

TAXONOMIC AND ECOLOGICAL STUDIES ON THE  
AMPHIBIANS OF CALCUTTA AND ITS ENVIRONS

*By*

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(With 13 Text-figures and 1 Map)

INTRODUCTION

While working out a large collection of amphibians accumulated in the Zoological Survey of India for the last 22 years it became apparent that quite a big lacuna existed regarding the knowledge of amphibian fauna of Calcutta and its surroundings. The work comprises the consolidated account on the amphibians of the said area. So far only a few stray records by Anderson (1871), Annandale (1909), Bhaduri (1945 & 1947), Boulenger (1890 & 1920), Mukerji (1933) and Parker (1934) are available on the amphibians of the area.

By keeping this in view a long-term amphibian survey project of Calcutta and environs was undertaken between July 1961 to March 1963 by Miss M. B. Kripalani (Mr. M. R. Mansukhani) and staff of the Amphibia Section. Weekly surveys within a radius of 60 km. of Calcutta were undertaken covering the vast area of four major districts namely, 24-Parganas, Nadia, Hooghly and Howrah of West Bengal (between latitudes  $22^{\circ}7' - 23^{\circ}N$  and longitudes  $87^{\circ}45' - 88^{\circ}40'E$ ). The work also includes the observations on the large collection from Salt Lake of Calcutta made by Dr. B. Biswas and party during May 1963 to February 1967. About 1713 examples of amphibians were collected from different ecological habitats like muddy drains, tanks, lakes, canals, bushes, trees, under fallen leaves, from moist ground and village huts, while undertaking the above surveys.

Amphibians are distributed among three orders namely, Apoda (or Gymnophiona), Caudata (or Urodela) and Anura. Amphibians of Calcutta and its environs are lacking former two orders and are only represented by the order Anura.

## SYSTEMATIC ACCOUNT

Class : AMPHIBIA

Order : ANURA

*Key to the families of Amphibians of Calcutta and environs :*

- |   |            |                  |        |
|---|------------|------------------|--------|
| 1. Jaws toothless.  | ...        | ...              | 2      |
| Upper jaw toothed.  | ...        | ...              | 3      |
| 2. Skin rough with spiny warts, parotoids present.  | ... Family | BUFONIDAE        | ... p. |
| Skin more or less smooth, parotoids absent.   | ... Family | MICROHYLIDAE     | ... p. |
| 3. No intercalary ossification (extra cartilaginous bone) between the distal and penultimate phalanges. | ... Family | RANIDAE          | ... p. |
| An intercalary ossification between the distal and penultimate phalanges.                               | ... Family | RHACOPHORIDAE... | p.     |

## Family I. BUFONIDAE

This family is represented in Calcutta and environs by two species of the genus *Bufo* Laurenti, 1768 which can be distinguished by the following key.

- |   |                               |        |
|---|-------------------------------|--------|
| Head with bony ridges, parotoids kidney-shaped.               | ... <i>Bufo melanostictus</i> | ... p. |
| Head without bony ridges, parotoids flat (not kidney-shaped). | ... <i>Bufo stomaticus</i>    | ... p. |

Genus 1. *Bufo* Laurenti, 17681. *Bufo melanostictus* Schneider

(Common Indian Toad)

(Text-fig. 1)

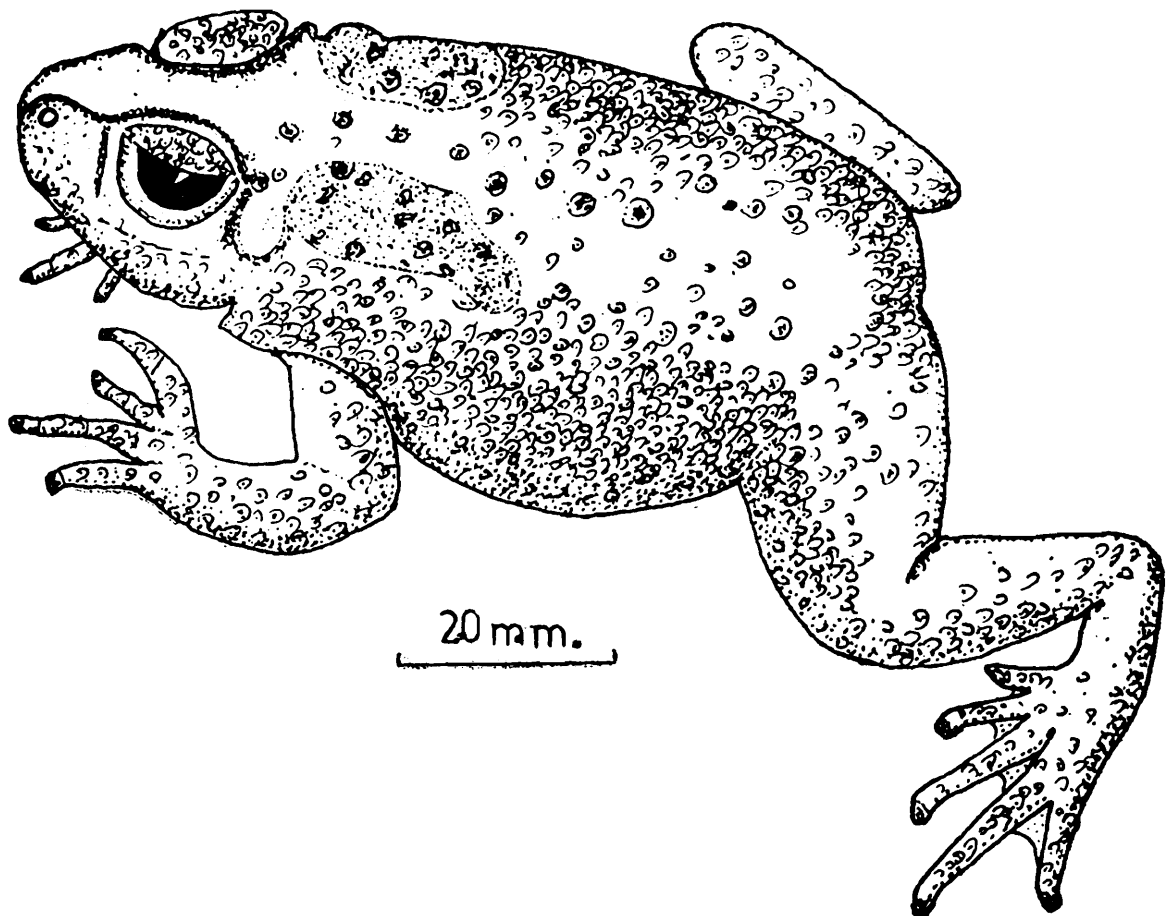
1799. *Bufo melanostictus* Schneider, *Hist. Amph.* 1 : 216.

*Material* : 177 toads collected from 24-Paragans district (Eden Garden (Calcutta), Zoological Garden (Calcutta), Budge Budge, Dhakuria, Diamond Harbour, Baruipur, Dakshin Baraset, Haliashahar, Baraset, Lauhati, Magrahat, Salt Lake); Hooghly district (Sheoraphuli, Sheakhala, Kristrampur, Tarakeshwar, Nalikul, Kamarkundu, Magra); Howrah district (Bagnan, Bally); Nadia district (Kalayani). Collections are available throughout the year except in January and February.

*Distribution* : Calcutta and environs, —As mentioned above. *Elsewhere*, —Common throughout the plains of India, Sri Lanka and Burma. Its range extends to Southern China, Malaya Peninsula and Archipelago.

*Measurements* : Snout to Vent length 11-114 mm.

*Remarks* : It is the most common toad available in Calcutta and environs. It is nocturnal in habit and generally found in gardens and on roadsides while preying on various arthropode and other invertebrates. Juveniles are found during the day also. Baring the breeding



Text-fig. 1. *Bufo melanostictus* Schneider

season adults are found inside the burrows and in dark corners of the village huts during the day. This toad is mainly terrestrial and found in and near the water only during breeding season. On provocation its parotid glands secrete a milky fluid which causes irritation on the human skin.

