

NOTES ON SOME AMPHIBIAN COLLECTIONS FROM
TRIPURA, INDIA

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INTRODUCTION

Amphibian fauna of India has acquired importance as some frogs are earning foreign exchange through the export of their meat, some are beneficial to agriculture and some are on the verge of extinction. Considering all these points, studies on the amphibian fauna of Tripura have been made, as no information on this particular group is available from this area excepting the mere record of three anuran species, namely, *Rana cyanophlyctis*, *Rana tigrina* and *Bufo melanostictus* by Menon (1975). In this connection, amphibians collected by various survey parties of the Zoological Survey of India during 1969, 1971 and 1974 have been studied in detail, and as a result of which 39 examples belonging to four families and five species have been determined. However, altogether six species of amphibians are recorded in this paper. All of these except one species, *Rana tigrina*, are represented in our collection. Three species, namely *Rana limnocharis*, *Rhacophorus leucomystax* and *Microhyla ornata*, are recorded for the first time from Tripura.

Physiogeographically Tripura is situated in the eastern part of the Indian Union and lies between latitudes 22°56'-24°32' N and longitudes 91°12'—92°22' E. Five major ranges of hills, running from north-west to south-east and alternating with marshy valleys are spread over the State. They are : Jampai, Sakhantlang, Langtharai, Atharamura and Deotamura. Rivers like Abhoya, Khowai, Deo, Gomti, Manu, etc. pass through the territory. Evergreen, semi-evergreen and moist deciduous forests are found in the State. Bamboo is of common occurrence throughout the State. State Forest Department has raised a secondary plantation of Sāl and Teak in different areas of the State. Short accounts of the collecting localities are given below.

1. *Agartala* : It is the capital town of Tripura, connected by a metalled road with the nearest rail-head at Dharmanagar situated c. 205

km. to the east. The town is adjacent to Bangladesh and situated in the western part of the territory. It lies on latitude $23^{\circ}50'$ N and longitude $91^{\circ}23'$ E.

2. *Charilam* : It is a village situated on Agartala-Udaipur Highway, c. 25 km. south of Agartala Bus Stand. It lies on latitude $23^{\circ}42'$ N and longitude $91^{\circ}25'$ E. It is a reserve forest area. The vegetation of the area consists mainly of Sāl, Teak, Euclyptus, etc. The area is somewhat hilly and rice and jute are mainly cultivated.

3. *Garjee* : It is a small village situated on the Udaipur-Belonia Highway, c. 65 km. south of Agartala. It lies on latitude $23^{\circ}18'$ N and longitude $91^{\circ}31'$ E. The vegetation in the forest area consists of Sāl, Teak, Banyan, Bamboo, etc. Rice and jute are the main agricultural products of the area. The water supply in the area is through wells and ponds, the latter being generally used for extracting the jute fibres.

4. *Abhoya* : It is a small village situated c. 8 km. north-west of Belonia. It lies on latitude $23^{\circ}17'$ N and longitude $91^{\circ}30'$ E. A river named 'Abhoya' runs through the area. It is mainly a rice cultivated area.

5. *Ampi* : It is also a small village situated on the Teliamura-Amarpur road, c. 25 km. south of Teliamura. It lies on latitude $23^{\circ}40'$ N and longitude $91^{\circ}35'$ E. A seasonal rivulet named 'Dhanlakha' passes through its eastern border, the bottom of which is sandy and muddy. The main source of water supply in the area is from this rivulet and wells. It is a sub-hilly terrain having patches of paddy-fields and mixed forest of bamboo and secondary growth of Sāl trees.

6. *Teliamura* : It is a town situated on the bank of Khowai river, c. 45 km. east of Agartala. It lies on latitude $23^{\circ}50'$ N and longitude $91^{\circ}35'$ E. The river is perennial and the depth of water in January-February is only about one metre. The forest nearby is mainly consisting of secondarily raised Sāl plantation.

7. *Ambassa* : It is a small town situated on the Agartala-Dharmnagar road, c. 42 km. east of Teliamura. It lies on latitude $23^{\circ}55'$ N and longitude $91^{\circ}50'$ E. The forest nearby is mainly consisting of Sāl trees and Bamboo bushes.

