

## A SURVEY OF THE AMPHIBIAN FAUNA OF KERALA - DISTRIBUTION AND STATUS

M.I. Andrews<sup>1,2</sup>, Sanil George<sup>3</sup> and Jaimon Joseph<sup>1</sup><sup>1</sup> Department of Zoology, Mar Thoma College, Tiruvalla, Kerala 689103, India<sup>2</sup> RGCB, Trivandrum, Kerala 695014, IndiaE-mail: <sup>1</sup> mipeandrews@yahoo.co.in, <sup>3</sup> rhacophorus@rediffmail.com

web supplement

## ABSTRACT

A total of 70 species of amphibians belonging to 20 genera of seven families and two orders were recorded during a survey for amphibian fauna of Kerala from August 1999 to August 2002. Forty-nine of these species recorded are endemic to Kerala or the Western Ghats. Most districts in the state have rich amphibian fauna with Wayanad district having the highest number of species and Kozhikkode district the lowest number of species. Altitudinal distribution showed that the highest number of species occurred between 500-1000m and the lowest number in areas above 1500m. Information on the habitats and status of amphibians in the state are also provided.

## KEYWORDS

Amphibian fauna, distribution, status, endemism, Kerala

The Indian subcontinent, particularly the Western Ghats and the Eastern Himalaya harbour a rich amphibian fauna. The diversified topography, geographic location, high rainfall and humidity have likely supported the survival of numerous species of amphibians here. Amphibian fauna of India comprises of about 225 species (Biju, 2001), however the precise number of species is not known since new frogs are being discovered and with many being elevated to species status from synonymy at a remarkable rate. The south Indian State of Kerala is known to hold a high number of amphibian species; 87 species have been reported from here (Andrews & George, 1998). The recent discovery of a Pig-nosed Frog *Nasikabatrachus sahyadrensis* (Biju & Bossuyt, 2003) from the region, which has close affinities with the Family Sooglossidae found in the Seychelles Archipelago in the Indian Ocean, highlights the amphibian faunal wealth in the state.

Studies on the amphibian fauna of Kerala date back to fauna volumes published by Boulenger (1890, 1892), and Ferguson (1904) who listed batrachians of Travancore. Most other studies on amphibians in the state are however limited to short surveys and new descriptions (Pillai, 1978, 1981, 1986; Pillai & Pattabiraman, 1981, 1990; Inger *et al.*, 1984a,b; Ravichandran & Pillai, 1990; Andrews, 1994; George, 1995; George *et al.*, 1996; Zacharias & Bhardwaj, 1996; Radhakrishnan, 1996a,b; Radhakrishnan *et al.*, 1996; Easa, 1998; Abraham & Easa, 1999; Radhakrishnan & Ravichandran, 1999; Oommen *et al.*, 2000; Abraham *et al.*, 2001; Dubois *et al.*, 2001; Biju & Bossuyt, 2003). Hence, the present work was undertaken to make an extensive study of the amphibian fauna of Kerala with special reference to their distribution and status.

## STUDY AREA AND METHODS

Kerala (8°17'30"-12°47'40"N & 74°51'57"-77°24'47"E) is one of the smallest states of India; with an area of 38,590km<sup>2</sup> it is only

1.18% of the total area of India. Flanked by the Western Ghats on the eastern and the Arabian Sea on the western side, Kerala receives high rainfall with an average of 2,963mm (Iype *et al.*, 1991), and mainly from the south-west monsoon (June-September; 60%), the rest from the north-east monsoon (October-December). The mean annual temperature varies from 25.4°C to 31°C.

The present study was carried out from August 1999 to August 2002, during which visits to several parts of Kerala and to all the protected areas in the state were made. Field studies and samplings were mainly done during the monsoon period while on few occasions sampling was also done during the pre-and post-monsoon period. The altitude in the state was categorised as 0-500m, 500-1000m, 1000-1500m and above 1500m for sampling across altitudes. At all localities visited, intensive search for amphibians for direct visual encounter were made, for six hours daily between 0600 to 0900hr and 1700 to 2000hr. Here all potential sites such as near water bodies, along streams, under leaf litter, on tree trunks and on foliage were searched. On every amphibian encounter, information on species, habitat and altitude were recorded. All amphibians observed during the study were photographed (see images in the web supplement<sup>\*)</sup>. Where possible amphibians were collected and only one male and a female for most species were preserved in 6% formalin for further taxonomic studies in the laboratory. These are deposited in the Zoology Museum of Mar Thoma College in Tiruvalla, Kerala. In most cases specimens were released after taking morphometric measurements in the area from where collected. Species identification was made based on literature and with help from other taxonomists.

## FINDINGS OF THE SURVEY

Of the 87 amphibian species reported from the State (Andrews & George, 1998), a total of 70 species of amphibians belonging to 20 genera of seven families and two orders were recorded from various parts of Kerala during this survey (Tables 1 & 2). Forty-nine of the 70 species recorded during the study are endemic to Kerala or the Western Ghats. The highest number of amphibian species was recorded from Wayanad district (41 species), while the lowest number of species was observed in Kozhikkode district with only 11 species.

Two records of amphibians not reported from Kerala previously were found during this study. *Minervarya syhadrensis* was originally described based on specimens collected in Maharashtra, and as subspecies of *Rana limnocharis*, which was raised to species rank by Dubois (1984). Biju (2001) reported this species from the Western Ghats but was not recorded from

Kerala. Several specimens of this species were recorded from Malapuram and Kasaragod districts during the study. *Micrixalus phyllophilus* first discovered from Tamil Nadu was found during the study. A single specimen was recorded from Kurichermal, Wayanad.

*Ansonia rubigina*, *Nyctibatrachus aliciae* and *Micrixalus gadgili* that have only been recorded on few occasions by earlier workers in the state were also recorded during the study, and again only from a few places. *Micrixalus nudis*, *Nasikabatrachus sahyadrensis*, *Nyctibatrachus minor*, *Polypedates pseudocruciger* and *Rhacophorus lateralis*, earlier recorded only from a few places were either found in many places in the state or many specimens were observed during the study. Some species -- *Bufo hololius*, *B. silentvalleyensis*, *Indirana leithii*, *Melanobatrachus indicus*, *Micrixalus thampii*, *Nannobatrachus beddomii*, *Pedostibes tuberculosus*, *Philautus travancoricus* and *Rhacophorus calcadensis* known only from their type localities or based on a few specimens collected by one or two workers in the state earlier could not be located during this survey.

#### ALTITUDINAL DISTRIBUTION

The highest number of species was found between 500 and 1000m altitude (48) and the lowest number of species above 1500m (7), while 39 species were recorded between 0 and 500m and 35 species between 1000 and 1500m with some species overlapping in their altitude range. The seven species found to occur above 1500m were also found to occur in other areas, and no amphibian species were found exclusively in the region above 1500m. Species like *Indirana beddomii*, *Nyctibatrachus major* and *Rana temporalis* were recorded from all the altitudes indicating their diverse adaptations to live in the low and high altitudes. Details of the altitude occupancy of each species is given in Table 1.

#### HABITAT OCCUPANCY

The highest number of amphibian species (41) was found in agricultural fields and plantations while least number of species (9) was found in grasslands. The evergreen and semi-evergreen forests harbored 39 species, the deciduous forests supported 28 and the sholas had 18 species. Some species were observed to inhabit more than one habitat type, while 29 species were observed in only one habitat (Table 1).

*Bufo melanostictus* was found to occur in all five habitats while species like *Indirana beddomii* and *Rana curtipes* were recorded in all habitats except agricultural fields and plantations. *Euphlyctis cyanophlyctis*, *Fejervarya keralensis* and *F. limnocharis* were seen in all habitats except sholas; *Rana temporalis* was present in all habitats except grasslands. Several species were found exclusively in agricultural fields and plantations while *Gegeneophis carnosus*, *Micrixalus gadgili*, *M. phyllophilus*, *Nyctibatrachus aliciae*, *N. beddomii*, *Philautus nasutus*, *P. temporalis* and *Uraeotyphlus oxyurus* were seen only in the evergreen and semi-evergreen forests; *Bufo scaber* and *Philautus glandulosus* were present only in the deciduous forests and *Philautus tinniensi* only in the sholas.

Forty-five of the 70 amphibians recorded were non-riparian species, 15 were riparian and 10 were intermediate species. All caecilians, bufonids, microhylids and rhacophorids were non-riparian species. Among the ranids *Indirana brachytarsus*, *I. diplostictus*, *I. semipalmatus*, *Rana malabarica*, *Sphaerotecla breviceps*, *S. rolandae* and *S. rufescens* were non-riparian species while several others were riparian species and few were intermediate species. Among bufonids, only *Ansonia rubigina* was found to be a riparian species.

#### STATUS OF AMPHIBIANS

Eighteen species were seen commonly, while all other species (52) were found rarely in the state. Among the rare species, *Uraeotyphlus interruptus*, *U. oxyurus*, *Uperodon systoma*, *Micrixalus gadgili*, *M. phyllophilus*, *Nyctibatrachus beddomii*, *Philautus tinniensi*, *P. glandulosus*, *Rhacophorus lateralis* and *Sphaerotecla rolandae* were recorded from only one locality each. The commoner species were observed to occur in less number in some places while they were numerous in other parts of the state. The most abundant family observed during the survey was Ranidae with representatives from 8 genera (31 species), followed by the families Rhacophoridae and Microhylidae with members from 3 genera (16) and 4 genera (8) respectively. *Philautus* was the most abundant genus (12), followed by *Micrixalus* (6), *Fejervarya* (5) and *Indirana* (5).

It is most likely that we may have missed some species during the field surveys, as we could not cover the entire state within the study period. Further surveys and studies need to be taken up in many parts of Kerala to get a better and complete picture of the amphibian fauna of the state.