## 2. *Bufo stomaticus* Lutken

(Marbled Toad)

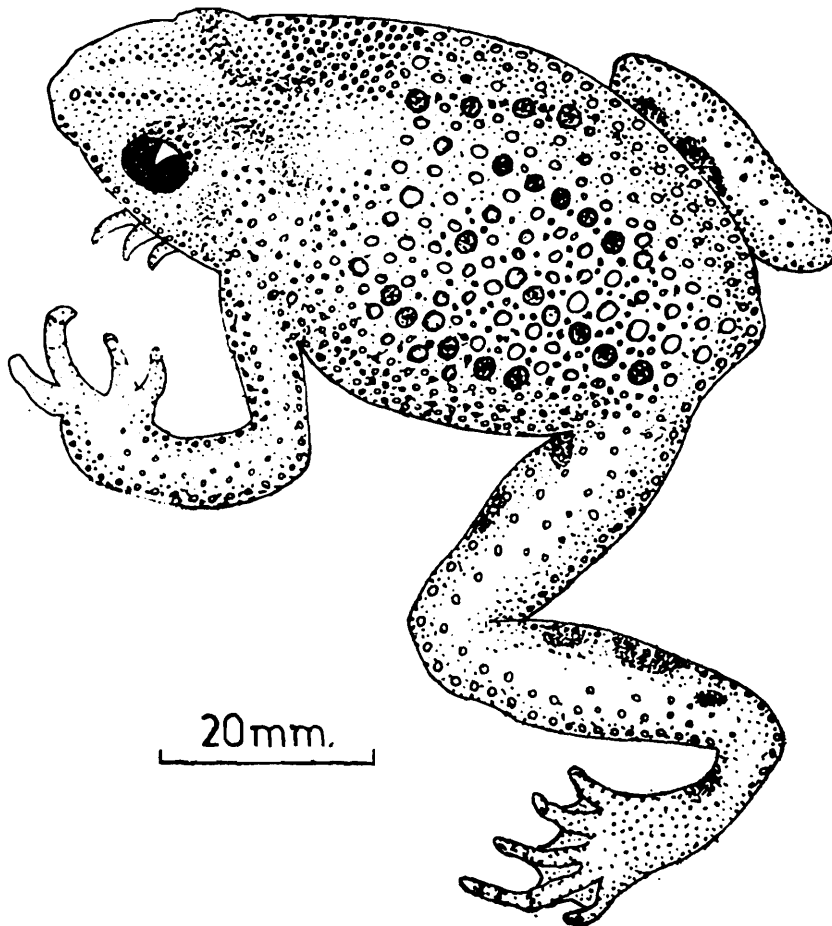
(Text-fig. 2)

1863. *Bufo stomaticus* Lutken, *Vidensk. Meddr dansk naturh-Foreni*, 14 : 305.

*Material* : 24-Pargans district : 47 ex. (4 adults, 37 juveniles and 6 tadpoles), Cemented tank of Eden Garden, Calcutta, 5.vii.1961. Coll. M. B. Kripalani. Nadia dist. : 7 ex., Phulia, 4.xi.1964. Coll. D. K. Ghosal.

*Distribution* : Calcutta and environs, —As mentioned above. Annandale (1909) had recorded it from Calcutta. *Elsewhere*, —Assam, West Bengal, Bihar, Andhra Pradesh (Nagarjun Valley), Rajasthan (Rajputana), Uttar Pradesh (Agra) and Maharashtra (Bombay) in India. Also Nepal, Burma, Sri Lanka, Pakistan and Arabia.

*Measurements* : Snout to Vent length 8-86 mm.



Text-fig. 2. *Bufo stomaticus* Lutken

*Remarks* : It is quite rare, nocturnal, terrestrial toad and found in or near water during the breeding season (April to September). Adult and juvenile toads were collected during July while inhabiting the muddy substratum beneath the large stones scattered in the Eden Gardens, Juveniles and tadpoles were also collected from a near by cemented tank.

Annandale (1909) has reported that *Bufo stomaticus* is common in Calcutta, but it is rarely seen owing to its strictly nocturnal habits. He has also mentioned that during rains large numbers of them are found to huddle together in the many crevices afforded by the tree-

trunk of the Peepuls (*Ficus religiosa*) on the *Maidan* area of Calcutta and they can reach upto a height of six feet from the ground through those crevices.

### Family II. MICROHYLIDAE

This family is represented in Calcutta and environs by three genera each of which is again represented by a single species.

#### *Key to the genera of the family MICROHYLIDAE.*

- |  |  |   |
|--|--|---|
| 1. Tips of fingers more or less blunt (or rounded), but not dilated into discs. ...      | ...  | 2 |
| Tips of fingers dilated into triangular discs. ...                                       | ...  | 3 |
| 2. Two strong and shovel-shaped metatarsal tubercles (inner larger) present. ...         | Genus <b>Uperodon</b> Dumeril and Bibron. p. ... |   |
| Two small but distinct, and normal (not shovel-shaped) metatarsal tubercles present. ... | Genus <b>Microhyla</b> Tschudi p. ...            |   |
| 3. A bony ridge on posterior margin of each choana. ...                                  | Genus <b>Kaloula</b> Gray p. ...                 |   |

#### Genus 2. **Uperodon** Dumeril & Bibron, 1841.

##### 3. **Uperodon globulosum** (Gunther)

(Balloon Frog)

(Text-fig. 3)

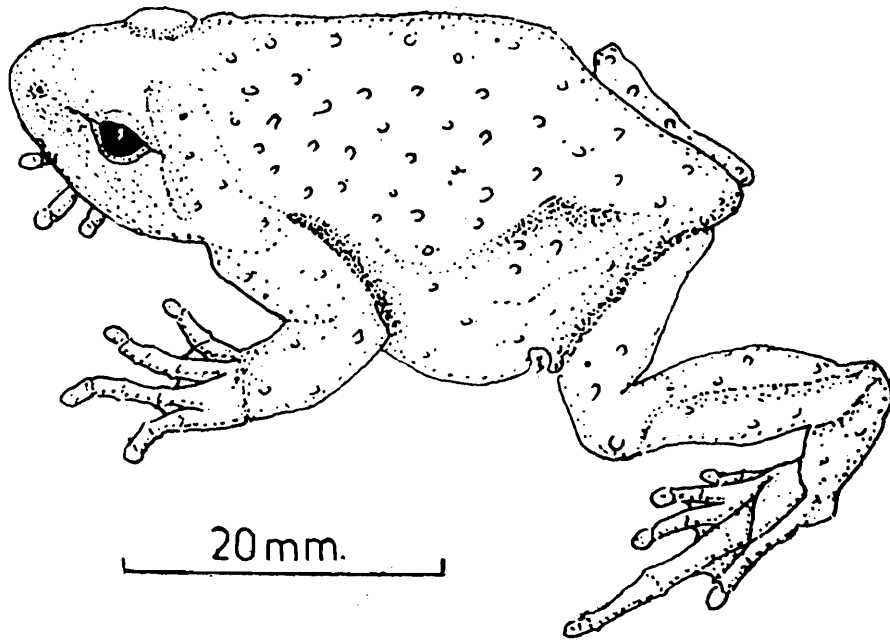
1864. *Cacopus globulosus* Gunther, *Rept. Brit. India*, p. 416.

*Material* : 24-Parganas dist. : 2 ex. (♀), Barackpore (near Vidyasagar Vidyapith), 20.i.1974, Coll. *D. K. Ganguly*; 1 ex. (♀), Budge Budge, 20.v.1978, *S. Chattapadhyaya*, Howrah dist. : 1 ex. (♂) Bally, 7.vii.1972, *A. K. Sarkar*. Hooghly dist. : 1 ex. (♂), Chinsura, —vii. 1977. *S. Chakraborty*.

*Distribution* : Calcutta and environs,—As mentioned above. *Ander* (1871) has recorded one example from Sibpur Botanical Gardens. *Mukherji* (1933) has recorded one example from Khardah (near Calcutta) and *Bhaduri* (1945) has recorded one example from Belghurria, Calcutta and another from Sibpur Botanical Gardens near Calcutta. *Elsewhere*.—Assam, West Bengal, Orissa, Madhya Pradesh, Maharastra, Gujarat and Karnataka in India.

*Measurements* : Snout to Vent length 49-66 mm.

