

## AMPHIBIA OF MAHARASHTRA WITH DESCRIPTION OF A NEW SPECIES OF TORRENT TOAD, *ANSONIA*

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### INTRODUCTION

This paper embodies the results of study of a large collection of Anurans (Amphibia) which accumulated over the years in the Western Regional Station, Zoological Survey of India, Pune. The collection was made available to us through the courtesy of Dr. R.H. Kamble, Scientist of that Station for whom a new species is being named.

There does not seem to be any serious study of Amphibians of Maharashtra. Daniel (1963, 1963a, 1975) has presented a Field guide to most of the families of Amphibia from Western Ghats with special reference to species found in the plains and hill areas of Salsette Island and Bombay City and the ghats to the southeast of the city. A list of 22 species of Amphibians occurring in Maharashtra was also given by Daniel (1974) in the Maharashtra State Gazetteer. Yazdani and Mahabal (1976) have also merely listed 11 species of anurans occurring in Poona District.

We have, in all, examined 223 examples of frogs and toads falling under 4 families, 6 genera and 13 species out of which one species of *Ansonia* is described as new. Three more species namely *Bufo beddomii*, *Microhyla rubra* and *Rana keralensis* deserve mention as new records to this part of the country. Record of the rare toad *Bufo beddomii* has extended its known range of distribution much northwards. *Microhyla rubra* which was hitherto not known north of Malabar (Kerala) in Western India now enjoys a more extensive distribution. *Rana keralensis*, (better known as *R. verrucosa* in literature) has a wider distribution in Western India, north of Kerala and Tamilnadu.

Color indicated is in the preserved state. Notes are given where necessary. References to detailed description are indicated under each species.

The authors are thankful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta for the facilities and encouragement. Thanks are due to Dr. R. H. Kamble, Scientist B, Western Regional Station, Pune for the promptness with which the material was made available for study.

### LIST OF AMPHIBIANS FROM MAHARASHTRA

The following families, genera and species are represented in the material studied :

Class	Amphibia
Order	Anura
Family	Bufoidea

Genus (1) *Ansonia* Stoliczka

1. *Ansonia kamblei* sp. nov.

Genus (2) *Bufo* Laurenti

2. *Bufo beddomii* Gunther; 3. *Bufo stomaticus* Lutken; 4. *Bufo melanostictus* Schn.

Family Ranidae

Genus (3) *Rana* Linn.

5. *Rana hexadactyla* Lesson; 6. *Rana cyanophlyctis* Schn.; 7. *Rana tigerina* (Daud);  
8. *Rana keralensis* Dubois; 9. *Rana limnocharis* Boie

Genus (4) *Tomopterna* Dum. & Bibr.

10. *Tomopterna breviceps* Schn.

Family Rhacophoridae

Genus (5) *Rhacophorus* Kuhl

11. *Rhacophorus leucomystax* (Kuhl)

Family Microhylidae

Genus (6) *Microhyla* Tschudi

12. *Microhyla ornata* (Dum. & Bibr.); 13. *Microhyla rubra* (Jerdon)

1. *Ansonia kamblei* sp. nov.

**Material** : A single specimen collected from Jeur, 29 Km north of Tembhurni, Karnala.

**Diagnosis** : A small toad with tympanum indistinct, cranial ridges and parotoid glands absent, skin beset with small tubercles. Hindlimbs slender, short, tibiotarsal articulation not reaching tympanum toes half webbed.

**Description** : *Head* : About as long as broad, without cranial ridges, snout truncated at tip, projecting beyond lower-jaw, canthus rostralis fairly distinct, loreal region concave, nostrils lateral, much nearer to tip of snout than to eye, internarial distance less than length of snout or diameter of eye. Eyes with pupil circular, its diameter about equal to inter-orbital distance. Upper eyelids flat, its width less than the inter orbital distance. Tympanum indistinct, vertically oval, its larger diameter half that of eye. An elevated oval patch fills the inter-orbital space and extends behind the level of eyes on the median aspect. Upper jaw toothless, vomerines absent, tongue small, pyriform. Parotoid glands absent.

**Forelimbs**: Slender, short, about half the body length from snout to vent. Fingers free, tips blunt, first, second and fourth of about same length, a single fleshy pad on palm.