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Table 1. Checklist of amphibians of Kerala with distribution, habitat, status and altitude information.

| Species   | Location of species   |   | Habitats |   |   |   |   |    |   |    |   |   | Status |           |           | Altitude range (m) | Catalogue No. |
|---|---|---|----------|---|---|---|---|----|---|----|---|---|--------|-----------|-----------|--------------------|---------------|
|   | Sanctuary/ National Park Biosphere Reserve  | District with Places  | 1        | 2 | 3 | 4 | 5 | RI | I | NR | R | C | A      |           |           |                    |               |
| <b>Ichthyophiidae</b> Taylor, 1968  |   |   |          |   |   |   |   |    |   |    |   |   |        |           |           |                    |               |
| 01 <i>Ichthyophis beddomei</i> Peters, 1879 <sup>E</sup>                    | Wyanad WLS  | Thiruvananthapuram (Chathancode, Ponnudi), Wayanad (Muthunga, Bathery), Kasaragod (Ranipuram)   | +        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-1500    | MTCZM-600 |                    |               |
| 02 <i>I. malabarensis</i> Taylor, 1960 <sup>E</sup>                         | Aralam WLS  | Pathanamthitta (Ranni), Kottayam (Pala), Idukki (Moolamattom)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-1000    | MTCZM-601 |                    |               |
| 03 <i>I. peninsularis</i> Taylor, 1960 <sup>E</sup>                         | --  | Pathanamthitta (Tiruvalla), Ernakulam (Malayatoor)  | +        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500     | MTCZM-602 |                    |               |
| 04 <i>I. tricolor</i> Annandale, 1909 <sup>E</sup>                          | Aralam WLS  | Pathanamthitta (Konni), Kottayam (Pala), Idukki (Vandiperiyar), Ernakulam (Perumbavoor)   | +        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-1000    | MTCZM-603 |                    |               |
| <b>Uraeotyphlidae</b> Nussbaum & Wilkinson, 1989                            |   |   |          |   |   |   |   |    |   |    |   |   |        |           |           |                    |               |
| 05 <i>Uraeotyphlus interruptus</i> Pillai & Ravichandran, 1999 <sup>E</sup> | --  | Ernakulam (Kothamangalam)   | -        | - | - | + | + | -  | - | ✓  | X | - | -      | 0-500     | MTCZM-604 |                    |               |
| 06 <i>U. menoni</i> Annandale, 1913 <sup>E</sup>                            | Wayanad WLS, Aralam WLS   | Idukki (Thodupuzha), Ernakulam (Kolencherry), Kasaragod (Bandadka)  | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500     | MTCZM-605 |                    |               |
| 08 <i>U. oxyurus</i> (Dumeril & Bibron, 1941) <sup>E</sup>                  | Silent Valley NP  | --  | -        | - | - | - | + | -  | - | ✓  | - | X | -      | 0-500     | MTCZM-607 |                    |               |
| 09 <i>Gegeneophis carnosus</i> (Beddome, 1870) <sup>E</sup>                 | --  | Pathanamthitta(Kozhencherry), Thiruvananthapuram (Ponmudi, Chathancode)   | +        | - | - | - | - | -  | - | ✓  | X | - | -      | 0-500     | MTCZM-608 |                    |               |
| 10 <i>G. ramaswamii</i> Taylor, 1964 <sup>E</sup>                           | --  | Thiruvananthapuram, Kollam (Thenmalai, Punalur)   | +        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500     | MTCZM-609 |                    |               |
| <b>Bufo</b> Gray, 1825  |   |   |          |   |   |   |   |    |   |    |   |   |        |           |           |                    |               |
| 11 <i>Ansonia rubigina</i> Pillai & Pattabhiraman, 1981 <sup>E</sup>        | Silent Valley NP  | Wayanad (Kurichermala)  | +        | - | + | - | - | ✓  | - | -  | X | - | -      | 500-1500  | MTCZM-610 |                    |               |
| 12 <i>Bufo scaber</i> Schneider, 1799                                       | Peechi-Vazhani WLS  | Ernakulam (Pooyamkutty)   | -        | + | - | - | - | -  | - | ✓  | X | - | -      | 0-1500    | MTCZM-611 |                    |               |
| 13 <i>B. melanostictus</i> Schneider, 1799                                  | Neyyar WLS, Agasthyavanam BP, Peppara WLS, Shenduruni WLS, Periyar TR, Idukki WLS, Chimmini WLS, Thattekkad WLS, Chinnar WLS, Silent Valley NP, Parambikulam WLS, Wayanad WLS, Aralam WLS | Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukki, Ernakulam, Thrissur, Palakkad, Malapuram (Nilambur), Kozhikkode, Wayanad, Kannur (Iritty), Kasaragod | +        | + | + | + | + | -  | - | ✓  | - | - | X      | 0-1500    | MTCZM-612 |                    |               |
| 14 <i>B. microtypanum</i> Boulenger, 1882                                   | Periyar TR, Thattekkad WLS, Silent Valley NP, Wayanad WLS   | Thiruvananthapuram (Ponmudi), Alappuzha (Kuttanad), Ernakulam (Pooyamkutty, Edamalayar)   | +        | + | - | - | - | -  | - | ✓  | - | X | -      | 500->1500 | MTCZM-613 |                    |               |
| 15 <i>B. parietalis</i> Boulenger, 1882 <sup>E</sup>                        | Peppara WLS, Eravikulam NP, Parambrikulam WLS, Silent valley NP   | Thiruvananthapuram (Ponmudi, Chathancode), Alappuzha (Thakazhi), Idukki (Munnar), Wayanad Kasaragod   | +        | - | + | + | + | -  | - | ✓  | - | X | -      | 0-500     | MTCZM-614 |                    |               |

| Species   | Location of species  |  | Habitats |   |   |   |   |    |   |    |   |   | Status |          |           | Altitude range (m) | Catalogue No. |
|---|--|--|----------|---|---|---|---|----|---|----|---|---|--------|----------|-----------|--------------------|---------------|
|   | Sanctuary/ National Park Biosphere Reserve   | District with Places   | 1        | 2 | 3 | 4 | 5 | RI | I | NR | R | C | A      |          |           |                    |               |
| <b>Microhylidae</b> Günther, 1858                           |  |  |          |   |   |   |   |    |   |    |   |   |        |          |           |                    |               |
| 16 <i>Kaloula taprobanica</i> (Parker, 1934)                | Wayanad WLS  | Pathanamthitta (Kuttanad)  | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-615 |                    |               |
| 17 <i>Microhyla ornata</i> (Dumeril & Bibron, 1841)         | Periyar WLS  | Alappuzha (Nedumudi, Kuttanad), Pathanamthitta (Kuttanad), Ernakulam (Pooyamkutty), Wayanad  | -        | + | - | - | + | -  | - | ✓  | X | - | -      | 0-1000   | MTCZM-616 |                    |               |
| 18 <i>M. rubra</i> (Jerdon, 1854)                           | --   | Alappuzha (Karthikappally), Pathanamthitta (Kuttanad), Thrissur (Town)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-617 |                    |               |
| 19 <i>Nasikabatrachus sahyadrensis</i> Biju & Bossuyt, 2003 | --   | Kottayam (Melukavu, Erumeli), Idukki (Moolamattom, Peerumedu)  | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-618 |                    |               |
| 20 <i>Ramanella montana</i> (Jerdon, 1854) <sup>E</sup>     | Chimmini WLS, Silent Valley NP   | Thiruvananthapuram (Ponmudi), Pathanamthitta (Othara) Wayanad (Kalpetta)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 500-1000 | MTCZM-619 |                    |               |
| 21 <i>R. triangularis</i> (Günther, 1875) <sup>E</sup>      | --   | Thiruvananthapuram (Ponmudi) Wayanad   | +        | - | - | - | + | -  | - | ✓  | X | - | -      | 500-1000 | MTCZM-620 |                    |               |
| 22 <i>R. variegata</i> (Stoliczka, 1872)                    | --   | Alappuzha (Kuttanad)Palakkad (Nelliampathi)-   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-621 |                    |               |
| 23 <i>Uperodon systoma</i> (Schneider, 1799)                | --   | Malapuram (Nilambur)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-622 |                    |               |
| <b>Ranidae</b> Rafinesque-Schmaltz,1814                     |  |  |          |   |   |   |   |    |   |    |   |   |        |          |           |                    |               |
| 24 <i>Euphylyctis cyanophlyctis</i> (Schneider, 1799)       | Neyyar WLS, Peppara WLS, Shenduruni WLS, Idukki WLS, Chinnar WLS, Thattakkad WLS, Peechi-Vazhani WLS, Chimmini WLS, Parambikulam WLS, Wayanad WLS, Aralam WLS, Periyar WLS | Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukki, Ernakulam, Thrissur, PalakkadMalapuram, Kozhikkode, Wayanad, Kannur, Kasaragod              | +        | + | - | + | + | ✓  | - | -  | - | - | X      | 0-1500   | MTCZM-623 |                    |               |
| 25 <i>E. hexadactylus</i> (Lesson, 1834)                    | Neyyar WLS, Peppara WLS, Shenduruni WLS, Thattakkad WLS, Peechi-Vazhani WLS, Wayanad WLS, Aralam WLS, Periyar WLS  | Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukki, Ernakulam, Trissur,Malapuram (Manjeri), Kozhikkode  | -        | + | - | - | + | ✓  | - | -  | - | - | X      | 0-1500   | MTCZM-624 |                    |               |
| 26 <i>Hoplobatrachus crassus</i> (Jerdon, 1853)             | Peechi-Vazhani WLS   | Thiruvananthapuram (Ponmudi), Kollam (Thennala), Pathanamthitta (Kuttanad), Kasaragod (Ranipuram)  | -        | + | - | - | + | -  | ✓ | -  | X | - | -      | 0-1500   | MTCZM-625 |                    |               |
| 27 <i>H. tigrinus</i> (Daudin, 1803)                        | Shenduruni WLS, Periyar WLS, Thattakkad WLS, Peechi-Vazhani WLS, Aralam WLS, Wayanad WLS   | Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukki (Low range areas), Ernakulam, Malapuram (Manjeri), Kozhikkode, Kannur (Kottiyoor), Kasaragod | -        | + | - | - | + | -  | ✓ | -  | - | X | -      | 0-1000   | MTCZM-626 |                    |               |
| 28 <i>Indirana beddomii</i> (Günther, 1875) <sup>E</sup>    | Neyyar WLS, Peppara WLS, Periyar WLS, Idukki WLS, Thattakkad WLS, Peechi-Vazhani WLS, Chimmini WLS, Silent Valley NP, Parambikulam WLS, Wayanad WLS, Aralam WLS            | Thiruvananthapuram, Pathanamthitta, Idukki, Ernakulam, Thrissur, Kozhikode (Adivaram), Wayanad, Kannur (Kottiyoor), Kasaragod  | +        | + | + | + | + | -  | ✓ | -  | - | - | X      | 0->1500  | MTCZM-627 |                    |               |
| 29 <i>I. brachytarsus</i> (Günther, 1875) <sup>E</sup>      | Eravikulam NP  | Thiruvananthapuram (Ponmudi), Idukki (Munnar), Ernakulam (Idamalayar)  | +        | + | - | - | - | -  | - | ✓  | - | X | -      | 500-1000 | MTCZM-628 |                    |               |

