

18. Checklist of Amphibian Fauna of the Chakrashila Wildlife Sanctuary of Kokrajhar District, Assam, India

Kundan Rabi Das, Jwngma Narzary

Department of Zoology,
Science College, Kokrajhar, Assam.

Abstract:

The North East India is the only region of the country from where all the three living orders of Amphibia have been recorded. The present investigation was planned within the geographical boundary of the Chakrashila Wildlife sanctuary (26o15/ - 26o26/N, 90o15/ - 90o20/E) of Kokrajhar district of Assam, India so that some of the unexplored habitats could be surveyed. In the present study, 16 Anuran species of five families were recorded. These were Duttaphrynus melanostictus, Microhyla ornata, Microhyla heymonsi, Microhyla rubra, Uperodon globulosus, Uperodon taprobanicus, Fejervarya nepalensis, Fejervarya pierrei, Fejervarya taraiensis, Euphlyctis cyanophlyctis, Euphlyctis hexadactylus, Hoplobatrachus tigerinus, Hylarana humeralis, Hylarana leptoglossa, Hylarana taipéhensis and Polypedates taraiensis.

Keywords:

Amphibia, Anura, Chakrashila, Kokrajhar, Assam

18.1 Introduction:

The North East India is the only region of the country from where all the three living orders of Amphibia have been recorded. In North East India, study of diversity of Amphibian was studied in British India.

A total of 32 amphibians were listed from north-east region in British India (Boulenger, 1890). In 2004, 83 species of amphibia comprising of 78 anurans, 4 gymnophiona and 1 caudata were reported from North east India (Sen, 2004). In 2009, 105 amphibian species were reported from North East India (Ahmed *et. al*, 2009). But many parts of the region have remained unexplored for amphibian fauna.

In recent years, investigations on amphibian species have received considerable attention because many amphibian species were become extinct and many have been going to be extinct and role as indicators of ecosystem deterioration (Wake, 1991; Stuart *et. al*, 2004; Veith *et.al*, 2001). Considering the global concern for rapid decline of the amphibian population, it is essential to record the species time to time from explored/ unexplored areas. In the present study it was planning to survey in an unexplored habitat of the Chakrashila Wildlife Sanctuary of Western Assam. In this study only presence of species was reported.

18.2 Materials & Methods:

18.2.1 Study Area:

The Chakrashila Wildlife sanctuary placed within the geographical boundary of 26°15' - 26°26'N, 90°15' - 90°20'E of Kokrajhar and Dhubri district of Western Assam, India and spread over an area of 45.56 sq. Km. This sanctuary is famous for non-human primate Golden langur (*Trachypithecus geei*). The sanctuary contains mainly hilly terrain and some flood plains. It has many amphibian breeding habitats like water torrents, streams, flood plains, beels etc.

18.2.2 Collection & Identification:

Random surveys were conducted in three locations (Harinaguri, Diplaibeel and Damodarpar) to record the amphibians during breeding seasons. Our survey was done in the month of April to August in 2019. Calls during night time helped to locate the species. Night observations were made wherever possible. Live photographs were taken for identification without harming the species. The specimens were identified with the help of standard literature (Boulenger, 1890; Daniel, 1963a; Daniel, 1963b). The names were updated following the Global amphibian website ([www. Amphibiaweb.org](http://www.Amphibiaweb.org), June 3, 2023).

