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# **Records of the Zoological Survey of India**

Illustrated guide to the snakes of the  
Western Ghats, India

**T. S. N. MURTHY**

**Zoological Survey of India**

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OF THE  
ZOOLOGICAL SURVEY OF INDIA

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ILLUSTRATED GUIDE TO THE SNAKES OF  
THE WESTERN GHATS, INDIA.

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सत्यमेव जयते

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## INTRODUCTION

The snake fauna of the Western Ghats is amazingly rich in number and diversified, with as many as 91 species out of the nearly 240 species occurring in the Republic of India. Due to the current interest in the biota of Western Ghats of which snakes form an important component and also in view of the fact that several species of snakes have been seriously threatened because of the depletion of forests, it is felt that the present guide might prove useful to the zoologists, field naturalists, conservationists, and the forest and plantation officials who might encounter these snakes in the forests and hills of the Western Ghats. The text, the vernacular names and the illustrations will make identification of these fascinating creatures easy even by a non specialist. In keeping with the title and in view of the fact that the snakes of India are poorly figured animals, special attention has been paid to illustrate as many species as possible. The glossary of technical terms and the select bibliography may be of use to those who wish to pursue the subject.

It is hoped that this guide would create and further an interest in the snakes of the Western Ghats in particular and of India in general and will help to bring about a better appreciation of these much-maligned but animals of economic and scientific value.

T. S. N. MURTHY

## PHYSIOGRAPHY OF THE WESTERN GHATS

The Western Ghats (see Map I) are a flat-topped range of hills rising abruptly from the Arabian Sea and running more or less parallel with it, sloping more gradually on the side of the peninsula. They commence in Khandesh, Maharashtra, and run up to Kanyakumari, Tamil Nadu. The chief hill-ranges are the Nilgiris, Anaimalais, Palnis, and Cardamom Hills. They rise to considerable height. Their average elevation is 550m and the highest peak is Anaimudi, which rises to about 2,700m. Most of the area provides ample ground for magnificent rain forests, thick belts of bamboo, and elevated pastures. The rainfall is heavy, sometimes up to 500 cm in a year. The three major Peninsular rivers, namely the Godavary, the Krishna, and the Kaveri, have their origin in the Western Ghats.

### GLOSSARY

<b>Anal</b>	: The single or double scute in front of the vent.
<b>Anterior</b>	: Towards the head end.
<b>Arboreal</b>	: Living on trees.
<b>Aquatic</b>	: Living in water.
<b>Belly Plates</b>	: Enlarged scutes on the lower surfaces of a snake.
<b>Blotches</b>	: Large but irregular markings on the body of a snake.
<b>Brille</b>	: The watchglass-like transparent covering of a snake's eye.
<b>Carnivorous</b>	: Flesh-eating.
<b>Crossbands (Crossbars)</b>	: Stripes running crosswise along the snake's body.
<b>Diurnal</b>	: Active by day.
<b>Habitat</b>	: The environment inhabited by an organism.
<b>Hexagonal</b>	: Having six sides.
<b>Imbricate</b>	: Overlapping.
<b>Juvenile</b>	: Young.
<b>Juxtaposed</b>	: Placed in apposition to.
<b>Keel</b>	: The sharp ridge on snake's scale.

Labial	: Pertaining to the lips.
Mandible	: The lower jaw.
Maxillary	: Pertaining to the upper jaw.
Mental groove	: Longitudinal furrow in the chin of a snake.
Nape	: The back of the neck.
Nocturnal	: Active during the night.
Ocellus (Pl. Ocelli)	: A coloured spot on the body of a snake.
Oviparous	: Reproduction by laying eggs which hatch outside the body.
Pit	: A noticeable depression between the eye and nostril of a pit-viper on either side of its head.
Polyodont	: Many toothed.
Posterior	: Situated away from the head end.
Prehensile	: Able to grasp.
Primitive	: Having changed little since the early stages of evolution.
Rings	: Stripes that encircle the entire body of a snake.
Scute	: An enlarged or specialized scale.
Specks	: Small irregular markings on the body of a snake.
Spots	: Rounded markings on the body of a snake.
Terrestrial	: Living on the ground.
Truncate	: Cut short.
Tubercle	: A wart-like projection.
Uropeltid	: Shield-tailed.
Vestigial	: Remnant of an organ more in use at one time.
Viviparous	: Reproduction by giving birth to living young.

#### SNAKE SCALE GLOSSARY

Anal	: The single or divided scute lying just in front of the vent.
Belly Plates	: The enlarged scales (scutes) covering the belly.
Chin scutes	: The paired, enlarged scales on the throat between the lower labials.
Dorsals	: The scales covering the upper part of the body.
Frontal	: The single scute on the head between the eyes.

- Internasal** : The scutes (single or paired) on the head behind the rostral.
- Interparietal** : The single scute behind the frontal.
- Keel** : The sharp ridge on scales.
- Labials** : Scutes bordering the lips.
- Loreal** : The scute between the nasal and preocular.
- Mental** : The central lower-lip scutes.
- Occipitals** : The large scutes behind the parietals on the head of a King Cobra.
- Oculars** : Scutes surrounding the eye.
- Prefrontal** : Single or paired scutes on the head in front of the frontal.
- Preoculars** : Scutes in front of the eye.
- Rostral** : Scutes at the end of the snout.
- Subcaudals** : Scutes on the underside of the tail behind the anal.
- Suboculars** : Scutes between the eye and the labials.
- Supraoculars** : Scutes above the eyes.
- Temporals** : One or more longitudinal elongated scutes between the parietals and upper labials.

## ACCOUNTS OF SPECIES

Included herein are all the 94 species occurring in the Western Ghats. To make the account up-to-date, two new taxa, a pit-viper described by Smith (1949), and a kukri snake described by Whitaker *et al.* (1982) have been added.

The taxonomic arrangement broadly follows the lines laid down by Smith (1943) but contains several nomenclatural changes as suggested by other workers, notably Gloyd (1977), Malnate (1960), Savage (1952), Stimson *et al.* (1977), and Underwood (1967). Besides the species accounts, summaries for each family and key characters for each genus are provided. Vernacular names of common species met with in the States covered by the area under study are given.

The size given is that of adult or near adult animals. All scale counts are those at mid-body. In addition to the range of species in the Western Ghats and elsewhere, details of recent records with the exact location of the area of occurrence and the altitude (as far as is known) are furnished.

## Part I. NON-VENOMOUS SNAKES

## Family TYPHLOPIDAE

## BLIND SNAKES ; WORM SNAKES

These are small, degenerate, secretive forms with elongate cylindrical bodies and short, stubby tails which end in a spine. The body is covered with uniform, closely fitting polished scales. The eyes which appear as tiny specks are concealed beneath the head scutes. The mouth is small and crescent-shaped and is not distendable. There are a few teeth in the upper jaw only. The pelvis is vestigial, reduced to a single bone, or entirely absent. Blind snakes are expert burrowers in soft earth, where they dig rapidly taking advantage of the blunt snout and the spike on the tail, but are quite helpless on the surface. They feed on worms, ants and their eggs, termites, and other soft bodied soil arthropods and their larvae. Very little is known of their breeding habits ; some lay eggs and others bear live young.

The family is represented in India by two genera i.e., *Ramphotyphlops* and *Typhlops* containing one and thirteen species respectively. Five species occur in the Western Ghats.

Genus *Ramphotyphlops* Fitzinger

Head not distinct from neck ; rostral smooth and rounded ; nasal

suture touching the preocular and rostral above ; scales highly glossy and arranged in 20 rows at mid-body ; eyes invisible. Body cylindrical. Tail very short, terminating in a stiff spike.

Represented by one species in India which occurs in the Western Ghats.

1. **Ramphotyphlops braminus** (Daudin)

**BRAHMINY BLIND SNAKE ; COMMON BLIND SNAKE**

*Local Names.* Malayalam : *Chevi pambu* ; *Kozhi pambu* ; Marathi : *Vala, Danav, Kadu* ; Tamil : *Sevi pambu*.

*Description.* Snout rounded ; rostral large ; nasals lateral ; nasal suture passing to preocular. Scales in 20 rows around body ; transverse rows of scales 290-320. Tail short, as wide as head, ending in a spine.

*Colouration.* Black or chestnut brown above and paler below ; snout, chin, and anal region creamy.

*Size.* Usually grows to 170 mm. Maximum recorded size : 185 mm.

*Habitat and Habits.* A burrowing snake of the plains, forests and hills up to 1000 m. It lives by choice in the loose soil and is noticed only when the stones, logs, or debris covering it are turned over. Sometimes it is flushed out of its underground burrow during rains. Its favourite hideouts are nests of termites and ants but is occasionally found in the gutters and water taps of large cities. It digs in the soft earth rapidly, making use of the blunt snout and terminal spike on the tail. It preys chiefly on the soft bodied larvae and eggs of soil-living arthropods like the ants and the termites. It is in turn preyed upon by a variety of snakes.

The Common Blind Snake seems to be active during the cool and rainy weather when it can be seen on the surface wandering in search of food. When handled it wriggles vigorously and tries to poke with the spike of the tail. It is parthenogenetic and lays 2-8 eggs.

*Distribution.* The Common Blinds Snake is probably the most widely distributed ophidian in the world because of its accidental introduction by human agency in all parts of the globe. It occurs in most of southeastern Asia, the Malay Archipelago, New Guinea, and northern Australia. It also occurs in many islands in the South Pacific, parts of Africa, Madagascar, and islands of the Indian Ocean. In the New World the species has been recorded from Mexico.

### Genus *Typhlops* Opper

Closely allied to the preceding genus, differing as follows : nasal cleft in contact with the second labial ; snout pointed in *acutus*.

There are fifteen species in India, of which four are recorded from the Western Ghats.

#### 2. *Typhlops thurstoni* (Boettger)

*Description* Rostral at least half as broad as the head ; nasals not in contact with one another behind the rostral ; eye not visible. 20 scales around the body ; transverse rows of scales 550-600. Tail ending in a point.

*Colouration*. Brownish or yellowish above and lighter below ; snout and anal region whitish.

*Size*. 300 mm.

*Distribution*. Nilgiris ; Trichur, Kerala. A rare species. Known from 4 specimens.

#### 3. *Typhlops tindalii* (Smith)

*Description*. Configuration and scales of head similar to *thurstoni* but with nasals united behind the rostral ; preocular in contact with the anterior nasal. 18 scales around the body ; about 300 transverse rows of scales. Tail rounded, without a spine.

*Colouration*. Isabelline yellow above and below.

*Size*. 175 mm.

*Distribution*. Pilloor, Nilgiris ; Trichur, Kerala.

#### 4. *Typhlops beddomei* Boulenger

*Description*. Preocular separated from the anterior nasal ; eye fairly distinguishable. 18 scales round the body ; transverse rows of scales 180-200. Tail ending in a point.

*Colouration*. Brown above, sometimes with a dark vertebral line ; pale below ; snout and anal region whitish.

*Size*. 110 mm. Maximum recorded size : 140 mm.

*Distribution*. Anaimalais ; Hills of Tirunelveli and South Kerala.

#### 5. *Typhlops acutus* (Dum. & Bibr.)

#### BEAKED BLIND SNAKE

*Description*. Snout pointed and hooked ; nostrils inferior ; rostral very large. Scales round the body 28-34 ; transverse rows of scales 450-500. Tail ending in a small spine.

**Colouration.** Brownish or blackish above, with pale yellow centres on dorsal and lateral scales ; underside paler.

**Size.** 600 mm. Largest of the Indian blind snakes.

**Distribution.** Peninsular India, south of Rajasthan, west to Baroda and east to Calcutta. Rare South of lat. 16°. There are in the ophidian collections of the Zoological Survey of India 2 specimens, one each from Calicut and Trichur, Kerala.

**Recent Locality Records.** Pune, Maharashtra.

#### Family UROPELTIDAE

#### UROPELTS ; ROUGH-TAILS ; SHIELDTAILS

These are small burrowing snakes, inhabiting the mountainous regions of southern, western and central India, and Sri Lanka. The body is rigid, cylindrical and covered with smooth and shiny scales. The ventral scales are much smaller than those on the back. The terminal scute of the tail is modified into a rough shield ; this is the source of the common name. The enlarged caudal tip is rugose, spiny or reduced to two short ridges, on the basis of which the family is divided into as many as seven genera. The skull is solidly united and the eyes are tiny. There are a few teeth. Uropelts dig in the soft soil, pushing their way with their pointed snouts. The largest individual is just over 600 mm long. As might be expected of such small and secretive snakes, the food is mostly worms and soft bodied arthropods found in the soil. The striking characteristic of the family is that a majority of these snakes are brightly coloured and some of the black forms are iridescent. In disposition they are quiet and inoffensive. When picked up they do not try to escape or bite, but will twine themselves round the fingers of the captor and love to be carried in that position. The females do not lay eggs but bring forth 3-8 live young at a time.

Some 33 species referable to 7 genera are endemic to the hills of Tamil Nadu, Kerala, Karnataka, Goa, and Maharashtra. Two species (*Uropeltis elliotti*, *U. ceylanicus*) extend their ranges to the Eastern Ghats.

#### Genus *Melanophidium* Gunther or Guenther

A mental groove. No supraocular or temporal scutes. Scales in 15 rows. Tail feebly compressed : caudals smooth. Known from three species.

#### 6. *Melanophidium punctatum* Beddome

**Description.** Snout obtuse ; nostral short and broad. Eye

third the length of the ocular scute. Ventrals 180-198, caudals 11-18. Tail compressed; caudal scute with two parallel ridges above that converge into two or four points at the tip.

*Colouration.* Iridescent black above; ventrals and lateral scales white with black centres.

*Size.* 560 mm.

*Distribution.* Hills of South Kerala; Anaimalais; Telewady, Karnataka.

*Recent Locality Records.* Srikundram (1200 m), Anaimalais; Attapady, Coimbatore District, Tamil Nadu.

#### 7. *Melanophidium bilineatum* Beddome

*Description.* Similar to *M. punctatum* but differs in the following characters: a smaller eye and a little broader ventrals. Ventrals 188-200, caudals 15-17. Tail compressed; caudal scute simply pointed, without ridges.

*Colouration.* Dorsum and venter iridescent black intercepted by a broad lateral yellow stripe with or without a series of black dots.

*Size.* 350 mm.

*Distribution.* Peria Peak (1516 m), Wynaad, and Tirrhoot peak at same elevation, west of Mannanthoddy, Kerala.

#### 8. *Melanophidium wynaudente* Beddome

*Description.* Eye rather smaller than in the preceding. Ventrals 170-185, caudals 10-18. Terminal scute with two superposed lateral ridges which meet on a transverse ridge at the tip.

*Colouration.* Iridescent black, with large white or yellow spots on the belly.

*Size.* 440 mm.

*Distribution.* Coorg (915-1516 m), Karnataka; Mannanthoddy, Kerala.

#### Genus *Platyplectrurus* Gunther

No mental groove. Eye distinct; supraocular, postocular, and temporal scutes present. Scales in 15 rows. Tail compressed; caudal scute depressed, with lateral ridges which meet in a point.

#### 9. *Platyplectrurus trilineatus* (Beddome)

*Description.* Frontal longer than broad but shorter than the parietals; supraoculars definitely longer than the prefrontals. Ventrals 163-175, caudals 8-16.

*Colouration.* Juveniles light brown with three dark brown stripes—a vertebral and two lateral—or with a series of dark lines; head dark brown with a light brown spot on either side of the neck. Adult reddish-brown or brick-red above with three continuous or interrupted black longitudinal stripes; lower parts light brown, each scale edged with white.

*Size.* 390 mm.

*Distribution.* Anaimalais and Hills of South Kerala.

*Recent Locality Records.* Shembaganur (1860 m), Palnis.

#### 10. *Platyplectrurus madurensis madurensis* Beddome

*Description.* Frontal shorter than the parietals; supraoculars not longer than the prefrontals. Ventrals 158-175, caudals 10-15.

*Colouration.* Uniform nacreous purplish-brown above; ventrals and the two (posteriorly) or three (anteriorly) rows of dorsals yellowish in the centre, light brown at the edges.

*Size.* 440 mm.

*Distribution.* Palnis and Hills of South Kerala.

*Recent Locality Records.* Shembaganur (1860 m), Poomparai, and Kodaikanal (2100 m), Palnis; Nyamkad Estate (2200 m), Munnar Hills, Kerala.

#### Genus *Teretrurus* Beddome

Snout obtusely rounded. Eye not distinct from the surrounding scutes; a supraocular and a temporal scute present; no mental groove. Scales in 15 rows. Tail compressed; caudal scute simple without ridges, and ending in a point.

A single species.

#### 11. *Teretrurus sanguineus* (Beddome)

*Description.* As in the genus. Ventrals 120-150, caudals 5-9, smooth or tricarinate in the female, multicarinate in the male.

*Colouration.* Purplish red or brown above; red below, uniform or mottled or blotched with black.

*Size.* 230 mm.

*Distribution.* Anaimalais, Wynaad, and Hills of South Kerala.

*Recent Locality Records.* Nalumukku (1350 m), Oothu (1300 m), Kakkachi (1500 m), Tirunelveli Hills, Tamil Nadu; Nyamkaad Estate (220 m), Munnar Hills, Kerala.

