

FIRST REPORT ON THE AMPHIBIANS OF KASARAGOD DISTRICT, KERALA

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INTRODUCTION

In order to gain an insight in to the faunal composition of Kasaragod district, Kerala, the Western Ghats Field Research Station of the Zoological Survey of India has conducted 6 surveys in the plains and hills of the district. The present paper constitutes results of the studies on 14 species of Amphibians collected during the surveys. This paper assumes significance because it is the first authentic document on the Amphibian fauna of Kasaragod district which is faunistically very poorly known.

Kasaragod is the fourteenth and the northern most district of Kerala state. The district spreads over an area of approximately 1964 sq. km. between latitudes 12°5' to 12°48' N and longitudes 74°52' to 75°55' E, flanked by the Western Ghats in the east and the Arabian sea in the West and demarcated by the Thalapadi river in the north and Thrikaripur river in the south. The natural vegetation of the district comprises of moist deciduous, dry deciduous, semi evergreen and wet evergreen types of forests all of which are in a highly fragmented state. The elevation of the land increases assymmetrically from the sea level as it goes east reaching upto a maximum of 800 m.

The Amphibians studied were collected from areas falling under the two forest ranges of the district namely, Kasaragod and Kanjangad during September 1993 to March 1994. The collections were made during day.

The literature based on which the present study has been conducted are that of Boulenger (1890, 1904), Daniel (1963, 1975), Daniel and Sekar (1989), Daniels (1991, 1992), Inger *et. al* (1984), Inger and Dutta (1986), Pillai (1978, 1979, 1981, 1986), Pillai and Murthy (1986), Pillai and Pattabiraman (1981), Pillai and Ravichandran (1991), Satyamurti (1967) and Taylor (1961).

SYSTEMATIC LIST OF AMPHIBIANS OF KASARAGOD DISTRICT

- Class AMPHIBIA
- Order GYMNOPTIONA (APODA)
- Family ICHTHYOPHIIDAE TAYLOR
- Genus *Uraeotyphlus* Peters
1. *U. menoni* Annandale
 2. *U. narayani* Seshachar
- Order ANURA
- Family BUFONIDAE GRAY
- Genus *Bufo* Laurenti
3. *B. melanostictus* Schneider
 4. *B. beddomii* Gunther
- Family RHACOPHORIDAE HOFFMAN
- Genus *Philautus* Gistel
5. *P. leucorhinus* (Lichtenstein & Martens)
 6. *P. pulcherrimus* (Ahl)
- Family RANIDAE GRAY
- Genus *Micrixalus* Boulenger
7. *M. nudis* Pillai
- Genus *Nyctibatrachus* Boulenger
8. *N. major* Boulenger
- Genus *Rana* Linnaeus
9. *R. limnocharis* Gravenhorst
 10. *R. temporalis* (Gunther)
 11. *R. tigerina* Daudin
 12. *R. cyanophlyctis* Schneider
 13. *R. beddomii* (Gunther)
 14. *R. semipalmata* Boulenger

Key to the families of Amphibians of Kasaragod district

1. Limbs absent; body elongate, snake-like or worm-like*Ichthyophiidae*
 Limbs present; body not snake-like or worm-like 2
2. Upper jaw toothed; tongue bifid..... 3
 Jaws toothless; tongue entire, not bifid*Bufonidae*
3. Digits with an intercalary cartilage between penultimate and terminal phalanges; fingers minutely to fully webbed*Rhacophoridae*
 Digits without an intercalary cartilage between penultimate and terminal phalanges; fingers free*Ranidae*

SYSTEMATIC ACCOUNT

Order GYMNOPIHIONA

Family ICHTHYOPHIIDAE

Diagnosis : Limbless, snake-like or worm-like in general appearance; the head except for the lack of annulations indistinguishable from the body; eyes rudimentary, sometimes covered by cranial bones; a short tentacle present on each side of the head between eye and nostril; mouth armed with teeth; small scales usually present, embedded in the skin; body with a series of annulations; a short tail present or absent.

Genus *Uraeotyphlus* Peters1879. *Uraeotyphlus* Peters, *Mon. Berl. Acad.*,

Diagnosis : Tentacle flap-like situated almost directly below nostril near mouth; eyes externally visible.

