

THE REPTILE FAUNA OF THE NAGARJUNASAGAR DAM AREA (ANDHRA PRADESH, INDIA)

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(With 1 Table and 1 Text-figure)

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I—INTRODUCTION

(a) *General*

The Zoological Survey of India conducted two faunistic surveys, in the years 1962 and 1963, of Nagarjunasagar Project area, located in the districts of Guntur and Nalgonda in Andhra Pradesh. These areas will get submerged by stages with the progress in the construction of Nagarjunasagar Dam. The project covers a large area comprising principally the Nagarjunakonda Valley and its vicinity in the Guntur District, and the following areas in the Nalgonda District: Vijaypuri North, Vijaypuri South and some portions of the Deverkonda taluq.

(b) *Physical features*

The Guntur and Nalgonda Districts are situated between latitudes, 15°—18° N. and longitudes 79°—81° E. They consist of stony uplands, low ranges of rocky structures and level plains of black soil. The eastern portion is made up of the alluvial delta of the Krishna river. The area comprises some of the richest rice belts of southern India. The Krishna river flows almost across the middle of these districts. The main tributary of this river here is the Gundlakamma. Geologically, the districts

contain thin bedded deposits of mica and chloritic schists with quartzites, granitoid gneisses, chloritic dykes, granite, felsite and quartz veins.

Both the districts contain dense evergreen forests and, in the higher elevations, a subalpine flora consisting of orchids and dwarf and large flowering species. The lower hills of the eastern side of the Guntur District has a mixture of evergreens and deciduous plants of a marked xerophytic nature.

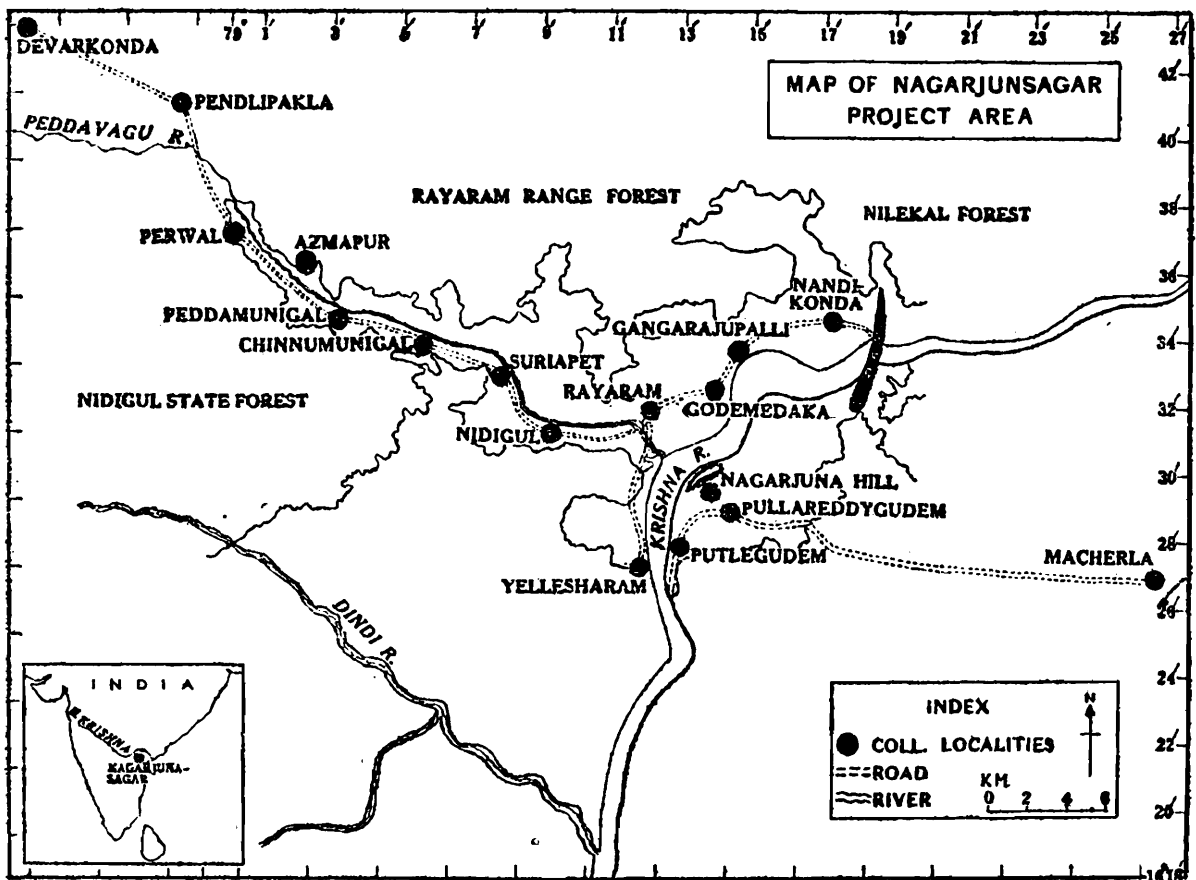
The climate is hot and dry during March to October. The annual temperature usually varies between 18° — 46° C. The rainfall, due to the south-west and the north-east monsoon, is heavy, certain areas getting as much as 250 cms. per year.

