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Amphibian Diversity from Patharpunj Area of Sahydri Tiger Reserve (Maharashtra, India)

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Abstract: ***The survey on amphibian diversity was carried out from Patherpunj area of Sahyadri Tiger Reserve (STR) situated in PatanTahsil of Satara district at 17.3035°N and 73.6948° E. This area is of heavy rainfall with over 9000 mm during monsoon of 2019. Patharpunjis situated on top of hill Varana Riverand it constitutes about 963.24 hectares of area. For present study survey of amphibians was carried out during January 2018 to December 2019. The survey is based on intensive search of amphibians on the basis of actual sighting, their calls, turning rocks and their egg clusters (for some species). During study eleven species of amphibians from six families were reported.***

Keywords: Sahyadri Tiger Reserve, Patharpunj, Amphibians, Diversity

1. Introduction

Amphibians are a unique group of vertebrates containing about 8100 known species. A 2004 Global Assessment (Baillie et al. 2004) found that nearly 32% of the world's amphibians are threatened, representing 1856 species. The number of extinct and threatened species will probably continue to rise (Stuart et al. 2004). Amphibians play a major role in ecosystem. The adults are secondary consumers in most of the food chain and are biological pest controller. They are biological indicators and very sensitive; can detect the slight change in environment. According to Cook and Ferguson (1976) severe decline in populations of amphibian have been noted in many parts of the world. In some cases amphibian decline have been observed in areas totally free from any human interference (Lips, 1998; Matton, 2000).In India total 447 amphibian species are present, of which 20 species are critically endangered and 35 species are endangered (Dinesh et al. 2020). Pande and Pathak (2005) and Lavate and Mule (2009) reported five and sixteen species of amphibians Chandoli National Park. Abraham et al. (2013) described several new species and genera of amphibians from the Western Ghats. Four amphibian species was listed by Abdar (2014). The amphibians of Western Ghats are diverse and unique, with more than 80% of the 181 species being endemic to the region (Radhakrishnan and Rajmohana, 2012). New species and genera of amphibians were reported (Biju et al. 2006). There are several species are not yet formally described (Bini et al. 2006). Hence the present study was undertaken to fill up the gap between and make a checklist of amphibian fauna from patharpunj region. At Chandoli National Park, rainfall is spread over five months from June to October with peaks during July and is around 2000-2500 ml/yr. The Chandoli National Park located in the boundary of Sangli, Satara, Ratnagiri and Kolhapur District of state of Maharashtra. It spreads along the crest the Sahyadri range of Northern Western Ghats. The average rainfall is spread over five months from June to October with peaks during July and is around 2000-2500 ml/yr. It contains lakes, perennial streams, grass lands, hill slopes and paddy fields. The high diversity of habitat is responsible for the amphibian diversity.

2. Materials and Methods

The present study was carried out in Patherpunj area of sahyadri tiger reserve located inPatan tehsil of Satara district at 17.3035◦N and 73.6948◦ E. It covers an area about 963.24 hectares. The average rainfall at this region during 2019 over 9000 mm. Patharpunj situated on top of hill, lie in the catchment area of the Varana River. The survey was conducted from January 2018 to December 2019 from this region. The study of various species of amphibians to be noted either on the basis of actual sighting, presence of egg clutches, by their calls along the streams and through patches of forest during day light and early night hours. The checklist had prepared by using photographic record of amphibian species and with the help of available identification keys (Boulenger, 1890). The information regarding habitat will be collected and studied by actual spot visits in the area, and the standard methods of observation and classification were followed with the help of existing literature.

3. Results and Discussion

During survey eleven amphibian species from six families were reported. Of these; five species are endemic to Western Ghats while, one is endangered species. The checklist of Amphibian species from Patharpunjarea is given below. (Table No.1)

Table 1: Checklist of Amphibians from Patharpunj region

Sr. No.	*Name of the Species*	*Common name*	*Fmily*	*IUCN status*
1.	*Duttaphrynusmelanostictus*(Schneider,1799)	Common Indian toad	Bufonidae	LC
2.	*Euphlyctiscyanophyctis*(Schneider,1799)	Indian skittering frog	Dicroglossidae	LC
3.	*Fajervaryasahyadrensis*(Annandale,1919)	Bombay wart frog	Dicroglossidae	LC
4.	*Hoplobatrachustigrinus*(Daudin,1802)	Indian bull frog	Dicroglossidae	LC
5.	*Sphaerothecabreviceps*(Schneider,1799)	Indian burrowing frog	Dicroglossidae	LC
6.	*Uperedonmormorata(Rao,1937)*	Marbled ramnella	Microhylidae	EN
7.	*Clinotarsuscurtipes*(Jerdon, 1853)	Bicoloured frog	Ranidae	NT
8.	*Hydrophylaxbahuvistara* (Padhye, Jadhav, Modak, Nameerand Dahunukar, 2015)	Fungoid frog	Ranidae	LC
9.	*Indosalviranacaesari* (Biju,Garg, Mohoni, Wijayathalika, Senevirathne and meegaskumbura,2014)	Bronzed frog	Ranidae	NT
10.	*Indiranabeddomii* (Gunther,1875)	Beddom's leaping frog	Ranixalidae	LC
11.	*Polypedates maculates* (Gray,1834)	Common indian tree frog	Rhacophoridae	LC