**Genus *Brachyophidium* Wall**

Snout subacuminate. Eye not distinct from the surrounding shields ; supraocular and postocular scutes united. Mental not grooved. Scales in 15 rows. Tail compressed ; caudal scute simple, depressed, ending in a fine point.

A single species.

**12. *Brachyophidium rhodogaster* Wall**

*Description.* In addition to the generic characters, ventrals 133-145, twice as broad as the adjacent scales, caudals 7-11.

*Colouration.* Reddish-brown above and scarlet below.

*Size.* 210 mm.

*Distribution.* Palnis.

*Recent Locality Records.* Sacred Heart College, Shembaganur (1860 m) and Kodaikanal (2100 m), Palnis ; Andoorpacha, Tenmalais, Kerala.

**Genus *Plectrurus* Dumeril**

Eye not separated from the surrounding scutes ; no temporal scute ; mental not grooved. Scales in 15 rows. Tail compressed ; caudal scute compressed, with superposed bifid or trifid points.

There are four species.

**13. *Plectrurus perroteti* Dum. & Bibr.**

*Description.* Snout obtusely pointed ; frontal as long as the parietals ; supraocular small ; eye about half the length of the ocular scute. Ventrals 152-180, caudals 6-12. Tail compressed ; caudal scute ending in two simple superposed points.

*Colouration.* Dark purplish-brown above. paler below ; dorsal scales with reddish or yellowish centres ; a yellow line on the upper surface of the tail in the young.

*Size.* 440 mm.

*Distribution.* Anaimalais and Nilgiris.

*Recent Locality Records.* Kondapur (1218 m), Karnataka ; Coonoor (1800 m), and Ooty (2250 m), Nilgiris.

**14. *Plectrurus guentheri* Beddome**

*Description.* Head scutes as in *P. perroteti*. Ventrals 171-175, not twice as broad as the adjacent scales ; caudals 10-12. Tail as in *P. perroteti* but the caudal scute with two superposed bi-or tricuspoid transverse ridges above.

*Colouration.* Bright reddish above with yellowish triangular markings on the sides which often extend to the ventrals ; belly yellowish.

*Size.* 375 mm.

*Distribution.* Western Nilgiris.

*Recent Locality Records.* Coonoor (1800 m), Nilgiris.

### 15. *Plectrurus aureus* Beddome

*Description.* Similar to *P. guentheri* but with a different pattern. Ventrals 164-177, caudals 8-12. Tail as in *guentheri*.

*Colouration.* Golden above with irregular narrow, violet cross-bars or scattered spots ; underside ornamental with violet black cross-bars or alternating spots.

*Size.* 400 mm.

*Distribution.* Chembra Hill, Kerala.

### 16. *Plectrurus canaricus* (Beddome)

*Description.* Supraocular united with the ocular scute ; eye one-third the length of the ocular scute. Ventrals 172-188, slightly broader than the adjacent scales ; caudals 6-13. Tail compressed ; caudal seute ending in two, single or bifid superposed points.

*Colouration.* Brownish-violet with yellow blotches anteriorly and with or without small yellow spots on the back ; lips yellow ; lower surface of tail yellow, with or without a black central streak.

*Size.* 430 mm.

*Distribution.* Kudremukh, near Mangalore, South Kannada, Karnataka.

### Genus *Uropeltis* Cuvier

Eye in the ocular scute ; no supraocular or temporal scutes ; mental not grooved. Tail cylindrical or obliquely truncate.

The 19 species belonging to the genus fall into three groups on the basis of the shape of the tail and modifications of scales covering its tip. In the first group (*elliote-woodmasoni*) the truncated portion of the tail is small, feebly convex, and lacks the caudal disc, and the scales covering it are thickened and multicarinate. In the second group (*macrolepis-broughami*) the truncated portion is quite large, and is definitely concave with a highly specialised circumscribed disc. The tail in the third group (*maculatus-smithi*) is more or less compressed and distinctly rounded, and the scales covering it are either smooth or keeled.

### 17. *Uropeltis ellioti* (Gray)

*Description.* Snout acutely pointed ; rostral separating the nasals for most of their length. Scales in 17 rows. Ventrals 144-176, caudals 5-11. Tail obliquely truncate, not perfectly flat ; caudal scute large, depressed, ending in a double-pointed transverse ridge.

*Colouration.* Dark brown with small yellow spots above and larger ones on the lower sides ; a yellow line on each side of the neck ; tail with a yellow stripe on each side united by a cross-bar in the anal region.

*Size.* 250 mm.

*Distribution.* Western Ghats : South of Goa Gap to Tirunelveli. Eastern Ghats : Shevaroy and Javadi Hills, Tamil Nadu, and Ganjam Hills, Orissa.

*Recent Locality Records.* Manjolai Estate, (1000 m), Courtallam, (100 m), Tirunelveli Hills, Tamil Nadu ; Yercaud (100 m), Shevaroy, Eastern Ghats ; Munnar (1800 m), Kerala.

### 18. *Uropeltis nitidus* (Beddome)

*Description.* Snout acutely pointed ; rostral visible from above and separating the nasals for about half their length. Eye about one-third the length of the ocular scute. Scales in 17 rows. Ventrals 184-224, caudals 5-11. Tail slightly flattened above with an ill-defined disc ; caudal scute as in *U. ellioti*.

*Colouration.* Black, with large, alternate, yellow spots on the underside which unite to form cross-bars.

*Size.* 340 mm.

*Distribution.* Anaimalais (Cochin side).

*Recent Locality Record.* Topslip, Anaimalais, Coimbatore District, Tamil Nadu.

### 19. *Uropeltis ocellatus* (Beddome)

*Description.* Snout acutely pointed. Rostral visible from above and separating the nasals for more than half their length. Eye one-fifth to one-third the length of the ocular scute. Scales in 17 rows. Ventrals 185-234, caudals 6-11. Tail with an ill-defined disc ; caudal scute as in *U. nitidus*.

*Colouration.* Yellow above with black-edged ocelli arranged in rings, and brown below with large yellow spots or cross-bars or mottled with yellow or blotched with brown.

*Size.* 530 mm.

*Distribution.* Western Ghats south of the Goa gap ; common in the Nilgiris and Anaimalais.

*Recent Locality Records.* Murgali (1200 m), Valaparai (1200 m), Vargaliyar (913 m) and Stanmore Estate (1200 m), Anaimalais ; Vandamedu (900 m) Bonaccord (960 m), Kunjithanni (1500 m) Kavalai (Cochin), Wynaad, Kerala ; Ocrterlong Valley, Nilgiris ; Agumbe, North Kannada, Karnataka.

## 20. *Uropeltis dindigalensis* (Beddome)

*Description.* Snout acutely pointed ; rostral ridged above and separating the nasals for most of their length. Eye about one-third the length of the ocular scure. Scales in 17 rows. Ventrals 155-168, caudals 5-10. Tail obliquely truncate and not perfectly flat ; caudal disc, large, depressed, ending in two points.

*Colouration.* Dirty yellowish above with brown spots and dark brown ventrally with yellow spots or irregular cross-bars ; lips with a yellowish streak continued along each side of the neck ; tail yellow below with a large brown spot behind the vent.

*Size.* 370 mm.

*Distribution.* Sirumalais, Madurai District, Tamil Nadu.

## 21. *Uropeltis beddomei* (Gunther)

*Description.* Snout acutely pointed ; rostral ridged above and separating the nasals for more than half their length. Eye one-third the length of the ocular scute. Scales in 17 rows. Ventrals 180-188, caudals 6-7. Tail obliquely truncated but the truncated portion not distinctly flat ; caudal scute large and depressed, ending in a transverse ridge with two points.

*Colouration.* Brown above with minute yellow spots in the median dorsal scale rows and lighter brown below with yellowish spots ; a yellow streak on each side of the neck and a bar of the same hue across the anal region.

*Size.* 250 mm.

*Distribution.* Anaimalais, South India.

## 22. *Uropeltis macrorhynchus* (Beddome)

*Description.* Snout acutely pointed ; rostral strongly ridged above, separating the nasals for more than half their length. Eye one-fourth to one-third the length of the ocular scure. Scales in 17 rows. V. 203-213, caudals 6. Tail obliquely truncated, the truncated portion not perfectly flat ; caudal disc large, depressed, ending in two points,

*Colouration.* Uniform brown above and yellow and brown below; a yellow streak from the mouth continued along each side of the neck; lower surface of the tail with yellow streaks which are united by a cross-bar on the anal region.

*Size.* 740 mm.

*Distribution.* Anaimalais, 100 m – 1300 m.

*Recent Locality Records.* Upper Aliyar, Anaimalais (914 m).

### 23. *Uropeltis woodmasoni* Theobald

*Description.* Snout acutely pointed. Rostral not ridged, above, sometimes completely separating the nasals. Eye one-third to one-half the length of the ocular scute. Scales in 19 rows. Ventrals 157-183, caudals 6-11. Tail truncated but not forming a disc; caudal disc ending in two points.

*Colouration.* Brown, black or dark violet above with a transverse series of small, round yellow spots on the back and a lateral series of large spots of the same colour on the sides, often extending across the belly which is usually dark black.

*Size.* 270 mm.

*Distribution.* Anaimalais, Palnis, Nilgiris, and Hills of South Kerala and Tirunelveli.

*Recent Locality Records.* Shembaganur (1860 m) and Kodaikanal (2100 m), Palnis.

### 24. *Uropeltis macrolepis macrolepis* (Peters)

*Description.* Snout rounded. Eye usually more than half the length of the ocular scute. Scales in 15 rows. Ventrals 128-140, caudals 7-10. Tail obliquely truncated above, the truncated part concave and forming a disc; caudal scute large, depressed, ending in a transverse ridge with two points.

*Colouration.* A line of scattered orange or yellow spots on the sides; tail with a broad yellow or orange stripe on each side.

*Size.* 300 mm.

*Distribution.* Bombay Hills between lats. 18°7'N and 19°7'N.

### 24b. *U. m. mahableshwarensis* Chari

*Description.* Distinguished from the nominate subspecies *U. m. macrolepis* by the fewer ventrals, more caudals and the entirely different colour pattern.

*Colouration.* A continuous brownish-yellow stripe along each flank

throughout the length of the body ; colouration of the tail as in *U. m. macrolepis*.

*Size.* As given for *U. m. macrolepis*.

*Recent Locality Records.* Mahableshwar (137 m), Powai Lake, Salsettle Island, Maharashtra.

## 25. *Uropeltis ceylanicus* Cuvier

*Description.* Snout obtusely pointed. Eye a little more than half the length of the ocular shield. Scales in 17 rows. Ventrals 119-146, caudals 8-12. Tail as in *U. macrolepis*.

*Colouration.* Variable. Smith (1943) recognises three colour varieties as follows :

Var. I. *U. ceylanicus shortii*—Brown or blackish above, uniform or with yellowish spots arranged transversely.

Var. II. *U. ceylanicus bicatenata*—Dorsum as in I, with a yellow lateral stripe or yellowish spots ; belly yellowish, or entirely brown or black, with or without dark brown spots, lower surface of tail brown or black in the middle, yellow on the side (I & II).

Var. III. *U. ceylanicus annulata*—Brown above, yellowish below with narrow dark brown ocelli.

*Size.* 455 mm.

*Distribution.* From Castle Rock to the hills of South Kerala, Western Ghats ; Shevaroy, Eastern Ghats. Common in the hills of South Kerala.

*Recent Locality Records.* Sholayar, Murgali, and Valaparai (1200 m), Anaimalais ; Peermade (900 m), Vandamedu (1500 m), and Bonaccord (960 m). Kerala.

## 26. *Uropeltis arcticeps* (Gunther)

*Description.* Snout obtusely pointed ; length of portion of rostral visible from above nearly equal to its distance from the frontal. Eye one-third to one-half the length of the ocular scute. Scales around the body in 17 rows. Ventrals 127-128 in variety *arcticeps* and 146-157 in variety *madurensis* ; caudals 8-10. Tail distinctly truncated above ; caudal scute large with small spines ending in a transverse ridge with two points.

*Size.* 380 mm.

*Colouration.* Black or dark-purplish brown or yellowish above with black spots ; lower parts orange with large black blotches or cross-bars or may sometimes be entirely black or reddish-brown.

*Distribution.* The Western Ghats south of Palghat : from sea-level (Alleppy) to the hills of South Kerala and Tirunelveli.

*Recent Locality Record.* Muvathupuzha and Alleppy, South Kerala Hills (1500 m); High Wavy Mountains, Madurai District, Tamil Nadu.

### 27. *Uropeltis rubromaculatus* Beddome

*Description.* Snout obtuse; nasals in contact for most of their length. Eye about half the length of the ocular scute. Scales in 17 rows. Ventrals 127-136, caudals 7-10. Tail with an oval disc, the terminal scute ending in a transverse ridge.

*Colouration.* Purplish-black or brown above with three to six large blood-red spots on the sides anteriorly and one on the tail; a short orange-yellow stripe on the neck and lips; belly red, with yellowish blotches.

*Size.* 380 mm.

*Distribution.* Anaimalais and Nilgiris.

*Recent Locality Records.* Pallivasal Estate (1820 m), Munnar, Kerala.

### 28. *Uropeltis rubrolineatus* (Gunther)

*Description.* Snout obtusely pointed; rostral separating the nasals for less than half their length. Eye two-fifth the length of the ocular scute. Scales in 17 rows. Ventrals 136-172, caudals 6-12. Tail obliquely truncated, the truncated portion flat with bi- or tri-carinate scales; caudal scute depressed, ending in two blunt points connected by a transverse keel.

*Colouration.* Blackish brown above with a broad yellow stripe along the flanks and tail; belly with scattered dark patches; anal region with a brown patch and yellow stripes.

*Size.* 400 mm.

*Distribution.* Western Ghats south of Palghat; Anaimalais and Hills of South Kerala.

*Recent Locality Records.* Bhimshankar and Pune, Maharashtra; Marthandam (sea level), Pachiparai (457 m) and Palali (457m), Tamil Nadu; Upper Aliyar, Anaimalais, Coimbatore District, Tamil Nadu.

### 29. *Uropeltis myhendrae* (Beddome)

*Description.* Snout obtuse. Portion of rostral visible from

above is distinctly longer than its distance from the frontal. Eye about half or a little less than half the length of the ocular scute. Scales in 17 rows. Ventrals 139-156, caudals 6-8. Tail obliquely truncated above, the truncated portion concave with uni-or bi-carinate scales; caudal scute large, depressed and ending in a transverse keel with two poorly defined points.

*Colouration.* Dark purplish-brown above with yellow rings that encircle the body; lower parts yellowish with patches of blue or black cross-bars.

*Size.* 540 mm. The largest Indian uropeltid known.

*Distribution.* Western Ghats south of the Goa gap; Nilgiris and Hills of South Kerala.

*Recent Locality Records.* Bonaccord Estate (960 m), Kerala.

### 30. *Uropeltis broughami* (Beddome)

*Description.* Snout acutely pointed; rostral ridged above and much produced posteriorly, almost separating the nasals. Eye a little less than half the length of the ocular scute. Scales in 19 rows. Ventrals 195-230, caudals 7-10. Tail obliquely truncated above, the truncated portion flat, forming a disc; caudal scute large, depressed, ending in a transverse keel with two points.

*Colouration.* Brown above with transverse series of small yellow ocelli and dark brown below; sides with large yellow spots.

*Size.* 410 mm.

*Distribution.* Palnis, Sirumalais, and Nilgiris, Western Ghats.

### 31. *Uroeltisp maculatus* (Beddome)

*Description.* Snout obtuse; rostral separating the nasals for about half their length. Eye smaller than the ocular scute. Scales in 17 rows. Ventrals 154-165, caudals 8-13. Tail compressed and rounded above; caudal scute with minute tubercles above, ending in a transverse ridge with two points.

*Colouration.* Dark brown above and black below; a series of large red spots along the neck, fore and hind parts of the body and tail.

*Size.* 390 mm.

*Distribution.* Anaimalais and Hills of South Kerala.

*Recent Locality Recors.* Nyamakad Estate, Manimuthar Hills, Kerala.

### 32. *Uropeltis petersi* (Beddome)

*Description.* Snout obtusely pointed ; rostral separating the nasals for less than half their length. Eye one-third the ocular scute. Scales in 17 rows. Ventrals 150-180, caudals 6-11. Tail compressed and rounded above ; caudal scute ending in a transverse ridge.

*Colouration.* Brown above, with or without yellowish dots ; belly with small irregular spots.

*Size.* 190 mm.

*Distribution.* Anaimalais, Western Ghats.

### 33. *Uropeltis liura* (Gunther)

*Description.* Snout acutely pointed ; nasals in contact with one another. Eye not quite half the length of the ocular scute. Scales in 17 rows. Ventrals 174-188, caudals 8-12. Tail slightly compressed, distinctly rounded above with keeled scales ; caudal scute ending in a horizontal ridge with two points.

*Colouration.* Purplish-brown above with transverse series of yellow black edged ocelli ; lower surface and sides with large alternating black and yellow spots or cross-bars.

*Size.* 320 mm.

*Distribution.* Hills of Madurai and Tirunelveli, Tamil Nadu.

*Recent Locality Records.* Nalumukku, Oothu, and Kakkachi (1350 m), Tirunelveli Hills, Tamil Nadu.

### 34. *Uropeltis pulneyensis* (Beddome)

*Description.* Snout pointed ; rostral completely separating the nasals. Scales in 17 rows. Ventrals 156-180, caudals 6-13. Tail slightly compressed, rounded above ; caudal scute ending in two points.

