



OBSERVATIONS ON BENGAL MONITOR LIZARD, *VARANUS BENGHALENSIS* IN ITANAGAR, ARUNACHAL PRADESH, INDIA: A REPORT

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Abstract: Bengal Monitor Lizard, *Varanus benghalensis*, occurs on places, which are far from human settlements but in the present study, its presence was reported for the first time at three different public places in Itanagar, Papum Pare district, Arunachal Pradesh, the eastern Himalayan region. The sites of observation are parts of or adjacent to the Itanagar Wildlife Sanctuary, a global biodiversity hotspot of India. The size of the individuals observed was not large enough to attack any livestock. Moreover, conservation imbibed traditions among most local people suggested tolerance and offered a positive scenario for the survival of the species. However, the conservation of this 'Near Threatened' species seems necessary for the larger interest of biodiversity and humanity

Keywords: Biodiversity, Conservation, Ganga Lake, Hatha Jodi, Senki River, Threatened.

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INTRODUCTION

Reptiles are cold blooded or poikilotherms, first exclusively terrestrial vertebrates with crawling or creeping mode of locomotion. In general, the class Reptilia includes four orders of living animals viz. Chelonia (turtle and tortoise), Rhynchocephalia (tuatara), Squamata (lizards and snakes) and Crocodilia (crocodiles). They are the first amniotes of the earth (Verma, 2017; Verma and Prakash, 2020). Monitor lizards of the family Varanidae represent a monophyletic group and are classified under a single genus *Varanus* (Zheng and Wiens, 2016). The varanid monitors are highly diversified and show remarkable

differences in their body colour, size, tail morphology, habits and habitats and are represented by a total of about 80 species from all over the world (Uetz *et al.*, 2020). The varanids are distributed in India and are represented by Desert monitor lizard, *Varanus griseus* (Mertens 1954), Yellow monitor lizard, *V. flavescens* (Hardwicke and Gray, 1827), Bengal Monitor Lizard, *V. benghalensis* (Daudin, 1802) and Water monitor, *V. salvator* (Laurenti, 1768).

The Bengal monitor lizard (Fig.1 and 2) also called common Indian monitor, is widely distributed in the Indian subcontinent, as well as



parts of Southeast Asia and West Asia compared to other varanids ranging from South eastern Iran, Afghanistan, Pakistan, India, Nepal, Bangladesh and Myanmar (Wolfgang, 2003; Koch *et al.*, 2013).

Bengal monitors are carnivores and scavengers. It is large and primarily a terrestrial animal with a length ranges from about 61 to 175 cm (24 to 69 in) from the tip of the snout to the end of the tail. These solitary lizards inhabit variety of habitats including grassland, forests, plantation gardens. Their typical diet consists of beetles, grubs, orthopterans, scorpions, snails, ants, and other invertebrates. They may also feed on frogs, fish, lizards, snakes, rodents and ground birds (Walter, 1994).

Young monitors may be more arboreal. Younger Bengal monitors are preyed upon by a variety of predators, despite the fact that adults have few



Fig. 1: *V. benghalensis* spotted basking on a rock behind APRC office.

MATERIALS AND METHODS

The present sightings are from three sites *viz.*, Senki Valley (27.0805017 N; 93.5978489 E) (Arunachal Pradesh Regional Centre (APRC)-Zoological Survey of India Office, APRC-ZSI residential quarters), Rajiv Gandhi University (RGU), Rono Hills Doimukh (27.1499677 N, 93.7672772 E) and Ganga Lake or Geker Sinying (27.0752286 N, 93.564818 E) of Papum Pare district. The district has mountainous terrain with numerous streams and rivers. The winter (December-February) is followed by the pre-monsoon (marked by thunderstorm till May), south-west monsoon (June to September) and

predators other than humans, who kill them for food. In southern India as well in North eastern India particularly Assam and Arunachal Pradesh, the monitor lizards are traditionally used for treating haemorrhoids, rheumatic pain, body pain and burns, skin infections, and its oil is used as an aphrodisiac lubricant, whereas the bile extracts are used in treating spider and snake bites (Kumar *et al.*, 2021). *Varanus benghalensis* is used in traditional medicine practices in India especially in the North eastern states (Das, 1989; Chinlapianga *et al.*, 2013, Bhupathy *et al.*, 2013; Shreyasi and Jaydip, 2020).