(c) *Abbreviations used*

Alt., altitude above mean sea-level ; *Coll.*, collected by, collection ; *Ex.*, *Exs.*, example(s) ; *Z.S.I.*, Zoological Survey of India, Calcutta.

(d) *Acknowledgements*

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TEXT-FIG. 1.—Map showing collecting localities in Nagarjunsagar Project Area (Andhra Pradesh).

II—LIST OF COLLECTING STATIONS

(Text-fig. 1 and Table 1)

A list of the 22 collecting localities is given in Table 1, together with dates of collection, etc.

III—LIST OF SPECIES

The collections reported upon here consist of 353 examples comprising 34 species (2 turtles, 285 lizards and 66 snakes) belonging to 24 genera and 11 families, as follows :—

Order I. TESTUDINES

Family 1 TRIONYCHIDAE

1. *Trionyx gangeticus* Cuvier
2. *T. leithi* Gray

Order II. SQUAMATA

Suborder (i) SAURIA

Family 1 GEKKONIDAE

3. *Hemidactylus brooki* Gray
4. *H. reticulatus* Beddome
5. *H. giganteus* Stoliczka
6. *H. triedrus* (Daudin)

Family 2. AGAMIDAE

7. *Sitana ponticeriana* Cuvier
8. *Calotes versicolor* (Daudin)
9. *Psammophilus dorsalis* (Gray)
10. *P. blanfordianus* (Stoliczka)

Family 3. SCINCIDAE

11. *Mabuya carinata* (Schneider)
12. *M. nagarjuni* Sharma
13. *Riopa punctata* (Gmelin)
14. *R. ashwamedhi* Sharma

Family 4. IACERTIDAE

15. *Cabrita leschenaulti* (Milne-Edwards)
16. *C. jerdoni* Beddome
17. *Ophisops jerdoni* Blyth

Family 5. VARANIDAE

18. *Varanus monitor* (L.)

Suborder (ii) SERPENTES

Family 6. TYPHLOPIDAE

19. *Typhlops braminus* (Daudin)
20. *T. acutus* (Duméril & Bibron)

Family 7. BOIDAE

21. *Eryx conicus* (Schneider)
22. *E. johni johni* (Russell)

Family 8. COLUBRIDAE

23. *Elaphe helena* (Daudin)
24. *Ptyas mucosus* (L.)
25. *Coluber prox. gracilis* (Günther)
26. *Oligodon taeniolatus* (Jerdon)
27. *Natrix piscator* (Schneider)
28. *Boiga trigonata* (Schneider)
29. *Dryophis nasutus* (Lacépède)

Family 9. ELAPIDAE

30. *Bungarus caeruleus* (Schneider)
31. *Callophis melanurus* (Shaw)
32. *Naja naja naja* (L.)

Family 10. VIPERIDAE

33. *Vipera russelli russelli* (Shaw)
34. *Echis carinatus* (Schneider)

IV—SYSTEMATIC ACCOUNT

(a) *General*

The following is a brief systematic account of the reptiles obtained from the Nagarjunasagar Dam area. For other details regarding the species, reference may be made to publications by Smith (1931, 1935 and 1943). For each species, details of the material collected, some important measurements and the geographical distribution are given. Under measurements, the "Total Length" means the length from snout to tip of tail, and the "Standard Length" indicates the length from snout to vent; in both cases the specimen is kept flat and the straight-line measurement (not along curvatures) is taken. Where necessary, taxonomic and ecological notes are given under each species.

(b) *Account of species*

Order I. TESTUDINES

1. *Trionyx gangeticus* Cuvier

(The Ganges Soft-shelled Turtle)

Material.—One juvenile ex., *Guntur Dist.* : Pullareddygudem village 2.ix.62, (coll. *B. Nath* and *I. N. Maligi*).

Measurement.—Length of dorsal disc, 57 mm.

Distribution.—*Nagarjunasagar area* : As above (first record from the area). Previously the known southern limits of its distribution was upto the Mahanadi and its tributaries ; it is being recorded as now extending to Krishna river. *Elsewhere* : The Indus, Ganges, Mahanadi and their tributaries. Also from the erstwhile North-West Frontier Province of West Pakistan ; Sind (Karachi) and from Nepal.

2. *Trionyx leithi* Gray

(The Soft-shelled Turtle)

Material.—One ex., *Guntur Dist.* : Peddavagu River, 20.x. 63, (coll. *B. Nath*).

