

# A RAPID SURVEY OF HERPETOFAUNA IN HOSUR FOREST DIVISION, TAMIL NADU, EASTERN GHATS, INDIA

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We conducted a week long rapid survey of herpetofauna in Hosur district of Tamil Nadu, a part of Eastern Ghats, India. Four, topographically heterogeneous sites were surveyed namely — Site 1: Devarabetta, a dry rocky hillock; Site 2: Aiyur Reserve forest, a mixed deciduous and bamboo forest; Site 3: Guttarayan range, which has the highest peak in the district, at an elevation of ca. 1300 m asl and covered with tropical wet evergreen monatne/ cloud forests; Site 4: Rasimanal, a xeric habitat, with sandy expanses. Vegetation in the study area ranged from dry sandy scrub to cloud forests, and the altitude ranged from 704 – 1287 m asl. Exactly two days were spent surveying each site to fetch an unbiased result. The survey was during post monsoon season. We used Visual Encounter Method to detect target taxa and ascertained their identity (mostly up to species level) by detailed physical diagnosis (i.e., meristic and morphometric analyses). All animals recorded were diagnosed and photographed in situ and released.

Overall, 24 species of herpetofauna, with nine amphibian species belonging to seven genera and four families as well as 14 reptilian species belonging to ten genera and seven families were recorded. Some cryptic and complex species remain taxonomically unresolved, but are also listed here with their most conforming nomina. The following is the species-accounts from our survey.

CLASS: AMPHIBIA

ORDER: ANURA

FAMILY: BUFONIDAE

1. Common toad (*Duttaphrynus melanostictus*)

Site 1: Twelve specimens. Five were adults, the rest (n=7) were imagos; Site 4: Seven adults. Tadpoles were not recorded. All specimens were sighted on tarred roads during rainy night. This is a eurytopic human commensally species.

2. Günther's toad (*Duttaphrynus hololius*)

Site 1: Three imagos and one adult were seen. All from under small (< 1 ft. across) rocks near small streams and wet areas in hill slopes. Not recorded in Sites 2 and 3.

FAMILY: MICROHYLIDAE

3. Painted frog (*Kaloula taprobanica*)

Site 1: One adult; under dense leaf litter present near a watery slush in a shady grove. This is a eurytopic human commensally species.

4. Red small-mouthed frog (*Microhyla rubra*)

Site 1: Two adults were recorded. One was in a scrub forest on the hills; another, a calling male was sighted during a rainy night on a tarred road. This is a eurytopic human commensally species.

5. Ornate small-mouthed frog (*Microhyla ornata*)

Site 1: One adult, seen under a stone (< 0.5 ft across) near a small ephemeral puddle in hill-side scrublands. This is a eurytopic human commensally species.

6. Marbled small-mouthed frog (*Ramanella variegata*)

Site 1: Two adults were found under a small (< 1ft across) rock in an open grassy patch with no canopy cover. There were some small ephemeral pools nearby. One specimen, the smaller, was a male, as indicated by its distinctly enlarged palmar tubercles and gray-black gular pouch. This is a eurytopic human commensally species.

FAMILY: RHACOPHORIDAE

7. Common tree frog (*Polypedates maculatus*)

Site 1: Two adults were seen. One adult was inside a bird's nest overhanging a stream-side cave; another adult was near roadsides and was sighted during night search. This is a eurytopic human commensally species.

FAMILY: DICROGLOSSIDAE

8. Cricket frog (*Fejervarya limnocharis* complex)

Site 1: Two adults were sighted. Both were from puddles in scrubs. This is a eurytopic human commensally species complex which is yet to be taxonomically resolved.

9. Skittering frog (*Euphlyctis cyanophlyctis*)

Site 1: One adult in a hill stream, near caves. Site 4: Three adults were seen in a small pond, adjoining a rock aggregation. Sympatric with *Hoplobatrachus tigerinus* in Site 4. This is a eurytopic human commensally species.

10. Indian bull frog (*Hoplobatrachus tigerinus*)

Site 4: Four adults were seen in wet grass growth bordering the fringe of a pond. No tadpoles were sighted in the pond. Sympatric with *E. cyanophlyctis*.