| Species  | Location of species  |   | Habitats |   |   |   |   |    |   |    |   |   | Status |            |           | Altitude range (m) | Catalogue No. |
|--|--|---|----------|---|---|---|---|----|---|----|---|---|--------|------------|-----------|--------------------|---------------|
|  | Sanctuary/ National Park Biosphere Reserve   | District with Places  | 1        | 2 | 3 | 4 | 5 | RI | I | NR | R | C | A      |            |           |                    |               |
| 30 <i>I. displostictus</i> (Günther, 1875) <sup>E</sup>          | --   | Iddukki (Mattupetty), Kasaragod (Ranipuram, Banthaduka)   | +        | - | - | + | - | -  | - | ✓  | X | - | -      | 500->1500  | MTCZM-629 |                    |               |
| 31 <i>I. leptodactylus</i> (Boulenger, 1882) <sup>E</sup>        | Idukki WLS, Eravikulam NP, Parambikulam WLS  | Idukki (Munnar)   | +        | - | + | - | - | -  | ✓ | -  | X | - | -      | 1000->1500 | MTCZM-630 |                    |               |
| 32 <i>I. semipalmatus</i> (Boulenger, 1882) <sup>E</sup>         | Idukki WLS, Parambikulam WLS   | Thiruvananthapuram (Ponmudi), Wayanad (Kurichermala)  | +        | + | - | - | - | -  | - | ✓  | X | - | -      | 500-1500   | MTCZM-631 |                    |               |
| 33 <i>Fejervarya brevipalmata</i> (Peters, 1871) <sup>E</sup>    | Neyyar WLS, Periyar WLS, Parambikulam WLS, Aralam WLS  | Thiruvananthapuram (Ponmudi), Malapuram (Nilambur), Wayanad (Kalpetta), Kannur (Iritty), Kasaragod (Ranipuram)                                    | -        | + | - | - | + | -  | ✓ | -  | - | X | -      | 500-1500   | MTCZM-632 |                    |               |
| 34 <i>F. keralensis</i> (Dubois, 1980)                           | Neyyar WLS, Peppara WLS, Agasthyavana BP, Shendurini WLS, Periyar WLS, Idukki WLS, Chinnar WLS, Thattakkad WLS, Chimmini WLS, Peechi-Vazhani WLS, Silent Valley NP, Parambrikulam WLS, Wayanad WLS, Aralam WLS | Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam, Idukki, Ernakulam, Thrissur, Malapuram, Kozhikkode, Wayanad, Kannur, Kasaragod              | +        | + | - | + | + | -  | ✓ | -  | - | - | X      | 0-1500     | MTCZM-633 |                    |               |
| 35 <i>F. limnocharis</i> (Gravenhorst, 1829)                     | Neyyar WLS, Shenduruni WLS, Periyar WLS, Thattakkad BS, Peechi-Vazhani WLS, Silent Valley NP, Parambikulam WLS, Wayanad WLS, Aralam WLS  | Thiruvananthapuram, Pathanamthitta, Kollam, Alappuzha, Kottayam, Idukki, Ernakulam, Thrissur, Palakkad, Malapuram, Kozhikkode, Wayanad, Kasaragod | +        | + | - | + | + | -  | ✓ | -  | - | - | X      | 0-1500     | MTCZM-634 |                    |               |
| 36 <i>F. nilagirica</i> (Jerdon, 1853) <sup>E</sup>              | Periyar WLS, Eravikulam NP, Peechi-Vazhani WLS, Wayanad WLS  | Kottayam (Vagamon), Idukki, Wayanad   | -        | - | + | - | + | -  | ✓ | -  | - | X | -      | 500->1500  | MTCZM-635 |                    |               |
| 37 <i>F. syhadrensis</i> (Annandale, 1919)                       | --   | Malapuram (Nilambur), Kasaragod (Rajapuram)   | -        | + | - | - | + | ✓  | - | -  | X | - | -      | 500-1500   | MTCZM-636 |                    |               |
| 38 <i>Micrixalus fuscus</i> (Boulenger, 1882) <sup>E</sup>       | Neyyar WLS, Agasthyavanam BP, Peppara WLS, Periyar WLS, Chimmini WLS, Silent Valley NP   | Thiruvananthapuram, Pathanamthitta (Ranni), Kottayam (Vagamon), Idukki (Munnar), Palakkad (Nelliampathy)  | +        | - | + | - | - | ✓  | - | -  | - | X | -      | 500-1500   | MTCZM-637 |                    |               |
| 39 <i>M. gadgii</i> Pillai & Pattabhiraman, 1990 <sup>E</sup>    | --   | Thiruvananthapuram (Ponmudi)  | +        | - | - | - | - | ✓  | - | -  | X | - | -      | 500-1000   | MTCZM-638 |                    |               |
| 40 <i>M. nudis</i> Pillai, 1978 <sup>E</sup>                     | Periyar WLS, Idukki WLS, Eravikulam NP, Thattakkad WLS, Silent Valley NP, Wayanad WLS, Aralam WLS  | Ernakulam (Idamalayar), Thrissur (Athirappally), Kannur (Thalassery), Kasaragod (Bheemanadi)  | +        | - | + | - | - | ✓  | - | -  | - | X | -      | 500->1500  | MTCZM-639 |                    |               |
| 41 <i>M. phyllophilus</i> (Jerdon, 1853) <sup>E</sup>            | --   | Wayanad (Kurichermala)  | +        | - | - | - | - | ✓  | - | -  | X | - | -      | 1000-1500  | MTCZM-640 |                    |               |
| 42 <i>M. saxicolus</i> Jerdon, 1853 <sup>E</sup>                 | Silent Valley NP, Aralam WLS   | WayanadKannur (Kottivoor), Kasaragod (Ranipuram, Manchucholamala)   | +        | + | + | - | - | ✓  | - | -  | X | - | -      | 500-1500   | MTCZM-641 |                    |               |
| 43 <i>M. silvaticus</i> (Boulenger, 1882) <sup>E</sup>           | Silent Valley NP   | Wayanad (Kurichermala)  | +        | - | + | - | - | ✓  | - | -  | X | - | -      | 1000-1500  | MTCZM-642 |                    |               |
| 44 <i>Nyctibatrachus aliciae</i> Inger et al., 1984 <sup>E</sup> | Silent Valley NP   | Thiruvananthapuram (Ponmudi), Wayanad (Kalpetta)  | +        | - | - | - | - | ✓  | - | -  | X | - | -      | 500-1000   | MTCZM-643 |                    |               |
| 45 <i>Nyctibatrachus beddomii</i>                                | --   | Wayanad (Kalpetta)  | +        | - | - | - | - | ✓  | - | -  | X | - | -      | 1000-1500  | MTCZM-644 |                    |               |