Measurement.—Length of dorsal disc, 129 mm.

Distribution.—*Nagarjunasagar area* : As above. *Elsewhere* : India The Ganges and rivers of peninsular India as far south as Madras

Order II. SQUAMATA

Suborder (i) SAURIA

3. *Hemidactylus brooki* Gray

(The House Lizard)

Material—12 exs., as follows :—*Guntur Dist.* : Nagarjuna Hill, 28.vii.62, coll. *B. Nath* ; Ashwamedh site, 30.vii.62 ; Putlegudem village, 6.xi.63. *Nalgonda Dist.* : Tiger Valley, 4.viii.62. Deyerkonda town, 14.viii.62, under stones in rocky area ; Nandikonda Valley, 7.x.63 ; (all coll. *B. Nath* and *I. N. Maligi*). Madhavram village, 11.x.63, (coll. *B. Nath*).

Measurements.—Total length, 93-105 mm. ; Standard length, 40-55 mm.

Distribution.—*Nagarjunasagar area* : As above. *Elsewhere* : Whole of India.

Remarks.—In all cases the lizards were collected from rocky areas, under stones or from crevices in rocks having xerophytic vegetation. Five specimens from Nidigul and Nandikonda villages are milky white, with dark brown spots on the dorsum and the sides. (In contrast, specimens from other parts of India are brownish with dark brown spots). Two specimens from Nidigul also vary as follows from other Indian examples : upper labials 11 (vs. 8-10 in other examples) ; postmentals 3 pairs (vs. 2 pairs) ; lamellae under 1st toe 4-5 (vs. 5-6), those under 4th toe 6 (vs. 7-10).

4. Hemidactylus reticulatus Beddome

(The Rock Gecko)

Material.—62 exs., as follows :—*Guntur Dist.* : Ashwamedh site, 30.vii.62 ; Eddenmotu and Fringimotu Hills, 2, 3, 6, 8.ix.62 ; 30.ix.63 ; 7, 8, 9, 15.xi.63 ; Macherla town, 14-16.ix.62. *Nalgonda Dist.* : Nandikonda Valley, 8, 11.viii.62 ; Deverkonda town, 14.viii.62 ; Vijaypuri South, 26.viii.62 (all coll. *B. Nath* and *I. N. Maligi*) ; Madhavram village, 3, 10.x.63 ; Suryaraopet village, 14.x.63 ; Nidigul village ; 22.x.63, Yelleshwaram village, 1, 3, xi.63. (all coll. *B. Nath*):

Measurements.—Total length, 52-83 mm. ; Standard length, 221-246 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : S. India (Mysore and Madras States).

Remarks.—All the specimens were collected from rocky areas either under stones or from crevices in rocks.

5. Hemidactylus giganteus Stoliczka

(The Giant Tree Gecko)

Material.—2 exs. as follows :—*Guntur Dist.* : Nagarjuna Hill (bank of R. Krishna), 1.x.63 ; Siddelder Hill, 11.xi.63. (coll. *B. Nath*).

Measurements.—Total length, 192-207 mm. ; Standard length, 110-115 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Andhra Pradesh.

Remarks.—Both examples were collected from trees in hilly area.

6. Hemidactylus triedrus (Daudin)

(The Daudin's Hemidactylus Lizard)

Material.—One ex., *Nalgonda Dist.* : Vijaypuri North, 31.vii.62, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 130 mm. ; Standard length, 65 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : India : States of Maharashtra, Rajasthan, Madhya Pradesh, Madras, Mysore and Kerala.

Remarks.—This example differs from other Indian specimens as follows :—Upper and lower labials deeply spotted with black (*vs.* not so spotted) ; with 3 pairs of postmentals (*vs.* 2 pairs).

7. *Sitana ponticeriana* Cuvier

(The Sargota Lizard)

Material.—77 exs., as follows :—*Guntur Dist.*: Pullareddygudem village, July-September, 1962 ; Eddenmotu Hills and Fringimotu, 2-9.ix.62. Macherla town, 13-16.ix.62. *Nalgonda Dist.*: Deverkonda town, 14.viii.62 ; Nandikonda Valley, 7-11.viii.62 ; Vijaypuri South, 22-28.viii.62 ; (all coll. *B. Nath* and *I. N. Maligi*) ; Ethipotla Fall, 25.viii.62 ; Madhavram village, 11.x.63 ; Rayaram village, 18.x.63 ; Nidigul village, 23.x.63 (all coll. *B. Nath*).

Measurements.—Total length, 42-230 mm. ; Standard length, 15-65 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India, excluding Bengal east of the Ganges.

Remarks.—Many specimens are brilliantly coloured with blue, bluish gray, deep blue-black, pink and red.

