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Research Paper

CHECKLIST OF AMPHIBIANS INVENTORIED FROM TURA PEAK OF WEST GARO HILLS, MEGHALAYA, INDIA

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Abstract

Intensive survey has been carried out from January 2012 to December 2013 and whatever amphibian species have been uncovered from Tura Peak were photographed, identified and its measurement were taken. Data of amphibians were collected by Active Searching Methods (ASM) and most of the amphibian surveys are done after dark (18.00 hrs) but some amphibians are diurnal which can be found during the day time so practically 15 hrs (6 am-6 pm & 7 pm-10 pm) searched was carried out. Night time search light have been used with an input DC 7.5v 500mA. Most of the specimen collected are handpicked and photographed in EOS 1100D with Cannon camera. It was measured and its morphological characters are studied and identified.

INTRODUCTION

India is incredibly rich in species diversity. About 138 species of amphibians are endemic to India (Maiti & Maiti, 2011). The amphibians in India are largely confined to highly diversified habitats of the Western Ghats and North-Eastern region (Inger & Dutta, 1986). From North-East India 119 amphibian species have been described (Mathew & Sen, 2010) by Zoological Survey of India. The richest expression in diversity and abundance of amphibians of the Northeast India is met with in the state of Meghalaya as evidence from the accounts of amphibians by Boulenger (1890, 1920), Annandale (1912), Kripalani (1961), Yazdani & Chanda (1971), Pillai & Yazdani (1973, 1977, 1979, 1980), Sahu & Khare (1983). Various Paper on amphibians were published by Ahmed & Dutta (2000,2001), Ahmed & Goswami (1999), Ao et al (2003), Bhahadur & Saha (1980), Borah & Bordoloi (2001), Bordoloi & Borah(1999), Borthakur et al (2007), Chanda (1986, 1990 - 1993, 1995, 2002, 2006, 2007); Choudury et al (1999, 2001), Das et al (2000), Deuti & Dutta (2002), Dey & Ramanujan (2003), Ghosh & Sarkar (2000), Grosslet et al (2004), Hooroo et al (2002), Kiyasetuo & Khare (1986 & 1987), Mallick (1997), Mansukhani & Sarkar, 1981),Mathew & Sen(2003, 2003a, 2005, 2005a, 2006, 2006a, 2007, 2008, 2008a, 2009), Nigombam & Bordoloi (2007), Pathak et al (2001), Saikia et al(2000), Sarkar et al (2002), Sen Gupta et al (2000, 2001, 2008) and Talukdar et al (2007). The North-East is an important part of Eastern Himalayas as well as Indo-Myanmar Bio-diversity Hotspots and supports some of the unique amphibian species. In Meghalaya alone there are 33 species of amphibian under six

families and eleven genera (ZSI, 1995). Therefore, the present intensive survey of amphibian species in Tura Peak of West Garo Hills might even help to record and add more of different amphibian species to Meghalaya fauna.

MATERIAL AND METHODS:

Study area: Tura Peak of West Garo hills, Meghalaya lies between 25°.00' and 26°.10' N latitude and 89°.45' and 92°.45' E Longitude. The original name of Tura is Durama Imbama, who was a goddess, looking after this mountain. It has tropical moist deciduous forest mixed with some evergreen species (Ray & Alam , 2002). It has forest cover with an area of 3.94 km square (Divisional Forest Office, Tura). Tura Peak has a height of 983 metres, which is located on the eastern part of Tura town and is 5.64 km away from it (Samson, 2006). It is part of one of the most important Tura range of Garo hills which is running in an East –West alignment, extending from Tura, West Garo hills to Siju, South Garo hills. Tura Peak is standing next to Nokrek Peak, presently known as Nokrek Biosphere reserve. It has two beautiful waterfalls; Rongbangdare and Rengsangrap. It has many small unnamed streams and three rivulets -Chitoktak, Gandrak , Rongkhon which are strewn with huge boulders and stones surrounded with green forest. All these three streams are flowing down from Tura peak popularly known as "Tura A.bri" by the Garos. Since, it has small streams surrounded by huge trees, small trees, shrubs, herbs, climbers and patches of bamboo; it is a good site for inventorying of amphibian species and studying its micro-habitat.