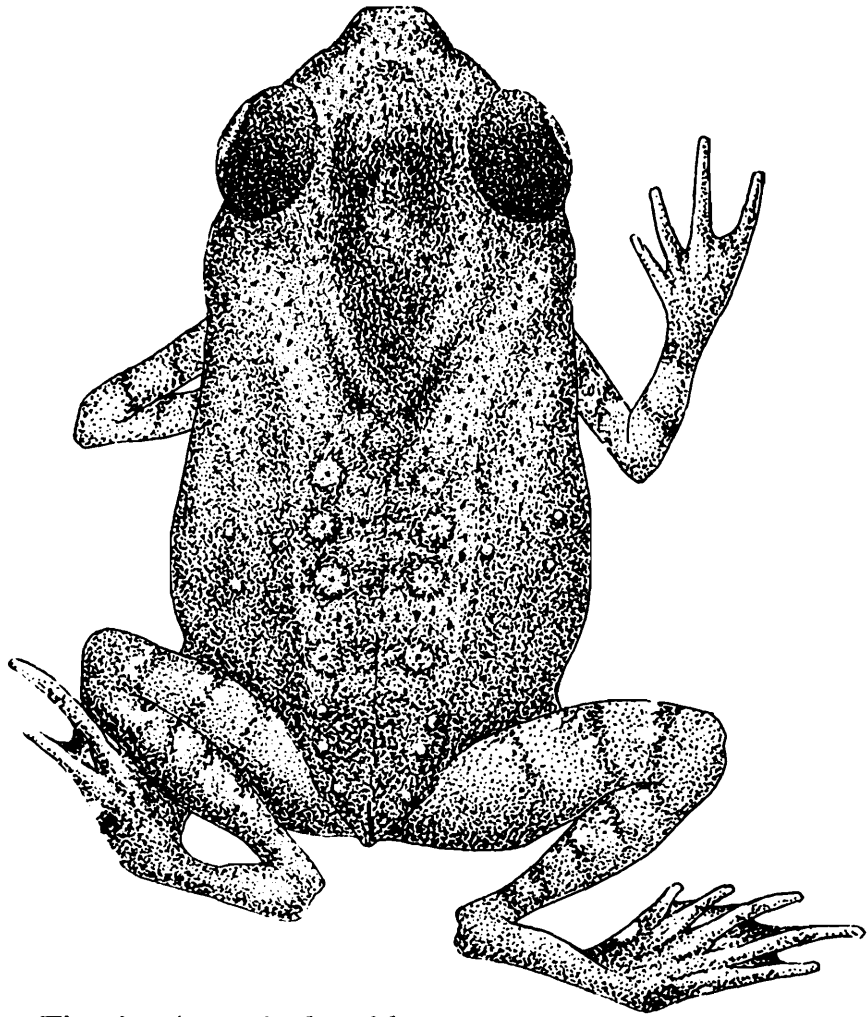


Fig. 1. *Ansonia kamblei* sp. nov.

**Hindlimbs** : Slender, short, tibiotarsal articulation not reaching tympanum when adpressed. Tibia one-third body length,  $3\frac{1}{2}$  times as long as broad, heels not meeting when limbs are folded at right angles to the body. Toes with blunt tips, about half webbed. Subarticular tubercles feebly developed, a large inner metatarsal tubercle and a small outer one present.

**Skin** : Dorsal surface covered with small blackish tubercles, a few larger ones on either side of the median line from the shoulder level to the hind end of the diapophyses of the sacral vertebrae, the latter projecting as a small hump above the vent. Ventrally the skin is rough without pronounced tubercles.

**Colour** : Dorsum and sides dark grey, dotted with small black tubercles. The elevated oval patch between the eyes reddish brown. Limbs faintly cross-barred. Light yellowish ventrally, throat speckled with a median reddish brown area. Breast and anterior belly mottled with brown.