8. *Calotes versicolor* (Daudin)

(The Blood-sucker)

Material.—49 exs., as follows :—*Guntur Dist.* : Pullareddygudem village, July-September and November, 1963 ; Macherla town, 14.ix.62. *Nalgonda Dist.*: Tiger Valley, 4.viii.62 ; 5.x.63 ; Deverkonda town, 14.viii.62 ; Vijaypuri South, 22.viii.62, (all coll. *B. Nath* and *I. N. Maligi*) ; Azampur village, 16.viii.62 ; Rayaram village, 19.x.63 ; Surya-raopet village, 14.x.63 ; Madhavram village, 13.x.63 ; Nidigul village, 22.x.63 ; Yelleshwaram village, 4.xi.63 (all coll. *B. Nath*) ; Nandikonda Valley, 8.x.63 (all coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 224-395 mm. ; Standard length, 56-120 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

9. *Psammophilus dorsalis* (Gray)

(Gray's Psammophilus Lizard)

Material.—One ex., *Nalgonda Dist.* : Vijaypuri South, 22.viii.62 ; (coll. *B. Nath*, and *I. N. Maligi*).

Measurements.—Total length, 293 mm. ; Standard length, 103 mm.

Distribution.—*Nagarjunasagar* area : As above (first record from the area). *Elsewhere* : India south of about lat.16°N.

10. *Psammophilus blanfordanus* (Stoliczka)

(Stoliczka's Psammophilus Lizard)

Material.—Two exs., *Guntur Dist.* : Nagarjuna Hill, 29.ix.63 (coll. *B. Nath*).

Measurements.—Total length, 162-181 mm., Standard length, 59-85 mm.

Distribution.—*Nagarjunasagar* area : As above (first record from the area). *Elsewhere* : Several parts of India : Bihar (Chotanagpur, Parasnath Hills), Orissa, Madhya Pradesh, Andhra Pradesh (Godavari Dist.), Madras (Eastern Ghats) and Kerala (Travancore).

11. *Mabuya carinata* (Schneider)

(The Brahmini Lizard)

Material.—7 exs., as follows :—*Guntur Dist.* : Pullareddygudem village, 29.vii.62 ; 15.xi.63 ; Eddenmotu Hill, 5,7.ix.62. *Nalgonda Dist.* : Vijaypuri South, 23,24.viii.62, (all coll. *B. Nath* and *I. N. Maligi*) ; Pindlipakula village, 18.viii.62 (coll. *B. Nath*).

Measurements.—Total length, 133-172 mm.; Standard length, 21-73 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Peninsular India.

12. *Mabuya nagarjuni* Sharma

(The Nagarjuni Lizard)

Material.—4 exs., *Nalgonda Dist.* : Vijaypuri South, 23,28.viii.62 (all coll. *B. Nath* and *I. N. Maligi*).

Brief Diagnosis : This species closely resembles *M. beddomi* Jerdon from South India but is separable as follows :

(i) Supranasals not in contact with one another, being separated by the frontonasal (*vs.* in contact).

(ii) Frontonasal square in shape (*vs.* broader than long).

(iii) Prefrontals not in contact with one another (*vs.* in contact).

(iv) Three pairs of nuchals (*vs.* single pair).

(v) Postnasal present (*vs.* absent).

(vi) Dorsal scales with 5—7 keels (*vs.* 3—5).

(vii) With 16—22 lamellae beneath fourth toe (*vs.* 12—15).

Measurements.—Total length, 120 mm.; Standard length, 51 mm.

Distribution.—*Nagarjunasagar* area : As above.

13. *Riopa punctata* (Gmelin)

(Gmelin's Riopa Lizard)

Material.—4 exs., as follows :—*Guntur Dist.* : Eddenmotu Hill, 3.ix.62 ; Macherla town, 13.ix.62. *Nalgonda Dist.* : Nandikerda Valley, 9.viii.62. (all coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 47-92 mm.; Standard length, 25-58 mm.

14. *Riopa ashwamedhi* Sharma

(The Ashwamedhi Lizard)

Material.—7 exs., as follows :—*Guntur Dist.* : Pullareddygudem, 30.vii.62. ; Eddenmotu and Fringimotu Hills, 1.ix.62 ; Macherla town, 15.ix.62. *Nalgonda Dist.* : Vijaypuri North, 8.vii.62, Vijaypuri South, 22 and 23.viii.62 (all coll. *B. Nath* and *I.N. Maligi*).

Brief Diagnosis : This species closely resembles *R. punctata* (Gmelin) from India, but is separable as follows :

(i) Distance between axilla and groin $1\frac{1}{2}$ times the distance between tip of snout and fore-limb (vs. $2-2\frac{3}{4}$ times).

(ii) Lower eyelids scaly, central scales of the lid much enlarged and thin (vs. with an undivided semitransparent disc).

(iii) Frontal scale shorter than fronto-parietals and interparietal together (vs. longer).