The present short communication is in fact a report on *Varanus benghalensis* about their existence and presence on public places at three different sites in Itanagar, Papum Pare district, Arunachal Pradesh located at the eastern Himalayan region.

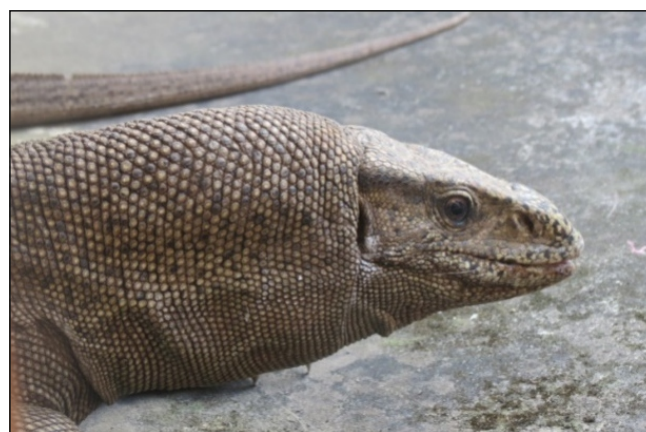


Fig. 2: *V. benghalensis* adult captured and released in RGU campus.

post monsoon (October to November). The foothill region comprises of strips of plain land covered by dense forests. It is considerably hot in the summer and high humidity.

The present observations are random and opportunistic when the Bengal monitor was encountered or observed basking in the sites mentioned. The study is carried in the year 2017. Taxonomic identification of *Varanus* spp. was carried out in the field as per manuals of Daniel (2002). The individual lizards were photographed using Nikon-D7100.

RESULTS AND DISCUSSION

Authors saw an individual Bengal monitor basking in the Senki valley adjacent to the Senki River, on a rock behind on 4th June 2017; it remained there so for around twenty minutes and slipped into the mini-forest dominated by bamboo thickets. A spotted monitor lizard was observed on the APRC residential quarters next to the main gate entrance. It was seen projecting out from a nest hole and retreating on approach of residents or domestic canines. A massive adult spotted Bengal monitor was seen on 18th September 2017 in the Department of Zoology, RGU campus, which was captured carefully with metal wires and gunny bag that was later released safely into the adjoining vegetated area. Another spotted individual of monitor lizard was seen on 10th June 2017 adjacent to the steps leading to the Ganga Lake, a tourist spot. It is a rare case of occurrence, as the species prefers undisturbed places far from human settlements. The presence of the mini-forest and vegetation of the banks of the river could have facilitated their occurrence. Mothilal *et al.* (2016) have reported sighting of the species in RGU vicinity.

Studies on behaviour and time budgets can provide impetus to assess the behavioural pattern of the species in the study sites with human inhabitants and if it warrants any conservative measures (Rahman *et al.*, 2015). The main threat to Bengal monitors is hunting. They are hunted for skin, meat, and sometimes because of fear. The fat of Bengal monitors is also used in traditional medicine. Also, the genitalia of these species are illegally traded as alleged plant roots known as 'Hatha Jodi' in Ayurveda medicine. However, capturing or poaching the aforesaid species is illegal as it is listed in the Schedule I of the Indian Wildlife Protection Act, 1972. Mass awareness may help to restrict the illegal exploitation of these monitor lizards (Shreya and Koch, 2018).

The present short communication is the outcome of authors' observation from three different public places in Itanagar, Papum Pare district, Arunachal Pradesh from where the Bengal monitors were seen. The sites studied herein with human activities may raise concerns about the

potential for human-lizard conflict but the size of the individuals are not large enough to attack any livestock. In general, anthropogenic activities create biodiversity threats (Prakash and Verma, 2022) but conservation imbibed traditions among local people imparted a positive sign for the survival of the species studied.

The Bengal monitor lizard was initially listed as 'Least Concern' due to almost constant population but as per latest IUCN Red List of Threatened Species (2021), it is now 'Near Threatened' because of its population is decreasing day by day. It is therefore an urgent need to initiate an effective measure to conserve the species studied for the larger interest of ecological balance and humanity because biodiversity and ecological balance both are necessary for human survival and sustainable development (Verma, 2018; Ashok, 2019). Authors strongly recommend for a systematic study about distribution, population dynamics and other aspects of *Varanus benghalensis* and to formulate a practical approach for its conservation.

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