*Remarks* : This is a very rare microhylid frog which leads a secretive subterranean life and found on the surface only during breeding season. Two examples from Barrackpore have been collected at a depth of *ca.* 3 feet while the foundation of a building was being dug.



Text-fig. 3. *Uperodon globulosum* (Gunther)

According to earlier authors these frogs are the strong predators on the white ants (Termites), thus helping the farmers in control of this severe pest.

### Genus 3. *Microhyla* Tschudi, 1838

#### 4. *Microhyla ornata* (Dumeril & Bibron)

(Ornate Microhylid)

(Text-fig. 4)

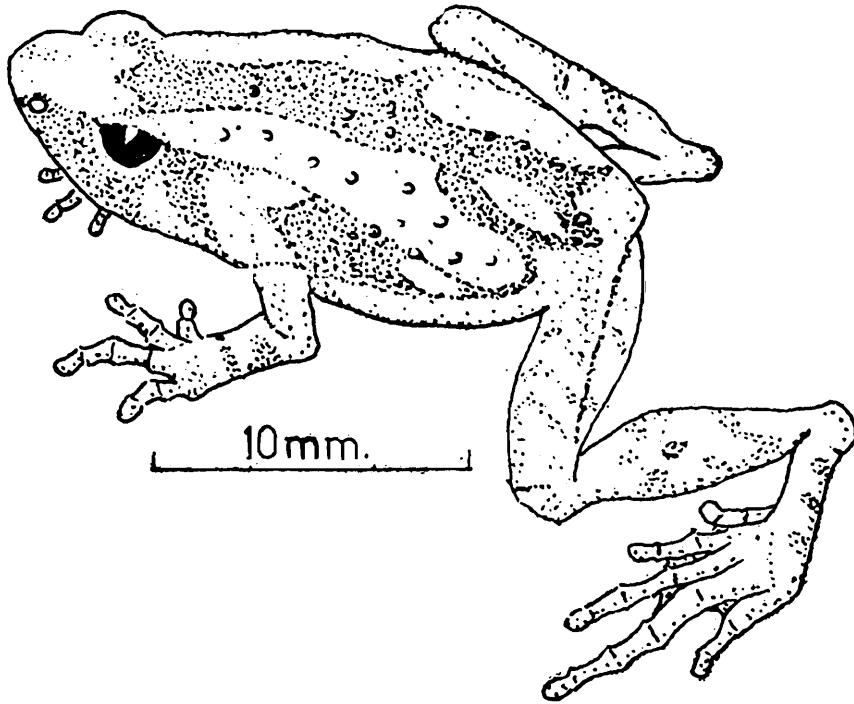
1841. *Engystoma ornatum* Dumeril and Bibron, *Erpet. Gen.* 8 : 745.

*Material* : 228 frogs and 1 tadpole, Collected from 24-Parganas district (Diamond Harbour, Baruipur, Guma, Haliashahar, Baraset, Duttapukur, Magrahat); Hooghly district (Bandel, Chandernagar, Singur, Sheoraphuli, Champadanga, Sheakala, Kristrampur, Tarakeshwar, Magra, Tribeni); Howrah district (Jagatballavpur, Amta, Bagnan, Uluberia, Bally); Nadia district (Haringhata, Phulia). Collections are available throughout the year.

*Distribution* : Calcutta and environs,—As mentioned above. This species is being recorded for the first time from Calcutta and environs.

Acharji and Kripalani (1951) have recorded it from Sukhna in Darjeeling district, West Bengal. *Elsewhere.*—It is a widely distributed species in India and found all over the plains of the country upto an altitude of 1524 metres. Also Sri Lanka, Burma, South China, South-east Asia and Taiwan.

*Measurements* : Snout to Vent length 9-20 mm.



Text-fig. 4. *Microhyla ornata* (Dumeril & Bibron)

*Remarks* : This quite common toad-like tiny frog is mostly found in the grasses and under the dry leaves covering the moist soil. It has been noticed that ideal habitat of these frogs in the suburbs of Calcutta is under the fallen bamboo leaves on the banks of ponds and tanks. In comparison to its tiny size it can cover considerably a good distance by jumping. In monsoon days they are sometimes attracted by night-lamps and found inside the rooms.

Genus 4. **Kaloula** Gray, 1831.

5. **Kaloula pulchra taprobanica** Parker

(Ceylon Kaloula).

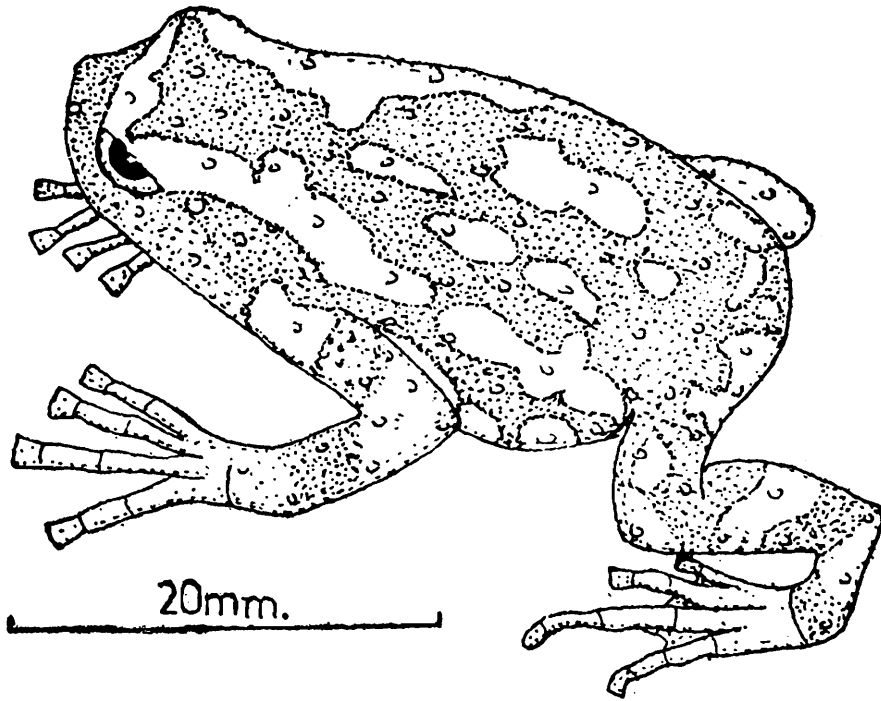
(Text-fig. 5)

1934. *Kaloula pulchra taprobanica* Parker, *Monogr. of the Microhylidae*, pp. 86-87.

*Material* : 24-Parganas dist., : 2 ex., New Barrackpore, 17.x.1966, Coll. D. P. Sanyal ; 1 ex., Dum Dum, 10.ii.1967. Coll. B. Biswas, 4 ex., (1 Frog and 3 tadpoles), Rain water pool, Habra, 8.v.1977, Coll. S. Roy.

Howrah dist. : 3 ex., Bally 5 & 20.x.1967 ; 2 ex., Bally 16.vi.1969. All Coll. A. K. Sarkar.

*Distribution* : Calcutta and environs.—As mentioned above. Parker (1934) reports it from Calcutta. *Elsewhere*.—Madhya Pradesh (Bastar), Karnataka (North Kanara), Tamil Nadu (Cauvery River and Tambaram) in India and Sri Lanka.



Text-fig. 5. *Kaloula pulchra taprobanica* Parker

*Measurements* : Adults,—Snout to Vent length 25-53 mm. Tadpoles, —Snout to vent length 13 mm. and vent to tip of tail length 7 mm.

*Remarks* : This toad-like painted frog is also quite rare and mostly found underground. In the evening of monsoon days it is sometimes found to climb moist boundary-walls of the houses in the suburbs of Calcutta. It inhales air, swells like a small balloon keeping its head a little down and secretes a milky sticky fluid through epidermal pores of skin, when disturbed. In captivity these frogs prefer white ants (Termites). Tadpoles of this species have been brought to the light of Science for the first time and being described separately. Three tadpoles have been collected from the stagnant rain water accumulated in an earthen pot at Hijalpukuria, Habra, 24-Parganas. Dorsum of tadpoles deep brownish with pinkish spots and ventrum light brownish with pinkish spots below the margin of lower lip. Abdulali (1962) found them in copula in temporary rain water pool in May in Western India.