**Measurement in mm :**

Total length (from tip of snout to vent)	14.6
Length of head (from tip of snout to angle of jaws)	5.2
Width of head (at angle of jaws)	5.2
Length of snout (from tip of snout to anterior corner of eye)	2.0

Diameter of eye	2.0
Width of upper eyelid	1.6
Minimum interorbital distance	1.9
Length of forelimb	8.5
Length of hindlimb	12.5
Length of tibia	5.0

*Holotype* : A toad of 14.6 mm from tip of snout to vent, loc. Jeur, 29Km North of Tembhurni, Karnala, Dist: Sholapur, Maharashtra State, Field Station No. 6, Reg. No.V/98, Coll. A.S. Mahabal, 25 April, 1983.

*Affinities* : A persusal of the characters enumerated above, particularly absence of cranial ridges, and parotoid glands, presence of tuberculated skin and webbed feet indicate that we are dealing with *Ansonia* under the family Bufonidae.

Bufonidae, in India, comprises four genera viz. *Ansonia*, *Bufo*, *Pedostibes* (= *Nectophryne*) and *Bufoides*. Parotoid glands are present in all except *Ansonia* and *Bufoides*. The present example differs from the single species known under *Bufoides*, viz. *B. meghalayana* described from Cherrapunji by Pillai and Yazdani (1973) in the absence of cranial ridges, warts and profuse tubercles on skin and a fully webbed feet.

Two species of *Ansonia* are hitherto known from India, *Ansonia ornata* from Brahmagiri Hills, Mysore (Gunther, 1875) and *A. rubigina* from Silent Valley, Kerala (Pillai and Pattabiraman, 1981). The present example is specifically distinct from *A. ornata* in the nature of tympanum, fingers, webbing on the feet, length of the hindlimbs, tuberculation of the dorsum and colour pattern. It differs from *A. rubigina* in the proportions of the head, pads on palm, webbing on feet, texture of the skin, tuberculation and colouration.

## 2. *Bufo beddomii* Gunther

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

*Material* : 11 exs. 15.5 mm Wasumbe tank, Vita, Sangli, Coll. A.S. Mahabal 16 ix. 79. (2) 1 ex. 20 mm Kand village, Shirala, Sangli, Coll. A.S. Mahabal, 25. ix. 79.

Both the palms and partly the toes are damaged in the smaller example while the toes are broken in the larger one. However the characters are sufficiently clear for a positive identification except for the fact that the toes do not appear to be entirely webbed.

Uniform dark above with whitish tips on tubercles. Pale or tan below with irregular marbling of brown.

*Remarks* : Inger's (1984) collection from Ponmudi constitutes the second series of the species after the original description of the species by Gunther (1875) from Malabar.

The present record from Maharashtra has extended its distribution considerably northwards which was previously restricted to Kerala.

*Distribution* : Western India.

### 3. *Bufo stomaticus* Lutken

1957. *Bufo stomaticus*, Kirtisinghe, The Amphibia of Ceylon : 17.

*Material* : 1 ex., 42.5 mm Namajicha mal, Tasgaon, Coll. A.S. Mahabal, 11.ix.79

This single example of toad agrees well with descriptions of the species by Kirtisinghe (1959) and Daniel (1963).

Dark brownish dorsum without markings, undersurface whitish with no marbling, tips of toes and fingers blackish.

*Distribution* : India, West Pakistan, Nepal and Srilanka.

### 4. *Bufo melanostictus* Schneider

1890. *Bufo melanostictus*, Boulenger, Fauna Brit. India: 505.

1963. *Bufo melanostictus*, Daniel, *J. Bombay nat. Hist. Soc.* 435.

*Material* : (1) 2 exs. Sakegaon Waghur river, Coll. R.H. Kamble, 23.i.1979. (2) 1 ex. Raber, Coll. R.H. Kamble, 26.i.1979. (3) 1 ex. Palsukhi river, coll. R.H. Kamble, 31.i.1979. (4) 1 ex. Sahastralingpal, Coll. R.H. Kamble, 31.i.1979. (5) 1 ex. Garkheda Kusmbi Nalla, Pal. Coll. R.H. Kamble, 2.ii.1979. (6) 8 exs. Jaman Nall Pal, Coll. R.H. Kamble. 2.ii.1979. (7) 1 ex. Tasgaon R.H., Coll. A.S. Mahabal, 12.ix.1979. (8) 1 ex. Maptemala, Atpadi Taluka, Coll. A.S. Mahabal, 13.ix.1979. (9) 1 ex. Jat R.H. Jat Taluka, Coll. A.S. Mahabal, 21.ix.1979. (10) 1 ex. Takari R.H. Coll. A.S. Mahabal. 22.ix.1979. (11) 1 ex. Retre Dam, Coll. A.S. Mahabal, 24.ix.1979 (12) 2 exs. Kand village, Shirala, Sangli, Coll. A.S. Mahabal, 25.ix.1979. (13) 1 ex. Miraj R.H. Sangli (D.T.). Coll. A.S. Mahabal, 29.ix.1979.