Key to the species of Uraeotyphlus of Kasaragod district

Head short, triangular in shape with a blunt and rounded snout; snout about as long as the distance between the eyes; tail with 10 complete circular folds*menoni* Annandale.

Head elongate, rounded anteriorly and slightly flattened dorsoventrally; snout longer than the distance between the eyes; tail with 4 complete circular folds*narayani* Seshachar

1. *Uraeotyphlus menoni* Annandale1913. *Uraeotyphlus menoni* Annandale, *Rec. Ind. Mus.* 9 : 301.

Material examined : 1 ex. Chappakal-Kavadikanam (Bandadka : Adoor R. F.), 20.iii.1994.
 Coll : K. C. Gopi.

Diagnosis : Dark brown above, white below speckled with minute brown spots; head short; tail bearing 10 circular folds.

Measurement : The specimen studied measures 109 mm. in total length, 6 mm. in width at the widest region and bears over 200 folds round the body and 10 folds on the tail.

Ecological notes : The material has been collected in water from a very shallow slow flowing stream, among pebbles and loose gravel partially embedded in detriting plant matter at the periphery of a moist deciduous forest.

Distribution : India : Kerala : Trichur, Kondotti, Koduvalli.

Status : Rare.

2. *Uraeotyphlus narayani* Seshachar

1939. *Uraeotyphlus narayani* Seshachar, *Proc. Ind. Acad. Sciences.* 11(B) : 224.

Material examined : 1 ex. Kavadikanam (Bandadka : Adoor R.F.), 23.iii.1994. Coll : K. C. Gopi.

Diagnosis : Body steel gray above, slightly lighter or brownish below; head elongate; tail with 4 circular folds.

Measurement : 107 mm. in total length, 5 mm. in width at the widest point, bears about 102 primary folds round the body and 4 complete folds on the tail.

Ecological notes : Collected amidst loose gravel within a creek submerged by water of a small stagnant puddle on a hill slope inside a moist deciduous forest.

Distribution : India ; Kerala : Kannam-Kottayam.

Status : Rare.

Order ANURA

Family BUFONIDAE

Diagnosis : Skin rough and tuberculated; jaws toothless; tongue oval; pupil horizontal.

Genus *Bufo* Laurenti

1768. *Bufo* Laurenti, *Synopsis Rept. Vienna.* : 25.

Diagnosis : Parotid glands large and prominent; fingers free, no discs; toes more or less webbed; outer metatarsal united.

Key to the species of Bufo of Kasaragod district

Head with bony ridges; tympanum distinct about two-thirds the diameter of eye; toes about half webbed; middle of back with two series of large warts.....*melanostictus* Schneider

Head without bony ridges; tympanum very small or indistinct; toes fully webbed; middle of back without two series of large warts*beddomii* Gunther

3. *Bufo melanostictus* Schneider

1799. *Bufo melanostictus* Schneider, *Hist. Amphib.* : 216.

Material examined : 3 exs. Parappa R. F., 13.x.1993. Coll : K. C. Gopi.

Diagnosis : Skin heavily tuberculated and with many black spine-tipped warts; two series of large warts present along the middle of the back; crown of head smooth or with a few tubercles; cranial ridges, upper lip, tips of fingers and toes, metatarsal tubercle and tubercles on the palm with black cornifications in the adult.

Measurements : Snout to vent length 24 to 28.3 mm.

Ecological notes : One specimen obtained from leaf litter on the outskirts of a semi evergreen forest and two from leaf litter in a nearby Rubber plantation.

Distribution : Oriental Region.

Status : Very common.

4. *Bufo beddomii* Gunther

1875. *Bufo beddomii* Gunther, *Proc. Zool. Soc. London* : 569.

Material examined : 1 ex. Pullodi, 27.x.1993. Coll : K. C. Gopi.

Diagnosis : Tympanum small, rather indistinct; toes entirely webbed; dorsally brown with indistinct black spots; limbs marbled with carmine.

Measurement : Snout to vent length 18 mm.

Ecological notes : Collected on leaf litter in a wet evergreen forest patch.

Distribution : India : Kerala : Malabar, Travancore hills, Ponnudi.

Status : Rare.

Family RHACOPHORIDAE

Diagnosis : Upper jaw toothed; vomerine teeth present or absent; an intercalary cartilage between penultimate and terminal phalanges present; fingers minutely to fully webbed or free; toes two-thirds to fully webbed; tips of fingers and toes dilated in to prominent discs.

