

Fauna of Rajasthan, India. Part 6. Amphibia

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(With 1 Text-figure and 1 Plate)

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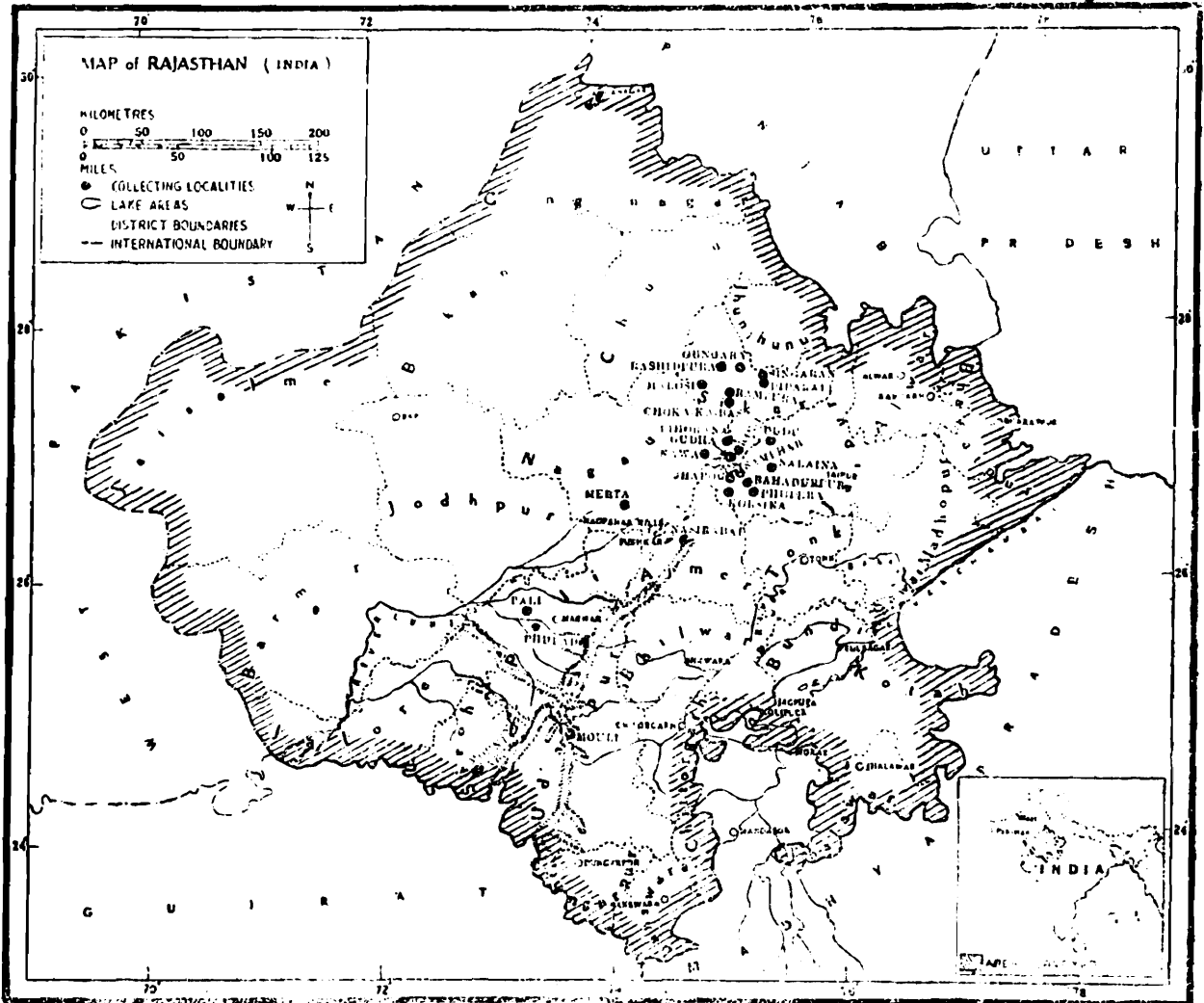
I.—INTRODUCTION