(iv) Scales bordering outer margins of parietals equal (vs. tempora-scale bordering the outer margins of parietals enlarged).

(v) Ear opening with 3 or 4 minute lobules on anterior margin (vs. 1 or 2).

(vi) With 28—32 scales round the body (vs. 24—28 ; 45—60 scales down the middle of back (vs. 62—76).

(vii) With 13—15 lamellae under fourth toe (vs. 11—14).

Measurements.—Total length, 52-91 mm. ; Standard length, 20-32 mm.

Distribution.—*Nagarjunasagar* area : As above.

15. *Cabrita leschenaulti* (Milne-Edwards)

(Edwards' Cabrita Lizard)

Material.—4 exs., *Guntur Dist.*, as follows :—Pullareddygudem village, 28.vii.62 (coll. *B. Nath* and *I. N. Maligi*) ; Nagarjuna Hill, 2.x.63. (coll. *B. Nath*).

Measurements.—Total length, 129-150 mm. ; Standard length, 41-45 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Peninsular India.

16. *Cabrita jerdoni* Beddome

(Beddome's Cabrita Lizard)

Material.—10 exs., *Nalgonda Dist.* Vijaypuri South, 23-29.viii.62, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 109-147 mm.; Standard length, 35-42 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Northern and Central India.

17 *Ophisops jerdoni* Blyth

(The Golden Striped Lizard or Blyth's Ophisops Lizard)

Material.—40 exs., as follows :—*Guntur Dist.* : Pullareddygudem village, 27.vii—9.ix.62 ; Eddenmotu Hill, 3-5.ix.62 ; Nagarjuna Hill, 28.vii.62 ; 28.ix.63 ; Macherla town, 13.ix.62, *Nalgonda Dist.* : Tiger valley, 3-7.viii.62, Nandikonda Valley, 7-9.viii.62 ; Deverkonda town, 14.viii.62 ; Vijaypuri South, 22.viii.62 (all coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 76-135 mm.; Standard length, 33-40 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Northern and Central India.

Remarks.—In many examples a small basioccipital scale is present.

18. *Varanus monitor* (L.)

(The Common Monitor Lizard.)

Material.—3 exs., as follows :—*Guntur Dist.* : Nagarjuna Hill, 2.ix.62 (coll. *B. Nath*), Pullareddygudem village, 6, 7.ix.63, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Standard length, 163-288 mm.; (Tail broken in all specimens.)

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

Sub-Order (ii) *SERPENTES*19. *Typhlops braminus* (Daudin)

(The Common Blind Snake.)

Material.—35 exs., coll. as follows :—*Guntur Dist.* : Nagarjuna Hill, 5 and 28.vii.62 (coll. *B. Nath*) ; Pullareddygudem village, 27.vii—14.xi.63 ; Eddenmotu and Fringimotu Hills, 2-8.ix.62 ; Macherla town 12.ix.62. *Nalgonda Dist.* : Nandikonda Valley, 7-11.viii.62 (all coll. *B. Nath* and *I. N. Maligi*) ; Madhavram village, 10.x.63 ; Yelleswharam village, 2.xi.63 (coll. *B. Nath*).

Measurements.—Total length, 128-133 mm.; Standard length, 125-130 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

20. **Typhlops acutus** (Dumiril and Bibron)
(The Beaked Blind Snake.)

Material.—One ex., *Guntur Dist.* : Nagarjuna Hill, 9.ix.62 (coll. *B. Nath*).

Measurements.—Total length, 345 mm.; Standard length, 342 mm.

Distribution.—*Nagarjunasagar* area : As above. (first record from the area. *Elsewhere* : Following parts of India : South Rajasthan, Gujarat (Baroda), West Bengal (Calcutta). The known distribution thus appears to be very patchy.

21 **Eryx conicus** (Schneider)
(The Russell's Sand Boa)

Material.—One ex., *Nalgonda Dist.* : Tiger Valley, 5.viii.62. (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 380 mm.; Standard length, 345 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

22. **Eryx johni johni** (Russell)
(John's Sand Boa)

Material.—2 exs., as follows :—*Guntur Dist.* : Nagarjuna Hill, 27.vii.62, (coll. *B. Nath*); Eddenmotu Hill, 3.ix.62, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 325-770 mm.; Standard length, 270-680 mm.

Distribution.—*Nagarjunasagar* area : As above. (First record from the area). *Elsewhere* : India : Rajasthan, U.P., Punjab.

23. **Elaphe helena** (Daudin)
(The Trinket Snake)

Material.—One ex., *Guntur Dist.* : Eddenmotu Hill, 3.ix.62. (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 835 mm. ; Standard length, 640 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : India : Maharashtra, Peninsular India, U. P. (Almora Dist.), W Bengal (Jalpaiguri Dist.), Assam.