CLASS: REPTILIA

ORDER: SQUAMATA

INFRA ORDER: SAURIA

FAMILY: GEKKONIDAE

11. Mysore day gecko? (*Cnemaspis* cf. *mysoriensis*)

Site 1: Two adults; Site 2: Two adults; Site 3: Five adults and two juveniles; Site 4: Three adults. Overall, nineteen specimens were recorded, including gravid females and juveniles. This species is evidently the most abundant reptile in all the sites. We recorded individuals of all age classes and noted some of its breeding behaviour also. This species was common in both forests and human habitations alike. Its distribution was extensive. Specimens were sighted under logs (n=6), on rocks (n=2) at heights of up to 2 m, tree trunks (n=2) and buildings (n=4). On four occasions egg clutches were seen, often containing up to 20 eggs or more, thus indicating a possible and often reported practice of communal nesting among these geckoes. This population is very much near (ca. 45 km SE) the type locality of *C. mysoriensis* 'Bangalore'.

12. Unidentified day gecko (*Cnemaspis* sp.)

Site 2: Three adults and two juveniles were sighted among rock aggregations. Site 3: Five adults were recorded on rock aggregations within dense forests. Site 4: One adult was seen in a stone-heap. Site 3: Sympatric with *Cnemaspis* cf. *mysoriensis*. No egg clutches were seen. Most specimens (n= 4) were on rock aggregations in bamboo forests. Not seen in Site 1.

13. House gecko (*Hemidactylus frenatus* complex)

Site 1: Two adults; Site 2: One adult and two juveniles; Site 3: One adult; Site 4: Two adults. All specimens were seen on walls of buildings. This is a eurytopic human commensally species.

14. Brook's gecko (*Hemidactylus brookii* complex)

Site 4: One adult was sighted under a stone, in a small rock aggregation, where no other *Hemidactylus* spp. was in the vicinity. Though widespread, this species could not be recorded in any other site. No juveniles were recorded.

15. Termite hill gecko (*Hemidactylus triedrus*)

Site 2: Two specimens; Site 3: two specimens. Three adults were on walls of buildings and one subadult was under a rock (< 2 ft. across) in an open grassy patch in Site 2. No juveniles or egg clutches were seen. This is a eurytopic human commensally species.

16. Spotted rock gecko (*Hemidactylus maculatus*)

Site 1: Three adults; Site 3: one adult. This species was recorded amidst inside a crevice of a large rock-cut cave formation at the top of the peak, with extensive growth of moss and ferns. It was sympatric with the smaller *Cnemaspis* spp. No juveniles or subadults were recorded. Not recorded in Sites 2 and 4.

FAMILY: AGAMIDAE

17. Peninsular rock agama (*Psammophilus dorsalis*)

Site 1: Three adult females, two adult males and one juvenile; Site 3: three adult males, four adult females and two subadults were seen. Site 4: Four adults and three subadults were seen. All were among a small rock aggregation, within a sandy patch. Two were adult males. Most of the specimens were on open rocky hilltops, where they were observed basking on rocks during mid afternoon. But in the colder climates, prevailing in the hilltops of the peak in Site 2, this species was observed to take refuge under stones, instead of its normal haunts of lying over warm rocks. Not recorded in Site 2.

18. Indian rock agama (*Psammophilus blanfordanus*)

Site 3: Two adults were seen on hilltops. This species was common in the hills, often occurring in sympatry with *P. dorsalis*. Site 4: Four adults, three males and one female were sighted on rock aggregations near sandy patches. Like the previous species this species was also found to take refuge under small rocks (< 2 ft. across) on open hilly country. Not recorded in Sites 1 and 2.

19. Unidentified rock agama (*Psammophilus* sp.)

Site 3: One adult female was found under a small rock (< 2 ft. across) in an open rocky patch surrounded by dense patch of *Lantana* bushes and scrub cover. There were *Cnemaspis* lizards nearby in those rocky outcrops. Not recorded in Sites 1 and 2.

20. Roux's forest lizard (*Calotes rouxii*)

Site 3: Three juveniles were recorded in montane forests at higher elevations. The first specimen was at the base of a small plant, the second one was on bare leaf litter and the last one was at the base of tree. This species is chiefly arboreal. However, our sightings were of those foraging on leaf litter. Adults could not be sighted. Not recorded from Sites 1 and 2.