8. *Kanchanpur* : It is a sub-divisional town situated on the bank of Deo river. It lies approximately on latitude $24^{\circ}04'$ N and longitude $92^{\circ}12'$ E. The town is surrounded on all sides by forests consisting mainly of plantations of Sāl and Bamboo,

SYSTEMATIC ACCOUNT

Class AMPHIBIA

Order ANURA

Family RANIDAE

1. *Rana cyanophlyctis* Schneider

(Skipping Frog)

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.* **I**, p. 137.1920. *Rana cyanophlyctis* Schneider, Boulenger, *Rec. Indian Mus.*, **20** : 12-15.1975. *Rana cyanophlyctis* Schneider, Daniel, *J. Bombay nat. Hist. Soc.* **72** (2) : 510.*Material examined* : 24 frogs.

1 ex., Indranagar, Agartala, 11. xi. 1969 ; 6 ex., 2 km. south of Charilam, 17. xi. 1969 ; 2 ex., Garjee, Udaipur, 27. xi. 1969 ; 2 ex., Abhoya River, Abhoya, 3. xii. 1969 ; 2 ex., Dhanlakha River, Ampri, 25. i. 1971 ; 6 ex., Khowai River, Teliamura, 2. ii. 1971 and 5 ex., Deo River, Kanchanpur, 15. ii. 1971. (All have been collected by Dr. V. C. Agrawal and party).

Distribution : It is common throughout India from the base of the Himalaya to the southern part of the country. *Elsewhere* : NEPAL, SRI LANKA and THAILAND.

Remarks : Medium-sized frog. The largest one from Tripura measures 55 mm. from snout to vent. Fingers free with first one not extending beyond the second. Toes webbed fully up to the tips and a toe-like inner metatarsal tubercle present.

It is the commonest frog found floating generally in the stagnant pools.

2. *Rana limnocharis* Wiegmann

(Paddy-field Frog)

1835. *Rana limnocharis* Wiegmann, *N. Acta. Ac. Leop. Carol.*, **16** (1) : 255.1920. *Rana limnocharis* Wiegmann, Boulenger, *Rec. Indian Mus.*, **20** : 28-35.1970. *Rana limnocharis* Wiegmann, Mansukhani & Murthy, *Rec. zool. Surv. India.*, **62** : 56-57.*Material examined* : (a) 4 frogs and (b) 6 tadpoles.

(a) 1 ex. Forest Rest House, Ampri, 18. i. 1971 ; ex., 1 Teliamura, 27. i. 1971 ; 1 ex., from a stream, Ambasa, 7. ii. 1971 and 1 ex., inside a burrow, Ambasa, 9. ii. 1971.

(b) 3 ex., Khowai River, Teliamura, 2. ii. 1971 and 3 ex., Deo River, Kanchanpur, 15. ii. 1971. (All have been collected by *Dr. V. C. Agrawal*).

Distribution : Throughout the plains of India. It is now being recorded for the first time from Tripura. *Elsewhere* : Eastern ASIA from JAPAN and CHINA to PAKISTAN and SRI LANKA.

Remarks : Small sized frog. Larger one from Tripura measures 50 mm. from snout to vent. Fingers with rudimentary web and very prominent subarticular tubercles. First finger extends beyond the second. Toes usually $\frac{1}{8}$ to $\frac{1}{2}$ webbed with the presence of both inner and outer metatarsal tubercles. Tadpoles are recognised by long slender tail and with two rows of serrated teeth (lower one interrupted) on the upper lip and three rows of uninterrupted teeth on the lower lip of the mouth disc.

This frog is usually found in the bushes grown at the edges of pools and on the moist ground of paddy fields.

3. *Rana tigrina* Daudin

(Indian Bull Frog)

1803. *Rana tigerina* (sic) Daudin, *Hist. Rain. Gren. Crap.*, p. 64, pl. 20.

1920. *Rana tigrina* Daudin, Boulenger, *Rec. Indian Mus.*, 20 : 17-23.

1970. *Rana tigrina tigrina* Daudin, Mansukhani & Murthy, *Rec. zool. Surv. India*, 62 : 55-56.

1975. *Rana tigrina* Daudin, Menon, Tripura District Gazetteers, p. 51.

The species has been reported from Tripura by K. D. Menon in Tripura District Gazetteer in 1975. We have not seen any example ourselves. Considering it is present in West Bengal and Burma, it is quite likely to be found there.

Distribution : It is common throughout India from the base of the Himalaya to South India. *Elsewhere* : NEPAL, SRI LANKA, BURMA, THAILAND, South CHINA and TAIWAN.