*Colouration.* Dark brown or black above with yellow stripes along the sides of head and neck ; belly with large yellow spots.

*Size.* 280 mm.

*Distribution.* Palnis and Hills of South Kerala, Western Ghats.

*Recent Locality Records.* Shembaganur (1860 m) and Kodaikanal (2100 m), Palnis ; Alagar Hills, Madurai District, Tamil Nadu ; Seven Malais (1820 m), Munnar Hills, Kerala.

### 35. *Uropeltis smithi* Gans

*Description.* Snout pointed ; rostral separating the nasals for

most of their length. Scales in 19 rows. Ventrals 190-218, caudals 6-12. Tail feebly compressed and rounded above ; caudal scute ending in two points.

*Colouration.* Dark violet ; lower parts with large alternating yellow spots or cross-bars.

*Size.* 470 mm.

*Distribution.* Anaimalais, Western Ghats.

*Recent Locality Records.* Topslip, Anaimalais, Coimbatore District, Tamil Nadu.

### Genus *Rhinophis* Hemprich

Snout acutely pointed and compressed ; rostral separating the nasal scutes completely and partly separating the prefrontals. No temporal scute : no mental groove. Eye in the ocular scute. Scales in 15-17 rows. Tail cylindrical, ending in a convex, round or oval rugose shield.

Composed of three species.

#### 36. *Rhinophis sanguineus* Beddome

*Description.* Rostral scute not ridged above, separating the nasals. Eye one-third the length of the ocular scute. Scales in 15 rows. Ventrals 182-218, caudals 5-10 ; caudal disc convex.

*Colouration.* Black above with a bluish tinge and small light spots ; lower parts and sides bright red, thickly spotted with black ; tail black above and red below.

*Size.* 400 mm.

*Distribution.* Koppa and Kalsa, Karnataka ; Wynaad, Kerala ; Nilgiris and Hills of South Kerala and Tirunelveli.

#### 37. *Rhinophis fergusonianus* Beddome

*Description.* Rostral obtusely ridged above ; not separating completely the prefrontals. Eye one-third to one-fourth the length of the ocular scute. Scales in 17 rows. Ventrals 180, caudals 3-5.

*Colouration.* Black above, with white dots ; sides white with black spots ; belly white with large black spots more or less confluent and forming a zigzag stripe ; caudal disc black, edged all round with yellow.

*Size.* 320 mm.

*Distribution.* Cardamom Hills, Kerala. Known only from the type specimen.

### 38. *Rhinophis travancoricus* Boulenger

*Description.* Rostral not ridged above, partly separating the prefrontals. Eye one-third the length of the ocular scute. Scales in 17 rows. Ventrals 132-146, caudals 5-7. Caudal disc flat.

*Colouration.* Dark brown above and yellowish white on the sides and below; tail orange-yellow with a dark blue patch around the anal region.

*Size.* 180 mm.

*Distribution.* Trivandrum, Pirmed, and Ernakulam, Kerala.

*Recent Locality Records.* Muvathupuzha, Kerala; New Ambadi Estate (600 m), Kanyakumari District, Tamil Nadu.

## Family BOIDAE

### PYTHONS AND BOAS

Members of this family are considered to be the most primitive among the living snakes because of the presence of a pair of internal hind limbs near the vent. These traces of rudimentary limbs are visible externally as horny claw-like spurs projecting from either side of the vent. These spurs are used by the male for stimulating the female during courtship. The body is massive and covered with small scales and the ventrals are distinctly narrower than in advanced snakes. The eye is small, with a vertically elliptic pupil. The tail is short and is prehensile in pythons. The jaws bear long, curved backward-pointing, needle-sharp teeth which are used for firmly gripping the slippery prey. A diagnostic feature of the pythons is the presence of labial pits which are a series of depressions found on the lips. These organs function as heat receptors to locate the warm blooded prey of these snakes. Boids feed mainly on birds and small mammals which are killed by constriction. This method of rapid and effective subduing the prey has earned for these snakes the common name of "constrictors" although this habit is shared by several other snakes. The prey, which is swallowed whole, is never crushed to death and no bones are broken, the death being caused by asphyxiation.

The family Boidae has been divided into two subfamilies viz., Boinae and Pythoninae, on the basis of absence or presence of a supraorbital bone. In addition to this skeletal character, boas and pythons differ in the manner of reproduction: boas bring forth the young alive, while the pythons lay eggs.

Boas and pythons are well known for the enormous lengths reached

by some species. The Indian python, growing to 6 m, is the third largest snake in the world.

Two genera, namely *Python* and *Eryx*, represented by two species each, are found in India. Of these, the Common Sand Boa and the Indian Python occur in the Western Ghats.

Subfamily PYTHONINAE

Genus *Python* Daudin

PYTHONS

39. *Python molurus molurus* (Linn.)  
INDIAN PYTHON ; ROCK PYTHON

*Local Names.* Kannada : *Heba havoo* ; Malayalam : *Perum pambu, malam pambu* ; Marathi : *Ajgar* ; Tamil : *Periya pambu, Malai pambu, Kaloodai viriyan.*

*Description.* Head flattened, distinct from neck and covered with large symmetrical shields ; rostral and the first two anterior upper labials and the anterior and posterior lower labials pitted ; 6th and 7th supralabials touching the eye. Eye moderate, with a vertically elliptic pupil. Body massive, somewhat compressed and covered with smooth scales arranged in 60-75 rows at midbody. Ventrals 253-270, well developed but distinctly narrower than the width of the belly, caudals 58-73, paired. Tail moderate to short, highly prehensile. Males with well developed anal spurs.

*Colouration.* Light brown or greyish or yellow above with dorsal and lateral series of elongate, large, rhomboidal darker blotches ; head with a spearhead-shaped dark mark, distinct only posteriorly on the crown and another streak of the same colour on either side of the head ; a dark blotch below the eye ; belly dirty whitish to yellow with black spots on the ventrals ; underside of tail marbled with yellow or orange and black. Individuals from the Western Ghats and the rain forests of Assam are darker. The scales, particularly that of a freshly moulted specimen are highly iridescent.

*Size.* The second largest of the Indian snakes. Adults average from 3 m to 6 m. Specimens more than 6.5 m long are extremely rare.

*Habitat and Habits.* The Indian Python is mainly a snake of the jungle but is also found in the marshes, gallery forests and rocky ledges near the streams and *jheels*. It avoids a true desert country but prefers the rocky, moist and wooded valleys and plantations. Its favourite hideouts are holes near the edge of the water, the hollow of a tree or thick clumps of vegetation, rotten logs, caves, or ruined buildings.

Although it is diurnal to some extent, the python is more active at night when guided by the sensory pits in the lips, it hunts for its warm-blooded prey. It is a very lethargic snake and exhibits little timidity in its natural haunts. As might be expected of such heavily built snakes, the python moves in a laboured and slow fashion. It actually crawls in almost a straight line and leaves a distinct track. It hibernates during the cold season. It is a good climber and is quite at home in the water, where it can lie submerged for half-an-hour or more.

It is omnivorous, feeding indiscriminately on mammals, birds, and reptiles. Its preferred food, however, is larger mammals. Live prey is constricted and swallowed whole.

The female python lays from 8 to 107 eggs in a clutch and displays a remarkable maternal instinct. After depositing the eggs, the female coils round them and remains with them during the entire period of incubation (i.e., 60-80 days) it takes for the eggs to hatch. It is said that the brooding female manipulates her temperature for the process of incubation.

When disturbed or alarmed, the python tries to escape as quickly as possible but if cornered, it hisses loudly but without putting up any effective defense. Although it is not venomous, it can, however, inflict deep and ugly wounds with its formidable teeth. A python of 4 m can easily knock a man off his feet by coiling about his legs, and a still larger specimen could possibly kill a man by constriction. Authentic records of its attacking human adults are rare but there are cases of babies having been devoured.

*Distribution.* Pakistan, India, and Sri Lanka.

#### Subfamily BOININAE

#### Genus *Eryx* Daudin

#### SAND BOAS

Head not distinct from neck and covered with small scales except for the nasal and internasals, which are enlarged. Eye small with vertically elliptic pupil. Body stout, cylindrical and covered with small scales; ventrals not as wide as the venter; caudals undivided. Tail short and stumpy.

Two species inhabit India one of which is recorded from a few pockets in the Western Ghats,

40. *Eryx conicus* (Schneider)  
 RUSSELL'S AND BOA ; COMMON SAND BOA

*Local Names.* Kannada : *Ittally havu* ; Malayalam : *Mandali* ; Marathi : *Durkhiya ghonas* ; *kandor* ; *kakria* ; Tamil : *Mannuli pambu*.

*Description.* Nostril slit like, between enlarged nasals and internasal ; no mental groove. Eye surrounded by 10-14 small scales. Body robust, cylindrical, tapering just before vent. Scales heavily keeled on the hinder part, arranged in 40-55 rows. Ventrals 162-196, small, undivided ; caudals 16-24 ; males with well developed anal spurs. Tail ending in a point.

*Colouration.* Yellow, brown or grey above with a dorsal series of large, irregular dark brown to sooty blotches which fuse with one another to form a zigzag stripe and another lateral series of scattered spots of the same colour ; belly whitish sometimes mottled with brown on the outer scale-rows.

*Size.* 500 mm.—1 m. Females are longer with proportionately longer tails.

*Habitat and Habits.* The Common Sand Boa is mainly a snake of the plains, showing a marked preference for sandy or loose soil where it can burrow easily and rapidly. It is also found in moist terrain with luxuriant vegetation and in the low hills.

It is a sluggish snake and its movements are laboured and slow. It lies with just a portion of the snout and body projecting out of the soil and becomes active only on seeing a passing prey animal. It is not strictly nocturnal in its habits as previously believed. In South India it is sometimes found abroad during mid-day, lurking beneath the giant trees with the intention of catching squirrels scampering about the area. It feeds mostly on small mammals and birds, but also takes snakes and frogs. The female gives birth to 6-8 living young at a time.

The Common sand boa is timid in disposition and hides its head beneath the body. However, its temper is uncertain as it sometimes coils and flinches violently, and delivers a nasty bite if touched.

*Distribution.* Although considered a snake of the arid tracts, the Common Sand Boa is common even in the areas that record heavy rainfall. Found throughout India except parts of Bengal and Assam, where it is rare or absent ; Pakistan ; northern Sri Lanka. It is fairly common in Cannanore District in Kerala and Ghazipur in Uttar Pradesh. It is not confined to the plains either as it has been recorded from Naini Tal, U. P. and Khaulala and Anaimalais in the Western Ghats.

Family COLUBRIDAE  
COLUBRIDS

The Majority of snakes found in the Western Ghats are included in this large and unwieldy family which exhibits a great diversity in structure and habits. As might be expected of such widely distributed snakes, the colubrids are found in a broad range of habitats : some are terrestrial, some arboreal, some fossorial, and some aquatic. The scales on the head are usually large and regularly arranged. The belly scales are as wide as the body. There is no trace of the hind limbs. Most of them have solid teeth on both the jaws and the few kinds in which some of the teeth at the rear are grooved, and that are called rear-fanged, are mildly poisonous. But the venom is used only for quietening the prey that has been seized rather than for capturing it. As is natural among such a bewildering array of snakes, the colouration is highly varied. Smaller species subsist on worms and insects, the larger ones feed upon birds and mammals which are killed by rapid constriction. A vast majority lay eggs ; only a few bear living young.

Of the 127 species found in India, some 40 species referable to as many as 19 genera are recorded from the Western Ghats. They can be broadly divided into the following groups, making recognition somewhat easier : Trinket snakes, Rat Snakes, Racers, Kukri Snakes, Bronzebacks, Wolf Snakes, Keelbacks, and Cat Snakes. They are treated here in that order.

Genus **Elaphe** Fitzinger

Head elongate, neck well defined. Eye rather large, pupil round. Body cylindrical, slightly compressed. Maxillary teeth 14-24. Scales smooth or moderately keeled, with paired apical pits, in 19-27 rows. Ventrals angulate laterally, caudals paired. Tail long. Pattern distinctive. There are nine species in India, of which one occurs in the Western Ghats.

41. **Elaphe helena** (Daudin)

TRINKET SNAKE

*Local Name.* Marathi : *Taskar* ; Tamil : *Kattu pambu*.

*Description.* Snout small, rounded ; nostrils large ; nasals divided ; uloreal single, not very small ; 9 or 10 (rarely 8 or 11) supralabials, 5th and 6th or 5th to 7th touching the eye ; last labial below the eye in contact with the temporals. Scales in 25-27 rows at mid-body,

distinctly keeled on the posterior body and tail regions. Ventrals 217-265, obtusely angulate laterally, caudals 73-100. Anal undivided.

*Colouration.* Dark brown above and pearly white or yellowish below. The distinctive dorsal pattern consists of black cross-bars which enclose three or more white islets resembling trinkets ; this pattern is most conspicuous anteriorly and on the sides but disappears on the hinder part which is flanked by a thick dark stripe on each side. Nape with two dark streaks above which may join to form an inverted 'V' ; eye with two black streaks—one below it and another oblique one behind.

In individuals from Western Ghats the black stripes may be absent and there is a festooned marking on each side of the belly.

*Size.* 900 mm—1400 mm. Males are longer.

*Habitat and Habits.* A common snake of India. It is partial to the jungles, low country, and hills but is occasionally found in agricultural areas and human settlements.

It is an extremely active creature both during the day and at night. In the hotter months it retires to termite mounds and rock crevices. It frequently enters houses.

It feeds on small mammals, birds, lizards, and frogs but shows a marked preference for rats, mice, and other rodents.

It is a bold snake with vicious temper and bites savagely if cornered.

The female lays 6-8 eggs and the hatchlings are very much like the parents.

*Distribution.* Throughout India ; Sri Lanka ; West Pakistan.

*Recent Locality Records.* Cardamom Hills, Kerala ; Valaparai, Anaimalais ; Gudalur, Nilgiris.

### Genus *Ptyas* Fitzinger

#### RAT SNAKES

Head rather pointed, elongate and clearly defined from neck. Eyes prominent with round pupils. Nostrils large. Maxillary teeth 20-28. Body long, robust, streamlined with a even taper ; Scales shiny, keeled dorsally and with paired apical pits ; caudals paired. Tail fairly long. Variable in ground colouration ; lips with distinctive black streaks.

A single species of this genus occurs in the Western Ghats.

42. *Ptyas mucosus* (Linn.)

## RAT SNAKE : DHAMAN

*Local Names.* Kannada : *Kere* ; Malayalam : *Chera* ; Marathi : *Dhaman* ; Tamil : *Sarai pambu*.

*Description.* Head long ; neck thin and constricted ; snout bluntly pointed ; nostril large, between nasals ; eyes large. Loreals 3 (rarely two) ; upper labials 8, fourth and fifth touching the eye ; 9 (or 10) lower labials. Body streamlined. Scales shiny, smooth anteriorly, keeled posteriorly, with paired apical pits. Ventrals 190-213, caudals 100-146. Anal divided.

*Colouration.* Variable ; usually greenish or yellowish-brown above with black irregular cross-bars that often tend to fuse and form a reticulate pattern, at least on the posterior half of the body including the tail ; yellowish or whitish below, the yellowish tinge being more pronounced near the throat. Upper and lower labials, scales on the side of throat, and underside of tail margined with black. Young, olivaceous yellow with bright markings and cross-bars. Individuals from the hilly regions are darker than those found in the plains.

*Size.* 1200 mm—1350 mm. Males are longer than females.

*Habitat and Habits.* A most common and widely distributed snake. It is principally a plains snake and is never far from the vicinity of man and his surroundings. It usually prefers damp grasslands and cultivated areas, often straying into the adjacent hills and semidesert tracts. Some of its favourite haunts are the rice-fields, grain stores, rat holes, termite mounds, old masonry, crevices of brick and mud wells, and roofs of thatched huts. It is on the whole a versatile snake which can adapt itself to any type of country and surrounding.

It is diurnal in its habits and is an active, alert, and bold creature. It is a good climber and is often seen in trees at considerable heights. It often enters water, in which medium it can swim rapidly. It is not frequently seen during the hotter months and hibernates during the winter. It emits an offensive smell upon touch and its anal glands secrete a black liquid.

Despite its common name, the Rat Snake does not subsist only on rats, but is also seen to eat frogs, lizards of all kinds, birds, and occasionally other snakes. It does not constrict the prey but overcomes such prey as a bird or a rat by pressing them down. It has been found to take advantage of its long tail to tie a knot and exert a pull on the prey. The male rat snakes perform a "Combat Dance." The female lays 6-14 eggs in a clutch. In spite of its size, the Rat Snake tries to escape

swiftly in an encounter with man. However, if it is cornered, it becomes very aggressive, it arches the neck and distends it vertically, aiming high at the face of its foe. At this time it emits a deep resonant hiss, almost something like the noise produced by a cat at bay.

*Distribution.* Found throughout the Indian subcontinent, Sri Lanka and Burma ; Afghanistan, Turkestan, South China and Java & Sumatra (Indonesia).

### Genus *Argyrogena* Werner

#### RACERS

Head elongate, with a well defined neck ; snout prominent. Eye large, pupil round. Maxillary teeth 13-18, increasing in size posteriorly ; the posterior teeth separated from others by a distinct interval. Body elongate, cylindrical. Scales in 19 or 21-23 rows at mid-body. Ventrals rounded or with a lateral keel caudals paired. Tail moderate.

