The raptors and the agamid

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A posting to the desert for an army-man is not unusual and I got my chance to serve in this terrain in mid 2004, at Jaipur, after more than 20 years of service; on all previous occasions as a junior officer, I had passed through fleetingly with hardly a chance to notice or experience anything. Now a Commanding Officer, I eagerly anticipated getting a good look at the landscape and its wildlife.

At the first opportunity I wandered off into the desert in a Gypsy 4WD. Driving eastward along the NH from Jaisalmer towards Jodhpur, I saw an obscure desert track and turned onto it, speeding on the sandy track across the country, towards the beckoning dunes. On each side were wide-open spaces punctuated by the occasional *khejri* tree *Prosopis cinerarea*. A cross-breeze trickled sand across the track and shadows grew long as the sun paused over dunes. A small desert fox *Vulpes vulpes pusilla* with a bushy, white-tipped tail (Menon 2003) ran away from the vehicle.

All of a sudden, a large lizard zipped across the road, a few metres ahead of me, and dived into the sand. Before I could apply the brakes, the lizard was gone. I could not register what exactly had happened, even though it happened again and yet again. Lizards zoomed past, left and right. I was driving across a lizard colony like a German panzer division across the Russian steppe. In the fading light, the impression that stood out fleetingly was that of a thick tail with black and white rings.

A few days later, I ventured across the same path at mid-morning. I soon came across the colony of dust-brown lizards. Stopping the vehicle and getting out scared them away, so I resorted to driving up as close as I could and using binoculars. I looked hard and long at a large, snub-headed lizard with a ringed tail. I had finally met up with *Uromastyx hardwickii* Gray, 1827, Hardwicke's spiny-tailed lizard or '*sanda*' as it is called in Hindi (Daniel 1983).

These lizards belong to the family Agamidae and are the only species of *Uromastyx* to be found in India—most of their relatives being North African or West Asian—with stubby legs holding a less-than-half-a-metre long cylindrical body barely off the sand, these vegetarian agamids hold up their large rounded heads, with flat snouts, smartly as they alertly look ahead. The slightest alarm sends them zipping off into their burrows in the sand. Their most interesting aspect is the tail. It has blue-gray spines arranged in whorls along its length, decreasing in size towards the tip, which is a pale or earthy yellow in colour.

Clement Francis

Fig. 1. Spiny-tailed Lizard *Uromastyx hardwickii*.

Ashwin Baindur

Laggar Falcon *Falco jugger* feeds on a Spiny-tailed Lizard *Uromastyx hardwickii*.

The *Uromastyx* is one of the few lizards utilised by man. In North Africa, it is considered '*dhaab*' or fish of the desert and relished by Islamic nomad tribes (Grzimek 2003). In India too, these lizards are caught for their meat, about which Malcolm Smith (1935) says, '…with certain castes of Hindoos it is a regular article of diet…the meat is said to be excellent and white like chicken… the head and feet are not eaten, but the tail is considered a great delicacy…the fat of the body is boiled down and the resulting oil is used as an embrocation and also as a cure for impotence.'

Uromastix hardwickii repesents the southern and eastern limit of the extent of the Indo-African reptile fauna (Günther 1864). Interestingly, the lizard is named after a fellow-soldier, Major General Thomas Hardwicke, who is considered the first colossus of Indian natural history. He arrived at Fort William in 1778 as an artillery cadet in the Bengal Presidency Army, fought in the Rohilla and Mysore wars and was commended for gallantry on the battlefield. By 1809, he rose to command the Bengal Presidency Artillery. His span of duty and area of natural history study lay mostly in what is today Orissa, Jharkhand, Bihar, Uttar Pradesh, Bengal, Assam and Bangladesh (Singh 2006).

I visited the lizard colony often—initially, I thought them ugly but soon found that they looked very good to my eyes. They were always basking in the sun. I spent a couple of hours one day trying to observe them feeding. I hoped to see them nibbling on the '*siniya*' shrubs *Crotalaria burhia* or tufts of '*buadi*' *Aerva pseudotomentosa* (?) that dotted the landscape around them. A few *Prosopis* of the native variety, whose beans they are reported to eat (Daniel 1983), were present within a few metres of the colony. The colony itself was on a flat, firm gap between eroded sand dunes, which had been stabilised by vegetation, barely two meters high. The desert track meandered along this flat for a 100 m or so, which constituted the diameter of the colony.