## Family III. RANIDAE

This family is represented in Calcutta and environs by seven species of the genus *Rana* Linnaeus, which can be distinguished by the following key.

1. Toes webbed upto the tips.	...	...	2
Toes webbed not upto the tips.	...	...	3
2. Inner metatarsal tubercle digitiform (toe-like).	...	...	4
Inner metatarsal tubercle not digitiform.	...	...	5
3. Tips of toes swollen or pointed, but not with discs.	...	...	6
Tips of toes with distinct discs.	...	<i>Rana erythraea</i>	... p. ...
4. Ventral surface smooth with no porous wart ; tips of toes swollen.	...	<i>Rana cyanophlyctis</i>	... p. ...
Ventral surface more or less granulated with porous warts on throat, under surface of thighs and sides of belly ; tips of toes pointed.	...	<i>Rana hexadactyla</i>	p. ..
5. Inner metatarsal tubercle blunt and not shovel-shaped.	...	<i>Rana tigerina</i>	... p. ...
Inner metatarsal tubercle sharp and shovel-shaped.	...	<i>Rana crassa</i>	... p. ...
6. Both inner and outer oval metatarsal tubercle present.	...	<i>Rana limnocharis</i>	... p. ...
Shovel-shaped inner metatarsal tubercle present, no outer metatarsal tubercle.	...	<i>Rana breviceps</i>	... p. ...

Genus 5. *Rana* Linnaeus, 17666. *Rana erythraea* (Schlegel)

(Leaping Frog)

(Text-fig. 6)

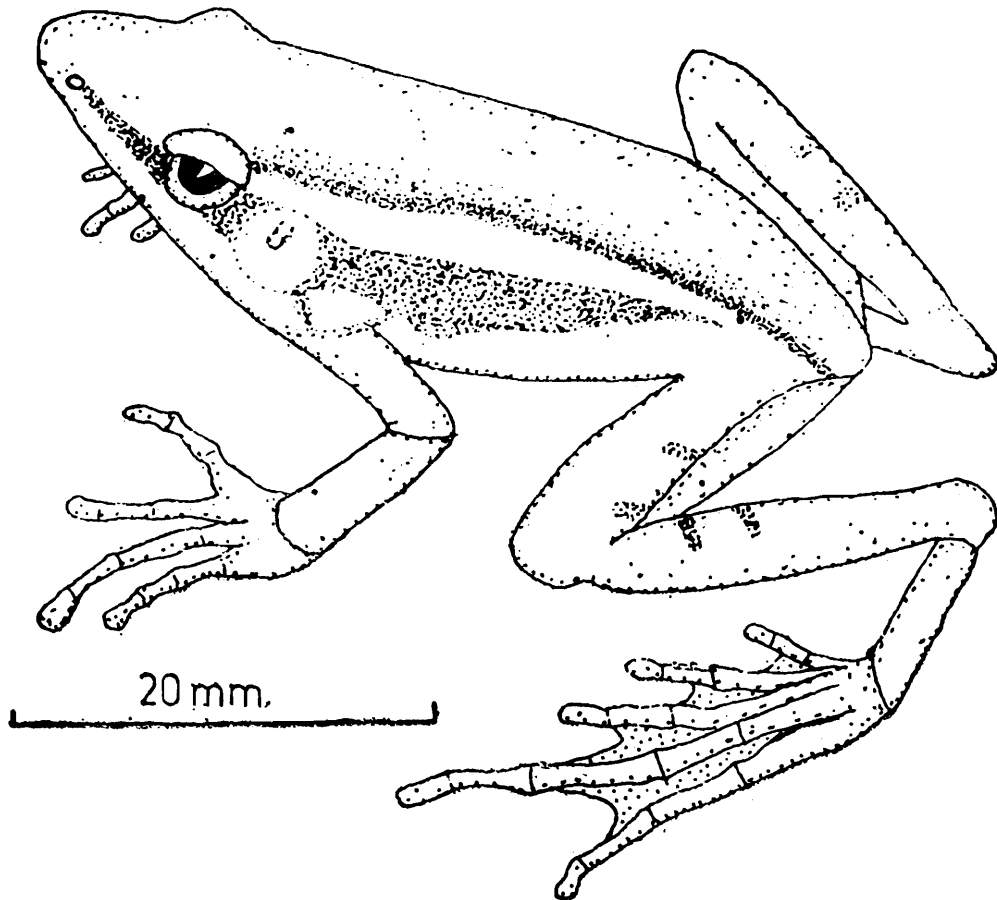
1837. *Hyla erythraea* Schlegel, *Abbild.*, p. 27.

*Material* : 24-Parganas dist. : 1 ex. North Salt Lake (opposite Ultadanga), Calcutta, 12.v.1963. Coll. *B. Biswas* and *M. B. Kripalani*. 1 ex., Nimta, 20. vii.1973. Coll. *P. S. Mahajan*. 1 ex., Bangaon, 16. ix.1974. Coll. *D. K. Moulick*. Howrah dist. : 1 ex., Botanical Garden, Shibpore, 6.viii.1964. Coll. *S. S. Saha*.

*Distribution* : Calcutta and environs, —As mentioned above. Boulenger (1920) has recorded it from Lower Bengal. It is being recorded for the first time from Calcutta and environs. *Elsewhere*. —Assam in India and South-east Asia.

*Measurements* : Snout to Vent length 41-45 mm.

*Remarks* : This is a slender medium-sized frog quite rare in Calcutta and its environs. This frog generally found in thick floating marshy vegetation and in the bushes grown at the edges of the water.



Text-fig. 6. *Rana erythraea* (Schlegel)

## 7. *Rana cyanophlyctis* Schneider

(Skipping Frog)

(Text-fig. 7)

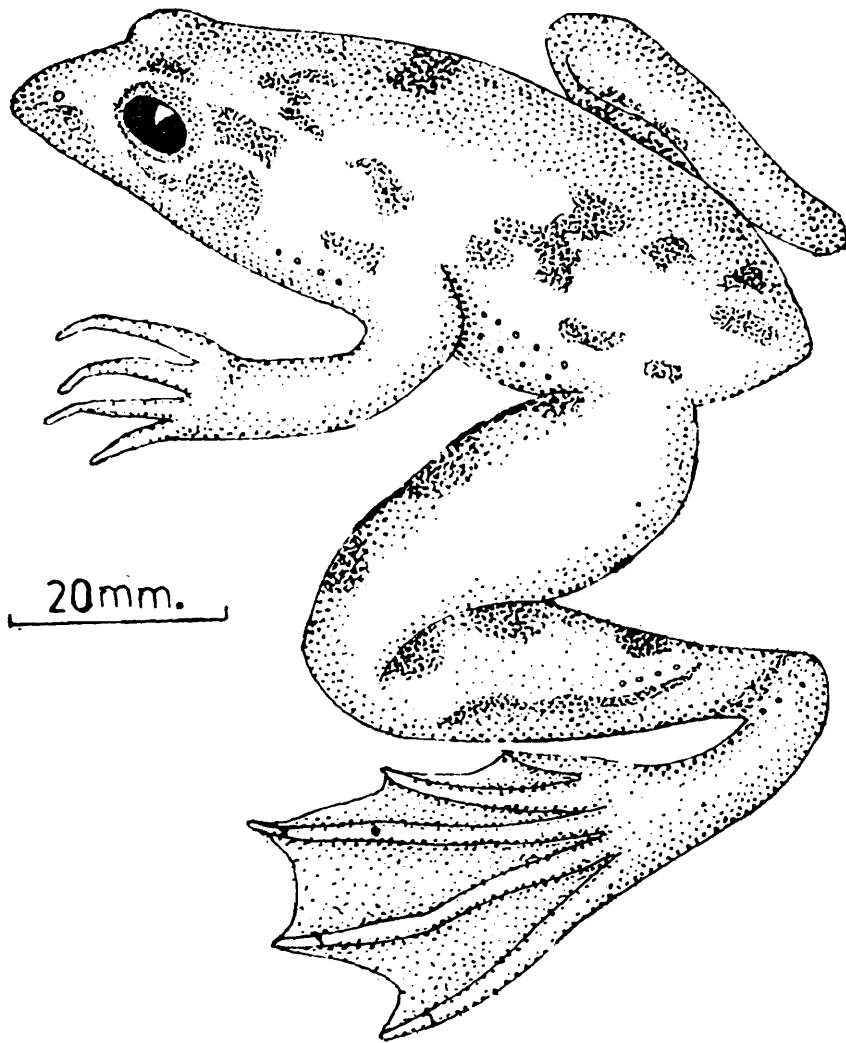
1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.*, 1 : 137.