Genus *Philautus* Gistel

1848. *Philautus* Gistel, *Naturgesch. Thierr.*, : 10.

Diagnosis : Skin smooth, sometimes granulated; tongue free and deeply notched behind; vomerine teeth absent; pupil horizontal; tympanum distinct or hidden; fingers free or minutely webbed at base; toes partly or entirely webbed; tips of digits dilated in to discs.

Key to the species of Philautus of Kasaragod district

Snout sharply pointed; tympanum distinct but small being only half the diameter of eye; toes nearly half webbed; body coloured brown or olive above
*leucorhinus* (Lichtenstein & Martens)

Snout rounded; tympanum indistinct or hidden; toes more than half webbed; in life, body coloured leaf green above; thigh with a median thin dorsal green line...*pulcherrimus* (Ahl)

5. *Philautus leucorhinus* (Lichtenstein & Martens)

1856. *Ixalus leucorhinus* Lichtenstein & Martens, *Nomencl. Rept. Mus. Berol.* : 36.

Material examined : 19 exs. Kavadikanam (Bandadka : Adoor R.F.), 23.iii.1994 (1 ex.); Parappa R.F., 24.ix.1993 (3 exs.) and 13.x.1993 (8 exs.); Chempilankai (Muliya R.F.), 14.x.1993 (6 exs.); Pullodi, 27.x.1993 (1 ex.). Coll : K. C. Gopi.

Diagnosis : Skin smooth above, granular on the belly and under the thighs; a fold from eye to the shoulder; a dark band below the canthus rostralis and on the temporal region; sometimes a large hexagonal or triangular spot on the snout; usually a dark band between the eyes and an arched one on each side of the back; sometimes a light vertebral line or band.

Measurements : Snout to vent length 13.7 to 28 mm.

Ecological notes : Specimens were collected on leaf litter and on leaves of short shrubs in wet evergreen, semi evergreen and moist deciduous forests.

Distribution : India : Hills of Malabar coast as far as north Kanara, Pirmed and Dhoni forest in Kerala., Sri Lanka.

Status : Very common.

6. *Philautus pulcherrimus* (Ahl)

1882. *Ixalus pulcher* Boulenger, *Cat. Batr. Sal. Brit. Mus.* : 469.

Material examined : 1ex. Manchucholamala, 26.i.1994. Coll : K. C. Gopi.

Diagnosis : No lingual papilla; fingers with a rudiment of web, tips with large discs; toes more than half webbed and with discs; skin smooth above, granular on belly; in life, leaf green above, femur with a median thin dorsal green line, tibia fully green; ventrally white.

Measurement : Snout to vent length 16 mm.

Ecological notes : Collected from leaf of a shrub in moist deciduous forest.

Distribution : India : Kerala, Tamil Nadu.

Status : Common.

Remarks : The specimen studied tallies with the description of the species except for its fairly visible tympanum.

Family RANIDAE

Diagnosis : Upper jaw toothed; in most species, the fingers are free but toes are more or less completely webbed; foot with one or more metatarsal tubercle which may be blunt, sharp, finger shaped or shovel shaped; tips of digits with or without discs; no intercalary cartilage between penultimate and terminal phalanges.

Key to the genera of Ranidae of Kasaragod district

1. Vomerine teeth present 2
 Vomerine teeth absent *Micrixalus* Boulenger
2. Pupil horizontal or roundish sub triangular; dorsally skin warty or with longitudinal glandular folds *Rana* Linnaeus
 Pupil vertical; dorsally skin wrinkled *Nyctibatrachus* Boulenger

Genus *Micrixalus* Boulenger

1888. *Micrixalus* Boulenger, Proc. Zool. Soc. London., : 204.

Diagnosis : Skin warty or tuberculated; vomerine teeth absent; tympanum indistinct or hidden; fingers free, tips of digits dialated in to small distinct round discs with circum marginal groove.

7. *Micrixalus nudis* Pillai

1978. *Micrixalus nudis* Pillai, Proc. Indian Acad. Sci., 87 (B) : 173.

Material examined : 2 exs. Manchuchola Mala, 26.i.1994. Coll : K. C. Gopi.

Diagnosis : Dorsum brownish without markings; dorsolateral glandular fold absent; a chocolate coloured band from behind eye to shoulder; limbs cross barred; ventrally white, throat and breast marbled with brown.