| Species   | Location of species  |   | Habitats |   |   |   |   |    |   |    |   |   | Status |          |           | Altitude range (m) | Catalogue No. |
|---|--|---|----------|---|---|---|---|----|---|----|---|---|--------|----------|-----------|--------------------|---------------|
|   | Sanctuary/ National Park   | District with Places  | 1        | 2 | 3 | 4 | 5 | RI | I | NR | R | C | A      |          |           |                    |               |
| (Boulenger, 1882) <sup>E</sup>                            |  |   |          |   |   |   |   |    |   |    |   |   |        |          |           |                    |               |
| 46 <i>N. major</i> Boulenger, 1882 <sup>E</sup>           | Neyyar WLS, Agasthyavanam BP, Peppara WLS, Periyar WLS, Eravikulam NP, Chinnar WLS, Silent Valley NP, Parambikulam WLS, Wayanad WLS, Aralam WLS  | Thiruvananthapuram, Pathanamthitta (Nilackal), Kottayam (Vagamon), Idukki, Peppara WLS, Periyar WLS, Ernakulam (Idamalayar), Thrissur, Palakkad, Wayanad, Kannur (Iritty), Kasargod | +        | + | + | - | - | ✓  | - | -  | - | - | X      | 0->1500  | MTCZM-645 |                    |               |
| 47 <i>N. minor</i> Inger et al., 1984 <sup>E</sup>        | Neyyar WLS, Peppara WLS, Eravikulam NP, Chinnar WLS, Parambikulam WLS, Aralam WLS  | Thiruvananthapuram (Ponmudi), Idukki (Munnar), Ernakulam (Idamalayar), Palakkad (Nelliampathy), Wayanad (Kalpetta), Kannur (Iritty), Kasaragod (Ranipuram)                          | +        | + | + | - | - | ✓  | - | -  | - | X | -      | 0-1000   | MTCZM-646 |                    |               |
| 48 <i>Rana aurantiaca</i> Boulenger, 1904 <sup>E</sup>    | Neyyar WLS, Periyar WLS, Chinnar WLS, Thattekkad   | Thiruvananthapuram (Chanthacode) Alappuzha (Kuttanad)   | -        | + | - | - | + | ✓  | - | -  | X | - | -      | 0-1500   | MTCZM-647 |                    |               |
| 49 <i>R. curtipes</i> Jerdon, 1853 <sup>E</sup>           | Periyar WLS, Aralam WLS, Wayanad WLS, Parambikulam WLS   | Pathanamthitta (Tiruvalla, Kuttanad), Kottayam (Vagamon), Iddukki (Peerumedu, Elappara, Kattappana), Wayanad  | +        | + | + | + | - | -  | ✓ | -  | - | X | -      | 0-1500   | MTCZM-648 |                    |               |
| 50 <i>R. malabarica</i> Tschudi, 1838 <sup>E</sup>        | Periyar WLS, Thattekkad WLS  | Pathanamthitta (Tiruvalla, Kuttanad) Alappuzha (Kuttanad),Kottayam (Puthupally) Idukki (Thodupuzha)   | -        | - | - | - | + | -  | - | "  | - | X | -      | 0-1500   | MTCZM-649 |                    |               |
| 51 <i>R. temporalis</i> (Günther, 1864)                   | Neyyar WLS, Agasthyavanam BP, Peppara WLS, Periyar WLS, Eravikulam NP, Chinnar WLS, Thattekkad BS, Peechi-Vazhani WLS, Chimmini WLS, Silent Valley NP, Parambikulam WLS, Wayanad WLS, Aralam WLS | Thiruvananthapuram, Kollam, Pathanamthitta (Nilackal), Kottayam,Idukki, Kottayam, Thrissur, Malapuram, Kozhikkode, Wayanad, Kannur, Kasaragod                                       | +        | + | + | - | + | -  | " | -  | - | - | X      | 0->1500  | MTCZM-650 |                    |               |
| 52 <i>Sphaeroteoca brevicaeps</i> (Schneider, 1799)       | Peppara WLS, Parambikulam WLS  | Thiruvananthapuram (Chathancode, Ponmudi)   | -        | + | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-651 |                    |               |
| 53 <i>S. rolandae</i> (Dubois, 1983) <sup>E</sup>         | --   | Palakkad (Ottappalam)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-652 |                    |               |
| 54 <i>S. rufescens</i> (Jerdon, 1853) <sup>E</sup>        | Peechi-Vazhani WLS, Parambikulam WLS, Aralam WLS   | Kottayam (Vagamon), Idduki (Madupetty) Ernakulam (Pooyamkutti), Palakkad (Mannarcad), Kasaragod (Rajapuram, Parappa)  | +        | + | - | - | + | -  | - | ✓  | X | - | -      | 0-500    | MTCZM-653 |                    |               |
| <b>Rhacophoridae</b> Kuhl & Van Hasselt, 1822             |  |   |          |   |   |   |   |    |   |    |   |   |        |          |           |                    |               |
| 55 <i>Philautes beddomii</i> (Günther, 1875) <sup>E</sup> | Periyar WLS, Wayanad WLS, Aralam WLS   | Thiruvananthapuram (Ponmudi), Ernakulam (Pooyamkutti), Kannur (Iritti), Kasaragod (Ranipuram)   | +        | + | - | - | - | -  | - | ✓  | - | X | -      | 500-1500 | MTCZM-654 |                    |               |
| 56 <i>P. chalazodes</i> (Günther, 1865) <sup>E</sup>      | Parambikulam WLS   | Wayanad (Kalpetta, Kurichermala)  | +        | - | + | - | - | -  | - | ✓  | X | - | -      | 500-1500 | MTCZM-655 |                    |               |
| 57 <i>P. charius</i> Rao, 1937 <sup>E</sup>               | --   | Thiruvananthapuram (Ponmudi) Wayanad (Kalpetta)   | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 500-1000 | MTCZM-656 |                    |               |
| 58 <i>P. femoralis</i> (Günther, 1864) <sup>E</sup>       | Eravikulam NP  | Thiruvananthapuram (Ponmudi) Idukki (Munnar)  | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 500-1500 | MTCZM-657 |                    |               |

| Species  | Location of species  |   | Habitats |   |   |   |   |    |   |    |   |   | Status |           |           | Altitude range (m) | Catalogue No. |
|--|--|---|----------|---|---|---|---|----|---|----|---|---|--------|-----------|-----------|--------------------|---------------|
|  | Sanctuary/ National Park   | District with Places  | 1        | 2 | 3 | 4 | 5 | RI | I | NR | R | C | A      |           |           |                    |               |
| 59 <i>P. glandulosus</i> (Jerdon, 1853) <sup>E</sup>                       | Aralam WLS   | --  | -        | + | - | - | - | -  | - | ✓  | X | - | -      | 500-1000  | MTCZM-658 |                    |               |
| 60 <i>P. leucorhinus</i> (Lichtenstein & Martens, 1856) <sup>E</sup>       | Neyyar WLS, Idukki WLS, Thattekkad WLS, Peechi-Vazani WLS, Chimmini WLS, Parambikulam WLS, Wayanad WLS, Aralam WLS | Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukki, Ernakulam, Thrissur, Malapuram, Kozhikkode, (Adivaram, Kozhikkode) Wayanad, Kasaragod  | -        | + | - | - | + | -  | - | ✓  | - | - | X      | 0-1000    | MTCZM-659 |                    |               |
| 61 <i>P. nasutus</i> (Günther, 1868)                                       | Periyar WLS, Silent Valley NP  | --  | +        | - | - | - | - | -  | - | ✓  | X | - | -      | 1000-1500 | MTCZM-660 |                    |               |
| 62 <i>P. pulcherrimus</i> (Ahl,1927) <sup>E</sup>                          | Eravikulam NP, Silent Valley NP, Aralam WLS  | Thiruvananthapuram (Chathancode), Kottayam (Vagamon, Puthupally), Idukki (Elappara), Wayanad (Kalapitta), Kannur (Iritti), Kasaragod  | -        | - | + | - | + | -  | - | ✓  | - | X | -      | 0-1000    | MTCZM-661 |                    |               |
| 63 <i>P. signatus</i> (Boulenger, 1882) <sup>E</sup>                       | Eravikulam NP, Silent Valley NP  | Thiruvananthapuram (Ponmudi), Pathanamthitta (Tiruvalla), Idukki (Munnar), Wayanad (Karuva)   | +        | - | - | + | - | -  | - | ✓  | - | X | -      | 500-1500  | MTCZM-662 |                    |               |
| 64 <i>P. temporalis</i> (Günther, 1864) <sup>E</sup>                       | Aralam WLS   | Thiruvananthapuram (Ponmudi), Ernakulam (Edamalayar), Wayanad (Kalpetta)  | +        | - | - | - | - | -  | - | ✓  | X | - | -      | 500-1000  | MTCZM-663 |                    |               |
| 65 <i>P. tinniens</i> (Jerdon, 1853)                                       | --   | Wayanad (Chembra peak)  | -        | - | + | - | - | -  | - | ✓  | X | - | -      | 1000-1500 | MTCZM-664 |                    |               |
| 66 <i>P. wynaadensis</i> (Günther, 1858) <sup>E</sup>                      | Neyyar WLS, Silent Valley NP, Periyar WLS, Wayanad WLS   | Thiruvananthapuram (Ponmudi), Ernakulam (Edamalayar), Malapuram (Vazhikadavu), Wayanad  | +        | + | - | - | + | -  | - | ✓  | - | X | -      | 500-1500  | MTCZM-665 |                    |               |
| 67 <i>Polypedates maculatus</i> (Gray, 1834)                               | Periyar WLS, Thattekkad WLS, Peechi-Vazhani WLS, Aralam WLS  | Pathanamthitta (Tiruvalla), Alappuzha (Kuttanad), Kottayam (Puthupally), Palakkad (Town), Wayanad (Bathery)   | -        | - | - | - | + | -  | - | ✓  | - | X | -      | 0-1500    | MTCZM-666 |                    |               |
| 68 <i>Polypedates pseudocruciger</i> Das & Ravichandran, 1998 <sup>E</sup> | Periyar WLS, Chimar WLS  | Thiruvananthapuram (Chathancode, Ponmudi), Kollam (Kulathurpuzha), Pathanamthitta (Ranni,Kuttanad, Tiruvalla), Kottayam (Puthupally, Palai), Idukki (Thodupuzha), Palakkad (Nelliampathy), Malapuram (Nilambur),Kozhikkode (Adivaram), Wayanad (Muttunga) | +        | + | - | - | + | -  | - | ✓  | - | - | X      | 0-1500    | MTCZM-667 |                    |               |
| 69 <i>Rhacophorus lateralis</i> Boulenger, 1883 <sup>E</sup>               | --   | Wayanad (Kalpetta)  | -        | - | - | - | + | -  | - | ✓  | X | - | -      | 500-1000  | MTCZM-668 |                    |               |
| 70 <i>R. malabaricus</i> Jerdon, 1870 <sup>E</sup>                         | Periyar WLS, Silent Valley NP, Wayanad WLS, Aralam WLS   | Thiruvananthapuram (Chathancode), Kollam (Thenmala, Punalur), Pathanamthitta (Kuttanad), Alappuzha (Kuttanad), Kottayam (Puthupally), Idukki, Wayanad, Kasaragod (Ranipuram)  | -        | + | - | - | + | -  | - | ✓  | - | X | -      | 0-1500    | MTCZM-669 |                    |               |

WLS - Wildlife Sanctuary; NP - National Park; TR - Tiger Reserve; BS - Bird sanctuary; BP - Biological Park.

\*, Places of collection are shown in parenthesis for each district; if species is common, places are not mentioned. When species are recorded only from a sanctuary district including the concerned sanctuary is not shown.

<sup>E</sup> - Endemic to Kerala / Western Ghats.

1 - Evergreen and semi-evergreen forests; 2 - Deciduous forest; 3 - Sholas; 4 - Grassland; 5 - Cultivated land and plantation (+ present; - absent).

RI - Riparian; I - Intermediate; NR - Non-riparian (" mark is shown). R - Rare are those species found in 1-3 districts and/ or 1 - 3 Wildlife Sanctuaries/National Parks; C-Common are those species seen in 3-8 districts and 2 or more Wildlife Sanctuaries/ National Parks; A-Abundant are those species found in 9-14 districts and 2 or more Wildlife Sanctuaries/ National Parks.