The amphibian fauna (frogs and toads) of the large tract of land known as Rajasthan (*ca.* 1,32,077 sq. miles), the western three-fifths of which form the great Indian Desert, has hitherto been hardly known except for McCann's (1943) short account of the fauna in the Abu Hills of Rajasthan. Lately the desert has been reported to be changing physiologically and climatically. It has, therefore, become imperative to study it from all points of view. The area has been systematically surveyed by various parties of the Zoological Survey of India during the last few years (1956-1961) although some surveys were done in earlier years also (1941 onwards). The present account is based on the following collections, but in addition a few specimens from earlier sources present in the Z.S.I. were also utilised.

1. Rajasthan Survey, 1941, by Drs. B. N. Chopra and M. L. Roonwal.
2. Rajasthan Survey, 1948, by Shri K. S. Pradhan.
3. Rajasthan Desert Survey, 1956-57, by Dr. B. Biswas.
4. Rajasthan Survey, 1957, by Dr. K. K. Tiwari and Shri S. Biswas.

Rec. Zool. Surv. India, 62 (1 & 2), 1970.

5. Rajasthan (Sambhar Lake) Survey, 1957-58, by Shri T. G. Vazirani, Shri A. K. Mukherjee and Shri S. Biswas.
6. Rajasthan (Jodhpur) Survey, 1960, by Shri R. K. Bhatnagar.
7. Rajasthan Desert Survey, 1960-61, by Dr. B. Biswas.



TEXT-FIG. 1.—Map of Rajasthan, showing the collecting localities for Amphibians.

As a result of these surveys, about 660 specimens have been accumulated, which have been studied. As a result of this study 8 species belonging to 3 families and 3 genera are recorded as follows. Keys for identification are given.

Family Ranidae

1. *Rana hexadactyla* Lesson
2. *R. cyanophlyctis* Schneider
3. *R. limnocharis* Wiegmann
4. *R. tigrina tigrina* Daudin
5. *R. breviceps* Schneider

Family Bufonidae

6. *Bufo melanostictus* Schneider
7. *B. andersoni* Boulenger

Family Microhylidae

8. *Microhyla ornata* (Dumeril & Bibron)

Of these 8 species, *R. hexadactyla* and *R. breviceps* are recorded here for the first time from Rajasthan. Two species, viz., *R. cyanophlyctis* and *B. andersoni*, are palaeartic, while the rest are Oriental. Out of these, *R. hexadactyla* is confined to India, while the rest extend eastwards to Burma, some of them further east up to Japan and Lombok.

For an account of the topography, climate, vegetation, etc. of Rajasthan, see Part 1 (General Introduction) of this series of papers (Roonwal, 1969, *Rec. zool. Surv. India*, Vol. 61 (3&4), pp. 291—375).

The following abbreviations have been used :—*Alt.*, altitude above mean sea-level ; *Coll.*, collected by ; collection ; *Coll. Stn.*, Collecting Station ; *Dist.*, district ; *ex.*, *exs.*, example, examples ; *lat.*, latitude ; *long.*, longitude ; *Z. S. I.*, Zoological Survey of India, Calcutta.

We wish to record our thanks to Dr. M. L. Roonwal, Director, Zoological Survey of India, for kindly going through the manuscript and offering valuable suggestions.

II.—SYSTEMATIC ACCOUNT

1. Key to the families and genera of Rajasthan Amphibia

- | | |
|---|-------------------------------------|
| 1. Upper jaw toothed, tongue bifid and notched behind | Ranidae (<i>Rana</i>) |
| Jaws toothless, tongue not bifid and not notched behind | 2 |
| 2. Skin rough with tubercles and spiny warts | ∴ Bufonidae (<i>Bufo</i>) |
| Skin smooth, without tubercles and warts | ∴ Microhylidae (<i>Microhyla</i>) |

2. Family RANIDAE

This family is represented in the collection by five species of *Rana* which can be distinguished by the following key.