*Material* : 204 frogs and 14 tadpoles collected from 24-Parganas district (Budge Budge, Dhakuria, Baruipur, Diamond Harbour, Dakshin Barasat, Canning, Champahati, Guma, Naihati, Barasat, Duttapukur, Habra, Dogachhia, Lauhati, Magrahat, Salt Lake); Hooghly district (Bandel, Chandannagar, Singur, Champadanga, Sheakhala, Kristrampur, Tribeni); Howrah district (Botanical Garden, Amta, Uluberia, Bally); Nadia district (Kalyani, Haringhata). Collections are available throughout the year.

*Distribution* : Calcutta and environs, —As mentioned above. *Elsewhere*. —Throughout the plains of India and upto 6,000 ft. in the

Himalaya. Also Pakistan, Afghanistan, Beluchistan, Iran, South Arabia, Nepal, Thailand and Sri Lanka.

*Measurements* : Snout to Vent length 20-69 mm.



Text-fig. 7. *Rana cyanophlyctis* Schneider

*Remarks* : It is one of the commonest form of anuran recorded from the area. It is found floating in most of the ponds, ditches and other water bodies in and around Calcutta. The species is found to hibernate for a short period in the month of December-January in the environs of Calcutta. Sometimes when disturbed, frogs come out of their hibernation and float lazily.

### 8. *Rana hexadactyla* Lesson

(Pond Frog)

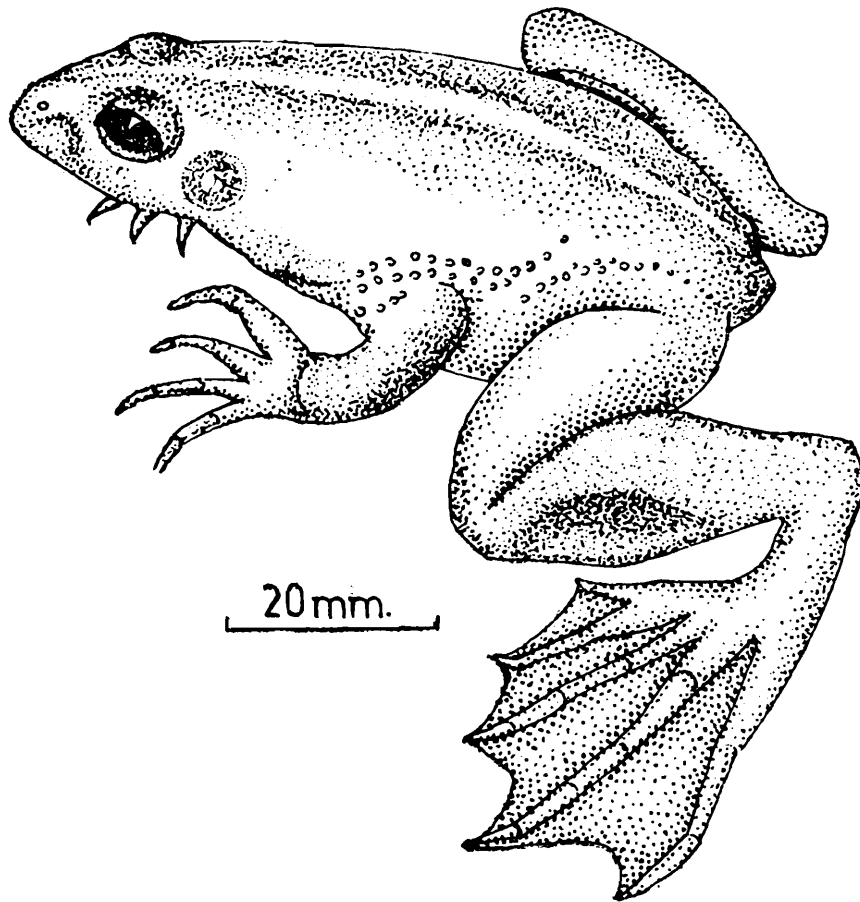
(Text-fig. 8)

1834. *Rana hexadactyla* Lesson, in Belang, *Voy. Indian or., Rept.*, p. 331.

*Material* : 38 frogs and 29 tadpoles. Collected from 24-Parganas district (Eden Garden (Calcutta), Budge Budge, (Canning, Magrahat,

Salt Lake); Hooghly district (Singur and Nalikul). Collections are available from February to November.

*Distribution* : Calcutta and its environs, —As mentioned above. Bhaduri (1947) records this species from Sonarpur (24-Parganas dist.),



Text-fig. 8. *Rana hexadactyla* Lesson

Konnagar (Hooghly dist.) and Duilla (Howrah dist.). *Elsewhere.* —It is common in South India and fairly common in Southern West Bengal. Records are there from Punjab, Rajasthan, Maharashtra and Goa in India and also from Sri Lanka.

*Measurements* : Snout to Vent length 22-144 mm.

*Remarks* : In Calcutta and environs this frog is generally found floating in the ponds with floating green aquatic vegetation in which it can hide properly to protect itself from the predators. Bhaduri (1947) records this frog from the environs of Calcutta and mentions that it can be obtained from old ponds with rich green aquatic vegetation. Dr. B. Biswas has collected specimen sitting on the bank of a pond in the evening and observed that it is very common in the ponds and fishing *bheries* with floating green vegetation in the suburbs of Calcutta. Author has come across with these frogs on land during

the night, when they probably came in search of food. Mondal (1970) has discussed on the culture possibilities and food of these frogs. The population of this species has declined in the area on account of exporting their legs abroad.

### 9. *Rana tigerina* Daudin

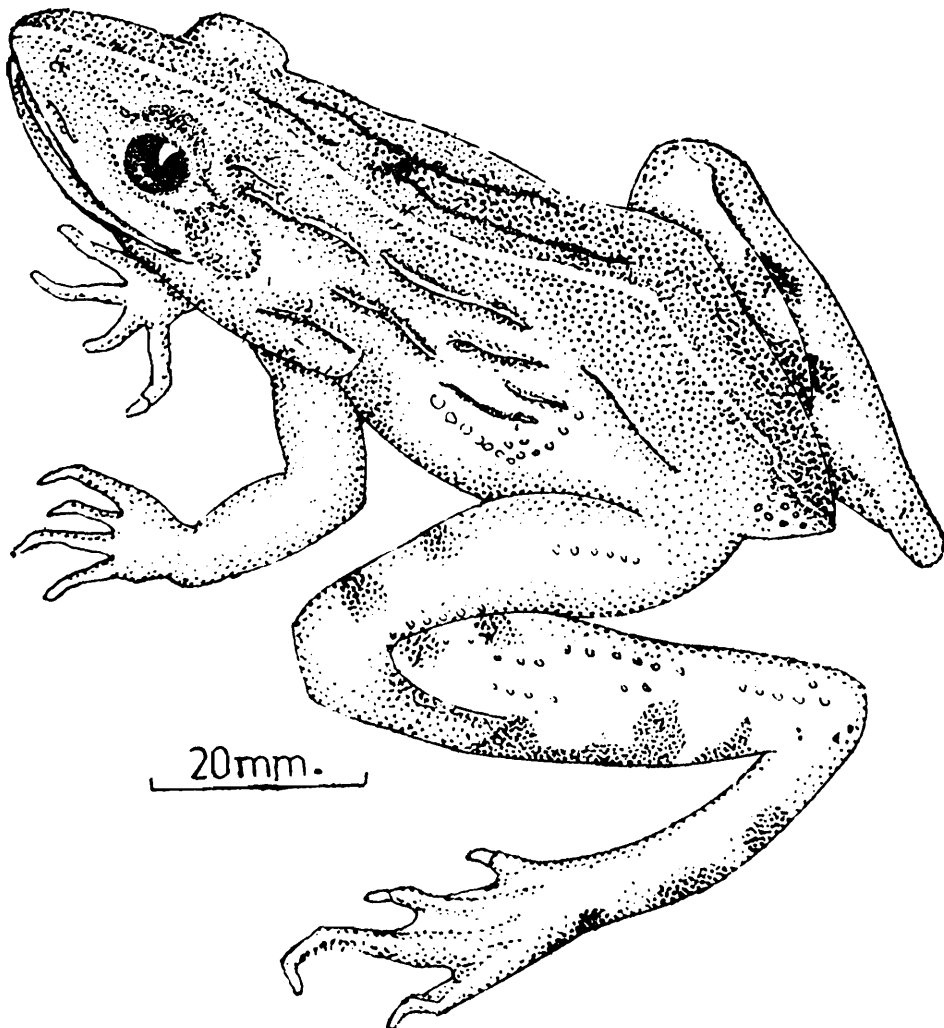
(Indian Bull Frog)