**Table 2. District-wise distribution of amphibians of Kerala**

| Sl. No.  | Species                           | Habitat           | Microhabitat  | Status      |
|--|-----------------------------------|-------------------|---|-------------|
| <b>a) Thiruvananthapuram district (8°17'-8°54'N &amp; 76°4'-77°17'E)</b> |                                   |                   |   |             |
| 1  | <i>Ichthyophis beddomei</i>       | FS, CL            | under wet humid black soil  | rare        |
| 2  | <i>Gegeneophis carnosus</i>       | FS, CL            | under wet humid black soil  | rare        |
| 3  | <i>G. ramaswamii</i>              | MDF, CL           | under soil  | common      |
| 4  | <i>Bufo melanostictus</i>         | EGF, SEF, MDF, CL | on bare soil, under stones and crevices                               | common      |
| 5  | <i>B. microtympanum</i>           | MDF, CL           | under stones  | rare        |
| 6  | <i>B. parietalis</i>              | EGF, SEF          | forest floor-on leaf litter   | rare        |
| 7  | <i>Ramanella montana</i>          | EGF               | on wet soil near water pools  | rare        |
| 8  | <i>R. triangularis</i>            | EGF               | in tree holes   | rare        |
| 9  | <i>Euphylyctis cyanophlyctis</i>  | MDF, CL           | floats on water surfaces  | very common |
| 10   | <i>E. hexadactylus</i>            | MDF, CL           | in water-hides among submerged plants                                 | common      |
| 11   | <i>Hoplobatrachus crassus</i>     | TP                | on wet soil/near water  | rare        |
| 12   | <i>H. tigerinus</i>               | CL                | in marshes  | common      |
| 13   | <i>Indirana beddomii</i>          | MDF, SEF, EGF     | forest floor - on wet soil or leaf litter and under stones            | common      |
| 14   | <i>I. brachytarsus</i>            | EGF               | forest floor-on leaf litter   | rare        |
| 15   | <i>I. semipalmatus</i>            | FS                | on grass -covered rocks   | rare        |
| 16   | <i>Fejervarya brevipalmata</i>    | MDF               | among grasses in marsh  | rare        |
| 17   | <i>F. keralensis</i>              | SEF, MDF, TP      | stream banks- on wet sand / soil and leaf litter                      | common      |
| 18   | <i>F. limnocharis</i>             | SEF, MDF, TP      | in marshes and wet lands among grasses                                | common      |
| 19   | <i>Micrixalus fuscus</i>          | EGF, SEF          | stream banks and stream beds –on boulders or wet soil                 | common      |
| 20   | <i>M. gadgili</i>                 | EGF, SEF          | stream banks and beds   | rare        |
| 21   | <i>Nyctibatrachus aliciae</i>     | EGF               | hill streams-in water   | rare        |
| 22   | <i>N. major</i>                   | EGF, MDF          | streams-submerged in water  | common      |
| 23   | <i>N. minor</i>                   | EGF, DDF          | in very shallow streams; on wet soil, under stones and on leaf litter | common      |
| 24   | <i>Rana aurantiaca</i>            | DDF               | in marsh – among grasses, in water or on wet soil                     | rare        |
| 25   | <i>R. temporalis</i>              | EGF, SEF, MDF, CL | close to water among grasses in marshes                               | very common |
| 26   | <i>Sphaerotheca brevipeps</i>     | CL inside MDF     | marshy soil   | rare        |
| 27   | <i>Philautus beddomii</i>         | GL                | on herbs  | rare        |
| 28   | <i>P. charius</i>                 | EGF               | on herbs  | rare        |
| 29   | <i>P. femoralis</i>               | GL                | on herbs  | rare        |
| 30   | <i>P. leucorhinus</i>             | FS, CL            | on herbs and shrubs   | common      |
| 31   | <i>P. pulcherrimus</i>            | DDF               | on the leaf of shrubs   | rare        |
| 32   | <i>P. signatus</i>                | GL                | on grass leaf   | rare        |
| 33   | <i>P. temporalis</i>              | GL                | on herbs  | rare        |
| 34   | <i>P. wynaadensis</i>             | GL                | on herbs  | rare        |
| 35   | <i>Polypedates pseudocruciger</i> | DDF               | on shrubs in marshes  | rare        |
| 36   | <i>Rhacophorus malabaricus</i>    | CL                | on the stem of shrubs   | rare        |
| 37   | <i>Bufo beddomii</i>              | -                 | -   | -           |
| 38   | <i>Indirana diplostictus</i>      | -                 | -   | -           |
| 39   | <i>Micrixalus nudis</i>           | -                 | -   | -           |
| 40   | <i>Nannobatrachus beddomii</i>    | -                 | -   | -           |
| 41   | <i>Pedostibes tuberculosus</i>    | -                 | -   | -           |
| <b>b) Kollam district (9°28'-8°45'N &amp; 76°28'-77°17'E)</b>            |                                   |                   |   |             |
| 1  | <i>Gegeneophis ramaswamii</i>     | CL                | under soil  | rare        |
| 2  | <i>Bufo melanostictus</i>         | MDF               | forest floor-on bare soil   | common      |
| 3  | <i>Euphylyctis cyanophlyctis</i>  | MDF, CL           | in water  | very common |
| 4  | <i>E. hexadactylus</i>            | CL                | in water  | very common |
| 5  | <i>Hoplobatrachus crassus</i>     | MDF               | in small water pools  | rare        |
| 6  | <i>H. tigerinus</i>               | CL                | among submerged plants in water                                       | common      |
| 7  | <i>Fejervarya keralensis</i>      | SEF, MDF, TP      | close to water - on wet soil, leaf litter and under stones            | common      |
| 8  | <i>F. limnocharis</i>             | MDF, CL           | among wet grasses and on leaf litter                                  | common      |
| 9  | <i>Rana temporalis</i>            | MDF               | streams- in water, on wet soil and boulders                           | common      |
| 10   | <i>Philautus leucorhinus</i>      | MDF               | on shrubs   | common      |
| 11   | <i>Polypedates pseudocruciger</i> | CL                | on shrubs   | rare        |
| 12   | <i>Rhacophorus malabaricus</i>    | CL                | on shrubs   | rare        |
| <b>c) Pathanamthitta district (9°37'-9°53'N &amp; 76°55'-76°83'E)</b>    |                                   |                   |   |             |
| 1  | <i>Ichthyophis malabarensis</i>   | CL                | under soil  | rare        |
| 2  | <i>I. peninsularis</i>            | CL                | under soil  | rare        |
| 3  | <i>I. tricolor</i>                | SEF, CL           | under soil  | rare        |
| 4  | <i>Gegeneophis carnosus</i>       | CL                | under soil  | rare        |
| 5  | <i>Bufo melanostictus</i>         | CL, SEF           | on bare soil or litter  | common      |
| 6  | <i>Kaloula taprobanica</i>        | SEF, CL           | under decayed leaves  | rare        |
| 7  | <i>Microhyla ornata</i>           | SEF, CL           | on wet soil in ditches  | rare        |
| 8  | <i>M. rubra</i>                   | SEF, CL           | under decayed leaves  | rare        |
| 9  | <i>Ramanella montana</i>          | SEF, CL           | on wet soil near stagnant water pools                                 | rare        |
| 10   | <i>Euphylyctis cyanophlyctis</i>  | MDF, CL           | floats on water surface   | very common |
| 11   | <i>E. hexadactylus</i>            | CL                | floats and hides among submerged plants in ponds and paddy fields     | common      |
| 12   | <i>Hoplobatrachus crassus</i>     | CL                | on wet soil   | rare        |
| 13   | <i>H. tigerinus</i>               | CL                | on banks of canals, ponds and paddy fields                            | common      |
| 14   | <i>Indirana beddomii</i>          | MDF, SEF          | forest floor-on leaf litter   | very common |
| 15   | <i>Fejervarya keralensis</i>      | MDF, SEF          | stream banks –on wet soil and leaf litter                             | very common |
| 16   | <i>F. limnocharis</i>             | CL, MDF           | among grasses and under leaf litter                                   | common      |