Key to the species of genus *Rana* from Rajasthan

- | | | |
|---|---|---------------------------|
| 1. Outer metatarsals united | ∴ | <i>R. breviceps</i> |
| Outer metatarsals separated at least in the distal half | ∴ | 2 |
| 2. Inner metatarsal tubercle digitiform | ∴ | 3 |
| Inner metatarsal not so | ∴ | 4 |
| 3. First finger longer than second ; throat and belly with granules and small warts | ∴ | <i>R. hexadactyla</i> |
| First finger equals second ; throat and belly smooth | ∴ | <i>R. cyanophlyctis</i> |
| 4. Outer metatarsal tubercle absent | ∴ | <i>R. tigrina tigrina</i> |
| Outer metatarsal tubercle present | ∴ | <i>R. limnocharis</i> |

1. *Rana hexadactyla* Lesson

(Pl. 2, Fig. 1)

1834. *Rana hexadactyla* Lesson, *Béang. voy. Ind. Or. Rept.*, p. 33.

1920. *Rana hexadactyla* : Boulenger, *Rec. Indian Mus.*, Calcutta. 20, p. 10.

1933. *Rana hexadactyla* : Bhaduri, *J. Bombay nat. Hist. Soc.*, Bombay, 36, pp. 514-516.

Material.—Jaipur Dist., Jaipur : Coll., R. H. Beddome, 2 exs. (juveniles) (Z.S.I. Reg. No. 9432, 9433).

Distribution.—RAJASTHAN (first record): Jaipur Dist. *Elsewhere* : West Bengal, southern India and Ceylon.

Remarks.—The specimens measure 32 mm. and 47 mm. in length. They have pointed toes and an inner metatarsal tubercle which is digitiform. Head broader than long. Colour dark brown. Lower parts granulate, with enlarged porous warts under the thighs and along each side of belly ; skin smooth above, with small porous warts on sides.

2. *Rana cyanophlyctis* Schneider

(Pl. 2, Fig. 2)

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.*, Jena, 1, p. 157.

1920. *Rana cyanophlyctis* : Boulenger, *Rec. Indian Mus.*, Calcutta, 12, p. 30.

1943. *Rana cyanophlyctis* : McCarr, *J. Bombay nat. Hist. Soc.*, Bombay, 43, p. 206 (Mt. Abu).