Measurements : Snout to vent length 13.7 to 16 mm.

Ecological notes : Collected in water from a small stream inside a moist deciduous forest.

Distribution : India : Kerala : Wynad, Ponmudi.

Status : Common.

Genus *Nyctibatrachus* Boulenger

1882. *Nyctibatrachus* Boulenger, Catalogue of Batrachia and Salientia, London : 503.

Diagnosis : Pupil vertical; tongue free and deeply bifid behind; vomerine teeth in two straight or oblique series; tympanum concealed; fingers free; toes webbed; tips of digits dialated into small discs.

8. *Nyctibatrachus major* Boulenger

1882. *Nyctibatrachus major* Boulenger, *Cat. Batr. Sal. Brit. Mus.*, : 114.

Material examined : 1 ex. Manchuchola Mala, 26.i.1994. Coll : K. C. Gopi.

Diagnosis : Pupil vertical; skin of back and sides with vermiform wrinkles; brown or dark brown above; limbs barred; throat brownish; ventrally pale; toes three-fourths webbed.

Measurement : Snout to vent length 17 mm.

Ecological notes : Collected from the bank of a hill stream in a moist deciduous forest.

Distribution : India : South India : Wynad, Dhoni forest, Cochin and Ponmudi in Kerala; Kalakkad forest in Tamil Nadu.

Status : Common.

Genus *Rana* Linnaeus

1758. *Rana* Linnaeus, *Syst. Nat. ed.*, 10 Holmiæ : 210.

Diagnosis : Skin not smooth; tongue free, deeply notched and bifid behind; vomerine teeth present (rarely absent); pupil horizontal; tympanum distinct, sometimes hidden; parotid gland absent; fingers free; toes webbed; tips of digits simple or dialated.

Key to the species of the genus Rana of Kasaragod district

1. Tips of fingers and toes dialated in to discs bearing distinct horse shoe shaped circum marginal groove 2
 Tips of fingers and toes not dialated in to discs and without circum marginal groove..... 3
2. Tongue with a pointed papilla 4
 Tongue without a papilla; medium sized frogs with toes nearly entirely webbed; dorsolateral glandular fold from above the tympanum to the hip usually with a dark outer edge; tibio-tarsal articulation reaching nostril or tip of snout or a little beyond; body yellowish brown to dark bronze coloured above *temporalis* (Gunther)
3. Toes fully webbed 5
 Toes usually half webbed with three phalanges of the fourth toe free; skin of back warty and often with short and interrupted longitudinal glandular folds; outer metatarsals united in the basal half; an inner and outer metatarsal tubercle present *limnocharis* Gravenhorst
4. First finger at least as long as second; tympanum half to two-thirds diameter of the eye *beddomii* (Gunther)
 First finger longer than second; tympanum as large as eye and close to it.....
 *semipalmata* Boulenger
5. Skin of back with longitudinal folds; inner metatarsal tubercle small, blunt and obtuse; large sized frogs *tigerina* Daudin
 Skin of back warty; inner metatarsal tubercle finger-like; medium sized frogs
 *cyanophlyctis* Schneider

9. *Rana limnocharis* Gravenhorst

1829. *Rana limnocharis* Gravenhorst, *Zoologici* : 41.

Material examined : 8 exs. Kavadikanam (Bandadka : Adoor R.F), 19.iii.1994 (6 exs.) and 23.iii.1994 (1 ex.); Karadka R.F., 21.iii.1994 (1 ex.). Coll : K. C. Gopi.

Diagnosis : Toes usually half webbed with three phalanges of the fourth toe free; tibio-tarsal articulation reaching nostril; skin warty above, usually with short and interrupted longitudinal glandular folds; a strong fold from eye to shoulder; usually gray or brown above with darker markings and darker bars on lips and legs; often with a vertebral band; smooth and white below.

Measurements : Snout to vent length 14 to 26.2 mm.

Ecological notes : Collected in water of a slow flowing stream inside moist deciduous forests.

Distribution : Main land of India and Andaman-Nicobar, East Asia from Pakistan, Nepal, Sri Lanka and China to Japan.

Status : Very Common.

10. *Rana temporalis* (Gunther)

1864. *Hyalorana temporalis* Gunther, *Rept. Brit. India.*, : 427.