There are four species in India, of which two occur in the Western Ghats.

#### 43. *Argyrogena ventromaculatus* Gray & Hardwicke

##### GLOSSY-BELLIED RACER

*Description.* Rostral shield separating the internasals anteriorly ; temporals 2 + 3 ; 9 supralabials, 5th and 6th touching the eye. Scales smooth, in 19 rows. Ventrals 199-211, angulate laterally, caudals 82-113 ; Anals 2.

*Colouration.* Light grey above and white or yellow on the underside. The dorsal pattern is made up of a series of black cross-bars or rhomboidal spots on the back and another series of smaller spots on the sides. Head greyish ; neck with a black vertebral stripe ; an oblique black bar below the eye.

*Size.* 1000 mm (female) ; 1095 mm (male).

*Distribution.* Western Himalayas ; plains of northwest India ; Afghanistan, Iran, U. S. S. R., and Palestine.

#### 44. *Argyrogena fasciolatus* (Shaw)

##### BANDED RACER

*Local Names.* Marathi : *Nagin*.

*Description.* Head moderately depressed, feebly distinct from neck ; snout strongly projecting ; rostral large ; presubocular present or

absent ; temporals 2 + 3 or 3 + 3 ; 8 supralabials, 4th and 5th or 5th and 6th touching the eye. Scales smooth, in 21 or 23 rows. Ventrals 197-225, obtusely angulate laterally ; caudals 77-92 ; Anals 2.

*Colouration.* Light or dark brown above and white or yellowish below ; young with blackish cross bars and white striations in the anterior half of the body ; head with two white spots above.

*Size.* 700 mm—1270 mm.

*Habitat and Habits.* It is mainly a snake of the plains and is generally found in grassy or bushy areas. Its favourite haunts are rat holes and rock piles. It feeds chiefly upon frogs and rats. It is diurnal in its habits and bites freely when handled. When cornered it erects and flattens the body to display a cobra-like hood. The female lays from 2-6 eggs.

*Distribution.* Throughout India except the extreme north-west ; Sri Lanka. Despite its wide range, this snake appears to be rare. However it is common in Karnataka State and is quite abundant in parts of Goa and Maharashtra. It has been recorded from the Anaimalais, Western Ghats.

### Genus *Liopeltis* Fitzinger

#### STRIPED-NECK SNAKES

Head not depressed, fairly or scarcely distinct from neck ; snout not projecting. Maxillary teeth 17-28. Eye large, pupil round. Body elongate, cylindrical. Scales smooth, without apical pits, arranged in 13, 15 or 17 rows. Ventrals rounded ; caudals paired. Tail long. There are five species, of which one occurs in the Western Ghats,

#### 45. *Liopeltis calamaria* (Gunther)

*Description.* Head fairly distinct from neck ; nostril in an enlarged, undivided nasal ; loreal united with nasal ; 7 supralabials. Scales in 15 rows. Ventrals 126-142 in males and 130-154 in females ; caudals 68-78 in males and 53-72 in females ; Anal divided.

*Colouration.* Light brown to olive dorsally with a series of longitudinal stripes, two of which are most evident in the vertebral region ; head with a lateral series of dark spots on each side ; lower parts yellow.

*Size.* 335 mm—405 mm. Females are longer.

*Distribution.* Tirunelveli Hills and as far north as Matheran in Western Ghats ; Mysore plateau and Bangalore, Karnataka ; Mela-

ghat, Almore District, Kurkhana, Gonda District, Uttar Pradesh ; Chota Nagpur, Bihar ; Sri Lanka.

A widely distributed hill species but rarely seen.

### Genus **Coronella** Laurenti

Head feebly distinct from neck. Eye large, pupil round. Body cylindrical, elongate. Maxillary teeth 12-20, last two posterior teeth largest. Scales smooth, with apical pits, in 19, 21, or 23 rows at mid-body. Ventrals large, rounded, caudals paired. Tail short.

A single species occurs in the Western Ghats.

#### 46. **Coronella brachyura** (Gunther)

##### SMOOTH SNAKE

*Description.* In addition to the generic diagnosis, this snake is distinguished by the following characters : Nostrils large ; 2 postoculars ; temporals 2 + 2 ; 8 supralabials, 4th and 5th touching the eye. Ventrals 200-234, caudals 46-53 ; Anal single.

*Colouration.* Light or olive-brown above with faint variegations on the anterior half of the body and head and white below.

*Size.* 450 mm. (female) ; 515 mm (male).

*Distribution.* Pune District and Vidarbha regions, Maharashtra. A rare snake.

### Genus **Oligodon** Boie

##### KUKRI SNAKES

Head short, not distinct from neck ; snout subtruncate ; rostral large ; nostril small ; loreal present or absent. Eye moderate, pupil round. Body short, stout, and cylindrical. Scales smooth, in 15 or 17 rows. Maxillary teeth 6 to 16, the posterior 3 or 4 compressed and enlarged. Ventrals rounded or angulate laterally, caudals paired. Head pattern distinct ; body spotted or barred.

The common name of the genus is derived from the appearance of the posterior maxillary teeth which are flattened and somewhat resemble the blade of a Gurkha's Knife, called Kukri in Hindi. There are eighteen species in India, of which seven occur in the Western Ghats.

#### 47. **Oligodon venustus** (Jerdon)

*Description.* Supralabials 7 (sometimes 6), 3rd and 4th touch-

ing the eye ; no loreal ; 1 anterior temporal. Scales in 17 rows. Ventrals 138-165, rounded, caudals 27-36, Anals 2.

*Colouration.* Greyish-brown above and yellowish or whitish on the underside with large black quadrangular spots. The dorsal pattern consists of large irregular blackish spots on the back and smaller blackish spots on the sides. Head markings consist of a crescentic anterior cross-band, an oblique bar on each side and a broad angular band on the nape.

*Size.* 490 mm (male).

*Habitat and Habits.* This Kukri Snake is active in the evening when it wanders in the gardens and in the vicinity of human dwellings. It feeds on insects, lizards, birds, and small rodents. Very little is known of its breeding habits.

*Distribution.* Western Ghats south of Palghat. A fairly common snake in the Wynaad district of Kerala.

#### 48. *Oligodon travancoricus* (Beddome)

##### TRAVANCORE KUKRI SNAKE

*Description.* Similar to *O. venustus*. Ventrals 154-155, caudals 34-37, Anals.

*Colouration.* As in *O. venustus* but differing in that the dorsal paired blackish spots are reduced in size and tend to form transverse bars on the back ; lower surface white with large squarish black spots.

*Size.* 450 mm (male).

*Distribution.* High Range, Munnar, Kerala ; Tirunelveli Hills, Tamil Nadu.

#### 49. *Oligodon arnensis* (Shaw)

##### COMMON KUKRI SNAKE ; BANDED KUKRI SNAKE

*Local Names.* Marathi : *Gargar* ; Tamil : *Pul viriyan*, *Yenai panian*.

*Description.* Supralabials 7, 3rd and 4th touching the eye ; loreal usually absent or united with the prefrontal ; 1 anterior temporal. Scales in 17 rows. Ventrals 164-202, angulate laterally, caudals 41-59 ; Anals 2.

*Colouration.* Pale brown or orange above and uniform yellowish below or with indistinct brown spots. The dorsal pattern consists of well defined black cross-bands—18-30 on the body and 4-16 on

the tail ; these bands, however vary in number and width and may be edged with white. Head with 3 chevron-shaped marks.

*Size.* 660 mm.

*Habitat and Habits.* The Common Kukri Snake is usually found in the plains but has also been met with in the wooded districts throughout India. It is an active, slender snake, chiefly diurnal in its habits. It is frequently seen in masonry, bungalows and outhouses. It is quick to conceal itself at the slightest disturbance. It appears to climb low trees with ease. Like the other members of the genus, it chiefly feeds upon reptile eggs, mice and other small rodents. It will readily bite when molested and can inflate its body when excited. The female lays about 9 eggs.

*Distribution.* India ; Pakistan ; Sri Lanka.

### 50. *Oligodon taeniolatus* (Jerdon)

#### RUSSELL'S KUKRI SNAKE ; VARIEGATED KUKRI SNAKE

*Description.* Loreal present ; upper labials 7, 3rd and 4th in contact with the eye. Scales in 15 rows. Ventrals 160-218, angulate laterally ; caudals 38-56 ; Anal usually divided.

*Colouration.* Variable ; as many as five colour forms, depending on their area of occurrence, are recognised ; all these forms intergrade with another except Form V

Form I. (Typical). Brown above and immaculate below speckled with brown on the sides. The dorsal pattern consists of a series of large rhomboidal dark spots or transverse bands or paired spots with or without a vertebral stripe interrupting them. Head with the usual dark markings but showing considerable variation. *Distribution.* Indian subcontinent from Baluchistan and Sind (Pakistan) to Bihar ; Sri Lanka.

Form II. The cross-bands are enlarged and made up of a large median spot and two smaller spots on each side. *Distribution.* India south of lat. 20°N. ; Sri Lanka.

Form III. The dorsal spots numbering 18-22 are much more enlarged than in II and edged with dark brown.

*Distribution.* Nilgiris, Western Ghats ; Madras District, Tamil Nadu.

Form IV With 14-16 large, transverse dark brown spots edged with black.

*Distribution.* Western Ghats ; Madras District, Tamil Nadu.

Form V The large dark brown spots on the back are rounded

and edged with black and white ; these spots may be paired or alternate with one another on opposite sides of the vertebral line.

*Distribution.* Kerala ; Sri Lanka.

*Size.* 450 mm (male) 590 mm (female).

*Habitat and Habits.* The variegated Kukri Snake is found both in the plains and hills. Like the Common Kukri Snake, it is frequently seen in the vicinity of human dwellings. It feeds on reptile eggs and frogs' spawn, in search of which it frequents the damp places. It is mild in disposition but bites readily when molested. Despite its widespread occurrence, very little information is available on its breeding. It is reported to lay about 9 eggs.

*Distribution.* As given under colouration.

*Recent Locality Records.* Sabraigiri and New Amarambalam Reserve Forest, Kerala ; Topslip, Anaimalais, Tamil Nadu.

#### 51. *Oligodon affinis* Gunther

*Description.* Supralabials 7, 3rd and 4th touching the eye ; no loreal ; 1 anterior temporal. Scales in 17 rows. Ventrals 129-142, caudals 23-36.

*Colouration.* Brown above with an indistinct reticulation of darker markings and about 30-41 dark brown cross-bars and whitish below with square black spots. Head with dark symmetrical transverse markings which are connected by a median longitudinal stripe.

*Size.* 340 mm (male).

*Distribution.* Western Ghats south of Goa.

#### 52. *Oligodon brevicauda* Gunther

*Description.* No internasals ; no loreal ; supralabials 7, 3rd and 4th touching the eye ; 1 anterior temporal. Scales in 15 rows. Ventrals 158-173, rounded, caudals 25-29.

*Colouration.* Brown above with a light vertebral stripe which is bordered on each side by a dark brown or black stripe ; these stripes may or may not be marked with paired series of spots or short bars on the anterior part of the body ; brownish or whitish below (red in life) with large quadrangular or transverse black spots. Head with a crescentic band in front and a temporal stripe ; a large dark nuchal spot.

*Size.* 560 mm (male).

*Distribution.* Nilgiris, Anaimalais and Hills of South Kerala, Western Ghats.

53. **Oligodon nikhili** Whitaker & Sheker Dattatri  
**NIKHIL'S KUKRI SNAKE**

*Description.* Supralabials 7, the 3rd and 4th in contact with the eye ; 1 anterior temporal ; internasals present ; loreal wanting. Scales in 15 rows. Ventrals 144, caudals 33, paired ; anals 2.

*Colouration.* Light brown above, each scale mottled with black, and whitish below with distinct venterolateral speckling and two interrupted lines of black spots. The dorsal pattern consists of two chocolate-brown lateral stripes that run the entire body length from the head to the tip of tail and two indistinct lateral lines of the same hue from above the fifth ventral to the anal plate. Head with the typical chevron-shaped dark marks above.

*Size.* 423 mm (male).

*Habitat.* This Kukri Snake, which was described as new to science in 1982, was taken from Tiger Shola (1500 m), a patch of rain forest on the Kodaikanal-Shembaganur Ghat Road in the palni Hills, South India. The specimen was found under a cement slab in the roadside embankment. As might be expected, very little is known of the habits of this rare species.

*Distribution.* Tiger Shola, Kodaikanal, Palnis, Western Ghats.

**Genus Dendrelaphis Boulenger**  
**BRONZE-BACKS**

Head elongate, ovate, somewhat depressed, and distinct from neck. Eye large, pupil round. Maxillary teeth 20 to 34. Body elongate, cylindrical. Scales smooth, obliquely disposed, in 13-15 rows, vertebrales enlarged. Ventrals and caudals laterally keeled ; caudals paired Tail long and tapering. A genus of arboreal and diurnal snakes with bright colouration.

There are seven species in India, of which four occur in the Western Ghats.

54. **Dendrelaphis grandoculis** (Boulenger)  
**LARGE-EYED BRONZE-BACK**

*Description.* Snout broad and squarish ; temporals 1 + 2 or 2 + 2 ; 9 supralabials, 4th touching the eye, 5th and 6th below the eye. Scales in 15 rows, vertebrales feebly enlarged. Ventrals 167-189, caudals 117-124 ; Anals 2.

*Colouration.* Olive-brown above with small black blotches ; no lateral body stripes ; head without dark temporal stripe ; belly olive,

darker behind than in front, dotted with fine black spots on the sides ; tail with 3 black lines two lateral and one below.

*Size.* 1280 mm (female).

*Distribution.* Southwestern Ghats.

*Recent Locality Records.* Valiparathodu, Silent Valley, Palghat District, Kerala.

### 55. *Dendrelaphis bifrenalis* (Boulenger)

#### BOULENGER'S BRONZE-BACK

*Description.* Snout broadly rounded ; 2 loreals, postoculars 2 ; temporals 1 + 2 or 2 + 2 ; 9 supralabials, 4th just touching, 5th and 6th below the eye. Scales in the 15 rows, vertebrals strongly enlarged. Ventrals 154-176, caudals 144-175 ; Anals 2.

*Colouration.* Dorsally bronze-brown with a greenish yellow lateral line edged with black. Head with a dark band on either side ; upper labials and chin yellowish. Ventrally greenish yellow between the lateral keels and yellow, brownish, or bluish outside the keels.

*Size.* 130 mm (female).

*Habitat and Habits.* It inhabits both the plains and hills, sometimes ascending up to 1250 m. It usually prefers to live on long grass near the ground. It feeds upon frogs, lizards and small mammals. The female lays up to 5 eggs.

*Distribution.* Trivandrum, Kerala ; Sri Lanka.

### 56. *Dendrelaphis caudolineolatus* (Gunther)

#### STRIPE-TAILED BRONZE-BACK ; GUNTHER'S BRONZE-BACK

*Description.* Snout broadly rounded ; one loreal ; supralabials 8, 4th and 5th in contact with the eye ; scales in 13 rows, vertebrals feebly enlarged. Ventrals 149-164, caudals 119-128 ; Anals 2.

*Colouration.* Dorsally bronze-olive with oblique narrow, black streaks anteriorly ; head with a thin dark stripe ; labials and throat yellowish ; tail with 4 black longitudinal lines, 2 on each side. Ventrally pale greyish or greenish.

*Size.* 650 mm (male) ; 870 mm (female).

*Distribution.* Ramanathapuram District, Tamil Nadu ; South Kerala ; Sri Lanka.

### 57. *Dendrelaphis tristis* (Daudin)

#### COMMON INDIAN BRONZE-BACK

*Local names.* Malayalam : *Villoni*, Marathi : *Rooka* ; Tamil : *Komberi moorken*, *Maram-eri pambu*, *panai-yeri pambu*.

*Description.* Snout broadly rounded ; temporals 2+2 , 9 supra-labials, 5th and 6th touching the eye. Scales in 15 rows, vertebrals feebly enlarged. Ventrals 163-197, Caudals 108-145, Anals 2.

*Colouration.* Dorsally bronze-brown or purplish-brown with a buff lateral stripe edged with black extending from the head to the vent ; scales on the neck and forebody yellow ; upper lip yellow. Head with a dark temporal band extending onto the neck, where it may break up into vertical bars. Belly grey, light green on whitish.

*Size.* 1000 mm—1500 mm.

*Habitat and habits.* The Common Bronzeback lives entirely among bushes and on trees, rarely descending to the ground to search for food. In the plains it usually is met with in the low bushes, thorn, and palmyra trees near the cultivated areas. It is diurnal in its habits and is active even during the hottest part of the day. It is one of the few snakes which is found in the open. When at rest it looks almost like a branch or twig of a tree and escapes detection. It is an alert snake and can move with amazing speed in its favourite haunts. It has a peculiar habit of constantly swaying its narrow neck and forebody in a wavering fashion. Like the other members of the genus, it can jump among branches and fall to the ground from heights of 10-25 m as do the "flying snakes and allied species. It chiefly feeds on frogs, lizards, and birds which it hunts by day but is also known to eat insects and toads. It normally is a shy and timid snake and does not bite freely if picked up. However, temperaments vary as some may turn plucky and vicious. The female lays about 6 eggs in the hollow of a tree or a deserted bird's nest.