24. **Ptyas mucosus** (L.)
(The Dhaman or Rat Snake)

Material.—4 exs. as follows :—*Guntur Dist.* : Pullareddygudem village, 14.ix.63, 9.xi.63. *Nalgonda Dist.* : Tiger Valley, 3.x.63, (coll. *B. Nath* and *I. N. Maligi*) ; Nidigul village, 23.x.63, (coll. *B. Nath*).

Measurements.—Total length, 1845-1875 mm.; standard length, 1290-1335 mm.

Distribution.—*Nagarjunasagar* area : As above *Elsewhere* : Whole of India.

25. *Coluber prox. gracilis* (Günther)

Material.—3 exs., *Guntur Dist.*: Nagarjuna Hill, 27.vii.62 and 4 and 9.ix.62, (coll. *B. Nath*.)

Measurements.—Total length, 760-1220 mm.; Standard length, 550-910 mm.

Distribution.—*Nagarjunasagar* area : As above (first record from the area).

Distribution (of *Coluber gracilis*).—India, as follows : Neighbourhood of Bombay ; Madhya Pradesh (Asirgarh). A rare species.

Remarks.—Though these specimens appear to agree with *Coluber gracilis* in colour and many details, due to the difference in many major characters, I hesitate to regard them as that species fully. They differ from *C. gracilis* as follows :—Rostral two times wider than high (*vs.* as broad as high in *C. gracilis*) ; internasals shorter than prefrontals (*vs.* of equal length) ; scales round the middle of body in 19 rows (*vs.* in 21 rows) ; ventral scales 201-213 (*vs.* 206-222) ; subcaudal scales 109-121 (*vs.* 118-127).

26. *Oligodon taeniolatus* (Jerdon)

(Jerdon's Oligodon Snake.)

Material.—4 exs., *Guntur Dist.* : Pullareddygudem village, 28.vii.62, and 6 and 11.xi.63 ; (All coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 357-525 mm.; Standard length, 300-450 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Peninsular India.

27. *Natrix piscator* (Schneider)

(The Checkered Keelback.)

Material.—5 exs., as follows :—*Guntur Dist.* : Pullareddygudem village, 1.x.63, 9.xi.63. *Nalgonda Dist.*: Tiger Valley, 6.viii.62, (coll. *B. Nath* and *I. N. Maligi*); Rayaram village, 18.x.63, (coll. *B. Nath*).

Measurements.—Total length, 625-1095 mm.; standard length, 445-835 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

28. *Roiga trigonata** (Schneider)

(The Indian Gamma)

Material.—2 exs., as follows :—*Guntur Dist.*: Pullareddygudem village, 13.xi.63, (coll. *B. Nath* and *I. N. Maligi*); *Nalgonda Dist.* : Madhavram village, 10.x.63. (Coll. *B. Nath*).

Measurements.—Total length, 555-580 mm.; Standard length, 450-470 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of Peninsular India ; and W & E. Himalayas.

29. Dryophis nasutus (Lacépède)

(The Common Green Whip Snake)

Material.—one ex., *Nalgonda Dist.*, on way to Hyderabad. 20. iii.62. (coll. *B. Nath*.)

Measurements.—Total length. 951 mm.; Standard length. 605 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : India ; Peninsular India ; Bengal.

30. Bungarus caeruleus (Schneider)

(The Common Indian Krait)

Material.—2 exs., *Nalgonda Dist.* : Nandikonda Valley, 7.x.63 and 7.xi.63, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 725-890 mm.; Standard length, 630-760 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : India : South to Andhra Pradesh, as follows :—Eastern Rajasthan, U.P., E. Punjab, Madhya Pradesh, Orissa, Andhra Pradesh.

31. Callophis melanurus (Shaw)

(The Slender Coral Snake)

Material.—One ex., *Nalgonda Dist.* : Nandikonda Valley, 6.xi.63, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 323 mm.; Standard length, 300 mm.

Distribution.—*Nagarjunasagar* area : As above. (First record from the area). *Elsewhere* : Peninsular India (Maharashtra. Kerala) ; and Bengal.

32. Naja naja naja (L.)

(The Indian Cobra)

Material.—One ex., *Guntur Dist.*: Pullareddygudem village, 1.x.63, (coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length. 1190 mm.; Standard length. 975 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

33. Vipera russelli russelii (Shaw)

(Russell's Viper)

Material.—One ex., (damaged), *Guntur Dist.*: Eddenmotu Hill, 4.ix.62, (coll. *B. Nath* and *I. N. Maligi*).

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : Whole of India.

34. *Echis carinatus* (Schneider)

(The Saw-scaled Viper or Phoorsa.)

Material.—4 exs., *Guntur Dist.*: as follows :—Eddenmotu and Fringimotu Hills, 3 and 8.ix.62. *Nalgonda Dist.*: Nandikonda Vailey, 8.viii,62.(coll. *B. Nath* and *I. N. Maligi*).