The largest example in the collection measures 88 mm from tip of snout to vent.

*Distribution* : Oriental Region and Malaysia.

### 5. *Rana hexadactyla* Lesson

1920. *Rana hexadactyla*, Boulenger, *Rec. Ind. Mus.* 10.

*Material* : (1) 3 exs. Namajicha, Mal. Tasgaon, Coll. A.S. Mahabal, 11.ix.1979. (2) 2 exs. Bhilwadi, Tasgaon, Coll. A.S. Mahabal. (3) 1 ex. Nall near vita, Coll. A.S. Mahabal, 15.ix.1979. (4) 1 ex. Retre Dam. Shirala, Coll. A.S. Mahabal, 24.ix.1979.

7 exs. are available. Dorsally dark grey and ventrally white.

*Distribution* : It is a Peninsular form, extending on the eastern coast as far as Calcutta.

### 6. *Rana cyanophlyctis* Schneider

1920. *Rana cyanophlyctis*. Boulenger. *Rec. Indian Mus.* : 12.

**Material** : (1) 4 exs. Mehram Tank, Jalgaon, Coll. R.H. Kamble, 19.i.1979. (2) 1 ex. Wakad Waghur river, Coll. R.H. Kamble, 21.i.1979. (3) 2 exs. Sakegaon Waghur river, Coll. R.H. Kamble.23.i.1979. (4) 2 exs. Raber, Coll. R.H. Kamble, 26.i.1979. (5) 7 exs. Ambhora Bhakao river, Coll.R.H. Kamble, 28.i.1979.(6) 5 exs. Palsukhi river, Coll. R.H. Kamble, 31.i.1979.(7) 1 ex. Sukhi river, Coll. R.H. Kamble, 1.ii.1979. (8) 2 exs. Kund Purna river, E. bad, Coll. R.H. Kamble, 6.ii.1979.(9) 1 ex. Lalkhamba Talou, Bodhawad, Coll. R.H. Kamble, 8.ii.1979.(10) 8 exs. Bodhawad tank, Bodhawad, Coll. R.H. Kamble, 8.ii.1979. (11) 1 ex. Jamner (Kong river), Coll. R.H. Kamble, 12.ii.1979. (12) 1 ex. Bandrud titur River, Coll. R.H. Kamble, 14.ii.1979. (13) 2 exs. Arav indrogad river, Panchara, Coll. R.H. Kamble, 16.ii.1979. (14) 1 ex. Anusewadi. Atpadi, Taluka, Coll A.S. Mahabal, 14.ix.1979. (15) 1 ex. Retre Dam. Shirala, Coll A.S. Mahabal. 24.ix.1979. (16) 4 exs. Near Kawalapur, Miraj Taluka, Coll. A.S. Mahabal, 26.ix.1979 (17) 1 ex. Sakradaman, Chinchani Road, Kasa, Coll. M. S. Pradhan, 6.iii.1984. (18) 2 exs. Pinjal Valley, Suryamal, Coll. M.S. Pradhan, 11.iii.1984. (19) 5 exs. Gar River, Coll. M.S. Pradhan, 12.iii.1984. (20) 3 exs. Val River on Mokhada Nasik road, Coll. M.S. Pradhan, 14.iii.1984. (21) 1ex. Bhasta River, Sapgaoon, Murbad, Coll. M.S. Pradhan, 16.iii.1984. (22) 3 exs. Saltan River, Ambadi, Coll. M.S. Pradhan, 19.iii.1984. (23) 1 ex. Bharangi River, Shahpur, Coll. M.S. Pradhan, 22.iii.1984.