*Distribution.* Throughout India ; Sri Lanka.

### Genus *Chrysopelea* Boie

#### FLYING SNAKES

Head distinct from neck. Eye large, pupil round. Body slender. Scales smooth and slanting obliquely, with apical pits. Maxillary teeth 20-22, the last 3 or 4 slightly longer than the others and grooved. Ventrals with a keel and notch on each side. Caudals paired. Tail long. Colouration characteristic. There are two species in India, of which one occurs in the Western Ghats.

#### 58. *Chrysopelea ornata* (Shaw)

#### GOLDEN TREE SNAKE ; FLYING SNAKE

*Local Names.* Malayalam : *Parakunna pambu* ; Tamil : *Parakkum pampu*,

*Description.* Snout rectangular, much depressed; internasals shorter than prefrontals; frontal bell-shaped; loreal elongate; 2 postoculars; 9 supralabials, 4th just touching the eye and 5th and 6th below the eye. Scales in 17 rows at mid-body. Ventrals 207-230, caudals 120-138. Tail about one-fourth total length.

*Colouration.* Highly variable. Young black above with pale-greenish yellow cross-bars which may or may not dilate vertebrally and on the sides; scales with or without a median streak. Adult jet black with conspicuous yellow or white cross-bars and a single series of large reddish vertebral rosettes; belly greenish, lateral shields with a black spot or edged with black. Head black with yellow cross-bars and spots.

*Size.* 1040 mm-1400 mm. Females are longer.

*Habitat and habits.* As its common name indicates, this snake is essentially an arboreal species showing a marked preference for large trees and thick forests. Although rare in India, it is frequently found in the houses and gardens in Sri Lanka and Thailand. It is a diurnal creature and seems to have no particular food preference, devouring anything that it can overpower. It feeds on lizards, mainly geckos and dracos, small mammals, birds, and snakes which are killed by constriction or swallowed alive. While suspending itself on the branch of a tree, it can attack its prey on a tree, kill it, and swallow it, the whole act being accomplished in mid-air.

It is one of the most spectacular of the living snakes because of its powers of jumping and climbing. While negotiating short distances between branches it coils up, straightens the body suddenly and launches across the gap. Despite the common name, it does not actually fly but can only glide. To achieve this, it launches itself into space, spreads the ribs and flattens the body, and sucks in the ventral plates until the belly is concave. Apparently all this results in a parachuting effect which slows down the fall and controls the gliding of the snake. This snake's ability to climb up or down the perpendicular walls or tree trunks with little effort is also remarkable.

It is bold and fierce in disposition and bites viciously. Although it has venom glands and grooved rear fangs, it is considered harmless to man and the venom secreted is only toxic enough to immobilise the prey.

The female lays 6-12 elongate eggs in a clutch. Very little is known of the breeding habits of this snake.

*Distribution.* Forests of Bihar, Bengal, Orissa, Madhya Pradesh and the Western Ghats; Sri Lanka. The other 'flying' snake of India

is *C. paradisi* restricted to Narcondam Island, Andamans, and Malaysia.

*Recent Locality Records.* Topslip, Anaimalais ; Kalakkadu, Tirunelveli Hills, Tamil Nadu ; Meenmutty, New Amarambalam Reserve Forest, Kerala.

### Genus *Lycodon* Boie WOLF SNAKES

Head flat and slightly distinct from neck ; maxillary bone strongly arched, with 3 to 6 anterior teeth enlarged and fang-like and followed by distinct gap clearly separating the rest of the teeth which vary from 7 to 15 in number. Eye moderate, pupil vertically elliptic and invisible in life because of black iris. Body small, slender. Scales in 15, 17, or 19 rows, smooth or feebly keeled, with apical pits. Ventrals with or without a lateral keel ; caudals paired except in *travancoricus*. Back with white or yellow bands.

The common name 'Wolf Snake' is suggested by the front teeth in both the jaws which are long and somewhat resemble the canine teeth of a wolf.

There are eight species in India of which three occur in the Western Ghats.

#### 59. *Lycodon aulicus aulicus* (Linn.) COMMON WOLF SNAKE

*Local Names.* Malayalam : Shunguvarian ; Marathi : *Kaudya* ; Tamil : *Valappanyan, Kattu virian, Sanku virian, Vellikel viriyan.*

*Description.* Head flat and rather pointed ; snout depressed and projecting beyond the lower jaw ; loreal in contact with the internasal, 3rd and 4th touching the eye. Scales in 17 rows at mid-body. Ventrals 172-204, strongly angulate laterally, caudals 57-80, paired ; Anals 2.

*Colouration.* Dark brown or purple above and yellowish on the underside ; upper lip white or brown spotted. The dorsal pattern consists of 12-19 white or yellowish cross-bars that expand laterally or bifurcate ; this pattern may persist over the entire body, most evident anteriorly or it is sometimes reduced to vertebral spots ; a triangular whitish blotch on each side of the occiput which may tend to fuse with one another.

*Size.* 700 mm—765 mm. Males are usually longer than females.

*Habitat and habits.* As its specific name *aulicus* (Lat. *aulicus* = house dweller) indicates, the Common Wolf Snake is common in and

around the areas populated by man. It is met with every frequently in the bungalows or out-houses. Its favourite haunts are caves, piles of stones, store boxes, and other secluded spots.

It decidedly is a nocturnal snake and its fondness for geckos makes it enter human habitations frequently. Besides geckos it feeds on mice, other lizards (particularly skinks), frogs, and eggs of birds.

It is an active snake and climbs trees with ease. Although it tries to slip away when first noticed, it strikes viciously and fiercely when cornered. The female lays 3 to 7 eggs.

*Distribution.* One of the commonest and most widely distributed of the land snakes of India. Found in the entire Indian subcontinent, Sri Lanka, Maldivé Islands, Burma through Indochina, south China, Malaya, Indonesia, and Philippines.

*Recent Locality Records.* Upper Aliyar, Anaimalais ; Sayivala, New Amarambalam Reserve Forest, Kerala.

#### 60. *Lycodon travancoricus* (Beddome)

##### TRAVANCORE WOLF SNAKE

*Description.* Snout broad ; anterior and posterior nasals subequal ; a preocular separating the prefrontal from the eye ; 9 supralabials. Scales smooth, in 17 rows at mid-body. Ventrals 176-206, angulate laterally, caudals 64-76, paired ; Anal undivided.

*Colouration.* Dark purplish-brown or blackish above and white below. The dorsal pattern consists of a series of pale yellow cross-bars that commence at the nape. The bars on the anterior part of the body are separated by wider interspaces than those on the posterior ; upper lip brown, speckled with white.

*Size.* 600 mm in males, 625 mm in females.

*Distribution.* Western Ghats as far north as Matheran, Maharashtra ; common in the Wynaad and the Nilgiris. South Arcot, Tamil Nadu ; Visakhapatnam, Andhra ; Orissa ; Jabbalpur, Madhya Pradesh.

*Recent Locality Records.* Silent valley, Kerala ; Valparai, Anaimalais.

#### 61. *Lycodon flavomaculatus* Wall

##### YELLOW-SPOTTED WOLF SNAKE

*Description.* Snout projecting ; loreal in extensive contact with the internasal ; 9 supralabials. Ventrals 170-183, not angulate laterally ; caudals 53-63.

*Colouration.* Black above with a series of small roundish or

triangular, yellow vertebral spots and bars of the same colour descending and broadening to form a reticulate pattern on the sides.

*Size.* No data.

*Distribution.* Nasik, Oudhi, Kirkee, Pune, Deolali, Dharwar, Sangli, Western Ghats ; Berar.

### Genus *Dryocalamus* Gunther BRIDAL SNAKES

Head slightly distinct from neck. Eye large, pupil vertically elliptic. Maxillary teeth 8-10, gradually increasing in size posteriorly. Scales smooth, with apical pits, arranged in 13 or 15 rows. Ventrals strongly angulate laterally, caudals paired. Tail short.

There are two species in India, of which one occurs in the Western Ghats.

#### 62. *Dryocalamus gracilis* (Gunther)

*Description.* Nasal divided ; one preocular. Scales in 15 rows. Ventrals 199-234, caudals 75-87, paired ; anal entire.

*Colouration.* Dark brown or black above with 35 to 50 yellowish cross-bars that are more conspicuous anteriorly ; upper lip, lower surface of head, and nape and underside pearly white.

*Size.* 520 mm. Maximum size recorded : 620 mm.

*Habitat and habits.* A diminutive harmless snake found in the plains and in the hills at low altitudes but is not common. The conspicuous overall colouration and the yellow bar across the occiput in particular gave the snake its common name. It is nocturnal in its habits and a good climber. It feeds on ground lizards, mostly skinks. The female lays 3-4 eggs at a time.

*Distribution.* From Orissa to South India, Anaimalais, Western Ghats ; False Island, Burma ; Sri Lanka. A rare snake.

### Genus *Sibynophis* Fitzinger

Head as wide as body, scarcely distinct from neck ; snout rounded. Teeth numerous, 30-50 in each maxilla. Eye large, pupil round. Body elongate, cylindrical. Scales smooth, arranged in 17 rows. Ventrals rounded, caudals paired. Tail one-third to one-fourth the length of total length. There are four species in India, of which one occurs in the Western Ghats.

63. *Sibynophis subpunctatus* (Dum. & Bibr.)

## MANY TOOTHED SNAKE ; BLACK-HEADED SNAKE

*Description.* Internasals shorter than prefrontals ; frontal longer than supraoculars ; loreal single, small ; 9 supralabials ; 2 anterior temporals ; parietal touching pre and post-ocular. Ventrals 157-200, caudals 60-76 in males and 54-63 in females, paired ; Anals 2.

*Colouration.* Head and nape black above ; lips yellow and spotted ; a yellow transverse bar between the eyes and two broad bars bordering the band on nape ; dorsum light brown with a vertebral series of black spots ; lower parts yellow with black spots on outer border of each ventral scale.

*Size.* 460 mm.

*Habitat and habits.* A hill snake. Its chief food seems to be lizards. The female lays from 2-4 eggs at a time.

*Distribution.* India north of lat. 18° and south of lat. 14° ; Matheran, Maharashtra ; Madhya Pradesh ; Bengal and Sri Lanka. A rare species.

*Recent Locality Record.* Upper Aliyar, Anaimalais.

Genus *Amphiesma* Dumeril and Bibron

Internasals broad anteriorly, nostrils lateral. Eye moderate or large. Maxillary teeth 21-35, in continuous series and gradually becoming larger posteriorly, or the last two teeth abruptly enlarged. Body elongate. Scales in 19 rows, distinctly keeled, normally with apical pits. Tail moderate or long.

There are eight species in India, of which three occur in the Western Ghats.

64. *Amphiesma stolata* (Linn.)

## BUFF-STRIPED KEEL BACK

*Local Names.* Malayalam : *Theyyan pambu* ; Marathi : *Naneti* ; Tamil : *Nikitan kutti* ; *Pul-eri pambu*.

*Description.* Nostrils directed slightly upwards ; 1 preocular ; 3 postoculars ; temporals 1+1 or 1+2 ; supralabials 8, 3rd, 4th, and 5th touching the eye. Maxillary teeth 21-24. Body slender. Scales in 19 rows. Keeled, except the outer row which is smooth. Ventrals 118-158, caudals 50-89, Anals 2.

*Colouration.* Olive-greenish or brown above with dark brown spots or cross-bars on the back and two lateral buff or yellowish stripes best marked on the hinder part. Head olive or uniform ; sides of

the head, lips and area surrounding the chin white or yellow ; neck with a black 'V'. Belly whitish, speckled with brown on the side of each ventral scale. In the hatchlings the dorso-lateral stripes are replaced in the forepart of the body by a series of black spots.

*Size.* 400 mm - 850 mm.

*Habitat and habits.* The Striped Keel-back is a common snake, inhabiting both the plains and hills. It frequents the cultivated areas, grassland and edges of water.

It is diurnal in its habits. During the summer it hides under holes in the ground or in the crevices of brick walls and appears after rains. It frequently enters houses and city gardens in search of its food-frogs and toads.

It is a timid snake and does not bite when handled. The female lays from 3 to 10 eggs in a clutch.

*Distribution.* Laos ; Thailand ; south China ; India ; Sri Lanka ; Pakistan.

### 65. *Amphiesma beddomei* (Gunther)

*Description.* Nostrils lateral ; internasals not markedly narrowed anteriorly ; 1 preocular ; temporal 1 + 1 or 1 + 2 ; 8-9 supralabials, 3rd to 5th or 4th to 6th touching the eye. Maxillary teeth 28-34, the last two strongly enlarged. Body slender. Scales in 19 rows, distinctly keeled except the outer one or two smooth rows. Ventrals 140-150, caudals 62-82.

*Colouration.* Dorsally olive-brown and whitish below, mottled with brown on the sides. The dorsal pattern consists of a series of yellow spots, each one enclosed by two black spots or short transverse bars along each side of the back ; the yellow spots are more conspicuous than the black ones in the young, while in the adult the reverse is the case. Head light brown in the young with a white or yellow transverse bar behind the parietals and entirely brown in the adult, with or without the transverse bar ; an oblique yellow black-edged stripe from the eye to the gape ; labials yellow.

*Size.* 525 mm—700 mm. Females are longer than the males.

*Habitat and habits.* Found in forests near streams and rivers. It feeds principally on frogs and toads.

*Distribution.* Western Ghats (From Maharashtra to Kerala).

*Recent Locality Records.* Pune, Maharashtra ; Topslip, Anaimalais ; Meenmutty, New Amarambalam Reserve Forest, Kerala ; Parambikulam, Anaimalais, Kerala.

66. *Amphiesma monticola* (Jerdon)

*Description.* Nostrils lateral ; 1 preocular ; temporals 2+2 or 2+3 ; 8 supralabials, 3rd, 4th and 5th touching the eye. Maxillary teeth 33 to 35, the last two strongly enlarged. Body more or less robust. Scales in 19 rows, almost all distinctly keeled excepting one or two low rows which may be smooth.

*Colouration.* Green above and white below. The dorsal pattern consists of wide black cross-bars or quadrangular black spots, intercepted by two series of light dorsolateral spots or lines. Head with a white or yellow cross-bar and a white dot on each side of the frontal ; pre and postoculars and labials surrounding the eye white ; throat and sides of neck yellow in life.

*Size.* 375 mm—475 mm.

*Distribution.* Western Ghats (From Talewadi to Kerala).

A rare snake.

*Recent Locality Records.* Vargaliyar, Anaimalais.

Genus *Macropisthodon* Boulenger

Head distinct from neck and covered with enlarged scutes. Maxillary teeth 11-18 followed by two very large backward-pointing fangs. Body rather stout and heavy. Eye rather large, pupil round. Scales strongly keeled, arranged in 25-27 rows at mid-body, with apical pits. Ventrals rounded, caudals paired. Tail short.

Represented by a single species which occurs in the Western Ghats.

67. *Macropisthodon plumbicolor* (Cantor)

## GREEN KEELBACK

*Local Names.* Malayalam : *Pacha nagam*, *Pacha moorkhan* ; Marathi : *Hara samp*, *Gavathia*, *Gautya sap* ; Tamil : *Pachai nagam*.

*Description.* Head short and subovate ; nostrils between two nasals ; frontal in contact with six shields ; loreal sometimes united with the preocular. Scales markedly keeled in the vertebral region, in 25-27 rows. Ventrals 144-162, caudals 39-48 in males and 34-43 in females ; Anal divided.

*Colouration.* Dorsally grass-green with regular transverse dark spots which may form cross-bars on the back and tail ; a black streak from the eye to the angle of mouth ; belly whitish or olive-brown with or without dark spots, which, however, disappear with age.

Young differ markedly from the adult. Besides the well defined

dark cross-bars on the back, they have a large A-shaped mark on the nape with its apex directed forwards and a second much smaller one behind, the intervening area being bright yellow or orange.

*Size.* 485 mm—750 mm. Females are longer with proportionately longer tails ; maximum recorded size of a female : 940 mm.

*Habitat and habits.* The Green Keelback is mainly a snake of the hilly districts, showing a marked preference for low and grassy vegetation. It is somewhat rare in the plains and is occasionally found in the plateaus and deciduous forests.

It is a lethargic, inoffensive snake and is nocturnal in its habits. When alarmed, it erects the fore-body and flattens the neck to spread a cobra-like hood. It is reported that some timid specimens stretch the entire body on the surface.

It feeds mostly on frogs and toads, being partial to the latter which are found in the grassy bushes with which the snake's colouration matches quite well.

The female lays 7 to 16 eggs at a time. Very little is on record about the breeding habits of this snake.

*Distribution.* Throughout India except the Ganges Valley and the extreme north-west ; Sri Lanka.

*Recent Locality Records.* Pune, Maharashtra ; Meenumutty, New Amarambalam Reserve Forest, Kerala.

### Genus *Xenochrophis* Gunther

Head fairly distinct from neck ; internasal narrowed anteriorly ; nostrils dorsolateral. Maxillary teeth rather long, 20-25, subequal. Eye moderate, pupil round. Body elongate, cylindrical. Scales strongly keeled, without apical pits. Ventrals rounded, caudals paired.

Represented by two species, of which one occurs in the Western Ghats.