| Sl. No.   | Species                             | Habitat      | Microhabitat                                     | Status      |
|---|-------------------------------------|--------------|--|-------------|
| 17  | <i>Micrixalus fuscus</i>            | SEF          | on boulders in streams                           | rare        |
| 18  | <i>Nyctibatrachus major</i>         | SEF          | under stones in streams                          | rare        |
| 19  | <i>Rana curtipes</i>                | SEF          | on wet soil and among grasses                    | rare        |
| 20  | <i>R. malabarica</i>                | CL           | under stones and in crevices                     | rare        |
| 21  | <i>R. temporalis</i>                | SEF, MDF, CL | on stream banks and in marshes                   | common      |
| 22  | <i>Philautus leucorhinus</i>        | CL           | on herbs   | common      |
| 23  | <i>P. signatus</i>                  | CL           | on herbs   | rare        |
| 24  | <i>Polypedates maculatus</i>        | CL           | on shrubs and trees                              | rare        |
| 25  | <i>P. pseudocruciger</i>            | CL           | on shrubs and trees                              | rare        |
| 26  | <i>Rhacophorus malabaricus</i>      | MDF          | on shrubs and trees                              | rare        |
| <b>d) Alappuzha district (90°5'-90°52'N &amp; 76°17'-76°48'E)</b> |                                     |              |  |             |
| 1   | <i>Bufo melanostictus</i>           | CL, PF       | on bare soil, in crevices and under stones       | common      |
| 2   | <i>B. microtympanum</i>             | CL           | under stones                                     | rare        |
| 3   | <i>B. parietalis</i>                | CL           | on bare soil and under stones                    | rare        |
| 4   | <i>Microhyla ornata</i>             | CL           | in water of small ditches                        | rare        |
| 5   | <i>M. rubra</i>                     | CL           | under decayed litter                             | rare        |
| 6   | <i>Ramanella variegata</i>          | CL           | on bare soil                                     | rare        |
| 7   | <i>Euphylyctis cyanophlyctis</i>    | CL           | in water   | common      |
| 8   | <i>E. hexadactylus</i>              | CL, PF       | in water- among submerged plants                 | common      |
| 9   | <i>Hoplobatrachus tigerinus</i>     | CL           | in water or wet areas close to water             | common      |
| 10  | <i>Fejervarya limnocharis</i>       | PF           | among grass                                      | very common |
| 11  | <i>Rana aurantiaca</i>              | CL           | in water   | rare        |
| 12  | <i>R. malabarica</i>                | CL           | under stones or in damp places                   | rare        |
| 13  | <i>Philautus leucorhinus</i>        | CL           | on herbs   | common      |
| 14  | <i>Polypedates maculatus</i>        | CL           | on trees   | rare        |
| 15  | <i>Rhacophorus malabaricus</i>      | CL           | on shrubs  | rare        |
| <b>e) Kottayam district (90°15'-10°21'N &amp; 76°22'-77°25'E)</b> |                                     |              |  |             |
| 1   | <i>Ichthyophis malabarensis</i>     | CL           | under soil                                       | rare        |
| 2   | <i>I. tricolor</i>                  | CL           | under soil                                       | rare        |
| 3   | <i>Uraeotyphlus narayani</i>        | CL           | under soil                                       | rare        |
| 4   | <i>Bufo melanostictus</i>           | CL, GL, SEF  | on bare soil or leaf litter                      | common      |
| 5   | <i>Nasikabatrachus sahyadrensis</i> | CL           | under soil                                       | rare        |
| 6   | <i>Euphylyctis cyanophlyctis</i>    | SEF, CL      | floats on water surface                          | very common |
| 7   | <i>E. hexadactylus</i>              | CL           | floats on water surface                          | very common |
| 8   | <i>Hoplobatrachus tigerinus</i>     | CL           | ponds and paddy fields- in water                 | common      |
| 9   | <i>Fejervarya keralensis</i>        | GL, SEF      | on stream banks - on wet soil/ leaf litter       | common      |
| 10  | <i>F. limnocharis</i>               | CL, GL       | among grass                                      | very common |
| 11  | <i>F. nilagirica</i>                | GL           | among grasses in marsh                           | rare        |
| 12  | <i>Micrixalus fuscus</i>            | SEF          | streams-under boulders                           | rare        |
| 13  | <i>Nyctibatrachus major</i>         | SEF          | in water of narrow shaded streams                | rare        |
| 14  | <i>Rana curtipes</i>                | SEF          | forest floor-on leaf litter or soil              | rare        |
| 15  | <i>R. malabarica</i>                | CL           | under stones or in crevices                      | rare        |
| 16  | <i>R. temporalis</i>                | CL, SEF      | in water of marsh and on stream banks            | common      |
| 17  | <i>Sphaeroteoca rufescens</i>       | TE           | on wet soil                                      | rare        |
| 18  | <i>Philautus leucorhinus</i>        | CL           | on herbs   | common      |
| 19  | <i>P. pulcherrimus</i>              | CL           | on herbs   | rare        |
| 20  | <i>Polypedates maculatus</i>        | CL           | on shrubs  | rare        |
| 21  | <i>P. pseudocruciger</i>            | CL           | on shrubs  | rare        |
| 22  | <i>Rhacophorus malabaricus</i>      | CL           | on shrubs and trees                              | rare        |
| <b>f) Idukki district (9°15'-10°21'N &amp; 76°37'-77°25'E)</b>    |                                     |              |  |             |
| 1   | <i>Ichthyophis malabarensis</i>     | CL           | under soil                                       | rare        |
| 2   | <i>I. tricolor</i>                  | CE           | under soil                                       | rare        |
| 3   | <i>Uraeotyphlus menoni</i>          | CL           | under soil                                       | rare        |
| 4   | <i>U. narayani</i>                  | CL           | under soil                                       | rare        |
| 5   | <i>Bufo melanostictus</i>           | CL           | on bare soil, in crevices and under stones       | common      |
| 6   | <i>B. microtympanum</i>             | EGF          | under stones                                     | rare        |
| 7   | <i>B. parietalis</i>                | SEF, MDF     | forest floor – on leaf litter                    | rare        |
| 8   | <i>Microhyla ornata</i>             | GL           | in shallow water                                 | rare        |
| 9   | <i>Nasikabatrachus sahyadrensis</i> | CL, GL       | under soil                                       | rare        |
| 10  | <i>Euphylyctis cyanophlyctis</i>    | MDF, SEF     | floats on the surface in stagnant water bodies   | very common |
| 11  | <i>E. hexadactylus</i>              | CL           | in water   | common      |
| 12  | <i>Hoplobatrachus tigerinus</i>     | CL           | in water   | common      |
| 13  | <i>Indirana beddomii</i>            | MDF, SEF     | forest floor-on leaf litter or on stream beds    | common      |
| 14  | <i>I. brachytarsus</i>              | ESH          | on leaf litter                                   | rare        |
| 15  | <i>I. diplostictus</i>              | GL           | among grasses and marsh                          | rare        |
| 16  | <i>I. leptodactylus</i>             | ESH          | on leaf litter and in very shallow running water | rare        |
| 17  | <i>I. semipalmatus</i>              | MDF          | among grass and on wet rock surface              | rare        |
| 18  | <i>Fejervarya brevipalmata</i>      | SEF, EGF     | among leaf litter                                | rare        |
| 19  | <i>F. keralensis</i>                | MDF, SEF     | on wet soil and leaf litter or on stream banks   | very common |
| 20  | <i>F. limnocharis</i>               | MDF, SEF     | among grasses                                    | common      |
| 21  | <i>F. nilagirica</i>                | GL           | among grasses in marsh                           | common      |
| 22  | <i>Micrixalus fuscus</i>            | EGF          | in stream-on boulders and wet soil               | rare        |
| 23  | <i>M. nudis</i>                     | EGF          | in stream-on boulders and wet soil               | rare        |

| Sl. No.   | Species                         | Habitat      | Microhabitat  | Status      |
|---|---------------------------------|--------------|---|-------------|
| 24  | <i>Nyctibatrachus major</i>     | EGF, SEF     | in water  | common      |
| 25  | <i>N. minor</i>                 | DEF          | under decayed leaf litter   | rare        |
| 26  | <i>Rana aurantiaca</i>          | SEF          | in water or on wet soil   | rare        |
| 27  | <i>R. curtipes</i>              | MDF, SEF     | forest floor – on leaf litter or bare soil                        | common      |
| 28  | <i>R. malabarica</i>            | SEF          | on wet soil   | rare        |
| 29  | <i>Rana temporalis</i>          | DDF, CL, ESH | stream sides (on wet soil) and on rocks in streams                | common      |
| 30  | <i>Sphaeroteca rufescens</i>    | MDF          | on wet soil in streams  | rare        |
| 31  | <i>Philautus beddomii</i>       | EGF          | on herbs  | rare        |
| 32  | <i>P. femoralis</i>             | TE           | on herbs  | rare        |
| 33  | <i>P. leucorhinus</i>           | CL, MDF      | on leaves of herbs and shrubs                                     | common      |
| 34  | <i>P. nasutus</i>               | SEF          | on herbs  | rare        |
| 35  | <i>P. pulcherrimus</i>          | TE           | on herbs  | rare        |
| 36  | <i>P. signatus</i>              | GL           | on herbs  | rare        |
| 37  | <i>P. wynaadensis</i>           | MDF          | on herbs  | rare        |
| 38  | <i>Polypedates maculatus</i>    | MDF          | on shrubs or trees  | rare        |
| 39  | <i>P. pseudocruciger</i>        | CL, MDF      | on trees  | rare        |
| 40  | <i>Rhacophorus malabaricus</i>  | CL           | on leaves and stems of shrubs and trees                           | common      |
| 41  | <i>Micrixalus gadgilii</i>      | -            | -   | -           |
| 42  | <i>Rhacophorus lateralis</i>    | -            | -   | -           |
| <b>g) Ernakulam district (90°42'-10°18'N &amp; 76°12'-6°42'E)</b> |                                 |              |   |             |
| 1   | <i>Ichthyophis peninsularis</i> | CL           | under soil  | rare        |
| 2   | <i>I. tricolor</i>              | CL           | under soil  | rare        |
| 3   | <i>Uraeotyphlus interruptus</i> | CL           | under soil  | rare        |
| 4   | <i>U. menoni</i>                | CL           | under soil  | rare        |
| 5   | <i>U. narayani</i>              | MDF          | inside decaying logs  | rare        |
| 6   | <i>Bufo melanostictus</i>       | TP, MDF      | on bare soil and leaf litter                                      | very common |
| 7   | <i>B. microtypanum</i>          | TP           | on bare soil  | rare        |
| 8   | <i>B. scaber</i>                | OP           | on leaf litter and bare soil                                      | rare        |
| 9   | <i>Microhyla ornata</i>         | SEF          | forest floor – under leaf litter                                  | rare        |
| 10  | <i>Euphyctis cyanophlyctis</i>  | TP, MDF      | in water  | common      |
| 11  | <i>E. hexadactylus</i>          | SEF          | in water  | common      |
| 12  | <i>Hoplobatrachus tigerinus</i> | TP, MDF      | in water  | rare        |
| 13  | <i>Indirana beddomii</i>        | OP, MDF, SEF | forest floor-on leaf litter and under stones                      | very common |
| 14  | <i>I. brachytarsus</i>          | SEF          | forest floor-on leaf litter                                       | rare        |
| 15  | <i>Fejervarya keralensis</i>    | TP, SEF      | stream banks-on wet soil or under leaf litter                     | very common |
| 16  | <i>F. limnocharis</i>           | MDF          | forest floor – on leaf litter and among grasses                   | common      |
| 17  | <i>Micrixalus nudis</i>         | SEF          | under stones in dried up streams                                  | rare        |
| 18  | <i>Nyctibatrachus major</i>     | SEF          | in streams-submerged in water or on wet soil surface              | rare        |
| 19  | <i>N. minor</i>                 | MDF          | under stones in very narrow streams                               | rare        |
| 20  | <i>Rana aurantiaca</i>          | MDF          | stream banks – on wet soil  | rare        |
| 21  | <i>R. malabarica</i>            | CL           | under soil  | rare        |
| 22  | <i>R. temporalis</i>            | TP, MDF, SEF | in streams-on wet soil and boulders; on roots of river bank trees | very common |
| 23  | <i>Sphaeroteca rufescens</i>    | MDF          | in wet soil   | rare        |
| 24  | <i>Philautus beddomii</i>       | MDF          | on herbs  | rare        |
| 25  | <i>P. leucorhinus</i>           | TP           | on leaves of herbs  | common      |
| 26  | <i>P. temporalis</i>            | MDF          | on herbs and shrubs   | rare        |
| 27  | <i>P. wynaadensis</i>           | SEF          | on herbs  | rare        |
| <b>h) Thrissur district (10°22'-10°26'N &amp; 76°18'-76°28'E)</b> |                                 |              |   |             |
| 1   | <i>Bufo melanostictus</i>       | MDF          | on bare soil  | common      |
| 2   | <i>B. scaber</i>                | MDF          | among grasses in marsh  | rare        |
| 3   | <i>Microhyla rubra</i>          | SEF          | streams-in water  | rare        |
| 4   | <i>Ramanella montana</i>        | MDF          | forest floor – on wet soil  | rare        |
| 5   | <i>Euphyctis cyanophlyctis</i>  | MDF, CL      | floats in water   | very common |
| 6   | <i>E. hexadactylus</i>          | MDF          | among weeds of shallow ponds                                      | common      |
| 7   | <i>Hoplobatrachus crassus</i>   | MDF          | among grasses in marsh  | rare        |
| 8   | <i>H. tigerinus</i>             | MDF          | in or near water bodies   | rare        |
| 9   | <i>Indirana beddomii</i>        | MDF, SEF     | forest floor –on leaf litter                                      | common      |
| 10  | <i>Fejervarya keralensis</i>    | MDF, CL      | on bare soil and leaf litter                                      | common      |
| 11  | <i>F. limnocharis</i>           | MDF          | forest floor - among grasses                                      | common      |
| 12  | <i>F. nilagirica</i>            | MDF          | among grasses in marsh  | rare        |
| 13  | <i>Micrixalus fuscus</i>        | SEF          | streams-on wet boulders and logs                                  | rare        |
| 14  | <i>M. nudis</i>                 | MDF          | in water  | rare        |
| 15  | <i>Nyctibatrachus major</i>     | SEF          | streams-in water  | common      |
| 16  | <i>Rana temporalis</i>          | MDF, SEF     | stream banks-on wet soil and under logs                           | common      |
| 17  | <i>Sphaeroteca rufescens</i>    | MDF          | in wet soil near water bodies                                     | rare        |
| 18  | <i>Philautus leucorhinus</i>    | MDF          | on herbs  | common      |
| 19  | <i>Polypedates maculatus</i>    | MDF          | on shrubs   | rare        |
| <b>i) Palakkad district (10°46'-10°59'N &amp; 76°28'-76°39'E)</b> |                                 |              |   |             |
| 1   | <i>Uraeotyphlus oxyurus</i>     | EGF          | under stones  | rare        |
| 2   | <i>Ansonia rubigina</i>         | EGF          | on rocks in rivers  | rare        |
| 3   | <i>Bufo melanostictus</i>       | EGF, GL      | on bare soil  | very common |
| 4   | <i>B. microtypanum</i>          | EGF          | on leaf litter  | rare        |
| 5   | <i>B. parietalis</i>            | EGF          | on leaf litter and bare soil                                      | rare        |