Material.—(a) Adults : exs. Ajmer Dist. : Coll. B. Biswas, 2 exs., Stn. 17, Chat, 28.xi. 1956 ; 3 exs., Stn. 19, Nasirabad, 29. xi. 1956. Barmer Dist. Coll. K. K. Tiwari and S. Biswas, 5 exs., Bhap, 25.i.1958. Bikaner Dist. : Coll. B. Biswas, 1 ex., Stn. 19, Kolayat, 11.x.1960 ; 2 exs., Stn. 19, Kolayat, 14.ix.1960 ; 2 exs., Kotri, 15.ix.1960. Ganganagar Dist. : Coll. B. Biswas, 9 exs., Stn. 31, Badbirana, 14.x.1960 ; 4 exs., Sardarpurabas, 14.x.1960 ; 8 exs., Stn. 35, Sonri, 15.x.1960 ; 9 exs., Stn. 43, Surpura, 18.x.1960. Jaipur Dist. : Coll. B. Biswas, 1 ex., Stn. 5, Jhapog, 16.xi.1956 ; 2 exs., a pool in Sambhar Lake, 28.xi. 1956 ; Coll. A. K. Mukherjee, 11 exs., Jalga Lake, 13.xi.1957. Jhunjhunu Dist. : Coll. B. Biswas, 6 exs., Stn. 51, Jhunjhunu, 3.xi.1960. Jodhpur Dist. : Coll. B. Biswas, 3 exs., Stn. 24, Kaylana, 14.xi.1956 ; 7 exs., Bariganga, 18.xi.1956 ; Coll. K. K. Tiwari and S. Biswas, 2 exs., Stn. 1, Shivrasar, 13.xii.1957 ; Coll. R. K. Bhatnagar, 3 exs., Bishalpur, 4.vii.1960 ; 4 exs., Bishalpur, 6.vii.1960 ; 3 exs., Ajit Singh Farm, 5.vii.1960 ; 1 ex., Khokhra, 3.viii.1960. Nagaur Dist. : Coll. B. Biswas, 6 exs., Stn. 9, Nandana River, 15.xi.1956 ; 1 ex., Stn. 13, Nawa, 16.xi.1956 ; 2 exs., Stn. 29, Merta, 27.xii.1956 ; 1 ex., Stn. 28, Merta, 27.xii.1956 ; 10 exs., Stn. 15, Bhakrod, 6.ix.1960 ; 3 exs., Didia, 4.ix.1960 ; 9 exs., Stn. 13, Imirti, 6.ix.1960. Coll. A. K. Mukherjee, 1 ex., Gudha, 5.iv.1958 ; Coll. S. Biswas, 1 ex., Gudha Talav ; 8 exs., Gudha Talav. Pali Dist. : Coll. B. Biswas, 4 exs., Stn. 20, 4.xii.1956 ; 2 exs., Stn. 22, Hemawas Tank, 5.xii.1956 ; 4 exs., 5.xii.1956 ; Stn. 20, Bandi River, 6.xii.1956 ; 6 exs., Stn. 23, Pali, 6.xii.1956. Sikar Dist. : Coll. B. Biswas, 12 exs., Stn. 61, Kanwarpura, 8.ix.1960 ; 6 exs., Stn. 60, Kosli, 8.xi.1960 ; 14 exs., Phagalwa, 12.xi.1960 ; 3 exs., Rashidpura, 11.xi.1960 ; 4 exs., Stn. 67, Sikav, 10.xi.1960. Sirohi Dist. : Coll. K. S. Pradhan, 3 exs., Kundra Nalla, 9.iii.1948 ; 1 ex., Gorachapra Nalla, 10.iii.1948. Udaipur Dist. : Coll. B. N. Chopra and M. L. Roonwal, 9 exs., Stn. 1, River Berach, 8-9.x.1941 ; 2 exs., Stn. 5, Kherpena-ka-Nalla, 13-15.x.

1941 ; 12 exs., Stn. 13, Barapal-ka-Nalla, 14.x.1941 ; 7 exs., Stn. 7, Parai River, 17-13.x.1941 ; 7 exs., Stn. 8, Parshad (Palsad)-ka-Nalla, 18-21.x.1941 ; 2 exs., Stn. 40, Parshad, 16-21.x.1941 ; 7 exs., Stn. 11, Soorpur-ki-Nadi, 26.x.1941 ; 6 exs. Stn. 13, Barapal-ka-Nalla, 28.x.1941 ; 5 exs., Rajas-mand, 27.ii.1948 ; 1 ex., Nalhela tank, 28.ii.1948 ; 2 exs., Pipli, 2.ii. 1948 ; 3 exs., Kundra Nalla, 9.iii.1948.