(Text-fig. 9)

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

*Material* : 124 frogs and 63 tadpoles. Collected from 24-Parganas district (Budge Budge, Dhakuria, Diamond Harbour, Baruipur, Hali-shahar, Barasat, Habra, Salt Lake); Howrah district (Botanical Garden, Jogatballavpur, Amta, Bagnan, Uluberia, Bally); Hooghly district (Sheakhala, Kristrampur, Tarakeshwar, Kamarkundu).

*Distribution* : Calcutta and its environs, —As mentioned above. *Elsewhere.*—It is common throughout India from the base of the Hima-



Text-fig. 9. *Rana tigerina* Daudin

laya to South India. Also Nepal, Sri Lanka, Burma, Thailand, South China and Taiwan.

*Measurements* : Snout to Vent length 18-172 mm.

*Remarks* : In Calcutta and its environs this giant edible frog generally found while resting inside the bushes grown on the banks of water bodies, where it retreats immediately even on a slightest disturbance. Frogs hide inside the burrows and under heaps of dry leaves to protect their moist skin from the scorching sun and dry weather. It was happened to be very common in Calcutta and its environs, but at present the population has reduced considerably on account of exporting their legs abroad to earn foreign exchange. It has been observed in 1982 that in a ditch at Bally (Howrah district) only two to five males have been found to croak with the start of pre-monsoon shower, whereas more than fifty frogs were found to do so in the pre-monsoon of 1972. Croaking is one of the signals of arrival of monsoon for the villagers of the plains of West Bengal, and this colourful harmless 'Bull Frog' locally known 'Kola Bang' has got a suitable place in village rhyme since old days.

It has been mentioned by earlier authors that Bull Frog feeds on squirrels, mice, shrews, small birds of consumable size, small snake upto a metre in length, spiny-tailed lizards (*Uromastyx*), land crabs, fishes etc., though its main diet consists of insects. Bhattacharya (1936) reported its tadpoles feeding on mosquito larvae. Due to merciless removal of this common frog from nature villagers in many areas in the suburbs of Calcutta are gradually feeling a sort of disturbance in the balance in nature and they are chasing the frog-collectors when met with. This frog is more active at night, though it is usually found in day-time. It can remember its hide-out well. Sometimes this frog has been found to spend day-time in some moist dark corner of human dwellings from where with little singh of disturbance it could easily escape and reach its proper hide-out, preferably a marshy ditch, even after traversing a zig zag path.

#### 10. *Rana crassa* Jerdon

(Jerdon's Bull Frog)

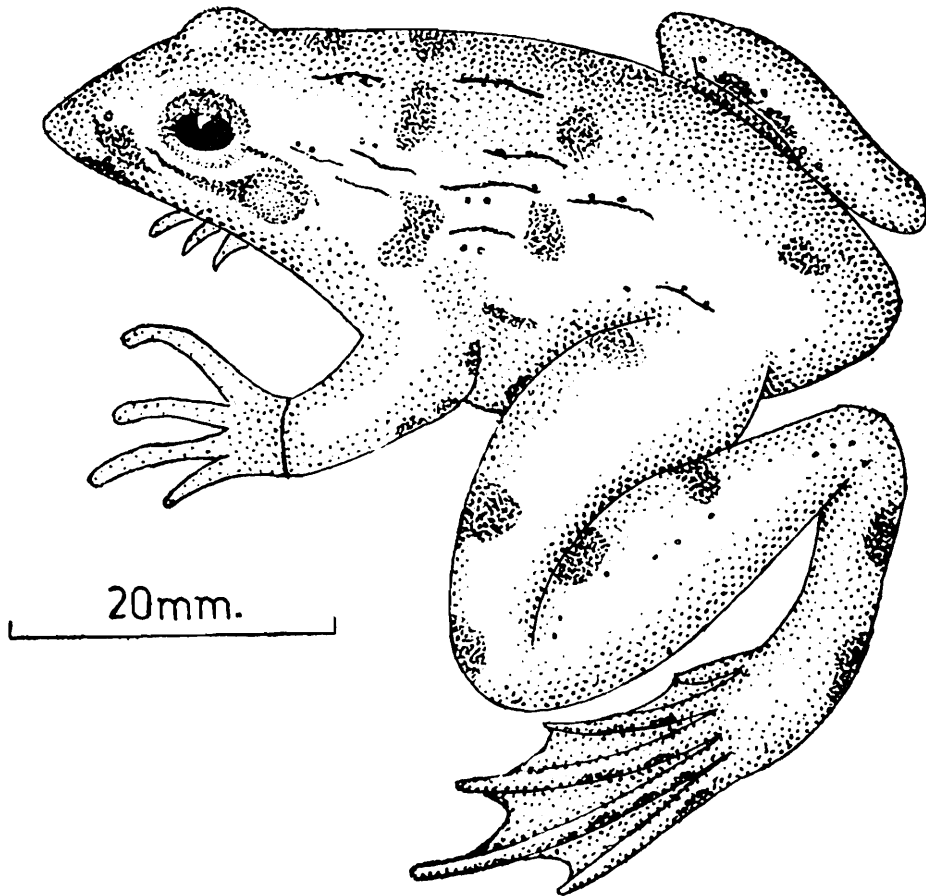
(Tex-fig. 10)

1853. *Rana crassa* Jerdon, *J. Asiat. Soc. Bengal*, 22 : 531.

*Material* : 24-Parganas dist. : 1 ex., Haliashahar, 4.x.1962 ; 1 ex., Duttapukur, 8.xi.1962. Nadia dist. : 2 ex., Haringhata, 25.x.1962. All Coll. *M. B. Kripalani*.

*Distribution* : Calcutta and environs,—As mentioned above. Bhaduri (1947) has recorded it from Garia (Near Calcutta) and Botanical Garden (Shibpur near Calcutta). *Elsewhere*.—Benaras and Agra (U.P.), Chandbally (Orissa), Gaya (Bihar), Madras town and Malabar in India. Also Sri Lanka.

*Measurements* : Snout to vent length 42-72 mm.



Text-fig. 10. *Rana crassa* Jerdon

*Remarks* : This is quite rare in Calcutta and its environs. The frogs have got burrowing habits and specimens collected are mostly from their burrows made on the elevated banks of ponds and ditches. The species is very closely allied to *Rana tigerina* and can be distinguished by its toad-like flabby shape of body and highly developed shovel-shaped metatarsal tubercle.