METHODS:-

The data of amphibians are collected using systematic sampling survey(SSS) and active searching method(ASM), as described by IUCN amphibian survey methodology and line transact method(as per Heyer et al, 1993). Most of the amphibian surveys are done after dark (at 18.00 hrs) but some amphibians are diurnal which can be seen during the day time so practically 16 hrs searched and opportunistic method have been followed. At night time, search light have been used with an input DC 7.5v 500mA. Intensive survey has been done in the last two years starting from January 2012 to December 2012 and January 2013 to December 2013. To achieve at least cent percent result of our search work several visits were made to different habitats such as streams, moist sandy ground near waterfalls, searched under big boulders and stones, dead logs, hollow trees, bamboo leaves and shaded forest floors. To capture aquatic amphibians, a net fitted with a metal ring fixed at the end of a long bamboo-pole was used. Terrestrial and arboreal amphibians have been collected by hand or long forceps. After thorough observation, the captured specimen was photographed and measured which was identified later. One amphibian species from each family are killed and preserved in 10% formaldehyde for scientific study. When encountered with the same species of the same family it was left unharmed, without disturbing from its own natural habitat.

RESULTS:

Thirty-three amphibian species which belong to seven families have been uncovered from Tura Peak at different locations and habitat. Seven Rhacophorans are Polypedates leucomystax (Gravenhorst, 1929); Polypedates maculates (Gray, 1838), Philautus garo (Boulenger, 1919); Philautus kempiae (Boulenger, 1919); Philautus shillongensis (Pillai & Chanda, 1973) and Polypedates assamensis (Mathew & Sen, 2009) from Family Rhacophoridae. Theloderma asperum (Boulenger, 1886) and Polypedates assamensis (Mathew & Sen, 2009) from the family Rhacophoridae have been recorded for the first time in Tura Peak of Garo Hills and the first record in Meghalaya State. The two Toad species such as Duttaphrynus melanostictus (Schneider, 1799) and Bufo himalayanus (Gunther, 1864) are from Family: Bufonidae and five amphibian species are from the Family Megophryidae, Xenophrys robusta (Boulenger, 1908); Xenophrys boettgeri (Boulenger, 1899); Xenophrys glandulosa (Fei, Ye & Huang, 1991); Xenophrys major (Boulenger, 1908) and Xenophrys zunhebotoensis (Mathew & Sen, 2007) have been uncovered which were not reported from any part of Meghalaya till today. Amolops monticola (Anderson, 1871), Amolops marmoratus (Blyth, 1855) are recorded for the first time

in Tura Peak of West Garo Hills District. Another five species such as Amolops assamensis (Sen Gupta et al, 2008); Sylvirana leptoglossa (Cope, 1868); Hylarana garoensis (Boulenger, 1920); Hylarana erythraea (Schlegel, 1837), and Odorrana chloronata (Gunther, 1876) are from the Family: Ranidae and Microhyla ornata (Dumeril & Bibron, 1841) from the Family: Microhylidae and eight amphibian species such as Occidozyga borealis (Annandale, 1912), Euphlyctis cyanophlyctis (Schneider, 1799); Fejervarya limnocharis (Gravenhorst, 1829); Limnonectes laticeps (Boulenger, 1882); Limnonectes kuhlii (Tschudii, 1838); Fejervarya teraiensis (Dubois, 1984), Fejervarya syhadrensis (Annandale, 1919) and Fejervarya pierrei (Dubois, 1975) are from the Family-Dicroglossidae. Two species of Caecilians Ichthyophis garoensis (Pillai & Ravichandran) and Ichthyophis alfredii (Mathew & Sen, 2009) from the Family: Ichthyophiidae have been uncovered from Tura Peak. All the amphibians observed and identified are given in table-1.

AMPHIBIANS FOUND FROM TURA PEAK ARE AS FOLLOWS:-

1.Himalayan Toad- Bufo himalayanus (Gunther, 1864):

It was first sighted on 6-8-13 at 12.15 hrs from Upper Babupara (N25°30'47.0'' & E 090°13'50.3'') at an altitude of 575 m. It was photographed and identified from the characters observed (Plate-1: a).

Plate-1:a.Bufo himalayanus

2.Common Indian Toad- Bufo melanostictus (Schneider, 1799):

It was sighted on 14-3-12 at 17.10 hrs from Upper Babupara (coordinates: N25° 30'50.3'' & E90° 10'72.2'') at an altitude of 1023 ft. It is common in the foothills (Plate-2:a).