#### 68. *Xenochrophis piscator* (Schneider)

#### CHECKERED KEELBACK

*Local Name.* Kannada : *Neeru havu* ; Malayalam : *Pallavan* ; Marathi : *Diwad, Virola, Pan chidda* ; Tamil : *Thanner pambu, Thanner saradi*.

*Description.* Two internasals ; one preocular ; nine supralabials, 4th and 5th touching the eye. Eye large, facing upwards. Scales in 19 rows, keeled. Ventrals rounded, caudals paired. Anal undivided. Tail fairly long.

*Colouration.* Generally olive, yellow or brown above and white or yellow below. The dorsal pattern consists of five series—one vertebral, two dorso-lateral and two lateral—of black spots arranged like a chequer. Head olive brown with two black lines behind the eyes and a dark stripe on the nape.

*Size.* 990 mm—1210 mm. Females are longer but with shorter tails.

*Habitat and habits.* The Checkered Keelback is one of the commonest water snakes of India. It is a snake of the plains but is also found in the hills up to 2100 m. It is frequently found in the paddy fields, pools, and rivers.

It is an extremely active snake and is a consummate swimmer. It is also a good diver. It is a diurnal snake and feeds principally on fishes and frogs. In the summer months when the water level goes down this keelback feeds voraciously on the exposed fish. It aestivates during the hot weather under rocks and appears after the rains.

It is decidedly a plucky and vicious snake as it bites viciously when cornered. It rears up and flattens the body prior to striking.

It is a prolific breeder among the Indian snakes. The female lays from 8 to 90 eggs in a clutch in holes near water.

*Distribution.* From Borneo and Taiwan westward across the mainland and islands of south Asia to the Indus drainage.

### Genus *Atretium* Cope

Head scarcely distinct from neck ; nostril slit-like as in the true water snakes ; a single internasal. Eye large, pupil rounded. Maxillary teeth 19-24, posterior largest. Body robust. Scales keeled, without apical pits. Ventrals rounded, caudals paired. Tail fairly long.

Represented by a single species in India which occurs in the Western Ghats.

### 69. *Atretium schistosum* (Daudin)

#### OLIVACEOUS KEELBACK

*Description.* Internasal single ; prefrontals divided. Scales in 19 rows at mid-body ; the posterior part of the body and tail with heavily ridged scales. Ventrals 129-160, caudals 53-85. Anals, 2.

*Colouration.* Dorsally olive green and uniform yellow below, the flanks being tinged with a light pink ; upper lip yellow ; specimens from South India often with a reddish streak down the body on scale rows 5 and 6.

*Size.* 500 mm—800 mm. Females are longer.

*Habitat and habits.* The olive keelback is found in the plains and plateaus up to 1000 m. Though it may not enter water actually it is never far from it. It usually buries itself in loose soil or mud in the vicinity of pools and lagoons. Sometimes it ascends low bushes. It feeds on fishes and frogs. It is active during the day. It is inoffensive but flattens the fore-part of the body when alarmed. The female lays 10-30 eggs.

*Distribution.* Throughout India except the Himalayas ; Sri Lanka.

### Genus **Rhabdops** Boulenger

Head not distinct from neck ; nostril in the nasal, crescentic. Eye moderate or small, pupil round or sub-elliptic. Maxilla rather short, with 10-12 small, subequal teeth. Body elongate. Scales smooth, without apical pits, arranged in 17 rows ; ventrals rounded. Tail short.

Represented by two species in India, of which one is endemic to the Western Ghats.

#### 70. **Rhabdops olivaceus** (Beddome) OLIVACEOUS FOREST SNAKE

*Description.* Head depressed ; rostral large, distinctly visible from above ; frontal large but not longer than the parietals ; 2 pre-and 2 post-oculars ; 5 supralabials, 3rd touching the eye, 5th very long. Ventrals 206-215, caudals 62-74 ; anal divided.

*Colouration.* Uniform olivaceous or yellowish-brown, with 4 longitudinal series of small black spots—2 dorsolateral and 2 lateral—on the dorsum ; ventrals edged with dark brown.

*Size.* 780 mm.

*Distribution.* Manantoddy, Wynaad, Kerala. Known from a few specimens. A rare snake.

### Genus **Xylophis** Beddome

Head not distinct from neck ; nostril between two small nasals, directed forwards and outwards. Eye moderate, pupil round or vertically sub-elliptic loreal large, touching the eye ; no preocular. Maxilla with 28-30 teeth, small, those in the middle longer than the others. Body cylindrical. Scales smooth, without apical pits, in 13 or 15 rows ; ventrals rounded, caudals paired. Tail short.

Represented by two species in India both of which are endemic to Western Ghats.

71. *Xylophis perroteti* (Dum. & Bibr.)

*Description.* Snout not pointed ; internasals very small ; supraocular larger than the postocular. Scales in 13 rows. Ventrals 139-147, caudals 27-28 in males, 16-20 in females, paired.

*Colouration.* Light or dark brown above and dirty yellowish below, spotted with black. The dorsal pattern consists of a longitudinal series of small black spots which fuse to form stripes on the back. Young with a yellow spot below the neck.

*Size.* 550 mm—620 mm. Females are longer.

*Habitat and habits.* This is a hill species which lives in the soil covered by rotten logs, decaying vegetation, and forest debris, and is rarely noticed. It is found living in association and sharing the same ecological niche with the uropelt, *Brachyophidium rhodogaster*. It feeds on insects and their larvae found in the soil.

*Distribution.* From Wynaad, Kerala to Tirunelveli, Tamil Nadu.

*Recent Locality Records.* Kodaikanal, Palnis ; Andoor Pacha and Neyyar dam site, Tenmalais, Kerala ; Nilgiris.

72. *Xylophis stenorhynchus* (Gunther)

*Description.* Snout more pointed ; internasals sometimes small, sometimes as long as the prefrontals ; loreal longer ; supraocular not larger than the postocular. Scales in 15 rows. Ventrals 108-132, caudals 14-31.

*Colouration.* Dark brown above, sometimes with three indistinct darker longitudinal lines and a yellowish collar ; underside dark brown.

*Size.* 239 mm.

*Distribution.* Anaimalais to Tirunelveli Hills. A rare snake.

Genus *Boiga* Fitzinger

## CAT SNAKES

Head broad, distinct from neck, and triangular ; neck markedly narrow. Eye large, pupil vertically elliptical. Body slender, somewhat compressed. Scales smooth, with apical pits, obliquely disposed and arranged in 19-29 rows ; the vertebral series more or less enlarged. Maxillary teeth 10-14, followed by 2-3 large, grooved fangs. Ventrals rounded or abruptly angulate laterally, caudals paired. Tail long.

There are eleven species found in India, of which four occur in the Western Ghats.

73. ***Boiga trigonata trigonata*** (Schneider)  
INDIAN GAMMA ; COMMON CAT SNAKE

*Local Names.* Kannada : *Chingi havu* ; Malayalam : *Churta* ; Marathi : *Manjra* ; Tamil *Poonai pambu, Wollai pambu.*

*Description.* Rostral distinctly concave below ; nostrils large ; loreal present ; preocular 1, not reaching upper surface of head ; postoculars 2 ; temporals 2 + 3 ; supralabials 8 (rarely 9), 3rd, 4th, and 5th touching eye ; lower labials 10 or 11. Scales in 21 : 21 : 15 : rows, vertebrals feebly enlarged. Ventrals 206-256, caudals 75-96.

*Colouration.* Light brown or tan above and white below, with brown spots on the sides. The dorsal pattern consists of a vertebral series of 40-50 irregular, transverse white bars edged with black, more prominent anteriorly and fading towards tail. Head with a distinct 'Y' mark above. A dark stripe from behind eye to gape of mouth.

*Size.* 650 mm—1275 mm. Females are longer than males.

*Habitat and habits.* Although the Common Cat Snake is essentially arboreal, it prefers bushes and shrubs near the ground to high trees. It is strictly nocturnal in its habits and spends most of the day coiled up on bushes or holes in trees. When at rest it coils into a ball rather than stretching the entire body as do other tree-living snakes like the Bronze-backs, Whipsnakes, and Ornate Tree Snakes. Its food consists mainly of tree-hunting lizards, in particular of the genus *Calotes*, small birds, and mammals that are killed by constriction. The female lays from 3 to 11 eggs.

Like the other members of the genus, the Indian Gamma Snake is extremely vicious in disposition and bites with the least provocation. It adopts a characteristic posture at the time of striking by erecting the head and forebody and positioning the former in the loops of its body. It also vibrates the tail briskly when annoyed. The mild venom secreted by this rear-fanged snake is toxic to its prey only.

*Distribution.* Throughout India ; Sri Lanka ; Pakistan ; Transcaspiia. A fairly common snake in India, often ascending up to 1500 m in the Western Himalayas.

74. ***Boiga ceylonensis*** (Gunther)  
CEYLON CAT SNAKE

*Description.* Preocular 1, extending to the upper surface of head ; temporals 3 + 3 or 3 + 4 ; labials as in *B. trigonata*. Scales in 19 or 21 rows, vertebrals strongly enlarged. Ventrals 214-266, caudals 90-127.

*Colouration.* Greyish-brown above and yellow white on the underside, with dark brown spots on the sides. The dorsal pattern consists of a series of chocolate-brown spots which sometimes continue as transverse bars on the body. A dark blotch or transverse bar on the nape and a dark stripe from eye to gape are present.

*Size.* 1020 mm (male); 1315 mm (female). Females greatly exceed males in length.

*Distribution.* Western Ghats; Orissa; Assam; Andaman Islands; Nepal; Sri Lanka.

#### 75. *Boiga forsteni* (Dum. & Bibr.)

##### FORSTEN'S CAT SNAKE

*Description.* Preocular 1, reaching the upper surface of head, postoculars 2; loreal 1; temporals small, 3+3; supralabials 8-11, 3rd, 4th and 5th or 4th, 5th and 6th touching eye; lower labials 9. Scales in 25-29 rows at mid-body, vertebrals variable in size even in the same individual. Ventrals 254-273, distinctly keeled laterally, caudals 102-119.

*Colouration.* Brown or reddish above with a series of large angular black spots or cross-bars which are most distinct anteriorly and whitish or heavily speckled with brown on the underside. Head with a black bar; nape with two stripes of the same hue; a broad black stripe from the eye to gape.

*Size.* The largest of all the cat snakes in India: 1600 mm (female); 1800 mm (male). Longest measured 2312 mm (male).

*Habitat and habits.* The Forsten's Cat snake inhabits both the plains and hills and is usually found in the holes of large trees like Mohwa (*Bassia latifolia*) where it may be seen in pairs or more. It is known to feed on larger prey like rats, bats and birds. It is a voracious poultry eater. It is mainly nocturnal in its habits. It is fierce in disposition and adopts an attitude and posture similar to that of the Common Cat Snake before striking. The female lays from 7 to 9 eggs.

*Distribution.* Western Ghats, Eastern Ghats, Ganges Valley and Eastern Himalayas; Sri Lanka.

#### 76. *Boiga dightoni* (Boulenger)

##### DIGHTON'S CAT SNAKE

*Description.* Preocular 1, reaching the dorsal surface of the head; temporals 3+3. Scales in 23 rows at mid-body, vertebrals strongly enlarged. Ventrals 228-241, caudals 95-102.

**Colouration.** Pale reddish-brown above with a series of salmon-red blotches on the back and yellowish on the lower surface, speckled with brown. Head pale brown, with minute blackish dots.

**Size.** 1100 mm (male). Females not known.

**Distribution.** Peermade, Kerala. A rare snake.

**Recent Locality Record.** Topslip. Anaimalais, Western Ghats.

### Genus *Ahaetulla* Link

#### WHIP SNAKES ; VINE SNAKES LONG-NOSED TREE SNAKES

Head narrow with a long, pointed snout terminating in a fleshy or scaly appendage ; neck slender. Eye large, pupil horizontally elliptical. Maxillary teeth 12-15, of which two posterior are strongly enlarged and grooved. Scales smooth, obliquely disposed and arranged in 13-15 rows at mid-body ; vertebrals slightly enlarged. Ventrals rounded, caudals paired. A genus of arboreal and diurnal snakes.

There are five species in India, of which four occur in the Western Ghats.

#### 77. *Ahaetulla nasuta* (Lacepede) COMMON GREEN WHIP SNAKE

**Local Names.** Malayalam : *Pachila pambu* ; Marathi : *Sarpatoli, Haran tol* ; Tamil : *Kankuti pambu, Pachai pambu*.

**Description.** Snout long with a dermal appendage projecting far beyond the lower jaw ; it has a median groove dorsally formed by the elongated rostral shield ; no loreal ; 1 large preocular ; 2 postoculars ; temporals 1 + 2 or 2 + 2 ; 8 supralabials, 5th touching the eye. Ventrals 166-207, caudals 156-180 in males and 135-152 in females ; anals 2.

**Colouration.** Dorsally parrot-green and pale green on the lower parts ; flanks with a white or yellow line ; interstitial skin with an oblique series of black and white lines that are most evident anteriorly ; lips yellowish ; throat whitish or sometimes pale bluish (in life).

**Size.** 1200 mm—2000 mm. Females usually longer than males.

**Habitat and Habits.** The Common Whip Snake is found both in the plains and hills up to 1700 m. It usually prefers to live on grasses, bushes, shrubs and trees through which it can move quickly. It escapes notice by gliding away rapidly when disturbed.

It is diurnal in its habits and preys chiefly upon lizards, small rodents, birds, and occasionally snakes. Its habit of watching one's face intently and darting at the onlooker's eyes has earned for it the Sinhalese and Tamil names 'Ahaetulla' and 'Kankuti pambu' which mean 'Eye plucker' and 'Snake that attacks the eyes' respectively. It is fierce in disposition and bites freely, although it can be handled without difficulty. When annoyed it inflates itself and opens its mouth wide. Although it possess grooved fangs and functional venom glands, the venom secreted is not dangerous to humans.

It is a viviparous snake, the female bringing forth from 3-22 young at a time.

*Distribution.* Peninsular India except Ganges Valley west of Patna ; Burma ; Sri Lanka.

#### 78. *Ahaetulla perroteti* (Dum. & Bib.)

*Description.* Snout not projecting beyond the lower jaw and without dermal appendage ; no loreal ; 1 pre- and 1 postocular ; temporals 1+2 or 2+2 ; 8 (rarely 9) supralabials, 4th and 5th touching the eye. Scales of the sacral region keeled more strongly in the male than in the female. Ventrals 136-146, caudals 65-75 in males and 71-86 in females ; anals 2.

*Colouration.* Bright green above and yellowish white or pale greenish on the underside ; the interstitial skin black and white, forming oblique stripes ; flanks with a white line bordered inside with green ; head bronze above and lips paler.

*Size.* 545 mm—590 mm.

*Distribution.* Nilgiris, Western Ghats. A common snake in the Nilgiris at 1700 m.

#### 79. *Ahaetulla dispar* (Gunther)

*Description.* Snout pointed, without dermal appendage ; 1 or 2 loreals ; 1 pre—, 2 post—and 1 or 2 presuboculars ; 8 supralabials, 5th touching the eye ; temporals 2+2 or 2+3. Scales on the sacral region smooth or feebly keeled. Ventrals 136-156, caudals 84-119 ; anals 2.

*Colouration.* Similar to *perroteti*.

*Size.* 725 mm.

*Distribution.* From Nilgiris to South Kerala.

80. *Ahaetulla pulverulenta* (Dum. & Bib.)

## BROWN WHIP SNAKE

*Description.* Closely allied to *nasuta*, differing as follows—snout with a longer dermal appendage formed by the rostral, covered with small scales above and without a median groove ; nasals in contact with one another in front of the internasals. Ventrals 182-203, caudals 169-208 ; anals 2.

*Colouration.* Dorsally grey or brown, heavily flecked with brown, and with black spots ; head with a dark brown rhomboidal spot and brownish stripes on the sides, both of which are characteristic of the species.

*Size.* 1125 mm—1775 mm. Females usually longer than the males.

*Distribution.* Karwar, North Kannada, and Castle Rock, Karnataka ; Nilgiris and Nellampatty Hills, Western Ghats ; Sri Lanka.

*Recent Locality Records.* Sayivala, New Amarambalam Reserve Forest, Kerala ; Alagiri Hills, Madurai District, Tamil Nadu.

## Part II. VENOMOUS SNAKES

## Family ELAPIDAE

## KRAITS, CORAL SNAKES, AND COBRAS

This family includes the venomous kraits, coral snakes and cobras. They are terrestrial and have fixed fangs on either side of the upper jaw. Four genera, namely, *Bungarus* (8 spp.) *Calliophis* (5 spp.), *Naja* (1 sp.), and *Ophiophagus* (1 sp.) are found in India. A detailed discussion of the representatives occurring in the Western Ghats follows.

Genus *Bungarus* Daudin

## KRAITS

Head not distinct from neck ; head shields normal ; loreal absent. Eye moderate to small, pupil round. Scales in 13-19 rows ; vertebrals strongly enlarged, hexagonal. Caudals single or in pairs. Tail short. Bluish or jet black in colour with a distinct pattern of white lines on the body.

There are eight species in India, of which one species inhabits the Western Ghats.

81. **Bungarus caeruleus** (Schneider)  
COMMON INDIAN KRAIT ; BLUE RRAIT

*Local names.* Kannada : *Kadambale* ; Malayalam : *Valla pambu* ; *Yettadi virien* ; Marathi : *Manyar, Kandar* ; Tamil : *Kattu viriyan*.