(b) Tadpoles : 62 exs. as follows :—Ganganagar Dist. : Coll. *B. Biswas*, 2 exs., Stn. 25, Diplana, 13.x.1960 ; 3 exs., Stn. 42, Surpura, 18.x.1960. Jaipur Dist. : Coll. *A. K. Mukherjee*, 1 ex., Stn. 23, Chapparwara, 20.iii.1958. Jaisalmer Dist. : Coll. *K. K. Tiwari* and *S. Biswas*, 1 ex., Stn. 2, Salamsar, 20.xii.1957. Jodhpur Dist. : Coll. *K. K. Tiwari* and *S. Biswas*, 3 exs., Stn. 2, Ranisar, 20.xii.1957. Nagaur Dist. : Coll. *B. Biswas*, 4 exs., Stn. 27, Merta, 19.xii.1956 ; 2 exs., Stn. 29, Merta, 26.xii.1956 ; 3 exs., Stn. 15, Bhakrod, 6.ix.1960 ; 2 exs. Stn. 13, Imirti, 6.ix.1960 ; 1 ex. Stn. 2 ; Nagaur, 2.ix.1960 ; Coll. *S. Biswas*, 3 exs., Gudha, 9.x.1958. Sikar Dist. : Coll. *B. Biswas*, 1 ex., Stn. 78, Hanumansagar Tank, 14.xi.1960 ; 1 ex., Stn. 80, Mandaora, 14.xi.1960 ; 4 exs., Rashidpura, 11.xi.1960 ; 1 ex., Stn. 60, Sikar, 8.xi.1960. Udaipur Dist. : Coll. *B. N. Chopra* and *M. L. Roonwal*, 18 exs., Stn. 5, Kherpena-ka-Nalla, 13.15.x.1948 ; 1 ex., Stn. 5, Barapal, 15.x.1941 ; 4 exs., Stn. 3, Barapal-ka-Nalla, 14.x.1941 ; Coll. *K. S. Pradhan*, 7 exs., Rajasmand, 27.ii.1948.

Distribution.—RAJASTHAN.—Districts of Ajmer, Barmer, Ganganagar, Jaipur, Jaisalmer, Jodhpur, Nagaur, Pali, Sikar, Sirohi and Udaipur (new records). Earlier known only from Sirohi Dist. (McCann, 1943). *Elsewhere* : S. W. Asia, Ceylon, India (generally), Thailand and Malay peninsula.

Remarks.—Length 52-61 mm. in males and 50-70 mm. in females. Form moderately robust. All specimens have separated outer metatarsals, fully webbed toes, pointed fingers and toes, and distinct tympanum. Head broader than long. Sexes distinct, males with swollen thumbs and a pair of external vocal sacs. Colour usually greyish above. Skin of upper surface with dark olive rounded spots. Specimens from Udaipur Dist. (E. Rajasthan) are reddish brown ; those from Nagaur Dist. (W. Rajasthan) are olive.

This species is clearly distinguished from *Rana hexadactyla*, its closest ally, by the absence of series of small porous warts on lower parts.

Tadpoles : Largest one *ca.* 11 mm. long. Tadpole with the tail twice as long as body. Horny teeth arranged in two rows—one marginal series in front and two series behind beak.

3. *Rana tigrina tigrina* Daudin

(Pl. 2, Fig. 3)

1803. *Rana tigrina* Daudin, *Hist. Rain. Gren. Crap.*, p. 64, pl. 20.

1920. *Rana tigrina* : Boulenger, *Rec. Indian Mus.*, Calcutta, 20, pp. 17-23.

1943. *Rana tigrina* : McCann, *J. Bombay nat. Hist. Soc.*, Bombay, 43, p. 206.

Material.—(a) Adults : 15 exs. as follows : Ganganagar Dist. : Coll. *B. Biswas*, 3 exs., Stn. 24, Suratgarh, 9.x.1960. Jaipur Dist. : Coll. *A. K. Mukherjee*, 2 exs., Jaipur, 13.xi.1957 ; 2 exs., Stn. 28, Chapparwara Lake, 28.vii.1958. Nagaur Dist. : Coll. *T. G. Vazirani*, 4 exs., Gudha, 29.iii.1958 ; Coll. *B. Biswas*, 1 ex., Stn. 28, Merta, 27.xi.1956. Udaipur Dist. : Coll. *B. N. Chopra* and *M. L. Roonwal*, 1 ex., Stn. 3, Barapal, 14.x.1941 ; 2 exs., Stn. 4, Barapal, 13-14. x. 1941.

