

# A survey of the amphibian fauna of Nagpur, Maharashtra

D. B. Sawarkar<sup>1</sup> & Raju Kasambe<sup>\*\*</sup>

<sup>1</sup>Department of Biology,  
Dharampeth M. P. Deo Science College,  
Nagpur- 40033, Maharashtra  
E-mail: dilipsawarkar@urinarybladder.com

**\*Corresponding author:**

64, Vidya Vihar Colony,  
Pratap Nagar, Nagpur-440022, Maharashtra  
E-mail: kasambe.raju@gmail.com

The authors did a survey of the amphibian fauna of Nagpur city and surrounding areas in the radius of 25 kilometers in the monsoons of 2005, 2006 and 2007. The geographical location of Nagpur city is 21<sup>00</sup>6' N and 79<sup>00</sup>3' E. The altitude above sea level is 300 metres. D'Abreu (D'Abreu, 1934), the then curator of the Central Museum, Nagpur did a comprehensive survey of the amphibian fauna of Nagpur in general and the Central Provinces (now called Madhya Pradesh and Vidarbha part of Maharashtra) in particular. All the species of amphibians reported by D'Abreu except *Rana malabarica* and *Bufo stomaticus* were found to still occur in the study area during the present survey.

Existing literature related to amphibians confined to the geographical limits of Nagpur was studied. A survey of various habitats was carried out during 2005, 2006 and 2007 for the study of the amphibian fauna of Nagpur. Three breeding seasons were monitored. Amphibians were also observed during the pre and post monsoon months. The amphibians were collected from different ecological habitats like, lakes, tanks, canals, bushes and trees, muddy drains, under fallen leaves, moist ground, gardens and human dwellings. The specimens were collected and identified in the laboratory with the help of available literature (Daniel & Sekar, 1989; Farmer & Shilpey 1968). All the specimens were deposited in the Department of biology (Zoology) laboratory, Dharampeth M.P. Deo Science College, Nagpur (Maharashtra).

## 1. *Bufo melanostictus* Schneider

### Common Indian Toad:

It is most common toad available in Nagpur and environs. It is nocturnal in habit and generally found in gardens and on roadsides while preying on various invertebrates. This toad is mainly terrestrial and found in and near water only during the breeding season. Except the breeding season the adults are found in burrows.

This toad is the commonest among Indian amphibian species and also the amphibian most likely to be seen (Daniel, 2002). Also it was found to be the most common amphibian found near human habitation throughout Nagpur. It is nocturnal. It is generally found feeding on insects under the streetlight. Snout-vent length is 10 to 160 mm. Head breadth is more than the length and it has a rounded snout. The nostrils are nearer to the tip of the snout than to the eyes. Tympanum is distinct, approximately two third of the diameter of the eye. Parotid glands are kidney shaped. Toes are half webbed. At least 6 individuals were seen in a damp place in a survey plot of 10X10 metres.

## 2. *Bufo stomaticus* Lutken

### Marbled Toad:

This species was reported by D'Abreu (1934) from Nagpur. However, the authors could not locate *B. stomaticus* during this study. It is considered to be rare, nocturnal, terrestrial toad and found in or near water during the breeding season (April to September). It is rarely seen because of its nocturnal habits (Annandale, 1909).

### 3. *Rana cyanophlyctis* Schneider

#### **Skipping Frog:**

It is one of the commonest frogs of order *anura* group recorded from Nagpur. It is found floating in most of the ponds, ditches and other water bodies in and around Nagpur. It was found to be common near the lakes and streams. It is smaller in size; snout-vent length is 18 to 70mm. During breeding seasons, the vocal sacs of males appear bluish. It is found throughout the year. Tip of the toes are swollen and rounded, skin on dorsal side is warty; the dorsal skin colour is overall grayish or brown black.

### 4. *Rana hexadactyla* Lesson

#### **Pond Frog:**

This frog is generally found floating in the ponds with floating vegetation. However, these were found on the land during the night, when presumably they search for food. It was found throughout the study area. The snout-vent length is 20 to 140 mm. It has a circular tympanum and the toes are fully webbed.