Material examined : 1 ex. Parappa R. F., 24.ix.1993. Coll. K. C. Gopi.

Diagnosis : Dorsum between the two dorsolateral glandular folds brownish, often with a few scattered dark spots; outer edge of dorsolateral folds darker; canthus rostralis and temporal region darker, the colouration continued backwards on flanks; limbs cross barred with brown; ventrally white, throat and breast at times brownish; tibio-tarsal articulation reaching nostril or tip of snout or a little beyond; no fold behind tympanum down to the shoulder.

Measurement : Snout to vent length 66.4 mm.

Ecological notes : The specimen has been obtained away from stream on humid soil shaded by short shrubs inside a semi evergreen forest.

Distribution : India : Mahabaleshwar (Maharashtra), Ponmudi (Kerala), Papanasam and Nilgiris (Tamil Nadu).

Status : Common.

11. *Rana tigerina* Daudin

1803. *Rana tigerina* Daudin, *Hist. Rain. Gren. Crap.*, : 64.

Material examined : 1 ex. Kavadikanam (Bandadka : Adoor R.F), 23.iii.1994. Coll : K. C. Gopi.

Diagnosis : Toes completely webbed; skin of back with longitudinal folds; inner metatarsal tubercles small, blunt; heels overlap when legs are folded at right angles to the body; tympanum

distinct, nearly the size of eye; first finger longer than second; olive green or brownish above with darker markings; often with a light coloured vertebral streak; limbs barred or spotted.

Measurement : Snout to vent length 72.5 mm.

Ecological notes : Collected in water from a slow flowing stream inside a moist deciduous forest.

Distribution : Throughout the Indian subregion, Sri Lanka, Burma to South East Asia, South China and Taiwan.

Status : Very common.

12. *Rana cyanophlyctis* Schneider

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph. I* : 137.

Material examined : 18 exs. Parappa R.F, 13.x.1993 (1 ex.); Chempilankai (Muliyar R.F), 14.x.1993 (2 exs.); Kavadikanam (Bandadka : Adoor R.F), 19.iii.1994 (6 exs.), 20.iii.1994 (4 exs.), 23.iii.1994 (4 exs.); Karadka R.F, 21.iii.1994 (1 ex.). Coll : K. C. Gopi.

Diagnosis : Snout rounded; first and second fingers of more or less equal length; toe tips swollen and rounded; a single line of porous warts on flanks; inner metatarsal tubercle finger-like; skin warty above and gray, olive, brown or blackish above with darker spots or marblings; a dark edged white band on the back of the thighs.

Measurements : Snout to vent length 19.3 to 54.1 mm.

Ecological notes : All the specimens studied were collected in water at the edge of streams or pools inside moist deciduous and semi evergreen forests.

Distribution : Throughout the Indian Peninsula from the Himalaya southwards, Iran, South Arabia, Sri Lanka, Nepal and Thailand.

Status : Very common.

13. *Rana beddomii* (Gunther)

1875. *Polypedates beddomii* Gunther, *Proc. Zool. Soc. London.*, : 571.

Material examined : 1 ex. Manchucholamala, 26.i.1994. Coll : K. C. Gopi.

Diagnosis : Inter orbital space as broad as upper eyelid; first finger at least as long as second; tibio-tarsal articulation reaching the tip of snout or a little beyond; skin of back with short longitudinal folds; a strong supra tympanic fold; a black streak on the canthus rostralis and a temporal streak enclosing the tympanum; generally brownish above with indistinct dark spots, occasionally fully pale whitish above with no colour or markings but for the dark temporal and canthal streaks; ventrally uniform white.

Measurement : Snout to vent length 24.2 mm.

Ecological notes : Collected in water of a slow flowing stream inside a moist deciduous forest.

Distribution : India : Western Ghats (Kerala, Karnataka, Tamil Nadu, Maharashtra).

Status : Very common.

14. *Rana semipalmata* Boulenger

1882. *Rana semipalmata* Boulenger, *Cat. Batr. Brit. Mus.*, : 56.

Material examined : 3 exs. Pullodi, 27.x.1993 (1 ex.); Kavadikanam (Bandadka, Adoor R.F), 23.iii.1994 (2 exs.). Coll : K. C. Gopi.