59 examples, agreeing well with published descriptions. The largest example is-51 mm in total length, collected from Bhasta River. Dorsally greyish with more or less circular, darker patches. Ventrally white, spotted with black.

**Distribution** : Throughout India.

### 7. *Rana tigerina* (Daud.)

1920. *Rana tigrina*, Boulenger, *Rec. Indian Mus.* : 17.

**Material** : (1) 1 ex. Panchoo Bandar, Bassian, Coll. G.M. Yazdani, 27.x.1972. (2) 1ex. Talav Waki River, coll. R.H. Kamble, 13.ii.1979. (3) 1 ex. Atpadi near Kautholi village, Atpadi Taluka, 15.ix.1979.

The largest specimen measures about 149 mm collected from Atpadi near Kautholi village.

Brownish grey above with dark markings.

**Distribution** : Throughout India, Sri Lanka, Burma to Indo-China; South China and Formosa.

### 8. *Rana keralensis* Dubois

1920. *Rana verrucosa*, Boulenger, *Rec. Indian Mus.* : 26.

**Material** : (1) 9 exs. Wakad Waghur river, Coll. R.H. Kamble, 21.i.1979. (2) 3

exs. Velhala Talav, Coll. R.H. Kamble, 25.i.1979. (3) 2 exs. Ambhora, Bhakao river, Coll. R.H. Kamble, 28.i.1979. (4) 5 exs. Sahastra ling pal, Coll. R.H. Kamble, 31.i.1979. (5) 1 ex. Garkheda kusumbi nalla Pal, Coll. R.H. Kamble, 1.ii.1979. (6) 12 exs. Lahasar Nalla, Jamner, Coll. R.H. Kamble, 1.ii.1979. (7) 2 exs. Tinsha Mohali nall Pal, coll. R.H. Kamble, 2.ii.1979. (8) 7 exs. Jaman Nall Pal, Coll. r.H. Kamble, 2.ii.1979. (9) 6 exs. Pazar talov, Pimpri Panchan, E.bad Coll. R.H. Kamble, 4.ii.1979. (10) 8 exs. Hortale tank, South of E.bad, Coll. R.H. Kamble, 5.ii.1979. (11) 20 exs. Laskhamba Talov, Bodhawad, Coll. R.H. Kamble, 8.ii.1979. (12) 5 exs. Wadi Sar river, coll. R.H. Kamble, 9.ii.1979. (13) 4 exs. Yengaon Deo river, Bodhawad, Coll. R.H. Kamble, 10.ii.1979. (14) 2 exs. Jamnaer (Kong river), Coll. R.H. Kamble, 12.ii.1979. (15) 14 exs. Chinchkhed Waghar river, Coll. R.H. Kamble, 14.ii.1979.

The largest specimen measures 35 mm from snout to vent.

Dark grey above with markings. A light vertebral streak present in some. Head and back profusely warty.

*Distribution* : This species has hitherto been recorded only from the hill forests of Kerala and Tamilnadu. The present record extends its range considerably northwards.

#### 9. *Rana limnocharis* Boie

1920. *Rana limnocharis*, Boulenger, *Rec. Indian Mus.* : 28.

*Material* : (1) 1 ex. Pal Sukhi River, Coll. R.H. Kamble, 31.i.1979. (2) 1 ex. Wasumbe tank, Vita, Sangli, coll. A.S. Mahabal, 16.ix.1979.

Brownish grey above with irregular darker markings. A median thin, white vertebral line present. Larger example from Wasumbe tank measures 23 mm from tip of snout to vent.

*Distribution* : Eastern Asia from Pakistan to Japan.

#### 10. *Tomopterna breviceps* Schneider.

1920. *Rana breviceps*, Boulenger, *Rec. Indian Mus.* : 103.