Ashwin Baindur

Debris below Tawny Eagle *Aquila rapax* perch: bones, old pellets and an *Uromastyx* tail.

One day, my son and I had the rare privilege of observing a predator catching its prey. A few lizards basked outside their burrows while the rest were inside. All at once and apparently from nowhere, a brown raptor swooped straight down, with trailing wings and extended talons. Before the hapless lizards could gain shelter, it had caught a small agama. In the wink of an eye, the rest of the lizards were out of sight. The raptor's sharp claws soon ended a few seconds of struggle. It remained on the sand about 60 m away, feeding ravenously. It was unaware of its audience, since its back was towards us, and I was forced to edge onto the dune and outflank it from the east. On reaching a vantage point, I had a good look at it through the binoculars. It fed hungrily for a good 15 min.

It was a dark brown falcon, with prominent moustaches and a white chest. Its thighs were dark-brown and it had a brown crown. Grimmett & Inskipp (2001), a book that I find handy, despite their pesky habit of renaming Indian birds, told me that it was a Laggar Falcon *Falco jugger*. I later had the identification reconfirmed through the kind courtesy of a member of India-nature-pix.

In about 20 min, the falcon had eaten the lizard. I could hardly see any remains. Angling to get a better view, I alerted it. After a moment or two, it flew off. I walked up to the kill, but had a hard time locating the forlorn grey tail, which was all that remained.

I visited the colony often, hoping to see more signs of predation. Since the local foxes are largely nocturnal, I had not had an opportunity to observe their feeding behaviour. I suspected that these lizards, and the many small rodents that poked their heads out after dark, formed part of their diet.

For a few months, nothing interesting happened during my field trips. Then in mid-summer, I chanced to go south of Jaisalmer. It was a windy day. The sand blew steadily, forming a constant desert haze. I found a small colony of *Uromastyx* next to the road. To my surprise, this time there was a raptor nearby. It was a large, brown, heavy-set Tawny Eagle *Aquila rapax* perched on a desiccated '*rohida*' tree *Tecomella undulata*. The lizards and eagle appeared to be oblivious of each other and seemingly intent only on braving out the scouring sandstorm. The swirling sand inhibited the use of binoculars so I walked up to the tree, upon which the raptor took off into the brown swirls. Numerous white streaks on the bole and branches told me that it was a favourite perch. I sifted the litter at the base of the tree in the hope of getting pellets but found something else—desiccated spiny-tail fragments and a few bones. This seemed to indicate that the Tawny Eagle was a likely predator of *Uromastyx*.

The Tawny Eagle was one of my constant objectives in the field—a strong and agile bird of prey—it was the predominant avian desert raptor. During a drive on 11th June 2006, along what I call 'Eagle Alley', a 10 km stretch of road between Pokharan and Khetolai, I counted 12 Tawny Eagles perched on wires, masters of all they surveyed.

A few days later, I returned to Eagle Alley to see a handsome Tawny Eagle, a beautiful near-orange-fawn in colour, sitting on a concrete fence picket near Chacha Odhaniya railway station. It looked at me very distastefully and proceeded to express its opinion of me by being violently sick! It then flew off without a backward glance. I suspected that it had just ejected a pellet and scrambled across barbed wire and thorn to get at it. I was gratified to find a sticky yellow-white pellet with spines of *Uromastyx* clearly visible. I photographed the pellet, delicately maneuvered it into a polythene bag and brought it home; but alas some over zealous house cleaning left me with no chance to dissect it.

Lydekker (1895) states about the Saker Falcon *F. cherrug* that, 'In the Harriana Desert of India these falcons feed largely on a spiny lizard of the genus *Uromastix*.'

Ashwin Baindur

Fig. 3. Tawny Eagle *Aquila rapax*.

The Saker Falcon is, of course, a winter visitor to the Indian Subcontinent, while the Tawny Eagle and the Laggar Falcon are residents. The Spiny-tailed lizard, being locally common in patches, is probably a significant food source for these birds of prey of the Indian Desert.

Soon after, my unit moved out from Rajasthan and I saw my last Spiny-tailed lizards on a stormy July evening braving the sand sitting close to their shelters. Nearby somewhere, I was sure, were Tawny Eagles, girding themselves against the gritty dust storm, which brought my tryst with the desert to an end. Our special train chugged out of Lathi at nightfall and I left the desert and all its mysteries behind me yet again.

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