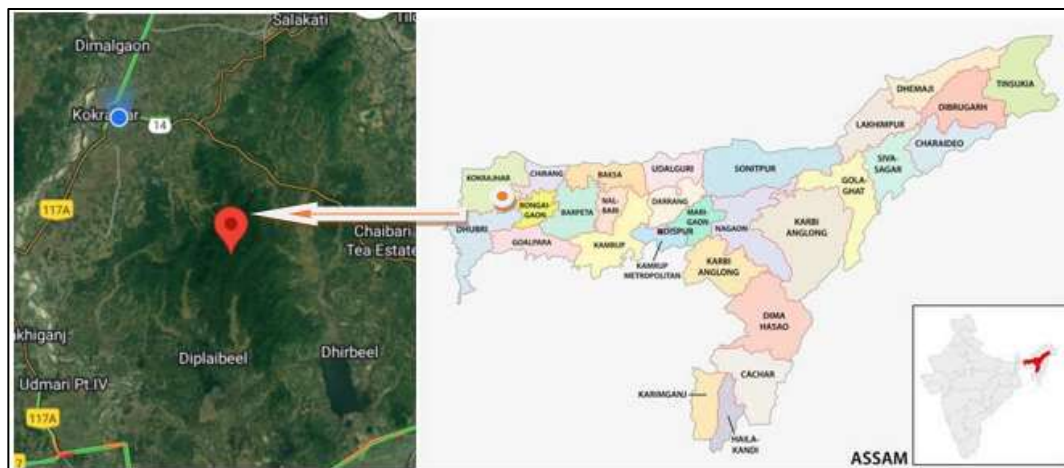


Figure 18.1: Location of Chakrashila Wildlife Sanctuary, Assam

18.3 Result & Discussion:

The diversity of amphibian species is dependent on environmental factors and geographical features of an area because both the factors influence the ecology of a habitat. Many researchers consider amphibian indicator species of environmental change (Molur, 2008; McCallum, 2007). Therefore, amphibian fauna recorded from the Chakrashila Wildlife Sanctuary of Kokrajhar district, northern bank of river Brahmaputra of western Assam assumes some significance as the study.

A study was conducted on Amphibian species of Bongaigaon district, situated in the northwestern part of Assam and found 12 amphibian species belonging to five families (Chetia *et. al*, 2014).

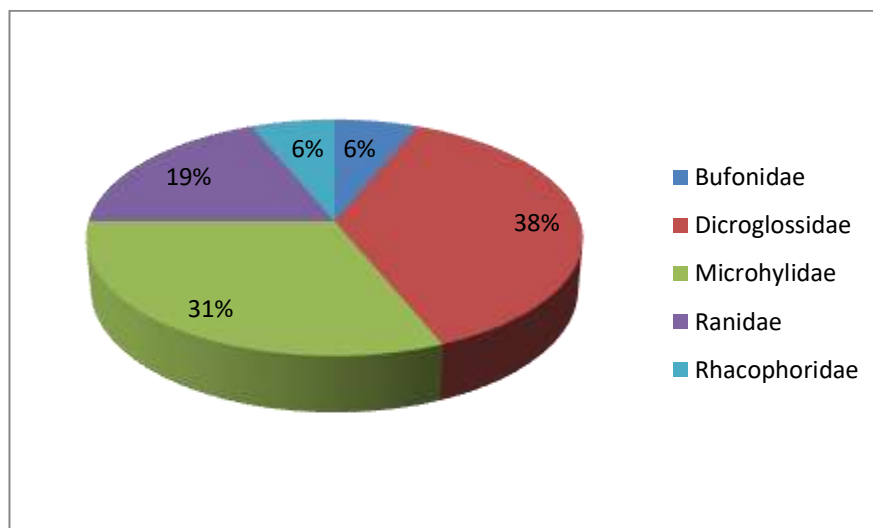


Figure 18.2: Amphibian species composition of Chakrashila Wildlife Sanctuary.

Table 18.1: List of amphibian species recorded from three location of Chakrashila Wildlife Sanctuary and their IUCN status (+ for recorded, - for not recorded from the location).

Family/species	Harinaguri	Diplai beel	Damodarpur	IUCN status (2023)
Bufonidae				
<i>Duttaphrynus melanostictus</i> (Schneider,1799)	+	+	+	LC
Dicoglossidae				
<i>Euphlyctis cyanophlyctis</i> (Schneider, 1799)	+	+	+	LC
<i>Euphlyctis hexadactylus</i> (Lesson, 1834)	-	-	+	LC
<i>Fejervarya nepalensis</i> (Dubois, 1984)	+	+	+	LC
<i>Fejervarya pierrei</i> (Dubois, 1984)	+	-	-	LC
<i>Fejervarya taraiensis</i> (Dubois, 1984)	+	+	+	LC
<i>Haplobatrachus tigerinus</i> (Daudin, 1803)	+	+	+	LC
Microhylidae				