Plate-2:a.Bufo melanostictus

3. **Pale-shouldered Frog- Xenophrys boetgerri (Boulenger, 1899):**

It is not reported from any part of Meghalaya till date. It was found for the first time from Tura Peak of West Garo Hills District of Meghalaya after 114 years. It was sighted on 14-10-13 at 18.18 hrs near a huge tree among the leaf litters from Tura Peak (N 25°30'18.2'' & E 90°14'35.1'') at an elevation of 834 m above sea level (Plate-3:a).

Plate-3:a. Xenophrys boetgerri

4. Glandular Horned Toad - Xenophrys glandulosa (Fei, Ye & Huang, 1991):

It is recorded for the first time in Tura Peak of West Garo Hills District of Meghalaya after 22 years of its discovery. It was first sighted from Tura Peak (Co-ordinates: N25°30'56.5''& E090°13'19.2'') on 24-10-12 at 13.20 hrs and later another one was found from the side of Rengsangrap falls (Co-ordinates: N25°30'44.5'' & E 090°14'05.8'') on 28-8-13 at 18.45 hrs at an altitude of 437m above SL. It was measured 9.5 cm SVL (Plate-4:a).

Plate-4:a. Xenophrys glandulosa

Table-1: Body length and Microhabitat of amphibians found in Tura Peak

Family	SCIENTIFIC NAME	COMMON NAME	LOCAL NAME (Garo)	SVL	Total Count	MICROHABITAT
Bufonidae	Duttaphrynus melanostictus	Common Asian Toad	Diplok gangaripu	130 mm	13	Under logs, stones, forests, around human habitation.
	Duttaphrynus himalayanus	Himalayan Toad	Diplok kakapru	10.5 mm	53	Under stones, forest floors.
Megophryidae	Xenophrys boettgeri	Boettger's Horned Toad	Diplok Brimchang	75 mm	1	Forest edges, leaf litters.
	Xenophrys glandulosa	Glandular Horned Toad	Diplok Nokma	100 mm	5	Forests, leafs litters, under the moist rocks.
	Xenophrys major	Great Horned Toad	Diplok Miksim	100 mm	3	Forest edges, among the leaf litters, streams.
	Xenophrys robusta (Boulenger, 1908)	Robust Horned Toad	Diplok Kugipok	90 mm	3	Shaded forest floor in heavily wooded area.
	Xenophrys zunhebotoensis	Nagaland Horned Toad	Diplok Mikchak	95 mm	1	Dense forest floors among leaf litters.
Microhylidae	Microhyla ornata	Pigmy Frog	Bengbrek	27 mm	91	Grasses, bushes, etc
Dicroglossidae	Euphlyctis cyanophlyctis	Indian Skipping Frog	Bengbong Chiring	75 mm	12	Slow moving streams, stagnant water.
	Fejervarya limnocharis	Indian Cricket Frog	Bengblok	60 mm	8	Bushes near stream.
	Fejervarya pierrei	Pierrei's Cricket Frog	Bengblok Wachi	55 mm	19	Side of streams on moist ground.
	Fejervarya syhadrensis	Syhadra Cricket Frog	Bengblok	65 mm	21	Rain water puddles and side of streams.
	Fejervarya teraiensis	Terai warty frog	Bengblok Ante			
	Limnonectes kuhli's	Kuhl creek frog	Bengbrek	45 mm	7	Bushes, near the stones.
	Limnonectes laticeps	Rivulet Frog	Bengblok Japingchak	50 mm	15	Near the stream, under bushes.
	Occidozyga borealis	Northern trickle Frog	Bengblok Chonteng	40 mm	7	Bushes and side of stones.
Ranidae	Amolops assamensis	Assamese Cascade Frog	Gandrak Chisam	95mm	35	Moist rocks near the streams,
	Amolops monticola	Mountain Cascade	Gandrak Rongching	120m	98	On moist rocks and stones.