11. ***Rana limnocharis limnocharis* Wiegmann**  
(Paddy-field Frog)  
(Text-fig. 11)

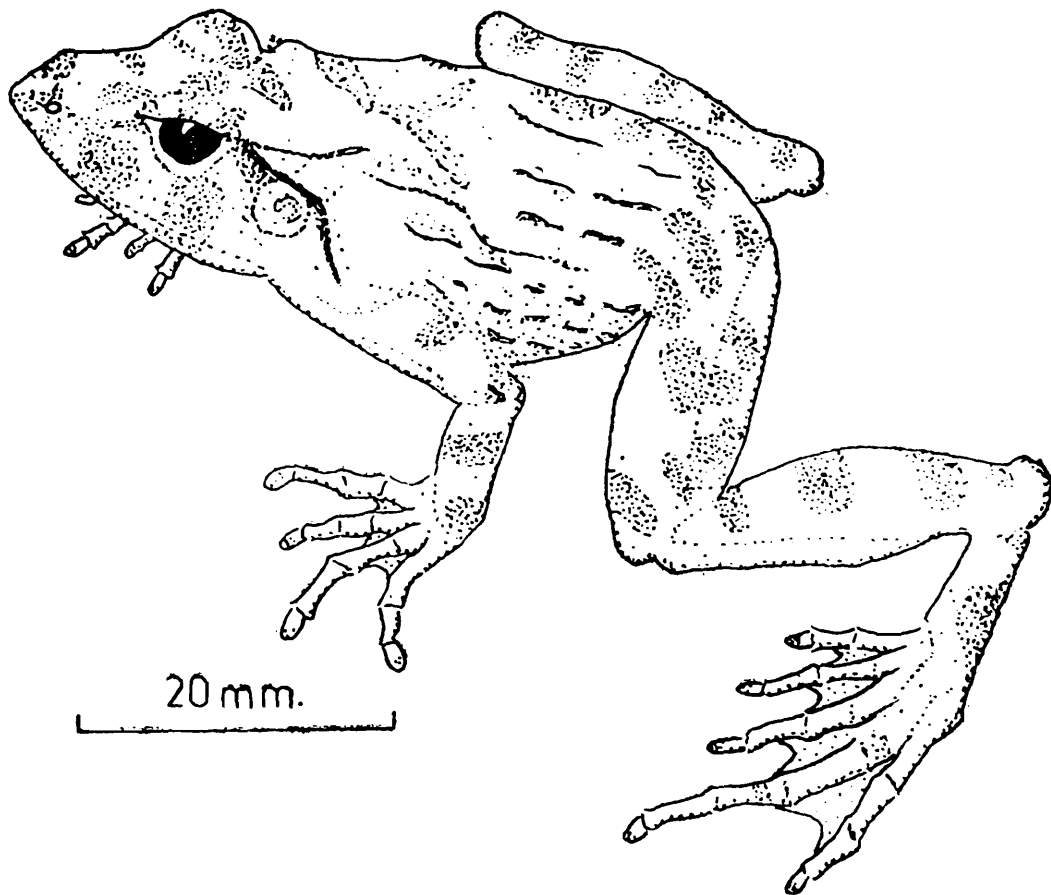
1835. *Rana limnocharis* (Boie) Wiegmann, *N. Acta. Ac. Leop.-Carol.*, 17 (i) : 255.

*Material* : 468 frogs and 270 tadpoles. Collected from 24-Parganas district (Eden Garden, Dhakuria, Budge Budge, Diamond Harbour,

Baruipur, Dakshin Barasat, Canning, Rajarhat, Champahati, Bishnupur, Guma, Naihati, Halishahar, Barasat, Duttapukur, Dogachhia, Lauhati, Magrahat, Salt Lake) ; Hooghly district (Bandal, Chandennagar, Singur, Sheoraphuli, Champadanga, Sheakhala, Kristrampur, Tarakeshwar, Kamarkundu, Magra, Tribeni) ; Howrah district (Botanical Garden, Jagatballavpur, Amta, Bagnan, Uluberia, Bally) ; Nadia district (Kalyani, Haringhata, Phulia). Collections are available throughout the year.

*Distribution* : Calcutta and environs,— As mentioned above. *Else-where*. It is a broadly distributed species in India and found in almost all the biotopes of the country. Also Eastern Asia from Pakistan, Nepal, Sri Lanka and China to Japan.

*Measurements* : Snout to Vent length 15-62 mm.



Text-fig. 11. *Rana limnocharis limnocharis* Wiegmann

*Remarks* : This is a common terrestrial frog generally found in Paddy-field and inside bushes near water. It jumps into water, when disturbed, but returns to the banks soon owing to inability of swimming for a long time for short webbing of toes. In monsoon days these frogs are occurred in almost grassy-patches found on the road-sides of suburbs of Calcutta. Five examples collected from Uluberia, Howrah



dist., on 2.7.1962 and two examples from Magra and Champadanga of Hooghly dist. on 20.9.1962 and 6.4.1962 respectively show some variations by possessing broader webbing of toes (2 to  $2\frac{1}{2}$  phalanges of fourth toe free), strong overlapping of heels and stouter physis. These particular examples are found to prefer bushes grown near the water of big tanks.

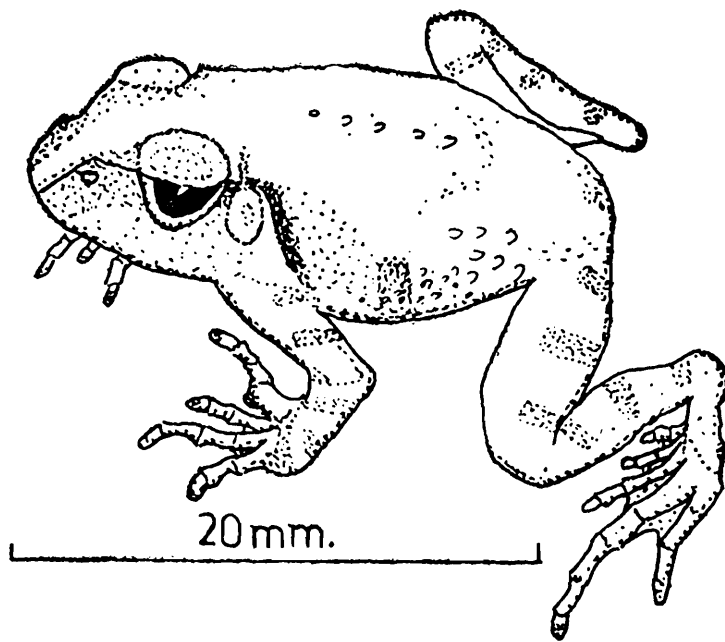
## 12. *Rana breviceps* Schneider

(Burrowing Frog)

(Text fig. 12)

1799. *Rana breviceps* Schneider, *Hist. Amph.* 1 : 140.

*Material* : 24-Parganas dist. : 1 ex., Narainpur, Diamond Harbour, 7.ix. 1961. Coll. M. B. Kripalani.



Text-fig. 12. *Rana breviceps* Schneider

*Distribution* : Calcutta and environs, —As mentioned above. This is the first record of the species from the area. *Elsewhere*.—Andhra Pradesh (Kuddappah), Gujarat (Surat Dangs), Himachal Pradesh (Simla), Kerala (Malabar and Travancore), Madhya Pradesh (Chanda), Maharashtra (Bombay, Khandala, Nagpur and Ratnagiri), Karnataka (Bangalore), Rajasthan (Jodhpur, Nagpur and Udaipur), Tamil Nadu (Anaimalai Hills and Madras) and Uttar Pradesh (Allahabad and Agra) in India. Also Sri Lanka, Nepal and Upper Burma.

*Measurements* : Snout to Vent length 18 mm.

*Remarks* : This is a very rare form of anuran recorded from the area. It is stout toad-like frog generally found sitting in the evening alongwith common Indian toads. Its strong shovel-shaped metatarsal tubercle is used for digging, and sometimes found to dig soil in search of food and shelter.

#### Family IV. RHACOPHORIDAE

This family is represented in Calcutta and environs by one species of the genus *Rhacophorus* Kuhl.