Remarks : Large-sized frog. Fingers free with first one extending beyond the second. Toes entirely webbed, but not up to the tips of toes ; blunt and feebly compressed inner metatarsal tubercle present ; outer metatarsal tubercle absent. Upper surface with darker spots and longitudinal folds along with a usually yellow vertebral streak from snout to vent ; lower surface whitish.

It is the commonest edible frog of our country. This frog is generally found on the muddy banks as well as in ponds, tanks, lakes and sluggish rivers.

Family RHACOPHORIDAE

4. *Rhacophorus leucomystax* (Gravenhorst)

(Tree Frog)

1829. *Hyla leucomystax* Gravenhorst, *Delic Mus. Vratislav.* p. 26.1950. *Rhacophorus leucomystax* Gravenhorst, Liu, *Fieldiana Zool. Mem.*, 2 : 360-370.*Material examined* : 1 Frog.

1 ex., Rice-field, Agartala, 9. xi. 1969 (V. C. Agrawal).

Distribution : Recorded from Sikkim and Assam in India. It is being recorded for the first time from Tripura. *Elsewhere* : BURMA, South CHINA to MALAYSIA.*Remarks* : Medium-sized frog. The specimen from the area measures 64 mm. from snout to vent. A rudiment of vestigial web between the first and second fingers present, and the first finger not extending beyond the second. Toes about half-webbed with a small inner metatarsal tubercle. Tips of fingers and toes possess horseshoe-shaped discs. Skin of back brownish with obscure long dark markings along the body. Skin on head rugose. It is a tree frog which is usually nocturnal in habit.

Family MICROHYLIDAE

5. *Microhyla ornata* (Duméril & Bibron)

(Ornate Microhylid Frog)

1841. *Engystoma ornatum* Duméril & Bibron, *Erpet. Gen.*, 8 : 745.1970. *Microhyla ornata* (Dumeril & Bibron), Mansukhani and Murthy, *Rec. zool. Surv. India*, 62 : 59.*Material examined* : 2 Frogs.

1 ex., Forest Rest House, Ampri, 18. i. 1971 (V. C. Agrawal) and 1 ex. Ambasa, 16. xi. 1974 (M. S. Shishodia).

Distribution : It is usually found in the plains of India. It is being recorded for the first time from Tripura. *Elsewhere* : SRI LANKA, South-east ASIA, South CHINA and TAIWAN.*Remarks* : Tiny and active frog. Larger one from Tripura measures 17 mm. from snout to vent. Fingers free, first finger much smaller than second. Toes webbed minutely ; both inner and outer metatarsal tubercles present. Skin on back smooth and greyish with darker spots. Skin on belly brownish with occasional brick-red spots on throat.

This frog is usually found in moist grassy places. In spite of its small size it can cover considerably long distance by jumping.

Family BUFONIDAE

6. **Bufo melanostictus** Schneider

(Common Indian Toad)

1799. *Bufo melanostictus* Schneider, *Hist. Amph.* 1 : 216.

1963. *Bufo melanostictus* Schneider, Daniel, *J. Bombay nat. Hist. Soc.* 60 (2) : 435-437.

1970. *Bufo melanostictus* Schneider, Mansukhani and Murthy, *Rec. zool. Surv. India*, 62 : 58.

Material examined : 2 toads.

2 ex., Dak Bunglow, Agartala, 9-10. xi. 1969 (V. C. Agrawal).

Distribution : This is the commonest toad found all over the Indian plains. *Elsewhere* : SRI LANKA, BURMA, South CHINA and MALAYSIA.

Remarks : Big-sized toad. Larger one from Tripura measures 90 mm. from snout to vent. Fingers free ; first finger extending a little beyond the second. Toes about half webbed with single subarticular tubercles ; moderately large both inner and outer metatarsal tubercles present ; tarsal fold absent. Skin throughout the body is very rough with spiny warts ; Parotoids reniform. Head broader than long ; cranial ridges highly developed and cornified ; interorbital space broader than upper eyelid ; tympanum distinct and two-third that of eye in diameter.

It is purely a terrestrial amphibian and comes to water only to breed. It is nocturnal in habit and found in the gardens and road-side for preying on insects and earthworms. In most of the college laboratories of eastern India these toads are used for dissection. The males of this species is used in pregnancy diagnosis tests of human beings.

SUMMARY

This paper deals with the Amphibian fauna of Tripura based on the collections made by various parties of the Zoological Survey of India. It consists of 39 examples belonging to four families, four genera and six species, out of which *Rana limnocharis*, *Rhacophorus leucomystax* and *Microhyla ornata* are recorded for the first time from Tripura.

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