		Frog		m		
	Hylarana garoensis	Swift Cascade frog	Gandrak Gingpelgap	105mm	2	Moist ground &rocks
	Amolops marmoratus	Marbled Cascade	Gandrak Kisingkop	44 mm	5	Moist rocks & muds.
	Rana erythrea	Leaf frog	Bengblok Ramsrok	64 mm	3	Under logs & fallen trees
	Clinotarsus alticola	High altitude Frog	Bengblok Gingdareng	65mm	13	Forest, dense vegetation near the streams.
	Odorrana chloronota	Green-backed Stream Frog	Janggil-Tangsek Bengblokchiring	35mm	37	Moist rocks near the fast flowing streams.
	Sylvirana leptoglossa	Assam Forest Frog	Bengblok-buring	950mm	56	Under stones, boulders in fast flowing streams.
Rhacophoridae	Philautus garo	Garo Hills Bush Frog	Bengbrek Jaksima	25mm	60	Ferns, shrubs and on moist ground.
	Philautus kempiae	Tura Bush Frog	Bengbrek Dokpru	25mm	56	Ferns, shrubs and on moist ground.
	Philautus shillongensis	Shillong bush frog	Bengbrek Samdim	20mm	25	Ferns, shrubs and on moist ground.
	Polypedates leucomystax	Common Tree Frog	Gandrak Bolga	70mm	23	Bamboo leaves, trees and roots.
	Polypedates maculatus	Terai tree Frog	Gandrak Waga	64mm	25	Tree stumps & trees
	Polypedates assamensis	Assam tree frog	Assamni Gandrak	50 mm	3	Tree stumps and trees.
	Theloderma asperum	Pied Warty frog	Bengbek kobok	25mm	7	Hollow trees, tree stumps and moist rocks.
Ichthyophiidae	Ichthyophis garoensis	Garo Hills caecilian	Chikgil sambengrimit	320 mm	3	Burrows &moist sandy soil.
	Itchthyophis alfredii	Alfred's caecilian	Chikgil Tangsim	210 mm	2	Burrows, moist soil

5. Major's Horned Toad Xenophrys major (Boulenger, 1908):
It was recorded for the first time from Tura Peak of Meghalaya after 105 years. It was first sighted on 27-9-13 at 13.23 hrs from Tura Peak (coordinates: N 25°31'10.3'' & E 090°13'51.8'') at an altitude of 845 m. It was found among the leaf litters under shaded ground on the heavily wooded forest about 50-100 ms away from Rongkhon stream. It was captured and measured 7.5 cm SVL(Plate-5:a).

Plate-5:a.Xenophrys major.

6. White-Lip Horn Toad - Xenophrys robusta (Boulenger, 1908):

It was first sighted on 27-9-13 at 17.10 hrs from Tura Peak (Coordinates: N 25°30'56.5'' & E 90°30'19.2'') at an altitude 751 m. It was found in deeply wooded forest on the forest floor. It was handpicked and measured 9 cm SVL.

Plate-6:a. Xenophrys robusta

7. Zunheboto's Horned Toad - Xenophrys zunhebotoensis (Mathew & Sen, 2007):

This species was recorded for the first time from Tura Peak of West Garo Hills District of Meghalaya after its discovery in 2007 by Mathew and Sen. It was first sighted on 27-9-13 at 14.35 hrs from Tura Peak (coordinates: N 25°30'56.5'' & E 090°30'19.2'') at an elevation of 845 m. It was captured and measured 8.5 cm SVL but allowed to remain in its own natural habitat (Plate-7:a.).


Plate-7:a. Xenophrys zunhebotoensis

(8) Ornate narrow mouthed Frog- Microhyla ornate (Dumeril & Bibron, 1841):
It was first found on 22-4-13 at 16.35 hrs from Boldaka.ding (coordinates: N25° 30'58.3''& E90° 13'91.3'') at an altitude of 756 ft. Most of these Microhyla ornata were found in the evening from grassland. It measured 2.5 cm SVL. It is common in the study area (Plate-8:a).


Plate-8:a&b. Microhyla ornate

(9) Indian Skipping Frog- Euphlyctis cyanophlyctis (Schneider, 1799):
It was first found from Tura Peak at Upper Babupara (coordinates: N25° 30'78.2''& E90° 13'67.5'') locality at an altitude of 1266 ft on 6-6-13 at 13.43 hours in a small well where a juvenile frog was resting on the side of a well. It was photographed and measured 5.5 cm SVL. It was a medium size aquatic frog (Plate-9:a).