(b) Tadpoles. : 5 exs. as follows : Jaipur Dist. : Coll. *A. K. Mukherjee*, 5 exs., Stn. 23, Chapparwara, 20.vii.1958.

Distribution.—RAJASTHAN.—Districts of Ganganagar, Jaipur, Nagaur and Udaipur (new records) ; also Sirohi (McCann 1943). *Elsewhere* : Ceylon, India from the base of the Himalayas through Punjab, Uttar Pradesh to south India, Assam, Burma, Siam, Southern Yunnan and Nepal.

Remarks.—Length 178-188 mm. in males and 133-152 mm. in females. Toes entirely webbed ; inner metatarsal tubercle not digitiform but compressed and large ; head broader than long. Sexes distinct ; male with a pair of external vocal sacs and a strong pad on the inner side of first finger. Colour yellowish in some specimens, green in others. Skin with dark spots disposed in longitudinal series on back ; lower parts white.

Largest tadpole *ca.* 44 mm. long. Tadpoles with tail ending in fine point and about twice as long as body. Teeth in 4 upper and 5 lower series—the outer upper long and uninterrupted the outer lower short and uninterrupted.

4. *Rana limnocharis* Weigmann

(Pl. 2, Fig. 4)

1835. *Rana limnocharia* Weigmann, *N. Acta Ac. Leop.*, Carol, 17, (1), p. 255.
 1920. *Rana limnocharia* : Boulenger, *Rec. Indian Mus.*, Calcutta, 20, pp. 28-35.
 1943. *Rana limnocharia* : McCann, *J. Bombay nat. Hist. Soc.*, Bombay, 43, p. 206 (Abu hills).

Material.—(a) Adults : 11 exs. as follows : Nagaur District : Coll. *S. Biswas*, 1 ex., Gudha, 4.ix.1958 ; Pali District : Coll. *K. S. Pradhan*, 4 exs., Phulad River, 1.iii.1948 ; Sirohi District : Coll. *K. S. Pradhan*, 4 exs., Kundra Nalla, 9. iii.1948 ; 1 ex., Gorachapra Nalla, 10.iii.1948 : Udaipur District : Coll. *K. S. Pradhan*, 1 ex., Mavli, 10.iii.1948.

(b) Tadpoles : 127 exs. as follows : Jaipur District : Coll. *A. K. Mukherjee*, 5 exs., Stn. 23, Chapparwara, 20.vii. 1958 ; Nagaur District ; Coll. *S. Biswas*, 63 exs., Gudha, 2. ix. 1958 ; 53 exs., Gudha, 4.ix.1958 ; 6 exs. Stn. 13, Gudha, 5.ix.1958.

Distribution.—RAJASTHAN.—Districts of Jaipur, Nagaur, Pali, Sirohi (McCann, 1943) and Udaipur. *Elsewhere* : Eastern Asia from Japan and China to India (generally), Ceylon, Malay Peninsula and Archipelago, eastward to the Philippines, Borneo and Lombok.

Remarks.—Tadpoles : Largest *ca.* 24 mm. ; with tail about twice as long as body. Teeth in six rows—or long marginal series of upper labial teeth with a short series on each side and three long uninterrupted series of lower labial teeth.

5. *Rana breviceps* Schneider

(Pl. 2, Fig. 5).

1799. *Rana breviceps* Schneider, *Hist. Amph.*, Jena, 1, p. 140.

1920. *Rana breviceps* : Boulenger, *Rec. Indian Mus.*, Calcutta, 20, pp. 103-105.

Material.—Jodhpur District : Coll. *R. K. Bhatnagar*, 1 ex., Campus of the Regional Stn. (ZSI), 17.vii.1960 ; Nagaur District : Coll. *B. Biswas*, 7 exs., Stn. 11, Nagaur, 15.ix.1960 ; Udaipur District : Coll. *B. N. Chopra* and *M. L. Roonwal*, 1 ex., Stn. 5, Kherpena-ka-Nalla, 13-15.x.1941.