Measurements.—Total length, 122-352 mm.; Standard length, 110-312 mm.

Distribution.—*Nagarjunasagar* area : As above. *Elsewhere* : India south of the Ganges, except Bengal.

V.—FIELD KEYS FOR THE IDENTIFICATION OF SAURIA (LIZARDS, ETC.)
FROM NAGARJUNASAGAR DAM AREA

Keys to families of SAURIA

- 1(2). Tongue broad and short, covered with villose papillae ; skin soft, with granules ; top of head with asymmetrical shields ; eyes devoid of movable lids GEKKONIDAE
- 2(3). Tongue broad and short, smooth or covered with villose papillae ; no symmetrical shields on top of head ; eyes with movable eyelids AGAMIDAE
- 3(4). Tongue covered with imbricate, scale-like papillae ; body covered with cycloid, imbricate scales ; head with symmetrical shields above ; no femoral or preanal pores SCINCIDAE
- 4(5). Tongue covered with imbricate papillae, forked anteriorly ; dorsal scales much differentiated from those on belly ; head with symmetrical shields above ; femoral pores present LACERTIDAE
5. Tongue smooth, very long and slender, bifid, retractile into a sheath at the base ; back covered with rounded scales ; top of head with small scales VARANIDAE

(a) *Keys to species of family GEKKONIDAE*

- 1(2). Dorsum with dark cross bars ; 7-10 lamellae under fourth toe *Hemidactylus triedrus* (Daudin)
- 2(1). Dorsum with dark spots ; 8-10 lamellae under fourth toe *Hemidactylus brooki* Gray
- 3(4). Size small ; snout rounded ; dorsum brown, with dark reticulations *Hemidactylus reticulatus* Beddome
- 4(3). Size very large ; snout obtusely pointed ; dorsum with large cross bars *Hemidactylus giganteus* Stoliczka

(b) *Keys to species of family AGAMIDAE*

- 1(2). Dorsal crest not present ; toes 4 in number *Sitana ponticeriana* Cuvier
- 2(1) Dorsal crest present ; toes 5 in number *Calotes versicolor* (Daudin)
- 3(4). 115-150 scales round the middle of body *Psammophilus dorsalis* (Gray)
- 4(3). 80-100 scales round the middle of body *Psammophilus blanfordanus* (Stoliczka).

(c) *Keys to species of family SCINCIDAE*

- 1(2). Dorsal scales with 3-5 keels ; lamellae 14-19 under fourth toe ; one pair of nuchals. *Mabuya carinata* (Schneider)
- 2(1). Dorsal scales with 5-7 keels ; 16-22 lamellae under fourth toe ; three pairs of nuchals. *Mabuya nagarjuni* Sharma .
- 3(4). Body greatly elongate ; 24-28 scales round the middle of the body ; lower eyelid with an undivided semitransparent disc ; 11-14 lamellae under fourth toe *Riopa punctata* (Gmelin)
- 4(3). Body less elongate ; 28-32 scales round the middle of body ; lower eyelids scaly 13-15 lamellae under fourth toe *Riopa ashwamedhi* Sharma

- (d) *Keys to species of family LACERTIDAE*

- 1(2). Anterior labials ridged ; occipital scale present ; 42-50 scales round the middle of body . *Cabrita leschenaulti* (M. Edwards)
- 2(1). Anterior labials not ridged ; occipital scale absent ; 26-30 scales round the middle of body . *Cabrita jerdoni* Beddome
3. Lower eyelid fused with the upper ; 28-35 scales round the middle of body . *Ophisops jerdoni* Blyth

(e) *Family VARANIDAE*

The single species, *Varanus monitor* (L.) has the following characters : -

Abdominal scales quadrangular, arranged in 90-110 transverse rows ; tail long, compressed, with a low double-toothed crest above.

VI—SUMMARY

1 This is the first comprehensive study of the reptile fauna of the Nagarjunasagar Dam Project Area (Guntur and Nalgonda Districts, Andhra Pradesh), and is based on the considerable collections made by field parties of the Zoological Survey of India during the years 1962 and 1963.

2. A total of 34 species belonging to 24 genera of 11 families are recorded here, as follows :—Two species of the order Testudines, and 32 of the order Squamata, thus : 16 of suborder Sauria (4 Gekkonidae, 4 Agamidae, 4 Scincidae, 3 Lacertidae, 1 Varanidae) and 16 of suborder Serpentes.

3. Two species of Scincidae, namely, *Mabuya nagarjuni* and *Riopa ashwamedhi*, were described by the author recently (Sharma, 1969) elsewhere based on this material.

4. The following species are recorded for the first time from the Nagarjunasagar area :—

Order TESTUDINES : *Trionyx gangeticus* Cuvier :

Order SQUAMATA :

Suborder SAURIA : *Psammophilus dorsalis* (Gray), *P. blanfordanus* (Stoliczka).