FAMILY: SCINCIDAE

21. Bronze grass skink (*Eutropis macularia*)

Site 3: One adult was found in human habitation in Site 1. This species was sympatric with other commensally lizards such as *Cnemaspis* and *Hemidactylus*, though these geckoes were scansorial and not terrestrial. Not recorded from Sites 1 and 2, although this species should occur there very well. This is a eurytopic human commensally species.

22. Bibron's skink (*Eutropis bibroni*)

Site 4: One adult male was seen in the sandy patches and nearby scrub vegetation. This species is stenotopic and not commensally with man. It was not recorded in any other Sites. Its sighting in this high elevation region, far away from sea coasts is noteworthy.

23. Spotted snake skink (*Lygosoma punctata*)

Site 3: One adult was found under a small log (ca. < 2ft. across) in an open grassy patch, near our base camp, in an open grassy patch bordering the harvested maize fields and cultivations. Site 4: One adult was seen under a stone, near scrubs. This is a eurytopic human commensally species.

24. Undetermined skink (*Lygosoma* sp.)

Site 1: One adult, from leaf litter in a shady grove, near the foot-hill. There were large boulders and shady growth of *Lantana* bushes nearby, bordering the maize cultivations and roadsides.

FAMILY: LACERTIDAE

25. Leschenault's lacertid lizard (*Ophisops leschenaultii*)

Site 1: Ten adults were recorded. Site 4: One adult was sighted under a rock. This species was always associated with bare rocky outcrops, where they take refuge under rocks and boulders. This species was extensively sympatric with *Psammophilus dorsalis* in Sites 1 and 4.

ORDER: SERPENTES

FAMILY: TYPHLOPIDAE

26. Common worm snake (*Ramphotyphlops braminus*)

Site 1: One adult specimen was found under a small rock (< 1 ft. across) near our base camp, in an open grassy patch with some rubble piles and shrubby undergrowth nearby. Site 3: One adult was found under a rock (< 1 ft across) in an open rocky hill slope. A scorpion was also sharing the same retreat. Not recorded in Site 2, although it should exist there in all probabilities. This is a eurytopic human commensally species.

FAMILY: UROPELTIDAE

27. Elliott's shield-tail snake (*Uropeltis ellioti*)

Site 3: One subadult was found under a small log (< 1 ft. across) in a dense patch of cloud forest. The place was under thick canopy cover and cool, moist, loamy soil, with humus content and leaf litter. Though well reported from Eastern Ghats, this is a precise locality data for this species. Not recorded in Sites 1 and 2.

## FAMILY: COLUBRIDAE

### 28. Green keelback snake (*Macropisthodon plumbicolor*)

Site 1: A dead specimen (subadult) was seen on a forest path. It had some scars and marks on its head and fore-body. No live specimens were sighted. None were recorded in Sites 2 and 3.

The differences in species composition patterns of Sites 1, 2 and 3 can be clearly understood by the patchiness of distribution of stenotopic species. Since a large quantum of species that we recorded were eurytopic, human commensally species, they remained oblivious to the habitat heterogeneity across the three sites. Site 1, a rocky, dry outcrop had abundant *Ophisops* and *Psammophilus* lizards. *Duttaphrynus* cf. *hololius* was partial to Site 1, which is noteworthy here. Thus, the majority of reptiles sighted in Site 1, were associated with rocks. Site 2, a gentle undulating plains country with deciduous forests and bamboo growth has very poor reptile species richness, when compared to Sites 1, 3 and 4. The total absence of the agamid lizard genus *Psammophilus* in Site 2 is also due to by its topography. Site 3, which is a cloud forest, a habitat of high reptile diversity and records of species like *Uropeltis* and *Calotes rouxii* are standing proof of its herpetological uniqueness. Likewise, *Eutropis bibroni* was partial to sandy habitat in Site 4 and was not recorded anywhere else. All amphibian species recorded in the present study with the sole exception of *Duttaphrynus* cf. *hololius* are human commensally, eurytopic species and thus are not of significance. On the whole, amphibians and reptiles were recorded from various microhabitats like rocks, boulders, fallen logs, tree trunks and rarely bare open spaces across the many habitat types surveyed in the present area.