Plate-9:a. Euphlyctis cyanophlyctis

(10) Pierre's Cricket Frog-Fejervarya pierrei (Dubois, 1975):
It was found from rain water puddle from Tura Peak at Upper Chandmari (coordinates: N25° 30'60.4''& E90° 14'61.6'') locality on 22-5-13 at 18.49 hrs at an altitude of 1756 ft. It measured 3.5 cm SVL length (Plate-10:a).

Plate-10:a.Fejervarya pierrei

(11) Cricket Frog - Fejervarya limnocharis (Gravenhorst, 1829):
It was first sighted along the forest edge on moist ground among the grasses and underneath the bushes on 16-4-13 at 16.35 hrs from Tura Peak in Top Chitoktak (coordinates: N25°30'44.9'' & E90°13'90.3'') locality at an altitude of 1932 ft. It measured 5.4 cm SVL in length (Plate-11:a).

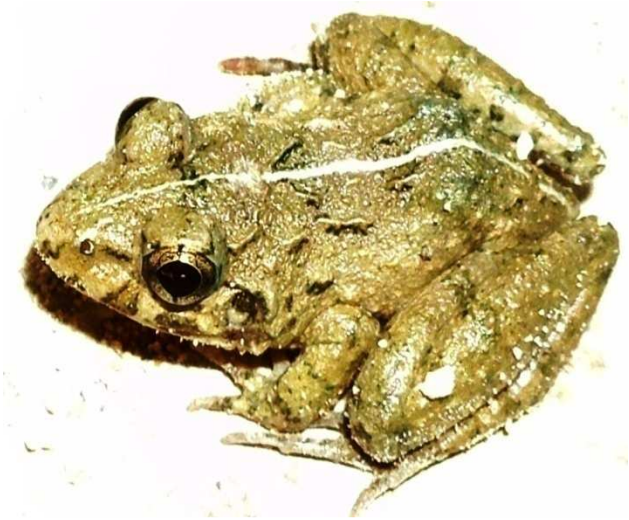

Plate-11:a.Fejervarya limnocharis

12. Hill Cricket Frog -Fejervarya syhadrensis (Annandale, 1919):
It was first sighted on 14-9-13 at 14.05 hrs near the bushes on moist ground not far from Stream at Boldaka.ding (coordinates: N25°30'56.5'' & E090°13'19.2''). It was photographed and its SVL measured 5 cm.

Plate-12:a.Fejervarya syhadrensis

13. Flat-headed Frog - Limnonectes laticeps (Boulenger, 1882):

It was first sighted from Nikranga.ding (coordinates: N25° 30'57.6'' & E90° 13'91.5'') on 7-11-13 at 16.06 hrs at an altitude of 774 ft from beside the moist stone near the sandy soil. It was measured 3.0 cm SVL (Plate-13:a&b).

Plate-13:a&b. Limnonectes laticeps dorsal & ventral

14. Terai Warty Frog - Fejervarya teraiensis (Dubois, 1984):

It was first sighted from Top Chitokatak (coordinates: N25° 30'44.9''& E90° 13'90.3'') at an altitude of 1873 ft on 24-4-12 at 09.07 hrs in the morning. It was photographed and was measured 75 mm SVL (Plate-14:a&b).

Plate-14:a. Fejervarya teraiensis dorsal view.

Plate-14:b. Fejervarya teraiensis side view

15. Rohtung Frog - Occidozyga borealis (Annandale, 1912):
It was found from under the stone beside the stream on 22-10-13 at 16.25 hrs from Tura Peak at Akimbri (coordinates: N 25°31'10.9'' & E 090°13'31.9'') locality at an altitude of 2013 ft. It was photographed and its SVL measured 25 mm (Plate-15:a&b).


Plate-15: a & b. Occidozyga borealis dorsal & ventral view

(16) Assam Cascade Frog - Amolops formosus (Gunther, 1876):
It was first seen from Chitoktak stream (coordinates: N 25°30'83.9'' & E 90°10'78.6'') on wet rock on 16-5-13 at 08.29 hrs. It was found at an altitude of 2956 ft. It was measured 9 cm. The same species were also found from Gandrak and Rongkhon streams.