| Sl. No.  | Species                             | Habitat       | Microhabitat   | Status      |
|--|-------------------------------------|---------------|--|-------------|
| 6  | <i>Ramanella montana</i>            | EGF           | under stones   | rare        |
| 7  | <i>R. variegata</i>                 | CL            | on bare soil   | rare        |
| 8  | <i>Euphylyctis cyanophlyctis</i>    | TE            | in water   | common      |
| 10   | <i>Indirana beddomii</i>            | EGF           | forest floor-on leaf litter  | rare        |
| 11   | <i>I. leptodactylus</i>             | MDF           | on leaf litter   | rare        |
| 12   | <i>Fejervarya keralensis</i>        | EGF, MDF      | stream banks-on wet soil and leaf litter                               | rare        |
| 13   | <i>F. limnocharis</i>               | EGF           | among grasses  | rare        |
| 14   | <i>Micrixalus fuscus</i>            | SEF           | in streams-on boulders   | rare        |
| 15   | <i>M. nudis</i>                     | EGF           | under boulders and wet rocks   | rare        |
| 16   | <i>M. saxicola</i>                  | EGF           | on boulders  | rare        |
| 17   | <i>Nyctibatrachus aliciae</i>       | EGF           | under water and on wet soil  | rare        |
| 18   | <i>N. major</i>                     | EGF, SEF      | in streams - in water or under boulders                                | common      |
| 19   | <i>N. minor</i>                     | MDF           | in streams -under pebbles  | rare        |
| 20   | <i>Rana curtipes</i>                | MDF           | on leaf litter   | rare        |
| 21   | <i>R. temporalis</i>                | EGF, SEF, MDF | on wet soil, leaf litter and boulders; in mud crevices of stream banks | rare        |
| 22   | <i>Sphaerotecha rolandae</i>        | CL            | on bare soil   | rare        |
| 23   | <i>S. rufescens</i>                 | SEF           | on wet soil  | rare        |
| 24   | <i>Philautus chalazodes</i>         | MDF           | on herbs   | rare        |
| 25   | <i>P. leucorhinus</i>               | MDF           | on herbs   | rare        |
| 26   | <i>P. nasutus</i>                   | GL inside EGF | on herbs   | rare        |
| 27   | <i>P. pulcherrimus</i>              | EGF           | on shrubs  | rare        |
| 28   | <i>P. signatus</i>                  | GL inside EGF | on herbs   | rare        |
| 29   | <i>P. wynaadensis</i>               | EGF           | on shrubs  | rare        |
| 30   | <i>Polypedates maculatus</i>        | CL            | on shrubs  | rare        |
| 31   | <i>P. pseudocruciger</i>            | CL            | on shrubs  | rare        |
| 32   | <i>Rhacophorus malabaricus</i>      | EGF           | on trees/shrubs  | rare        |
| 33   | <i>Ichthyophis longicephalus</i>    | -             | -  | -           |
| 34   | <i>Bufo silentvalleyensis</i>       | -             | -  | -           |
| 35   | <i>Pedostibes tuberculosus</i>      | -             | -  | -           |
| 36   | <i>Nannobatrachus beddomii</i>      | -             | -  | -           |
| 37   | <i>Micrixalus thampi</i>            | -             | -  | -           |
| 38   | <i>Ramanella triangularis</i>       | -             | -  | -           |
| 39   | <i>Sphaerotecha parambikulamana</i> | -             | -  | -           |
| <b>j) Malappuram district (10° to 20°N &amp; 75° to 77°E)</b>    |                                     |               |  |             |
| 1  | <i>Uraeotyphlus narayani</i>        | CL inside MDF | under soil   | rare        |
| 2  | <i>Bufo melanostictus</i>           | TP, MDF       | forest floor-on leaf litter and under stones                           | common      |
| 3  | <i>Euphylyctis cyanophlyctis</i>    | CL, MDF       | in stagnant water of ponds and pools                                   | common      |
| 4  | <i>E. hexadactylus</i>              | CL            | in water of ponds/paddy fields   | rare        |
| 5  | <i>Hoplobatrachus tigerinus</i>     | CL            | paddy fields-in wet soil   | rare        |
| 6  | <i>Fejervarya brevipalmata</i>      | MDF, TP       | forest floor – among grasses   | rare        |
| 7  | <i>F. keralensis</i>                | MDF           | forest floor-on stream banks   | common      |
| 8  | <i>F. limnocharis</i>               | MDF           | forest floor-among grasses   | common      |
| 9  | <i>F. syhadrensis</i>               | TP            | among grasses near stagnant water pools                                | rare        |
| 10   | <i>Rana temporalis</i>              | MDF           | streams or marshes-in water or on banks                                | common      |
| 11   | <i>Philautus leucorhinus</i>        | MDF           | on leaves of shrubs  | common      |
| 12   | <i>P. wynaadensis</i>               | TP            | on herbs   | rare        |
| 13   | <i>Polypedates pseudocruciger</i>   | CL            | on shrubs  | rare        |
| <b>k) Kozhikkod district (11°8'-11°50'N &amp; 75°30'-76°8'E)</b> |                                     |               |  |             |
| 1  | <i>Uraeotyphlus narayani</i>        | CL            | under soil   | rare        |
| 2  | <i>Bufo melanostictus</i>           | CL, SEF       | on bare soil and leaf litter   | common      |
| 3  | <i>Euphylyctis cyanophlyctis</i>    | CL            | in water   | very common |
| 4  | <i>E. hexadactylus</i>              | CL            | in water   | very common |
| 5  | <i>Hoplobatrachus tigerinus</i>     | CL            | in water - among submerged plants                                      | common      |
| 6  | <i>Indirana beddomii</i>            | SEF           | forest floor-on leaf litter and under stones                           | rare        |
| 7  | <i>Fejervarya keralensis</i>        | SEF           | in streams - on sand or under stones                                   | common      |
| 8  | <i>F. limnocharis</i>               | CL            | among grasses or leaf litter   | common      |
| 9  | <i>Rana temporalis</i>              | CL, SEF       | near water bodies-on banks and leaf litter or under boulders           | common      |
| 10   | <i>Philautus leucorhinus</i>        | CL            | on herbs   | rare        |
| 11   | <i>Polypedates pseudocruciger</i>   | CL            | on shrubs  | rare        |
| <b>l) Wayanad district (11°27'-15°58'N &amp; 75°47'-70°27'E)</b> |                                     |               |  |             |
| 1  | <i>Ichthyophis beddomei</i>         | MDF, CL       | under soil   | rare        |
| 2  | <i>Uraeotyphlus menoni</i>          | MDF, CL       | under soil   | rare        |
| 3  | <i>U. narayani</i>                  | MDF, CL       | under soil   | rare        |
| 4  | <i>Ansonia rubigina</i>             | ESH, FS       | in streams-on or under boulders  | rare        |
| 5  | <i>Bufo melanostictus</i>           | MDF, SEF, CL  | on bare soil or leaf litter; in crevices and under stones              | common      |
| 6  | <i>B. microtympanum</i>             | MDF, CL       | on leaf litter   | rare        |
| 7  | <i>B. parietalis</i>                | SEF, SH, FS   | on leaf litter   | common      |
| 8  | <i>Kaloula taprobanica</i>          | MDF, CL       | in puddles   | rare        |
| 9  | <i>Microhyla ornata</i>             | CL            | ploughed paddy fields; in the grass/water                              | common      |
| 10   | <i>M. rubra</i>                     | CL            | ploughed paddy fields; in the grass/water                              | rare        |
| 11   | <i>Ramanella montana</i>            | CL            | in termite mounds or on leaf litter                                    | rare        |
| 12   | <i>R. triangularis</i>              | FS, COP       | on leaf litter   | common      |
| 13   | <i>Euphylyctis cyanophlyctis</i>    | MDF, SEF, CL  | in water   | very common |