Distribution.—RAJASTHAN (first record) : Jodhpur, Nagaur and Udaipur Districts. *Elsewhere* : India, Ceylon and Upper Burma. Mostly found in the plains of the southern India. Known also from U. P. and Assam.

Remarks.—Length of the male and female specimens, 63 mm. and 44 mm. respectively. Body stout, toad like. Both the specimens have united outer metatarsals, small subarticular tubercles and half webbed toes. Head broader than long. Sexes are distinct. Male with a vocal sac forming folds on sides of throat. Colour usually yellowish or brownish above. The specimen from Jodhpur (W Rajasthan) is greenish above whereas the one from Udaipur (E. Rajasthan) is brownish. A yellow vertebral streak is present in the specimen from Jodhpur. Skin with longitudinal folds in both the specimens. This species is distinguished clearly from *Rana limnocharis*, its closest ally, by the presence of large and shovel-shaped inner metatarsal tubercle which is used for burrowing.

3. Family BUFONIDAE

Genus *Bufo* Laurenti

Key to the species of genus *Bufo* Laurenti from Rajasthan

Head without bony ridges.

A tarsal fold.

Parotid glands flat

B. andersoni

Head with bony ridges.

No tarsal fold.

Parotid glands elongate.

B. melanostictus

6. *Bufo melanostictus* Schneider

(Pl. 2, Fig. 6)

1799. *Bufo melanostictus* Schneider, *Hist. Amph.*, Jena, 1, p. 216.
 1890. *Bufo melanostictus* : Boulenger, *Fauna Brit. Ind.*, London, p. 50.
 1923. *Bufo melanostictus* : Nieden, *Das. Tierreich, Anura.*, Berlin, 1, p. 116, fig. 167.
 1943. *Bufo melanostictus* : McCann, *J. Bombay nat. Hist. Soc.*, 43, p. 206 (Mt. Abu).

Material.—Jaipur District : Coll. A. K. Mukherjee, 10 exs., Jalga Lake, 25.vii.1958 ; Sirohi District : Coll. K. S. Pradhan, 1 ex., Mt. Abu, 7.iii.1948 ; Udaipur District : Coll. B. N. Chopra and M. L. Roonwal, 1 ex., Kherpena-ka-Nallah, 13-15.x.1941.

Distribution.—RAJASTHAN.—Districts of Jaipur, Sirohi (McCann, 1943) and Udaipur. *Elsewhere* : Commonest throughout India, Ceylon and Burma. Its range extends to Southern China, Malaya peninsula and Archipelago.

Remarks.—All specimens are juveniles. Length 22–24 mm. All have prominent spiny warts on upper surface. Parotids prominent and kidney-shaped. Colour brownish above, spines of warts black ; lower surface spotted.

7. *Bufo andersoni* Boulenger

(Pl. 2, Fig. 7)

1883. *Bufo andersoni* Boulenger, *Ann. mag. nat. Hist.*, London, (5) 12, p. 163.
 1890. *Bufo andersoni* : Boulenger, *Fauna Brit. Ind.*, London, p. 504.
 1923. *Bufo andersoni* : Nieden, *Das. Tierreich, Anura*, Berlin, 1, p. 86, figs. 136 & 137.
 1943. *Bufo andersoni* : McCann, *J. Bombay nat. Hist., Soc.*, Bombay, 43, pp. 215-216.