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**APPENDIX**

| COMMON NAME                | SCIENTIFIC NAME                       | SITES      | MICROHABITAT                                 |
|----------------------------|---------------------------------------|------------|--|
| Common toad                | <i>Duttaphrynus melanostictus</i>     | 1,4        | Tarred roads                                 |
| Günther's toad?            | <i>Duttaphrynus cf. hololius</i>      | 1          | Rocky hill slopes                            |
| Painted frog               | <i>Kaloula taprobanica</i>            | 1          | Under leaf litter                            |
| Red small-mouthed frog     | <i>Microhyla rubra</i>                | 1          | Tarred roads                                 |
| Ornate small-mouthed frog  | <i>Microhyla ornata</i>               | 1          | Ephemeral puddle                             |
| Marbled small-mouthed frog | <i>Ramanella variegata</i>            | 1          | Under rocks on a hilltop                     |
| Common tree frog           | <i>Polypedates maculatus</i>          | 1          | In a bird's nest                             |
| Cricket frog               | <i>Fejervarya limnocharis</i> complex | 1          | Puddles                                      |
| Skittering frog            | <i>Euphlyctis cyanophlyctis</i>       | 1, 4       | Hill streams, ponds                          |
| Indian bull frog           | <i>Hoplobatrachus tigerinus</i>       | 4          | Pond fringe vegetation                       |
| Mysore day gecko?          | <i>Cnemaspis cf. mysoriensis</i>      | 1, 2, 3    | Under logs, on rocks, tree trunks, buildings |
| Unidentified day gecko     | <i>Cnemaspis</i> sp.                  | 2, 3, 4    | On rocks, tree trunks                        |
| House gecko                | <i>Hemidactylus frenatus</i> complex  | 1, 2, 3, 4 | Walls of buildings                           |
| Brook's gecko              | <i>Hemidactylus brookii</i> complex   | 4          | Stones                                       |
| Termite hill gecko         | <i>Hemidactylus triedrus</i>          | 2, 3       | Under a rock, buildings                      |
| Spotted rock gecko         | <i>Hemidactylus maculatus</i>         | 1, 3       | Rock crevice, caves                          |
| Peninsular rock agama      | <i>Psammophilus dorsalis</i>          | 1, 3, 4    | Open rocky hilltops                          |
| Indian rock agama          | <i>Psammophilus blanfordanus</i>      | 3, 4       | Open rocky hilltops                          |
| Unidentified rock agama    | <i>Psammophilus</i> sp.               | 3          | under a small rock                           |
| Roux's forest lizard       | <i>Calotes rouxii</i>                 | 3          | Leaf litter and tree base                    |
| Bronze grass skink         | <i>Eutropis macularia</i>             | 3          | Leaf litter                                  |
| Bibron's skink             | <i>Eutropis bibroni</i>               | 4          | Sandy patches                                |



|                               |                                   |      |                          |
|-------------------------------|-----------------------------------|------|--------------------------|
| Spotted snake skink           | <i>Lygosoma punctata</i>          | 3, 4 | Under a log              |
| Unidentified skink            | <i>Lygosoma</i> sp.               | 1    | Leaf litter              |
| Leschenault's lacertid lizard | <i>Ophisops leschenaultii</i>     | 1, 4 | Bare rocky outcrops      |
| Common worm snake             | <i>Ramphotyphlops braminus</i>    | 1, 3 | Rubble pile, under rocks |
| Elliott's shield-tail snake   | <i>Uropeltis ellioti</i>          | 3    | Under a log              |
| Green keelback snake          | <i>Macropisthodon plumbicolor</i> | 1    | Forest path              |



*Duttaphrynus melanostictus*



*Duttaphrynus cf. hololius*



*Kaloula taprobanica*



*Microhyla rubra*



*Microhyla ornata*



*Ramanella variegata*



*Polypedates maculatus*



*Fejervarya limnocharis* complex





*Euphlyctis cyanophlyctis*



*Cnemaspis cf. mysoriensis*



*Hemidactylus frenatus*



*Hemidactylus triedrus*



*Hemidactylus maculatus*



*Psammophilus blandfordanus*



*Psammophilus dorsalis*



*Psammophilus sp.*





*Calotes rouxii*



*Eutropis bibroni*



*Lygosoma punctata*



*Lygosoma sp.*



*Ophisops leschenaultii*



*Ramphotyphlops braminus*



*Uropeltis ellioti*



*Macopisthodon plumbicolor*