*Material* : (1) 1 ex. Sahastra lingpal, Coll. R.H. Kamble, 31.i.1979. (2) 2 exs. Chinchni, Tasgaon, Coll. A.S. Mahabal, 13.ix.1979. (3) 1 ex. Atpadi pazar Talav, Atpadi taluka, Coll. A.S. Mahabal, 15.ix.1979. (4) 1 ex. Yerala river, Ambegaon Vita Coll. A.S. Mahabal, 17.ix.1979. (5) 1 ex. Eslampar Road, Takari, Coll. A.S. Mahabal, 19.ix.1979. (6) 1 ex. Retre Budruk, Takari, Coll. A.S. Mahabal, 21.ix.1979. (7) 3 exs. Machundi Jat Taluka, Coll. A.S. Mahabal, 19.ix.1979. (8) 1 ex. olal Nalla, Jat Tikota Road, Jat Taluka, Coll. A.S. Mahabal, 22.ix.1979. (9) 4 exs. Khalati village, Jat Taluka, coll. A.S. Mahabal, 23.ix.1979. (10) 1 ex. Retre Dam, Shirala, coll. A.S. Mahabal, 24.ix.1979. (11) 1 ex. Kand Village, Shirala, Coll. A.S. Mahabal, 25.ix.1979. (12) 2 exs. Giriling Miraj Taluka, Coll. A.S. Mahabal, 29.ix.1979.

Totally 19 specimens examined the largest measuring 33 mm in head and body. The smallest is 13 mm in size.

*Distribution* : Throughout India, Sri Lanka and Burma.

### 11. *Rhacophorus leucomystax* (Kuhl)

1882. *Rhacophorus maculatus*, Boulenger, *Cat. Batr. Sal. Brit. Mus.* : 83.

*Material* : 2 examples are available collected from Kasa R.H. and Tansa River on 5.3.84 measuring 55 mm and 39 mm respectively from tip of the snout to vent.

*Distribution* : Southeast Asia. Known from Darjeeling, Nilgiris, Salem, Malabar, Bombay and Madras.

### 12. *Microhyla ornata* (Dum. & Bibr.)

1934. *Microhyla ornata*, Parker, Monograph Microhylidae : 139.

*Material* : (1) 1 ex. Namajicha Mal. Tasgaon, Coll. A.S. Mahabal, 11.ix.1979. (2) 1 ex. Chinchni, Tasgaon, Coll. A.S. Mahabal, 12.ix.1979. (3) 1 ex. Nall near Vita, Coll. A.S. Mahabal, 15.ix.1979. (4) 1 ex Kand village, Shirala, Coll. A.S. Mahabal, 25.ix.1979.

Totally 4 specimens ranging from 19 mm to 21 mm form snout to vent.

*Distribution* : India, Sri Lanka, Southeast Asia, South China and Formosa.

### 13. *Microhyla rubra* (Jerdon)

1957. *Microhyla rubra*, Kirtishinghe, The Amphibia of Ceylon : 92.

*Material* : 1 ex. Wasumbe tank, vita, Coll. A.S. Mahabal, 16.ix.1979.

The example measures 16.5 mm in head and body. The better webbing on the toes and the well developed semicircular metatarsal tubercles separate this species from *Mornata*.

Colour conforms to the typical pattern of the species.

*Distribution* : Southern India, Assam, Sri Lanka and Malay Archipelago.

*Remarks* : This species has not been recorded north of Malabar in Western India and Bangalore in the Peninsula (Daniel, 1963a). Hence the present record is of interest.

## CONCLUSION

An assessment of the total faunistic wealth of Amphibia of Maharashtra should await a detailed study on the basis of more intensivse surveys. However, on the basis of the present study and the two lists provided by Daniel (1974) and Yazdani and Mahabal (1976), the total numbetr of species of Amphibia expected to be occurring in Maharashtra may be put at 29, the additional species (not recorded in this paper) being the following :

1. *Indotyphlus battersbyi* Taylor; 2. *Ichthyophis subterrestris* Taylor; 3. *Bufo parietalis* Boulenger; 4. *Bufo microtypanum* Boulenger; 5. *Uperodon globulosum*



(Gunther); 6. *Ramanella variegata* (Stoliczka); 7. *Ramanella montana* (Jerdon); 8. *Rana malabarica* (Bibr.); 9. *Rana leithii* Boulenger; 10. *Rana temporalis* (Gunther); 11. *Rana beddomii* (Gunther); 12. *Tomopterna breviceps* (Schneider); 13. *Tomopterna rufescens* (Jerdon); 14. *Nyctibatrachus humayuni* Bhaduri & Kripalani; 15. *Philautus bombayensis* (Annandale); 16. *Philautus glandulosus* (Jerdon).

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