*Description.* Head flat, hardly distinct from neck ; head shields normal, no loreal ; four shields along the margin of the lower lip ; 3rd and 4th supralabials touching the eye. Eye small, rather bead-like with a round pupil, which is indistinguishable in life because of the black iris. Body cylindrical, tapering towards the tail. Scales highly polished, in 15-17 rows, the central row distinctly enlarged and hexagonal. Ventrals 185-225, caudals 37-56, entire. Tail short, rounded.

*Colouration.* Black or bluish-black above with about 40 thin, white crossbars that may sometimes be indistinct or absent anteriorly. However, the pattern is complete and well defined in the young which have crossbars on the forebody ; in old individuals the white lines may be found as a series of connected spots with a prominent spot on the vertebral region. A white preocular spot. Upper lip and underside white.

*Size.* Usually 1 m—175 m. Males are longer with proportionately longer tails.

*Habitat and Habits.* The Indian Krait is essentially a plains snake and is usually found in the open country, cultivated areas, and scrub jungles at low altitudes. It seems to avoid a very rocky and sandy terrain. It is fond of water. Its favourite dwelling places are the termite mounds, rat holes and burrows of other rodents, heaps of rubbish, manure, or brick in the open country and the gardens, roofs of houses and abandoned buildings and other secluded or cool spots in or near human dwellings. Like the cobra, the Indian Krait is frequently found inside houses.

The krait is strictly nocturnal in its habits and is not seen abroad during the day. It gets active at night and moves quickly then. It is a cannibal, feeding exclusively on snakes, including its own kind. Other food items consumed include small mammals, lizards, frogs, and toads. It is remarkably quiet and inoffensive in disposition and cannot be induced to bite during daylight hours except under severe provocation. When surprised in the wild, it makes no attempt to escape or defend itself. Instead, it lies quietly and conceals its head in the coils.

The female krait lays from 6-12 eggs, which are deposited in holes

in the ground or under leaves and stays with the clutch till the young emerge.

*Distribution.* India, Pakistan, and Sri Lanka.

**Genus *Calliophis* Gray**  
**CORAL SNAKES**

Head blunt and not distinct from neck ; head shields normal ; no loreal. Eye small, pupil round. Body cylindrical, elongate. Scales smooth, in 13-15 rows. Tail short, round ; caudals paired. Small sized ; colouration pretty.

**82. *Calliophis melanurus* (Shaw)**  
**SLENDER CORAL SNAKE**

*Description.* One pre-and 2 post-oculars ; distinguished from the other members of the genus in having only 6 supralabials. Scales in 13 rows. Ventrals 249-277, caudals 33-37 in males and 24-27 in females.

*Colouration.* Light brown above with the centre of each dorsal scale speckled with brown which unite to form a series of longitudinal lines down the entire length. Head and neck black above with yellow spots. Tail with two black rings, one at the base and the other at the tip. Belly red.

*Size.* 335 mm. Smallest of the Indian coral snakes.

*Habitat and Habits.* Found both in the plains and hills at lower elevations but is considered rare. When disturbed, the Slender Coral Snake curls its tail over the back and displays the coral-pink underside.

*Distribution.* Throughout India except the northwest ; Sri Lanka.

**83. *Calliophis nigrescens* Gunther**  
**STRIPED CORAL SNAKE**

*Description.* Preocular shield touching the nasal ; a single enlarged temporal shield, in contact with 3 labials ; 7 supralabials. Scales in 13 rows. Ventrals 234-251, caudals 35-44 in males and 32-36 in females.

*Colouration.* Variable ; three colour forms are defined as follows :

I. Pale reddish or brownish above and red below. The dorsal pattern consists of 5 black stripes—a vertebral and two lateral pairs—on the body and 3 on the tail. Head black above with light regular

markings; nape with a broad black bar. Upper lip with black vertical marks. This variety is recorded from the Nilgiris Anaimalais, and Hills of South Kerala.

II. Dorsum light or dark purplish-brown with 5 black stripes edged with white. Head markings as in I. Found in the Nilgiris and Anaimalais, Western Ghats and Shevaroy Hills, Eastern Ghats.

III. This variety is blackish-blue or greenish-blue in ground colour, with 3 or 5 black stripes, not edged with white. Head markings as in I & II, but less distinct. It occurs in Panchagani, and Mahabaleshwar, Maharashtra. Deoras (1965) collected it from Mangalavedha, Maharashtra.

*Size.* 1140 mm. Largest of the Indian coral snakes.

*Habitat and Habits.* Mainly a hill species found between 1000 m-2330 m altitude. Feeds principally on other snakes. Little is known of its breeding habits.

*Distribution.* As given in colouration.

#### 84. *Calliophis beddomei* Smith BEDDOME'S CORAL SNAKE

*Description.* Distinguished from the other coral snakes in the Western Ghats by the following combination of characters: Prefrontal scure separating the nasal from the preocular; fewer ventrals and caudals (i.e., 212-221 and 33-34 respectively) and the distinct colour pattern.

*Colouration.* Light purplish-brown above and whitish below. The dorsal pattern consists of two more or less regular vertebral series of black, white-edged spots which are either separated or united. Sides with two or more smaller series of black spots.

*Size.* 565 mm.

*Distribution.* Known only from two specimens, both females taken from the Shevaroy Hills, Eastern Ghats, Tamil Nadu, and Koppa, Karnataka.

#### 85. *Calliophis bibroni* (Jan) BIBRON'S CORAL SNAKE

*Description.* No preocular shield; only one postocular. Scales in 13 rows. Ventrals 219-227, caudals 25-38.

*Colouration.* Ground colour varies from cherry-red to dark purplish-brown. Back marked with black crossbars. Head black in

front and red behind. Belly red with large black spots which may unite with the bars on the back to form rings that encircle the body.

*Size.* 660 m. Maximum size recorded : 775 mm.

*Distribution.* The Western Ghats as far north as Coorg, Karnataka.

### Genus *Naja* Laurenti COBRAS

Snout rounded, short. Head depressed ; not very distinct from neck ; neck wide, dilatable to form a hood (in life) ; nostril large, between the nasals ; 1 preocular in contact with the internasals ; loreal absent ; 7 supralabials, 3rd largest, 3rd and 4th touching the eye ; a tiny, angular shield called 'cuneate' present between the fourth and fifth infralabials. Eye moderate, pupil round. Body dorsoventrally flattened in front and subcylindrical behind. Scales smooth, strongly oblique, in 21-25 rows. Ventrals 176-200, caudals 48-75, paired.

The nominate subspecies occurs in the Western Ghats.

#### 86. *Naja naja naja* (Linn.)

#### INDIAN COBRA ; COBRA ; SPECTACLED COBRA

*Local Names.* Kannada : *Nagara havu* ; Malayalam : *Moorkhan, sarpam, Pathikaaram* ; Marathi : *Nag* ; Tamil : *Nalla pambu ; Naga pambu.*

*Description.* As given for the genus.

*Colouration.* Specimens from the Western Ghats are light to dark brown above with pale reticulations and white or yellowish below. Apart from the well defined "spectacle" mark on the expanded hood, a cobra can be distinguished from other land snakes by the presence of a dark spot on either side of the lower surface of the hood and two or more broad black cross bands further below. Black cobras are rare in the Western Ghats.

*Size.* Adults range from 1m—2m. Males are longer.

*Habitat and Habits.* Cobras are remarkably adaptable snakes and found in all types of country : plains, jungles, open fields, and even in the regions heavily populated by man. Their favourite haunts are the holes in the embankments, hollows of trees, old termite mounds, ruined buildings, rock-piles, and dens of small mammals. They are fond of water and prefer the late afternoon and early evening hours for moving

about and seeking the food. It is said that their vision is quite good and that they can see moving objects situated at a distance up to 3 m.

Cobras feed chiefly on rats, mice, toads, and frogs, but birds, eggs, and snakes also are taken. Females lay usually from 10 to 30 eggs in rat holes or termite mounds and the young when hatched are exact replicas of the parents. Cobras have strong parental instincts, as the pair tend to remain together from the time of mating till the young are hatched.

Cobras are not aggressive snakes and tend to escape when encountered in the wild. They strike only when accidentally stepped on or are under extreme provocation. When cornered, they spread the hood, hiss, sway the body from side to side, and strike repeatedly. The cobra's strike is said to be ineffective during the day but is considered much more severe and a determined one at night when the snake sees better. Young cobras are much more aggressive than the adults.

*Distribution.* Throughout the Indian subcontinent and Sri Lanka.

### Genus *Ophiophagus* Gunther KING COBRA

Largest venomous snake known and the third longest snake in India. A pair of large occipitals in the head shields is a key character for identification. No cuneate scale on the lower lip. Head flat, wider than neck. Body robust. Scales glossy, in 15 rows. Ventrals 240-254, caudals 84-104, partly single, partly in pairs.

Tabulated below are differences in the arrangement of head shields of the common cobra and the king cobra.

	Common cobra	King cobra
Frontal	Frontal truncated anteriorly	Frontal not truncated anteriorly
Preocular	Preocular in contact with the internasal	Preocular separated from the internasal by the prefrontal
Occipital shields	Absent	A pair of occipital shields present
Temporals	2+3	2+2
Cuneate scale	Present	Absent

A single species.

87. **Ophiophagus hannah** (Cantor)  
KING COBRA ; HAMADRYAD

*Local Names.* Kannada : *Kalinga havu* ; Malayalam : *Krishna sarpam, Rajavembala, Karinchathi* ; Tamil : *Krishna nagam, Karun nagam.*

*Description.* As given for the genus.

*Colouration.* The overall colouration varies from olive green to yellowish but the tail is sometimes jet black. The dorsal pattern consists of 30-40 lighter bands on the body and 10-12 on the tail ; but these bands are prominent in the juveniles and fade out or become obscure in the adults ; throat is light yellow or creamy ; venter is a paler shade of the dorsum. Young are jet black with chevron-shaped yellow transverse bands on the head, body, and tail.

*Size.* Adults average from 3 m—5 m. Males are longer. Maximum recorded size : 5.5 m.

*Habitat and Habits.* The king cobra is an uncommon snake in India. It is partial to the jungle environment although it is sometimes found in the plains and mangrove forests. It is found in the dense forests of the Himalayan foot-hills, West Bengal, Bihar, Assam, Orissa, Western Ghats and in the mangrove swamps of the Sunderbans (West Bengal) and Andamans. It is a diurnal snake and feeds entirely on snakes, even turning cannibalistic at times. Apart from snakes the only reptilian diet relished by it are the monitor lizards. It is a good climber and is fond of water.

The female king cobra displays an unusual maternal instinct by building a nest for its 20 to 40 eggs and lying coiled over the heap for the entire period of about 60 to 90 days it takes for the eggs to hatch.

Despite all the stories about its aggressive disposition, the king cobra is a timid snake and tries to make off when encountered. The massive venom glands of the king cobra, however, yield a quantity of venom up to 500 mg, which is sufficient to kill an elephant.

*Distribution.* The king cobra is a wide ranging snake, occurring in peninsular India to the Western Himalayas (See Habitat and Habits for details), eastward through Burma and the Andaman Islands, Philippines, Hongkong, into parts of southern China, and through Thailand, Laos, Vietnam, and Kampuchea, then south and east through the Malay Peninsula and Archipelago, the dense forests of the Himalayan foot-hills, West Bengal, Bihar, Assam, Orissa, Western,

Ghats and the mangrove forests of the Sunderbans (West Bengal) Orissa, and Andamans.

Family VIPERIDAE  
VIPERS AND PIT VIPERS

Vipers are easily recognised by the broad, flat, and triangular head, narrow neck, elliptical eye pupil, and a thick body with a short tail which is prehensile in some. The head is covered with large shields or numerous small, irregularly arranged scales. The pattern consists of a series of blotches or wavy bands both on the dorsum and belly. Vipers have developed a perfect poison-conducting apparatus. The very long fangs are tucked in a folding-away device when not in use and are swung forward when the snake strikes. Vipers are mostly ground-dwelling animals and they usually are found in the rocky, mountainous regions and also in the abandoned areas. They feed chiefly upon small mammals for which they lie in wait. Other food items include lizards, frogs, and toads. Vipers are sluggish creatures and cannot chase the prey. After the venom is injected, they find the prey and consume it.

Vipers are classified into two broad groups, viz. True Vipers and Pit-Vipers, on the basis of presence or absence of a facial pit. The 'pit' is a noticeable depression situated on the head of a Pit-Viper between the nostril and the eye. It is a heat sensitive organ and helps the pit-vipers in detecting the warm blooded prey even in total darkness.

There are three species of true vipers and twenty species of pit vipers in India. One viper and six species of pit-vipers are recorded from the Western Ghats.

Subfamily VIPERINAE  
Genus *Vipera* Laurenti  
TRUE VIPERS

Head covered above with small scales, distinct from neck. No pit between eye and nostril; nostril lateral, in a large nasal shield. Eye with vertically elliptical pupil. Body robust. Tail short.

Known from three species in India, of which one occurs in the Western Ghats.

88. *Vipera russelii russelii* (Shaw)

## RUSSELL'S VIPER

*Local Names.* Kannada : *Mandalatha havu, Kolakumandala* ; Malayalam : *Ruthramandali, Anali, Rakthamandali, Chenathanden* ; Marathi : *Ghonus* ; Tamil : *Kannadi viriyan*.

*Description.* Head flat, triangular, and covered with small scales ; snout short and bluntly pointed ; nostril large, crescent shaped. Eye large, with vertical pupil. Body stout, short, and flattened dorsoventrally. Scales strongly keeled and arranged in 27-33 rows. Ventrals 153-180, caudals 41-64, paired. Tail short.

*Colouration.* Light brown above with a bold and distinct pattern consisting of three series of large, dark oval spots ; head with two large black spots at base and a light V-shaped mark with its apex on top of snout ; lower parts yellowish white or marbled with brown.

*Size.* 1 m—1.85 m.

*Habitat and Habits.* The Russell's Viper is found both in the plains and hills, even at elevations up to 300 m ; one was recorded from Kodaikanal, Palnis (2100 m). It prefers open country and frequents bushy areas, grasslands, farmlands, cultivated fields, and rocky situations. It avoids the hot weather during summer by hiding in the termite mounds and rat holes.

The Russell's viper is a sluggish and quiet snake during most of the day although it always remains alert. It becomes active during the evening and at night when it wanders about in a slow, crawling motion. It does not move away quickly when disturbed but holds its ground and emits a loud hiss to indicate its annoyance. Although disinclined to strike readily, it can bite with force and determination if injured or provoked. The young are more aggressive than the adults.

The Russell's Viper feeds chiefly upon small mammals but lizards, birds, and frogs are also taken occasionally.

The female is a prolific breeder, producing from 20-63 live young at a time. The young are exact replicas of the parents.

*Distribution.* Throughout the Indian subcontinent and Burma, Thailand, Indo-china, Formosa, Indo-Australian Archipelago and Sri Lanka.

Though the Russell's viper is a widely distributed species of our land snakes, it is abundant in Punjab, Maharashtra, South India generally but is rare in Uttar Pradesh, Bihar, North Bengal, and is nearly absent in Assam,

## Subfamily CROTALINAE

## PIT-VIPERS

Genus *Hypnale* Fitzinger

Head covered above with symmetrical shields. A deep pit in each side of the face. Eye with vertical pupil. Body cylindrical. Tail moderate or short. Represented in India by two species, of which one occurs in the Western Ghats.

89. *Hypnale hypnale* (Merrem)

## HUMP-NOSED PIT-VIPER

*Description.* Snout acutely pointed and turned up at the end, resembling a hump. Upper head scales enlarged. Scales in 17 rows. Ventrals 138-157; caudals 32-46, paired or single. Tail moderate.

*Colouration.* Ground colour grey or brown, heavily powdered and mottled with brown. The dorsal pattern consists of a series of large ovate spots along each side of the mid-body and a lateral series of similar spots. Head dark brown, with dark stripes; nape with two longitudinal dark stripes; tip of tail yellowish or reddish; belly grey, yellowish or brownish-heavily spotted with black.

*Size.* 480 mm.

*Habitat and Habits.* The Hump-nosed Pit-viper is both terrestrial and arboreal in its habits, often ascending low bushes of the hill forests. Its chief article of diet is small mammals but it will also eat lizards, frogs and toads, and birds and their eggs. The female produces from four to ten live young. The young vipers are reported to lure their prey, consisting of geckos and skinks, by vigorously wriggling the whitish tails.

*Distribution.* The Western Ghats as far north as lat. 16°: Sri Lanka.

*Recent Locality Records.* Topslip, Anamalais; Kodaikanal, Palnis; Meenmutty, New Amarambalam Reserve Forest, Calicut District, Kerala.

Genus *Trimeresurus* Lacepede

## PIT-VIPERS

Head very distinct from neck, with small scales on the upper surface excepting in one species, *T. macrolepis*. A deep pit on each side of the face. Tail short, pre-hensile in arboreal forms. Five of the fifteen species found in India occur in the Western Ghats.

90. *Trimeresurus macrolepis* Beddome  
LARGE-SCALED PIT-VIPER

*Description.* Distinguished from the other members of the genus in having very large and strongly imbricate scales on head. Scales in 12-15 rows, keeled and strongly imbricate. Ventrals 133-140 in males, 135-143 in females ; caudals 53-55 in males, 44-58 in females, paired. Tail prehensile.

