time, then moved a few meters away from the spot hitting the ground by its snout 4-5 times for cleaning its mouth. It immediately moved back to the remaining parts of the prey lay on the ground and engulfed them one by one in the same manner as stated earlier. The entire feeding episode took approximately ten minutes after which it picked up few ants on its way to its burrow under nearby bushes.

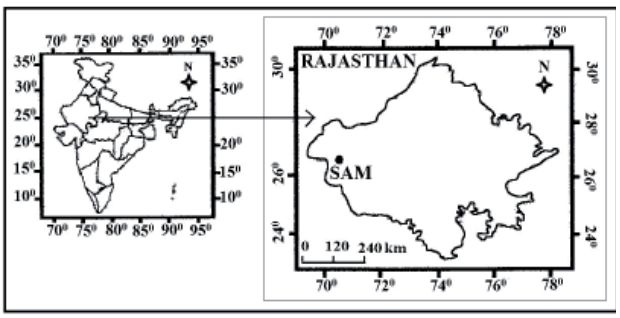

Figure 1. Map showing study site.

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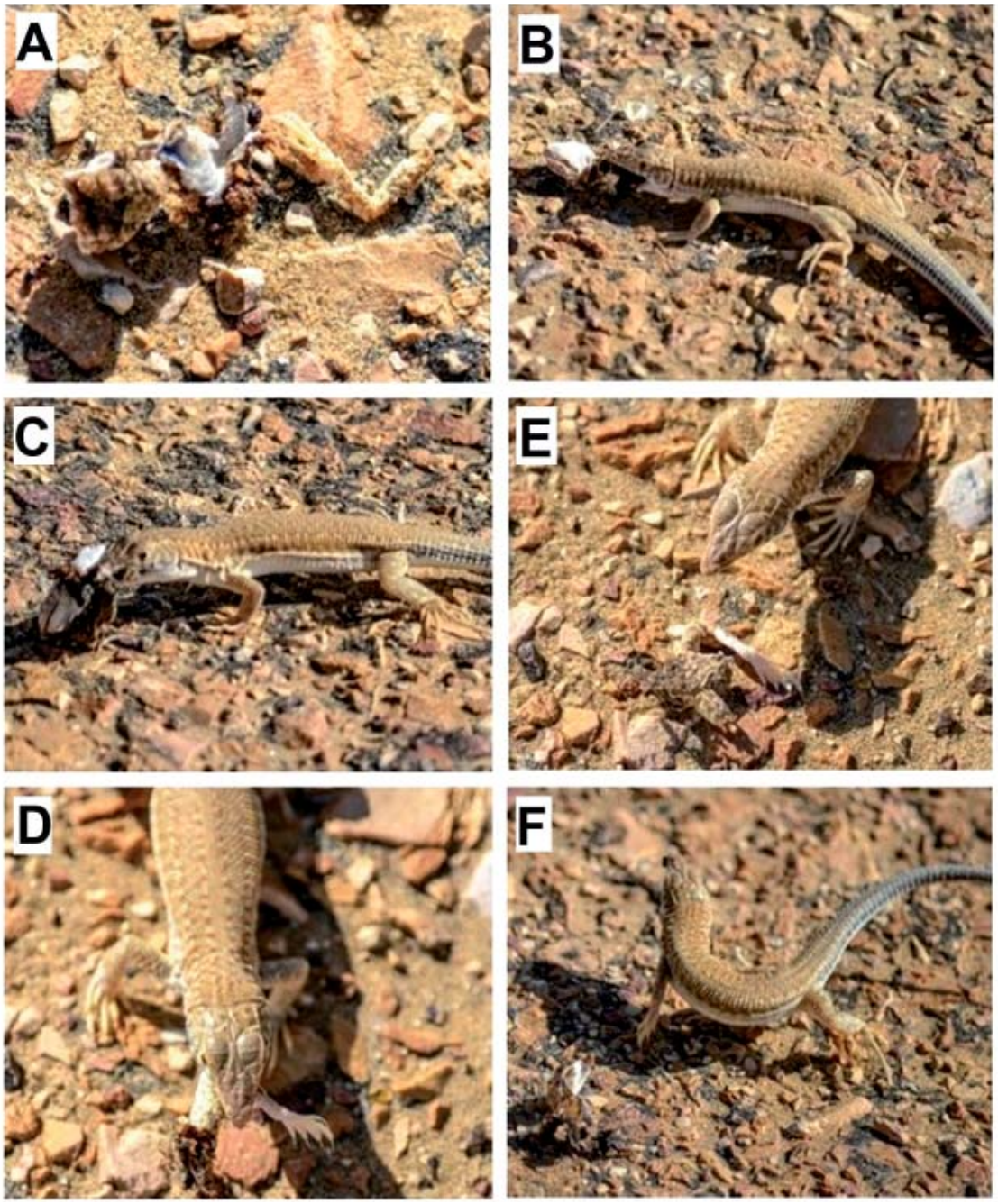

Figure 2. *Acanthodactylus cantoris* feeding on *Bufoniceps laungwalaensis*: **A)** Left out body parts of the dead lizard on ground; **B, C, D)** Devouring of body parts of the dead lizard; **E)** Dropped body parts of the dead lizard during feeding; **F)** Typical body posture after swallowing of prey.

Bufoniceps laungwalaensis appeared to be freshly died as the body parts were neither decomposed nor dried. In the entire event two things remained a mystery to us, i.e., the dead lizard devoured by *A. cantoris* was found in pieces and the actuality that the lizards do not take their food tearing into pieces, rather swallow the food as a whole; and the spot where the event took place was gravelly, sandy, interdunal area that *B. laungwalaensis* does not inhabit.

The incidence reported here is an evidence of interspecific feeding behaviour that is not uncommon among lizards (Polis and Myers, 1989; Kannan and Krishnaraj, 1998; Gerber and Echternacht, 2000; Simović and Marković, 2013). The 'optimal foraging

theory' predicts that flexibility in feeding behaviour allows species to survive in harsh environments like deserts where food resources may be scarce and unpredictable (Barrette et al., 2010). However, we noted the presence of a good number of ants at the spot where *A. cantoris* fed on *B. laungwalaensis* which supports the fact that *A. cantoris* is opportunistic and shows food preference as reported by Pardeshi et al., (2009). Since the body of the prey was tore out and the pieces were not too large to cause any processing constraints to the predator, this unusual feeding behaviour of *A. cantoris* is in accordance with the 'prey-size threshold rule' (Barnard and Brown, 1981; Hirvonen and Ranta, 1996).

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