### 5. *Rana tigerina* Daudin

#### **Indian Bull Frog:**

It is the most common and widely distributed frog species. It was found in all the habitats. It is large sized, female is larger than the male. Dorsally it has yellowish olive-green skin, with dark markings or spots. A narrow light yellow vertebral streak extends from snout to vent. Limbs are with large spots, cross-bands. Ventrally the skin is smooth and whitish. Snout is obtusely pointed; head is somewhat depressed, has a distinct tympanum, which is equal or slightly smaller than the diameter of the eye. First finger is longer than the second, tibia-tarsal articulation reaches up to eye or between eye and nostril. Toes are entirely webbed. Snout-vent length is 15 to 178mm. During breeding season the pair of external vocal sacs and the nuptial pad becomes conspicuous. During this period the males attain gaudy parrot green colour. For rest of the year the males are duller brownish.

This is a giant edible frog. It is generally found while resting inside the bushes grown on the banks of water bodies, where it retreats immediately even on a slightest disturbance. These frogs hide inside the burrows and under leaf litter to protect their moist skin. This species is more active at night, though it is also found in day-time.

### 5. *Rana breviceps* Schneider

#### **Indian Borrowing Frog:**

It is a burrowing frog. It was found only once in soft soil near the Sakkardara tank in Nagpur city, in October 2005. It is a small frog and the snout-vent length measures 16 to 28 mm. It is seen rarely, as most of the time it prefers to remain under the soil or mud. For digging, it has a strong shovel shaped metatarsal tubercle.

### 7. *Rana malabarica* Tshudi

#### **Fungoid Frog:**

This species was first reported by D'Abreu (1934) to occur in Nagpur. The authors could not find this species during the study period.

### 8. *Rana limnocharis* Wiegman

#### **Indian Cricket Frog:**

It is not a good swimmer due to poor webbing of the hind limbs. It was found in green patches near most of the water bodies, like Nag-river, Pili River etc. It is a small sized, terrestrial frog; snout-vent length is 14 to 65 mm. Snout is rounded or slightly pointed. Tympanum is distinct, smaller than the diameter of the eyes. Fingers are somewhat pointed; first finger is longer than the second one. Toes are webbed up to the half. Dorsal skin colour is grayish or brownish with a slight reddish tinge and dark greenish black spots. A V-shaped

band is present between the two eyes. An anterior incomplete narrow, yellowish vertebral streak is present.

### **9. *Polypedatus (Rhacophorus) maculatus* Gray**

#### **Common Tree Frog:**

It is most widely distributed, but it is found in small numbers, that too in fragmented, dry grass-lands, gardens and even in bathrooms of human dwellings. It prefers the moist and dark atmosphere of the bathroom and also is found to rest inside thick leaves of plants. Two specimens were collected from below streetlights in monsoon at midnight. It is nocturnal in habit. Snout to vent length is 20 to 58 mm. *P. maculatus* was observed throughout the year. Surprisingly it was found in city gardens even in the month of May when the temperature was as high as 44°C to 45°C.

### **10. *Microhyla ornata* Dumeril & Bibron**

#### **Ornate Microhylid:**

It is one of smallest of Indian amphibians (Daniel, 2002). It was found to occur in habitats like in small grasses near water and under the leaf litter in cultivation. It was found at Wena reservoir, Undri-Mangli reservoir, Ambazari reservoir and in the farm of Panjabrao Krishi Vidyapeeth (PKV) near Telangkhedi reservoir. It was found to occur in considerably good numbers at all the sites surveyed. In the PKV farm four specimens were collected in survey plot of 10X10 meters. It is quite active during nights and feeds on small insects as well as ants. Dorsally it is grayish brown; ventrally it is uniformly white. Snout-vent length is 10 to 32 mm. Tympanum is not distinct. Toes are with rudimentary web.

In the report of D'Abreu (1934) 5 species of genus *Rana* were reported, out of which *Rana malabarica*, could not be found by the authors. Out of the two *Bufo* species reported earlier, the authors could not find *B. stomaticus*. The only tree frog, *Polypedatus maculatus* (= *Rhacophorus maculatus*), reported by D'Abreu (1934) is a questionable species showing various colours of the dorsum. The population of *Rana* species is declining, toads are seen in good numbers near human habitation. *Microhyla ornata* is rarely seen near human habitation. This may be due to loss of vegetation, urbanization and rapid destruction of suitable habitats.

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