Family/species	Harinaguri	Diplai beel	Damodarpur	IUCN status (2023)
<i>Microhyla ornata</i> (Dumeril and Bibron, 1841)	+	+	+	LC
<i>Microhyla rubra</i> (Jerdon, 1853)	+	-	-	LC
<i>Microhyla heymonsi</i> (Vogt, 1911)	-	-	+	LC
<i>Uperodon globulosus</i> (Gunther, 1864)	-	-	+	LC
<i>Uperodon taprobanicus</i> (Parker, 1934)	+	+	+	LC
Ranidae				
<i>Hylarana humeralis</i> (Boulenger, 1887)	+	+	-	LC
<i>Hylarana leptoglossa</i> (Cope, 1868)	+	-	-	LC
<i>Hylarana taipehensis</i> (Van Denburgh, 1909)	+	-	-	LC
Rhacophoridae				
<i>Polypedates taraiensis</i> (Dubois, 1987)	+	+	+	LC

The Chakrashila Wildlife sanctuary is one of the unexplored study areas for the amphibian diversity. In the present study, 16 Anuran species of five families were recorded (Table 18.1, Figure 18.2). Some species like *Duttaphrynus melanostictus*, *Microhyla ornata*, *Uperodon taprobanicus*, *Fejervarya nepalensis*, *Fejervarya taraiensis*, *Euphlyctis cyanophlyctis*, *Euphlyctis hexadactylus*, *Hoplobatrachus tigerinus* and *Polypedates taraiensis* were very common and found their population abundant. But some were rarely recorded. All the species recorded from Chakrashila though they are present in the IUCN Red List as Least concerned category but are important for conservation in the region.

18.4 References:

1. Ahmed, M.F., Das, A. and Dutta, S.K. (2009). Amphibians and Reptiles of north east India- A pictorial guide. Aaranyak, Guwahati, India, 170.
2. Boulenger, G.A. (1890). Fauna of British India including Ceylon and Burma. Reptilia and Batrachia, Taylor and Francis, London.
3. Chetia, M., Sharma, D.K. and Sengupta, S. (2014). Amphibian Diversity of Wetlands of Bongaigaon District of Assam with a Note on the Morphometric Characters of *Duttaphrynus melanostictus*. *International Journal of Research studies in Biosciences*, 2(6), 26-32.
4. Daniel, J.C. (1963a). Field guide to the Amphibians of Western India. *Journal of Bombay Natural History Society*, 60, 415-438.
5. Daniel, J.C. (1963b). Field guide to the Amphibians of Western India. *Journal of Bombay Natural History Society*, 60, 690-702.
6. McCallum, M.L. (2007). Amphibian decline or extinction? Current declines dwarf background extinction rate. *Journal of Herpetology*, 41, 483-491.

7. Molur, S. (2008). South Asian amphibians: taxonomy, diversity and conservation status. *International Zoo Year book*, 42(1), 143-157.
8. Sen, N. (2004). Further notes on Statewise distribution of the Amphibian fauna of north east India. *Record Zoological Survey of India*, 102(3- 4), 105- 112.
9. Stuart, S.N., Chanson, J.S., Cox, N.A., Young, B.E., Rodrigues, A.S.L., Fischman, D.L. and Waller, R.W. (2004). Status and trends of amphibian declines and extinction worldwide. *Science*, 306, 1783-1786.
10. Veith, M., Kosuch, J., Ohler A. and Dubois, A. (2001). Systematic of *Fejervarya limnocharis* (Gravenhorst, 1829) (Amphibia, Anura, Ranidae) and related species. 2. Morphological and molecular variation in frogs from the Greater Sunda Islands (Sumatra, Java, Borneo) with the definition of two species. *Alytes*, 19(1), 5-28.
11. Wake, D.B. (1991). Declining amphibian populations. *Science*, 253 (5022), 860. <https://doi.org/10.1126/science.253.5022.860>