Suborder SERPENTES : *Typhlops acutus* (Dumèril Bibron), *Eryx johni* (Russell), *Coluber prox. gracilis* (Günther), *Callophis melanurus* (Shaw).

VII—REFERENCES

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TABLE 1.—List of collecting localities for reptiles in the Guntur and Nalgonda districts, Andhra Pradesh, during 1962 and 1963.

BN., Shri Bhola Nath ; IM., Shri I. N. Maligi.

1. GUNTUR DISTRICT

Collecting Station	Altitude (above mean sealevel) (in feet)	Approx. Latitude (N.)	Approx. Longitude (E.)	Name of Collector and date of Collection
1	2	3	4	5
1. Ashwamedh site, ca. 5 Km. S.W. of Pullareddy-gudem village.	340'	16°31'	79°41'	BN & IM (29-30. vii.62).
2. Eddenmotu and Fringimotu Hills ca. 4 Km. S. of Pullareddy-gudem village.	300-1000'	16°30'	79°14'	BN & IM (2-8. ix. 62 ; 3-6, 8,30. ix. 7-9, 15.xi.63).
3. Macherla town and vicinity.	..	16°30'	79°27'	BN & IM (12-16.ix. 62).
4. Nagarjuna Hill, ca. 4Km. N. W. of Pullareddy-gudem village.	350'	16°31'	79°14'	BN (5, 27-28.viii. ; 4,9.ix.62 ; 28,29. ix ; 1-2.x.63).
5. Peddavagu river, ca. 29 Km. N. W. of Macherla town.	360'	16°33'	79°12'	BN (20.x.63).
6. Pullareddy-gudem village and vicinity, ca. 23 Km. N. W. of Macherla town.	350'	16°31'	79°14'	BN & IM (25-30. vii ; 1-2,22-23, - 26-27. viii ; 2-4, 7-9, 28-29.ix.62 ; 6,7,14.ix ; 1.x ; 6, 9,11,13-15. xi. 63).
7. Putlegudem village, ca. 6 Km. S. of Pullareddy-gudem village.	360'	16°29'	79°14'	BN & IM (31.vii. 62 ; 6.xi.63).
8. Siddelder Hill, ca. 4 Km. N. E. of Pullareddy-gudem village.	310-650'	16°31'	79°15'	BN (11.xi.63).

2. NALGONDA DISTRICT

Collecting Station	Altitude (above mean sea level) (in feet)	Approx. Latitude (N.)	Approx. Longitude (E.)	Name of Collector and date of Collection
9. Azmapur village, ca. 27 Km. E. of Deverkonda town.	450'	16°42'	79°56'	BN (16.viii.62).
10. Deverkonda town and vicinity, ca. 54 Km. W. of Vijaypuri North.	540'	16°43'	78°58'	BN & IM (14.vii.62).
11. Ethiopotla Fall, ca. 12 Km. S. E. of Vijaypuri South.		16°32'	79°25'	BN (25.viii.62).
12. Madhavram village, ca. 50 Km. N. E. of Nagarjunasagar Dam.	510'	16°33'	79°08'	BN (3,10-11, 13.x.63).
13. Nandikonda Valley, ca. 10 Km. N. W. of Nagarjunasagar Dam.	250'	16°34'	79°17'	BN & IM (1,7-9, 11.viii.62 ; 4,7-8, x ; 6-7.xi.63).
14. Nidigul village, ca. 12 Km. N. E. of Nagarjunasagar Dam.	520'	16°33'	79°10'	BN (22-23, 25.x.63).
15. On way to Hyderabad, ca. 40 Km. N. W. of Deverkonda town.			..	BN (20.viii.92).
16. Pindlipakula village, ca. 16 Km. E. of Deverkonda town.	490'	16°43'	79°55'	BN (18.viii.62).
17. Rayaram village, ca. 7 Km. N. W. of Pullareddygudem village	360'	16°33'	79°12'	BN (18-19.x.63).
18. Suryaraopet village, ca. 8 Km. W. of Madhavram village.	470'	16°35'	79°08'	BN (14.x.63).
19. Tiger Valley, ca. 3 Km. E. of Nagarjunasagar Dam.	500'	16°34'	79°18'	BN & IM (3-7.viii.62 ; 3,5.x.63).
20. Vijaypuri North, ca. 5 Km. N. of Nagarjunasagar Dam.	500'	16°34'	79°17'	BN & IM (3,7-8, 31.vii.62).
21. Vijaypuri South, ca. 4 Km. S. of Nagarjunasagar Dam.	500'	16°35'	79°18'	BN & IM (22-24, 26-29.viii.62).
22. Yelleshwaram village, ca. 12 Km. S. W. of Nidigul village.	390'	16°28'	79°12'	BN (1-4.xi.63).