#### Genus 6. *Rhacophorus* Kuhl, 1827

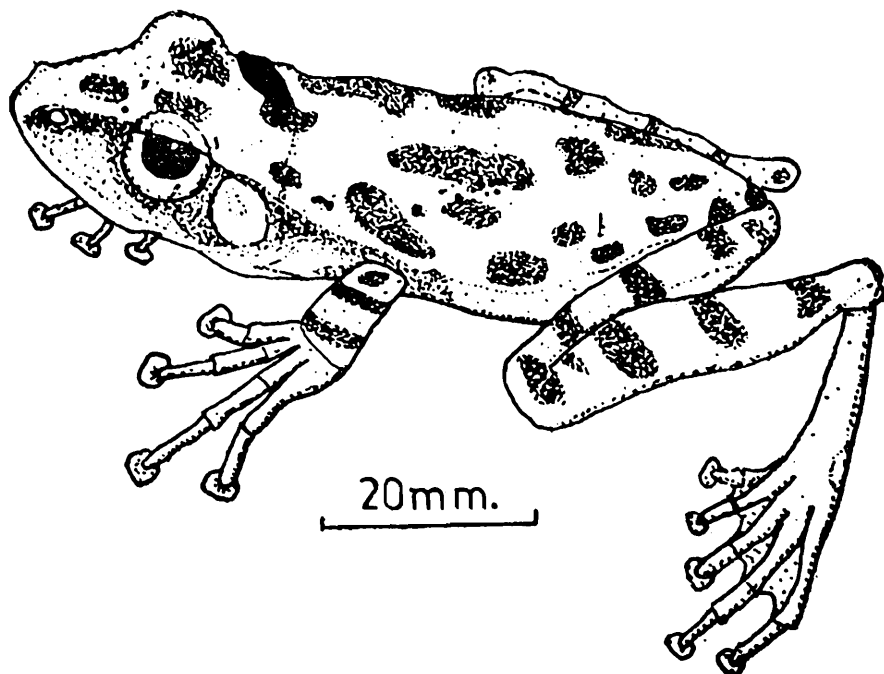
#### 13. *Rhacophorus maculatus* (Gray)

(The Chunam Frog or Tree Frog)

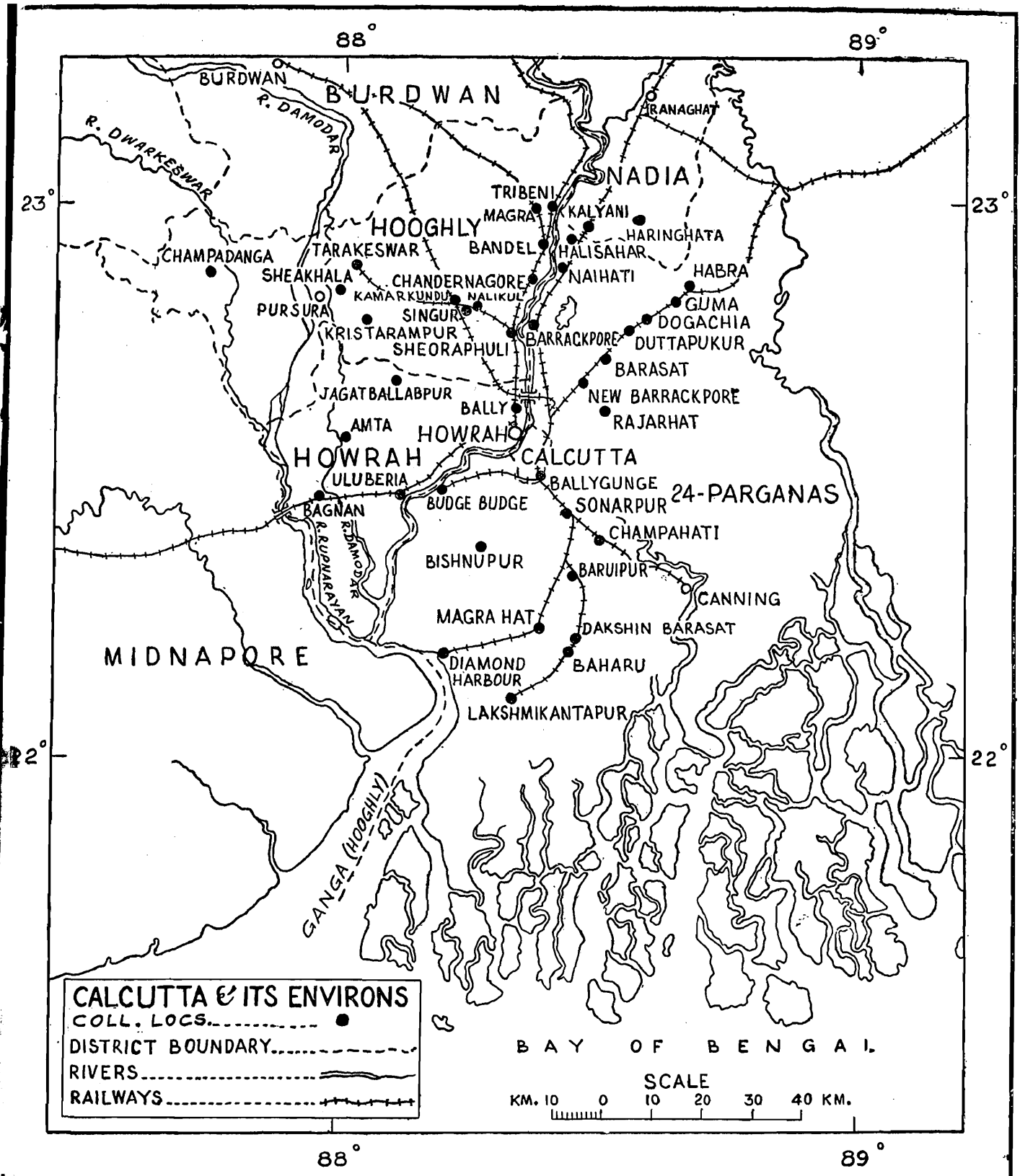
(Text-fig. 13)

1832. *Hyla maculata* Gray, *Ill. Indian Zool.* 1, pl. 82, fig. 1.

*Material* : 24-Parganas dist. : 1 ex., New Barrackpore, 15.iii.1964 ; 1 ex., New Barrackpore, 24.x.1975. All Coll. *D. P. Sanyal*. 1 ex., Kalikapore of Ballygunj, 28.vi.1964. Coll. *B. Biswas*. 1 ex., Rabindra Nagar, Nimta, 10.v.1975. Coll. *S. Mahajan*. 1 ex., Garia, 16.v.1975. Coll. *D. K. Khanra*. 1 ex., Garia, 8.iii.1977. Coll. *K. R. Haldar*. 2 ex., Sonarpore, -.viii.1978. Coll. *P. K. Mallick*. Howrah dist. : 1 ex., Bally -.v. 1969 ; 1



Text-fig. 13. *Rhacophorus maculatus* (Gray)



SOURCES: NATIONAL ATLAS OF INDIA, CALCUTTA PLATE 143. 1ST. EDITION 1959.

ex., Bally, 14.iv.1976. All. Coll. A. K. Sarkar. 1 ex., Chinsura, -vii.1977. Coll. S. Chakrabarty. 1 ex., (tadpole), Baruipur, 24-Parganas, 21.ix.1961; 6 ex., Haringhata, Nadia district, 25.x.1962. All. Coll. M. B. Kripalani.

*Distribution* : Calcutta and environs.—As mentioned above. *Elsewhere*. South India and plains of North India in general. Also Sri Lanka.

*Measurements* : Snout to Vent length 50-77 mm.

*Remarks* : This is more or less common and only species of tree-frog found in the area. It is nocturnal in habit and sometimes found inside the room in monsoon nights. It has been noticed in the suburbs of Calcutta that this frog prefers moist and dark atmosphere of bathroom and also found to rest inside thick leaves of plants like pines, and roofs of thatched village huts. This frog is locally known as 'Shepo-Bang' or Geccho-Bang' and avoided by human beings, because it secretes a large quantity of urin, when caught. Two examples collected from Sonarpur by Shri P. K. Mallick show a little difference by possessing more darker body-colour, more broader web of toes and rugose head. These examples have been reported to make their foamnest among the leaves of trees grown on the banks of ponds, whereas the foam-nests of this species are usually found to be made inside the bushes and grasses grown at the edge of water.

#### SUMMARY

This paper deals with the Amphibian fauna of Calcutta and its environs based on the collections mainly made during "Calcutta and environs Survey (M. B. Kripalani and Staff) from July 1961 to March 1963" and "Salt Lake Survey (B. Biswas and Staff) from May 1963 to February 1967", organised by the Zoological Survey of India. It consists of 1713 examples of Anurans (Frogs and Toads) belonging to four families, six genera and thirteen species, out of which *Microhyla ornata*, *Rana erythraea*, *Rana limnocharis* and *Rana breviceps* are recorded for the first time from the area. Tadpoles of *Kaloula pulchra taprobanica* have been brought to the light of Science for the first time since the description of the species by Parker in 1934.

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