Plate-16: a.Amolops formosus

(17) Green-Backed stream Frog Odorrana chloronata (Gunther, 1876):

It was first sighted on 21-4-12 at 14.31 hrs, on moist rock, near the flowing stream surrounded with green grasses and shrubs at Rongkhon Chibisik (coordinates: N 25°30'32.4'' & E 090°13'53.5'') in the middle Zone of Tura Peak. Its length was 45 mm SVL (Plate-17:a).

Plate-17:a. Odorana chloronota

Family-RANIDAE

(18) Mountain Cascade Frog - Amolops monticola (Anderson, 1871):

It had been newly recorded for the first time from Tura Peak of West Garo Hills District of Meghalaya after 136 years of its discovery on 23-4-12 at 09.44 hours. It was first recorded from Rongkhon stream (co-ordinates: N25°31'34.9'' & E90°14'29.5'') at an altitude 2475 ft. It was measured 98 mm (Plate-18:a).

Plate-18:a.Amolops monticola

19. Swift Cascade Frog Hylarana garoensis (Boulenger, 1920):

It was originally described from Garo Hills of Meghalaya by Boulenger in 1920. After 93 years, it was rediscovered from Tura peak beneath the rocks in moist sandy ground (coordinates: N25° 30'50.3'' & E90° 10'72.2'') at an altitude of 2475 ft on 23-9-13 at 16.43 hrs. It was measured 105mm SVL(Plate-19:a).

Plate-19:a. Hylarana garoensis

(20) Assam Forest Frog - Sylvirana leptoglossa (Cope, 1868):
It was first sighted in upper Chandmari (N 25°31'10.3'' & E 090°13'51.8'') from under the dead logs, few 20-25 metres away from the stream on 22-10-12 at 20.15 hrs. It measured 80 mm SVL (Plate-20:a).

Plate-20:a.Sylvirana leptoglossa

21. Kuhl's Creek frog Limnonectus kuhlii (Tschudi, 1838):
It was found from Tura Peak (N25° 30'60.4''& E90° 14'61.6'') at an altitude of 2075 ft on 13-6-13 at 15.15 hrs among the wet grasses surrounded with bushes and ferns not very far from stream. It was captured and its measurement was taken 45 mm SVL(Plate-21:a).

Plate-21:a. Limnonectus kuhlii

Family-RHACOPHORIDAE (22) East Asian Tree Frog Polypedates leucomystax (Gravenhorst, 1929):

It was first sighted on 13-8-12 at 10.44 hrs resting on the bamboo leaf from Tura Peak at Upper Chitoktak (coordinates: N25°31'39''1 & E90°13'75''3) locality at 1365ft. It was seen just after heavy rain. It was photographed and measured 70 mm SVL.

Plate-22:a. Polypedates leucomystax

23. Dappled Tree Frog - Polypedates assamensis (Mathew & Sen, 2009):

It was sighted on 22-4-13 at 11.42 hours from Tura Peak (coordinates: N 25°31'12.0'' & E 09°14'15.8'') at Boldorengre locality at an altitude of 1921 ft. It measured 68 mm. It was found from tree stump(Plate-23:a)


Plate-23:a. Polypedates assamensis

(24) Common Tree Frog Polypedates maculates (Gray, 1838):
It was first sighted from a thatch house residing in the foothills of Tura peak at Babupara (N 25°30'50''5 & E 90°10'72''2) at 1722 ft on 23-2-13 around 11.43 hrs. It was measured 64 mm SVL (Plate-24:a).


Plate-24:a.Polypedates maculates

(25). Pied warty Tree Frog Theloderma asperum (Boulenger, 1886):
It has not been reported from any part of Meghalaya till this date. After 127 years, it was first sighted from wet rock while it was foraging on it during the day time on 27-9-13 at 11.05 hrs. It was found from Rongkhon stream (co-ordinates: N25°31'34.9'' & E90°14'29.5'') at an altitude of 2494 ft. It was photographed and its measurement was taken 20 mm SVL (Plate-25:a&b).

Plate-25:a. Theloderma asperum dorsal view.


Plate-25:b. Theloderma asperum ventral view

(26).Tura Bush Frog - Philautus kempiae (Boulenger, 1919):
It was sighted on 12-6-13 at 19.25 hrs on the leaves at Upper Chitoktak stream (coordinates: N25°30'27.0'' & E 090°13'54.2'') at an altitude of 2130 ft. Its characters are closely observed and identified. It was measured 2 cm SVL (Plate-26:a&b).