Diagnosis : Inter orbital space as broad as the upper eyelid or a little narrower; first finger a little longer than the second; tibio-tarsal articulation reaching the tip of the snout or between the eye and snout; skin of back with short longitudinal folds; sides granulate with small warts; brown above, sides of body darker, loreal and temporal regions blackish; ventrally white, throat and breast mottled with brown.

Measurements : Snout to vent length 22 to 22.8 mm.

Ecological notes : Collected in water of slow flowing streams inside wet evergreen and moist deciduous forests.

Distribution : India : Kerala : Calicut, Dhoni forest, Cochin, Ponmudi., Tamil Nadu : Anamalai hills, Poomburai, Kodaikanal.

Status : Common.

Analysis of Taxonomic and Ecological Data : An analysis of taxonomic and ecological data of Amphibians in the present collection (Table-I) from Kasaragod district reveals that the forests of the districts though highly fragmented, still houses a fair assemblage of Amphibian fauna represented by 14 species which include 2 species of Caecilians. Certain biologically richer habitats in Kerala like the Silent-Valley (partly surveyed) and Ponmudi are known so far only to be represented by 19 (Pillai, 1986) and 25 (Inger *et al.*, 1984) species of Amphibians respectively. It is well known that though locally abundant, populations of many Amphibians have become widely separated (Daniels, 1991) due to habitat destruction. In the present collection, barring *P. leucorhinus* and *R. cyanophlyctis* found in 4 out of 6 localities surveyed, and *R. limnocharis* and *R. semipalmata* in 2 localities, rest of the Amphibians recorded (*R. tigerina*, *R. temporalis*, *R. beddomii*, *M. nudis*, *N. major*, *B. beddomii*, *B. melanostictus*, *P. pulcherrimus*, *U. menoni* and *U. narayani*) are confined to either one of the survey localities only. The collection data also show that populations of *P. leucorhinus* and *R. cyanophlyctis* are comparatively larger by number and enjoy a wider area of distribution. The next in order is *R. limnocharis*. Rest of the species recorded in the present study are represented poorly in the district. It may also be mentioned here that though *R. tigerina* is known to occur widespread in the country (Inger and Dutta, 1986) and over the entire range of Western Ghats (Daniels, 1992), the species is represented in the present collection only by a single specimen from a single locality.

TABLE-1

Collection data of Amphibians from Kasaragod district

Species of Amphibians collected (locality wise)	Number of specimens collected	Locality of collection	Type of forest
<i>R. cyanophlyctis</i> <i>R. temporalis</i> <i>P. leucorhinus</i> <i>B. melanostictus</i>	1 1 11 3	Parappa R.F. In water. Away from stream on humid forest soil. On leaf litter and leaves of shrubs On leaf litter.	Semievergreen
<i>R. semipalmata</i> <i>P. leucorhinus</i> <i>B. beddomii</i>	1 1 1	Pullodi In water. On leaf of shrub. On leaf litter.	Wet evergreen
<i>R. cyanophlyctis</i> <i>P. leucorhinus</i>	2 6	Chempilankai, Muliya R.F. In water. On leaf litter and on leaves of shrubs.	Moist deciduous
<i>R. beddomii</i> <i>M. nudis</i> <i>N. major</i> <i>P. pulcherrimus</i>	1 2 1 1	Manchucholamala In water. In water. Bank of a stream. On leaf of a shrub.	Moist deciduous
<i>R. cyanophlyctis</i> <i>R. limnocharis</i>	1 1	Karadukka, Karadka R.F. In water. In water.	Moist deciduous
<i>R. cyanophlyctis</i> <i>R. tigerina</i> <i>R. limnocharis</i> <i>R. semipalmata</i> <i>P. leucorhinus</i> <i>U. menoni</i> <i>U. narayani</i>	14 1 7 2 1 1 1	Chappakal, Kavadikanam (Bandadka, Adoor R.F.) In water. In water. In water. In water. On leaf litter. In water. In water.	Moist deciduous

The species of Amphibians which are recorded from single localities show patchy distribution within the district and are at a higher risk of extinction if the already fragmented forests of Kasaragod district are subjected to further degradation.

SUMMARY

A collection of Amphibians from Kasaragod district, Kerala is reported. The fauna include 2 species of Gymnophiona and 12 species of Anura. In addition to the systematic account, appropriate keys to the identification and analysis of the taxonomic and ecological data of the material reported are provided.

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