| Sl. No. | Species                         | Habitat          | Microhabitat  | Status      |
|---------|---------------------------------|------------------|---|-------------|
| 14      | <i>E. hexadactylus</i>          | CL, PF           | paddy fields and ponds - in water                                       | rare        |
| 15      | <i>Hoplobatrachus tigerinus</i> | CL, PF,          | on wet soil or mud; in crevices near water                              | rare        |
| 16      | <i>Indirana beddomii</i>        | SEF, MDF, TP     | on bare soil, leaf litter and under stones                              | very common |
| 17      | <i>Fejervarya brevipalmata</i>  | MDF, CL          | among grasses or leaf litter  | rare        |
| 18      | <i>F. keralensis</i>            | MDF, TP, SEF, CL | on leaf litter or on wet soil   | very common |
| 19      | <i>F. limnocharis</i>           | MDF, TP, CL      | forest floor-among grasses and leaf litter and in marshy areas          | very common |
| 20      | <i>F. nilagirica</i>            | MDF              | in marsh -among grasses   | common      |
| 21      | <i>Micrixalus nudis</i>         | SEF              | on and under rocks/ boulders in streams                                 | rare        |
| 22      | <i>Micrixalus phyllophilus</i>  | ESH              | on boulders in streams  | rare        |
| 23      | <i>M. saxicola</i>              | ESH, EGF         | in streams-on boulders  | common      |
| 24      | <i>M. silvaticus</i>            | ESH              | in streams-on boulders  | rare        |
| 25      | <i>Nyctibatrachus aliciae</i>   | CE               | in marsh-under water or litter or on wet soil                           | rare        |
| 26      | <i>N. beddomii</i>              | SEF, EGF         | in marsh-in water; under litter or stones                               | rare        |
| 27      | <i>N. major</i>                 | MDF, SEF         | in streams-under water or boulders                                      | very common |
| 28      | <i>N. minor</i>                 | SEF              | in marsh-under litter   | rare        |
| 29      | <i>Rana curtipes</i>            | MDF, TP, SEF     | forest floor-on bare soil or litter                                     | common      |
| 30      | <i>R. temporalis</i>            | MDF, SEF, TP, CL | stream banks-on wet soil, litter and in water; among the roots of trees | very common |
| 31      | <i>Philautus chalazodes</i>     | ESH              | forest floor - on leaf litter   | rare        |
| 32      | <i>P. charius</i>               | CL               | on herb/shrubs  | rare        |
| 33      | <i>P. leucorhinus</i>           | MDF, CL          | on herbs and shrubs   | common      |
| 34      | <i>P. pulcherrimus</i>          | MDF, CL          | on herbs  | rare        |
| 35      | <i>P. signatus</i>              | CL               | on shrubs   | rare        |
| 36      | <i>P. tinniens</i>              | SH               | on shrubs   | rare        |
| 37      | <i>P. wynaadensis</i>           | MDF, CL          | on leaf or trunk of trees   | common      |
| 38      | <i>Polypedates maculatus</i>    | FS, CL           | on leaf or trunk of trees   | rare        |
| 39      | <i>P. pseudocruciger</i>        | MDF, CL          | on trees and herbs  | rare        |
| 40      | <i>Rhacophorus lateralis</i>    | CL               | on shrubs   | rare        |
| 41      | <i>R. malabaricus</i>           | MDF, FS          | on bamboo stems and leaves  | common      |
| 42      | <i>R. pleurostictus</i>         | -                | -   | -           |

**m) Kannur district (11°4'-12°48'N & 74°52'-76°7'E)**

|    |                                 |              |  |             |
|----|---------------------------------|--------------|--|-------------|
| 1  | <i>Ichthyophis malabarensis</i> | SEF          | under soil   | rare        |
| 2  | <i>I. tricolor</i>              | SEF          | under soil   | rare        |
| 3  | <i>Uraeotyphlus menoni</i>      | SEF          | under soil   | rare        |
| 4  | <i>Bufo melanostictus</i>       | SEF          | on leaf litter   | rare        |
| 5  | <i>Euphyctis cyanophlyctis</i>  | SEF          | on the surface of stagnant waters                        | common      |
| 6  | <i>E. hexadactylus</i>          | SEF, CL      | in water   | rare        |
| 7  | <i>Hoplobatrachus tigerinus</i> | MDF, SEF, CL | in marshy areas  | rare        |
| 8  | <i>Indirana beddomii</i>        | SEF          | among leaf litter in forest floor                        | rare        |
| 9  | <i>Fejervarya brevipalmata</i>  | SEF          | among grasses in forest floor                            | rare        |
| 10 | <i>F. keralensis</i>            | SEF          | in streams - under boulders, and in soil or water        | common      |
| 11 | <i>F. limnocharis</i>           | MDF, SEF     | on leaf litter and among grasses                         | rare        |
| 12 | <i>Micrixalus nudis</i>         | SEF          | under or on boulders in streams                          | rare        |
| 13 | <i>M. saxicola</i>              | SEF          | in streams-on boulders                                   | rare        |
| 14 | <i>Nyctibatrachus major</i>     | SEF          | in streams-under water or rocks                          | rare        |
| 15 | <i>N. minor</i>                 | SEF          | under stones/leaf litter in wet areas                    | rare        |
| 16 | <i>Rana curtipes</i>            | SEF          | on bare soil   | rare        |
| 17 | <i>R. temporalis</i>            | SEF          | in streams - on rocks, logs or wet soil; on stream banks | very common |
| 18 | <i>Sphaerotea rufescens</i>     | MDF          | in wet soil  | rare        |
| 19 | <i>Philautus beddomii</i>       | SEF          | among leaf litter in forest floor                        | rare        |
| 20 | <i>P. glandulosus</i>           | SEF          | on leaf of shrubs  | rare        |
| 21 | <i>P. leucorhinus</i>           | SEF          | on herbs and shrubs                                      | rare        |
| 22 | <i>P. pulcherrimus</i>          | SEF          | on shrubs/herbs  | rare        |
| 23 | <i>P. temporalis</i>            | SEF          | on shrubs and herbs                                      | rare        |
| 24 | <i>Polypedates maculatus</i>    | SEF          | on shrubs and trees                                      | rare        |
| 25 | <i>Rhacophorus malabaricus</i>  | MDF          | on shrubs  | rare        |
| 26 | <i>Indirana leithii</i>         | -            | -  | -           |

**n) Kasaragod district (12°5'-12°48'N & 74°52'-75°55'E)**

|    |                                |          |  |             |
|----|--------------------------------|----------|--|-------------|
| 1  | <i>Ichthyophis beddomei</i>    | EGF, CL  | under soil   | rare        |
| 2  | <i>Uraeotyphlus menoni</i>     | MDF      | among pebbles and loose gravel                       | rare        |
| 3  | <i>U. narayani</i>             | MDF      | amidst loose gravel within creeks submerged by water | rare        |
| 4  | <i>Bufo melanostictus</i>      | EGF, CP  | on bare soil or leaf litter                          | common      |
| 5  | <i>B. parietalis</i>           | EGF      | on humid soil  | common      |
| 6  | <i>Euphyctis cyanophlyctis</i> | FS, CL   | in water   | common      |
| 7  | <i>Hoplobatrachus crassus</i>  | FS, CL   | in water   | rare        |
| 8  | <i>H. tigerinus</i>            | CL       | among submerged plants in stagnant water bodies      | common      |
| 9  | <i>Indirana beddomii</i>       | EGF, CP  | on leaf litter                                       | very common |
| 10 | <i>I. diplostictus</i>         | GL       | among grasses in marsh                               | rare        |
| 11 | <i>I. semipalmatus</i>         | EGF, MDF | in water   | rare        |
| 12 | <i>Fejervarya brevipalmata</i> | CP       | among grasses close to streams                       | rare        |
| 13 | <i>F. limnocharis</i>          | CL       | among grasses  | common      |
| 14 | <i>F. keralensis</i>           | SEF, TP  | stream banks - on wet soil and leaf litter           | common      |
| 15 | <i>F. syhadrensis</i>          | CP       | among grasses and under stones in streams            | rare        |
| 16 | <i>Micrixalus nudis</i>        | MDF      | in water   | rare        |

| Sl. No. | Species                        | Habitat       | Microhabitat                                     | Status      |
|---------|--------------------------------|---------------|--|-------------|
| 17      | <i>M. saxicola</i>             | SEF           | on wet boulders in streams                       | rare        |
| 18      | <i>Nyctibatrachus major</i>    | FS, CL        | under shallow water and rock crevices in streams | common      |
| 19      | <i>N. minor</i>                | EGF           | under boulders in streams                        | rare        |
| 20      | <i>Rana temporalis</i>         | FS, CL        | stream banks-on logs, rocks or wet soil          | common      |
| 21      | <i>Sphaeroteca rufescens</i>   | CP            | on wet soil in streams                           | rare        |
| 22      | <i>Philautus beddomii</i>      | CP            | on leaf litter                                   | rare        |
| 23      | <i>P. leucorhinus</i>          | MDF, EGF, SEF | on herbs and shrubs                              | very common |
| 24      | <i>P. pulcherrimus</i>         | MDF           | on shrubs  | common      |
| 25      | <i>Rhacophorus malabaricus</i> | CL            | on leaf of climbers                              | rare        |
| 26      | <i>Bufo beddomii</i>           | -             | -  | -           |

CE - Cardamom estate; CL - Cultivated land; COP - Coffee plantation; DDF - Dry deciduous forest; DEF - Dry evergreen forest; EGF - Evergreen forest; ESH - Evergreen shola; FS - Forest; GL - Grassland; MDF - Moist deciduous forest; OP - Other plantation; PF - Paddy field; SEF - Semi-evergreen forest; SH - Shola; TE - Tea estate; TP - Teak plantation.

\*Reported by other workers.

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\* See images of some Amphibians in the websupplement at [www.zoosprint.org](http://www.zoosprint.org)