26.a.


b

Plate 26: a. Philautus kempiae male and b. Philautus kempiae dorsal view.

(27).Garo Hills Bush Frog - Philautus garo (Boulenger, 1919):
It was first found from Top Chitoktak (N 25°31'12.8'' &E 090°14'22.9'') at an altitude of 1987 ft. It was photographed on 19-6-13 at 20.45 hours (Plate-27: a & B).


Plate-27:a.Philautus garo


Plate- 27:b. Philautus garo male with its vocal sac fully blown.

28. Shillong bush Frog -Philautus shillongensis (Pillai & Chanda, 1973):
It was found from Top Chitoktak (coordinates: N 25°31'12.0''& E 090°14'22.9'') at an altitude of 1874 ft on 23-7-13 at 21.07 hrs. This species was originally recorded from Shillong, Khasi Hills of Meghalaya by Pillai & Chanda in 1973. It was a small sized frog which measured 32 mm SVL (Plate-28:a).


Plate-28:a.Philautus shillongensis

(29). Leaf Frog- Rana erythraea (Schlegel, 1837):
It was sighted from the grass beside the bushes from Tura Peak at Boldaka.ding (N25° 31'25.5''& E90° 13'27.3'') locality under Tura Peak at an altitude of 1455 ft. It was photographed on 1-8-13 at 13.06 hours and measured 64 mm (Plate-29:a).

Plate-29:a. Rana erythraea

30. **High Altitude Frog- Rana alticola (Boulenger, 1882):**
It was sighted from Tura Peak (coordinates: N 25°31'21.5'' & E090°14'15.8'') at an altitude of 2450 ft. It was photographed on 14-10-13 at 18.43 hrs on the forest floor. It measured 65 mm SVL (Plate-30:a).


Plate-30:a. Rana alticola

31**. Marbled Cascade Frog - Amolops marmoratus (Blyth, 1855):**
It was first sighted on 6-7-13 at 22.39 hrs from Chitoktak (coordinates: N 25°31'12.0'' & E090°14'22.0'') stream on moist rock. It measured 44 mm SVL (Plate-31:a).


Plate-29:a. Amolops marmoratus

Family-ICHTHYOPHIDAE

(32). Alfred's Striped Caecilian Itchthyophis alfredii (Mathew & Sen, 2009):

It was collected from the forest floor strewn with stones at an altitude of 1119 m from Tura Peak of West Garo Hills District. It was first sighted on 16-9-13 at 07.37 hours from Tura Peak (coordinates: N 25°30'56.5'' & E 090°30'19.2'') at an altitude of 1753 ft asl on the side of ferns just after heavy rainfall. It was measured SVL 310 mm (Plate-32:a).

Plate-32:a.Itchthyophis alfredii

(33) Garo Hills' Caecilian Itchthyophis garo (Pillai & Ravichandran, 1999):

It was small species which measured 210 mm SVL. It was the limbless amphibian which was found in sandy moist ground from Upper Babupara (coordinates: N25° 30'.50.3''& E90° 10'.72.2'') just after the rain on 23-7-12 at 16.37 hours on sandy ground near the herbs and ferns on moist ground (Plate-33:a).

Plate-33:a. Itchthyophis garoensis

DISCUSSION:

Total of thirty-three different amphibian species have been procured from Tura Peak; which reveals its rich amphibian bio-diversity. Though the area of Tura Peak is small but it has all the potentialities to nurture the different types of amphibian species living in this hilly forest. The various rivulets in this Peak like Chitoktak, Gandrak, Rongkhon and many unnamed fresh small streams serves as the breeding ground for many amphibians which require aquatic media for spawning and for the young tadpoles to grow in water till it attends adulthood. The sides of streams with ferns, herbs, full of rocks, stones and some shady areas under the huge mature trees serves as good habitat and hiding place for some amphibians whenever they are in need to withstand the extreme cold and hot climates. Since the fresh water flowing in different directions of this Peak does not contain any harmful contaminants except the dead leaves, soil, twigs etc; these amphibians are quite safe and can survive well in this Reserve forest. However, hundreds of frogs are captured illegally for fun-food by local people, especially during the rainy season; which need to be taken care of. The forest and Wildlife Department should provide sufficient forest Guards to check all the illegal activities which are taking place in the protected area.

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