EN: Endangered, LC: Least concerned, NT: Near threatened

The study area contains lakes, streams, river, hill slopes, high rain fall, paddy fields and grasslands. It provides high diversity of habitat which is responsible for diversity of amphibian species. It shows that non endemic species are well adapted to this area. The non-endemic species *Euphlyctiscyanophlyctis and Fejervaryasyhandrensis are abubdent*in this area. This is because of the Patharpunj area has a good environmental conditions for their habitat. From the study area, out of eleven amphibianspecies, six specie are non-endemic and five species are endemic to Western Ghats. Hence the survey will provide the baseline information for conservation of amphibian species and biodiversity studies.

References

[1] **Abdar MR (2014).** Faunal diversity of chandoli national park, Western Ghats, Maharashtra, India. *Bio life journal*, 2(2): 480-485

[2] **Abraham, R.K., R.A. Pyron, B.R. Ansil, A. Zachariah and A. Zachariah (2013).** Two novel genera and one new species of tree frog (Anura: rhacophoridae) highlight cryptic diversity in the Western Ghats of India. *Zootaxa*3640: 177-189.

[3] **Baillie, J.E.M., C. Hilton- Taylor, and S.N. Stuart (2004).** 2004 IUCN Red List of Threatened Species. A *Global Species Assessment.* IUCN, Gland, Switzerland

[4] **Biju, S. D., I.V. Bocxlaer, S. Mahony, K.P. Dinesh, C. Radhakrishnan, A. Zachariah, V. Giri and F. Bossuyt (2011).** A taxonomic review of the night frog genus *NyctibatrachidaeBoulenger*, 1882 in the Western Ghats, India (Anura:Nyctibatrachidae) with description of twelve new species. *Zootaxa*3029: 1-96.

[5] **Bini, L.M., J.A.F. Diniz-Filho, T.F. Rangel, R.P. Bastos and M.P. Pinto (2006).** Challenging wallacean and linnean shortfalls: knowledge gradients and conservation planning in a biodiversity hotspot. *Diversity and distribution* 12: 475-482.

[6] **Boulenger, G.A. (1890).** Fauna of British India including Ceylon and Burma: Reptilia and Batrachia. Taylor and Francis, London.

[7] **Cook, A.S. and P.F. Ferguson (1976).** Changes in the status of the frog *(Ranatemporaria)* and the toad *(Bufobofo)* on part of the East Anglia Fenland in Britain. *Biological conservation* 9: 191-198.

[8] **Dinesh, C Radhakrishnan, B.H. Channakeshavamurthy, P.Deepak and Nirmal U Kulkarni (2020). A checklist of amphibians of India.** Fauna of India, ZSI, Kolkata, India.

[9] **Lawate DV and Mule MB (2009).** Herpatofauna of Chandoli National Park of Western Ghats of Maharashtra. *Journal of Environmental Science*, Vol.2:33-36

[10] **Lips, K.R. (1998).** Declines of a tropical Montana amphibian fauna. *Conservation biology* 12(1): 106-117.

[11] **Matton, A.(2000).** Amphibia fading. *World-Watch July/August* 2000: 12-23.

[12] **More SB (2015).** Amphibian diversity from sangali district (MS, India). *World Journal of Pharmaceutical Sciences.*3 (4):729-731

[13] **Pande P and Pathak N. (2005).** National park and sanctuaries in Maharashtra. *Reference guide, vol-II*

[14] **Radhakrishnan, C. and K. Rajmohana(2012).** Fauna of ecosystem of India- Western Ghats. ZSI, Kolkata, India, pp. 14

[15] **Stuart, S.N., J.S. Chanson, N.A. Cox, Young, B.E., Rodrigues, A.S.L., Fischman, D.L. and Waller, R.W. (2004).).** Status and trends of amphibian declines and extinctions worldwide. *Science* 306: 1783-1786.