Material.—Bikaner District : Coll. B. Biswas, 2 exs., Kolayat, 2.ix.1960 ; 72 exs., Kotri, 15.ix.1960 ; Ganganagar District : Coll. B. Biswas, 1 ex., Nohar, 13.x.1960 ; Jaipur District : Coll. A. K. Mukherjee, 3 exs., Stn. 1, Devdyani, 26.iv.1957 ; 2 exs., Stn. 3, Jhapog, 29.iv.1957 ; Jaisalmer District : Coll. K. K. Tiwari and S. Biswas, 2 exs., Stn. 2, Tolla berra, 21.xii.1957 ; 1 ex., Stn. 2, Salamsar, 23.xii.1957 ; 1 ex., Stn. 3, Tolla Berra, 25.xii.1957 ; Jodhpur District : Coll. B. Biswas, 1 ex., Kaylana afforestation, 12.xii.1956 ; 1 ex., Jodhpur, 29.viii.1960 ; Coll. R. K. Bhatnagar, 3 exs., Khowkhra, 3.viii.1960 ; Nagaur District : Coll. A. K. Mukherjee, 7 exs., Stn. 17, Gudha, 4.yiii.1958 ; 4 exs., Stn. 10, Nandana River, 28.vii.1958 ; Coll. B. Biswas, 2 exs., Nagaur, 2.ix.1960 ; Udaipur District : Coll. K. S. Pradhan, 1 ex., Mavli, 25.ii.1948 ; 1 ex., Mavli, 26.ii.1948.

Distribution.—RAJASTHAN.—Districts of Bikaner, Ganganagar, Jaipur, Jaisalmer, Jodhpur, Nagaur and Udaipur. *Elsewhere.*—Northern India (Agra, Rajasthan and Sind) to Arabia.

Remarks.—Length 35-78 mm. in males and 39-91 mm. in females. All specimens have a crown without bony ridges and a tarsal fold. The parotids are large and flat. Sexes are distinct, males with a subgular vocal sac. Colour olive grey in some specimens and brownish in others. Some specimens from Nagaur (W. Rajasthan) are olive grey whereas those from Jaipur and Udaipur (E. Rajasthan) are brownish. Skin of upper surface with regular flat warts but without spines. It is clearly distinguished from its ally, *B. melanostictus* by absence of bony ridges on head and presence of a tarsal fold.

The species is already known from Rajasthan in Ajmer and Sirohi districts.

4. Family MICROHYLIDAE

Genus *Microhyla* Tschudi

8. *Microhyla ornata* (Dumeril & Bibron)

(Pl. 2, Fig. 8)

1841. *Engystoma ornatum* Dumeril and Bibron, *Erpet. Gen.*, Paris, 8, p. 745.
 1934. *Microhyla ornata* : Parker, *A monograph of the frogs of the family Microhylidae*, London, pp. 139-141.
 1943. *Microhyla ornata* : McCann, *J. Bombay nat. Hist. Soc.*, Bombay, 43, p. 206. (Mt. Abu).

Material.—Pali District : Coll. K. S. Pradhan, 2 exs., Phulad River, 1.iii.1948.

Distribution.—RAJASTHAN.—Districts of Pali and Sirohi (McCann, 1943). *Elsewhere* : Ceylon, India, Burma, Malay peninsula, Thailand, Formosa, Tonkin and Hainan. Occurs generally in India.

Remarks.—Length of the specimens are 21 mm. and 18 mm. In both specimens toes are webbed at base and metatarsal tubercles are very small. Both specimens are males with black pigmented throats. Skin smooth, greyish olive above with characteristic dark marking.

III—SUMMARY

1. The paper deals with the Amphibian fauna of Rajasthan based on several recent collections made by the Zoological Survey of India parties, and consists of about 660 specimens. Eight species belonging to three families and three genera, viz., 1. *Rana hexadactyla* Lesson, 2. *R. cyanophlyctis* Schneider, 3. *R. tigrina tigrina* Daudin, 4. *R. limnocharis* Weigmann, 5. *R. breviceps* Schneider, 6. *Bufo melanostictus* Schneider, 7. *B. andersoni* Boulenger, and 8. *Microhyla ornata* (Dumeril and Bibron), are recorded.

2. *Rana hexadactyla* and *R. breviceps* are recorded from Rajasthan for the first time.

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