*Colouration.* Dorsum bright green to olive brown with a whitish or yellow line on the flanks ; upper lip pale green ; belly paler.

*Size.* Averages from 475 mm to 600 mm. Females are longer.

*Habitat.* Found both on the ground and in the trees at altitudes varying from 600 m to 2300 m.

*Distribution.* Niligiris, Palnis, Anaimalais, and Hills of South Kerala and Nellampatti, Western Ghats ; Shevaroy, Eastern Ghats.

91. *Trimeresurus malabaricus* (Jerdon)  
MALABAR PIT-VIPER

*Description.* Head wider than neck, triangular ; upper head scales slightly enlarged, unequal, and strongly imbricate. Body stout. Scales in 19-21 rows, feebly keeled. Ventrals 143-158 in females ; caudals 50-63 in males, 44-54 in females, paired. Tail prehensile.

*Colouration.* Dorsum greenish or olive brown with a series of brown or black spots which often tend to joint to form a zigzag-like stripe ; an uneven series of yellow spots along the sides ; head with a black temporal streak : tail black and yellow ; lower surfaces pale green to yellow. Juveniles brown above and brown or grey beneath.

*Size.* 550 mm—790 mm. Females are longer. Maximum size recorded : 1050 mm.

*Habitat and Habits.* Common in altitudes ranging from 700 m to 2300 m. This pit-viper is reported to change its colour with the varying seasons ; it is light in the dry season with faint markings and dark with well-defined markings during the wet season.

*Distribution.* Mahableshwar, Maharashtra ; Goa ; North Kannada and Coorg Districts, Karnataka ; Nilgiris, Palnis, Anaimalais, and South Kerala ; Shevaroy, Eastern Ghats.

*Recent Locality Records.* Topslip, Anaimalais, Meenmutty, New Amarambalam Reserve Forest, Calicut District, Kerala.

92. *Trimeresurus strigatus* Gray  
HORSE-SHOE PIT-VIPER

*Description.* Distinguished from the other members of the genus by the internasals which are scarcely differentiated from the adjacent scales. Upper head scales subequal, scarcely imbricate. Scales feebly keeled, in 21 rows. Ventrals 135-144 in males; 131-132 in females; caudals 35-42 in males, 32-34 in females, paired. Tail prehensile.

*Colouration.* Brown above with a series of dark-brown spots, the dorsal series of which often unite to form a zigzag-like stripe, and whitish below, heavily spotted or mottled with brown; a pale buff horse-shoe shaped mark on the nape.

*Size.* 375 mm—410 mm. Maximum recorded size: 450 mm.

*Distribution.* Restricted to the Nilgiris, Anaimalais, Palnis, and Tirunelveli Hills in the Western Ghats and Shevaroy. Eastern Ghats.

*Recent Locality Record.* Silent Valley, Palghat District, Kerala.

93. *Trimeresurus gramineus* (Shaw)  
BAMBOO PIT-VIPER; GREEN PIT-VIPER

*Local Names.* Malayalam: *Chattithalayan* (all pit-vipers); Marathi: *Hara Ghonas*; Tamil: *Pachai viriyan*.

*Description.* Head broad, triangular, covered with small scales. Neck narrow. Eye with vertical pupil. Body rather stout. Scales feebly keeled, in 15-17 rows; ventrals 145-175 in males, 164-177 in females; caudals 55-71 in males, 57-62 in females, paired. Tail short, tapering, and prehensile.

*Colouration.* Usually bright green above and white or yellow on the underside: a broken or uneven dark pattern along the sides; head and body with dark brown spots which form crossbars on the back; upper lip, chin and throat greenish; tail reddish or yellowish, mottled with dark.

*Size.* 400 mm—680 mm. Maximum recorded size: 1117 mm.

*Habitat and Habits.* The Green Pit Viper derives its other popular name, Bamboo Pit Viper from its preferred living places in the bamboos or amidst thick bushes of the low hill forests where its bright green colour affords an active camouflage and the prehensile tail enables it to secure a firm grip on a branch. In such a situation it is seldom noticed except when it moves. The Green Pit Viper is a slow-moving, timid snake and bites only under provocation. It remains inactive for most of the day and wanders in the evening and at night in search of its food,

consisting mostly of small mammals. It will also eat lizards, frogs, and birds. The female brings forth 7-15 live young at a time.

*Distribution.* Found in most of the hilly terrain of West Bengal, Gujarat and Peninsular India South of lat. 22°. Rare in the Western Ghats, south of Goa.

94. **Trimeresurus huttoni** Smith

**HUTTON'S PIT-VIPER**

*Description.* Snout sharp and prominently upturned; internasals separated from one another. Head wide and triangular; upper head scales unequal and partly imbricate. Eye with vertical pupil. Scales in 19-21 rows. Ventrals 146, caudals 52, paired. Body stout. Tail short and tapering.

*Colouration.* Green above and paler green on the underside; a distinct dorso-lateral series of paired, small white spots on the back; head with a whitish temporal streak; tip of snout and tail dull red.

*Size.* 138 mm.

*Distribution.* Highwavy Mountains (1700 m), Madurai District, Tamil Nadu.

Rare. Known from two female specimens.

## REFERENCES

- BEDDOME, R. H. 1886. An account of the earth snakes of the Peninsula of India and Ceylon. *Ann. Mag. Nat. Hist.*, (5) 17 : 3-33.
- BOULENGER, G. A. 1892. Description of a new earth snake from Travancore (*Rhinophis travancoricus*). *J. Bombay nat. Hist. Soc.*, 7 : 318, Pl.
- BOULENGER, G. A. 1894. Description of a new snake found in Travancore by Mr. S. Dighton, Pirmaad. *J. Bombay nat. Hist. Soc.*, 8 : 528, Pl.
- BOULENGER, G. A. 1896. Description of a new earth-snake from Travancore (*Rhinophis fergusonianus*). *J. Bombay nat. Hist. Soc.* 10 : 236, Pl.
- FERGUSON, H. S. 1895. List of snakes taken in Travancore from 1888-1895. *J. Bombay nat. Hist. Soc.*, 10 : 68-77.
- FERGUSON, H. S. 1903. Travancore Snakes. *J. Bombay nat. Hist. Soc.*, 14 : 386-387.
- GANS, C. 1966. Uropeltidae. In Liste der rezenten Amphibien and Reptilien. *Tierreich*, 84 : 1-29.
- GLOYD, H. K. 1977. Descriptions of new taxa of crotalid snakes from China and Ceylon (Sri Lanka). *Proc. biol. Soc. Wash.*, 90 (4) : 1002-1015.
- MALNATE, E. V. 1960. Systematic division and evolution of the colubrid snake genus *Natrix*, with comments on the subfamily Natricinae. *Proc. Acad. nat. Sci. Philad.*, 112 : 41-71.
- MURTHY, T. S. N. 1981. Reptiles of the Silent Valley and New Amarambalam Area, Kerala, *Snake*, 13 : 42-52.
- MURTHY, T. S. N. 1982a. A contribution to the ophiology of Western Ghats, India. *Snake*, 14 : 50-56.
- MURTHY, T. S. N. 1982b. An illustrated field guide to the rough tailed snakes of India. *Snake* 14 : 119-135.
- RAJENDRAN, M. V. 1977. A summary of uropeltid snakes. *J. Madurai Univ.*, 6 (1) : 68-73.
- SAVAGE, J. M. 1952. Two centuries of confusion : the history of the snake name *Ahaetulla*. *Bull. Chicago Acad. Sci.* 9 (11) : 203-216.
- SHARMA, R. C. 1976. Records of the reptiles of Goa. *Rec. zool. Surv. India*, 71 : 149-167.
- SMITH, M. A. 1943. *Fauna of British India. Reptilia and Amphibia*, 3. *Serpents*. London : Taylor & Francis.

- SMITH, M. A. 1949. A new species of pit viper from South India : *Trimeresurus huttoni*. *J. Bombay nat. Hist. Soc.* **48** (3) : 596.
- STIMSON, A. F. et. al. 1977. *Leptotyphlops* and *Ramphotyphlops* Fitzinger, 1843. (Reptilia, Serpentes) : Proposed conservation under the plenary powers. Z. N. (S) 2155. *Bull. Zool Nom.*, **33** (3/4) : 204-207.
- TIWARI, K. K. & SHARMA, R. C. 1971. Reptiles of Western Maharashtra. *J. zool. Soc. India*, **22** : 101-115.
- UNDERWOOD, G. 1967. A contribution to the classification of snakes. London.
- WALL, F. 1909. Notes on a collection of snakes from Matheran. *J. Bombay nat. Hist. Soc.*, **19** : 756-757.
- WALL, F. 1919. Notes on a collection of snakes made in the Nilgiri Hills and adjacent Wynaad. *J. Bombay nat. Hist. Soc.*, **25** : 552-384.
- WALL, F. 1921. A new snake from the family Uropeltidae. *J. Bombay nat. Hist. Soc.*, **28** : 41-42, P1.
- WALL, F. 1923. Notes on a collections of snakes from Shembaganur, Palni Hills. *J. Bombay nat. Hist. Soc.*, **29** : 388.
- WHITAKER, R. & WHITAKER, Z. 1977. Collection of a rare snake in the Nilgiris. *J. Bombay. nat. Hist. Soc.*, **73** (3) : 539.
- WHITAKER, R. & SEKHER DATTATRI, 1982. A new species of *Oligodon* from the Palni Hills, South India. (Serpentes : Colubridae). *J. Bombay nat, Hist. Soc.*, **79** (3) : 630-631, P1.

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Courtesy British Museum (N. H.) :	Plates 4-4A, 5, 8-8A, 9-9A, 15-22A.
Courtesy Madras Snake Park Trust (Romulus Whitaker) ;	Plates 42, 47-57.
Courtesy Dr. L. N. Acharjyo :	Plate 24.
Courtesy Dr. M. V. Rajendran :	Map of the localities of collection of uropeltid snakes.

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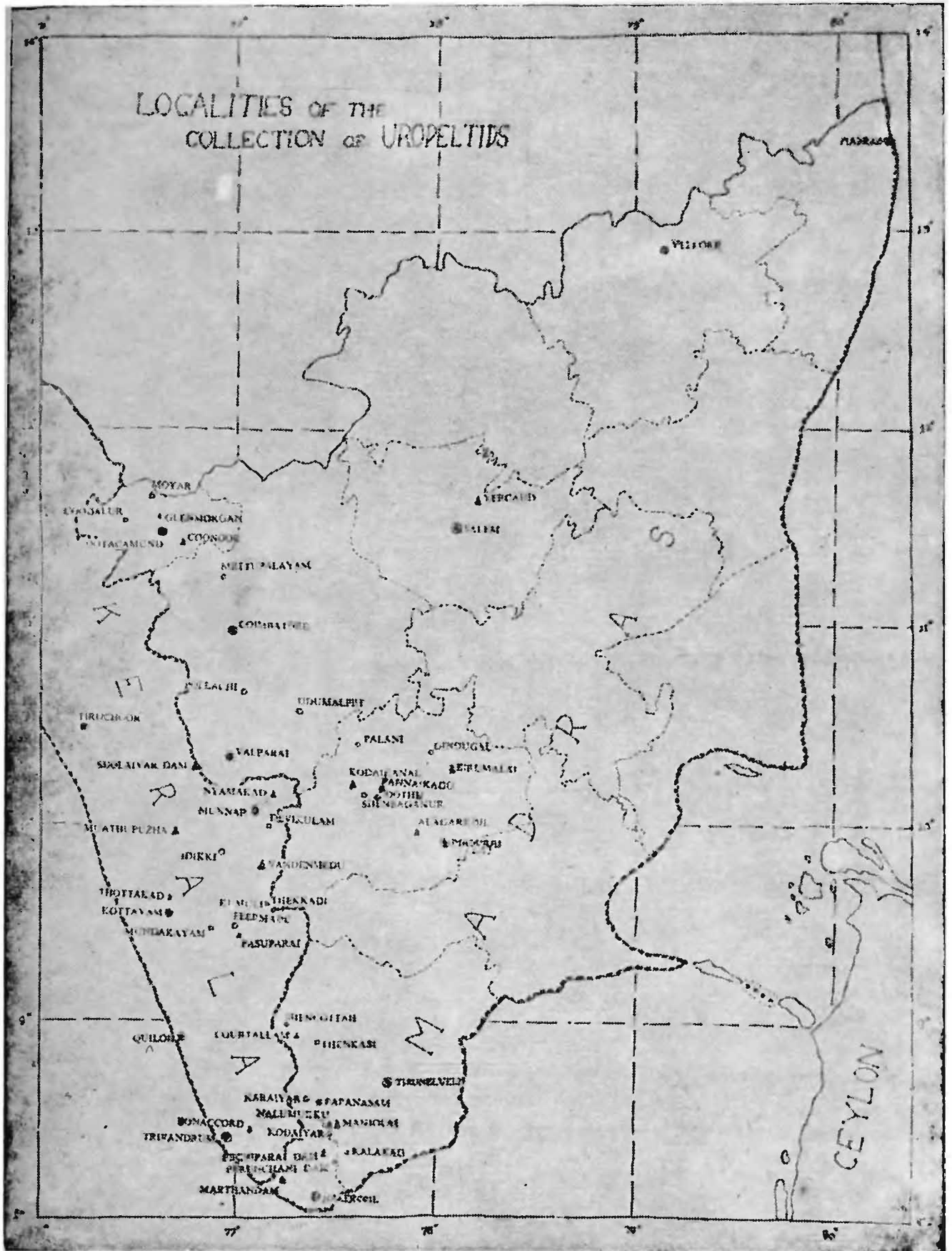
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## X

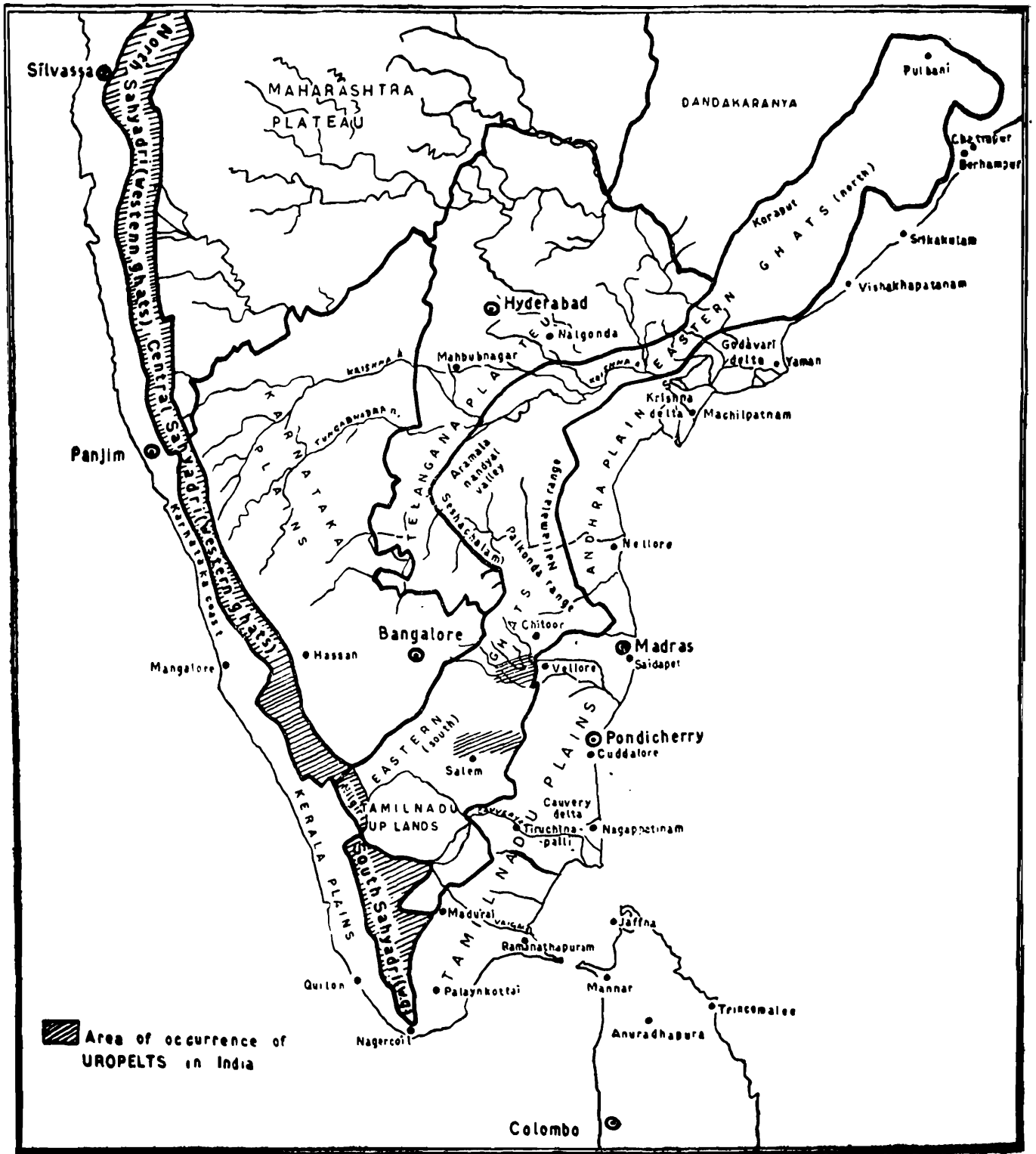
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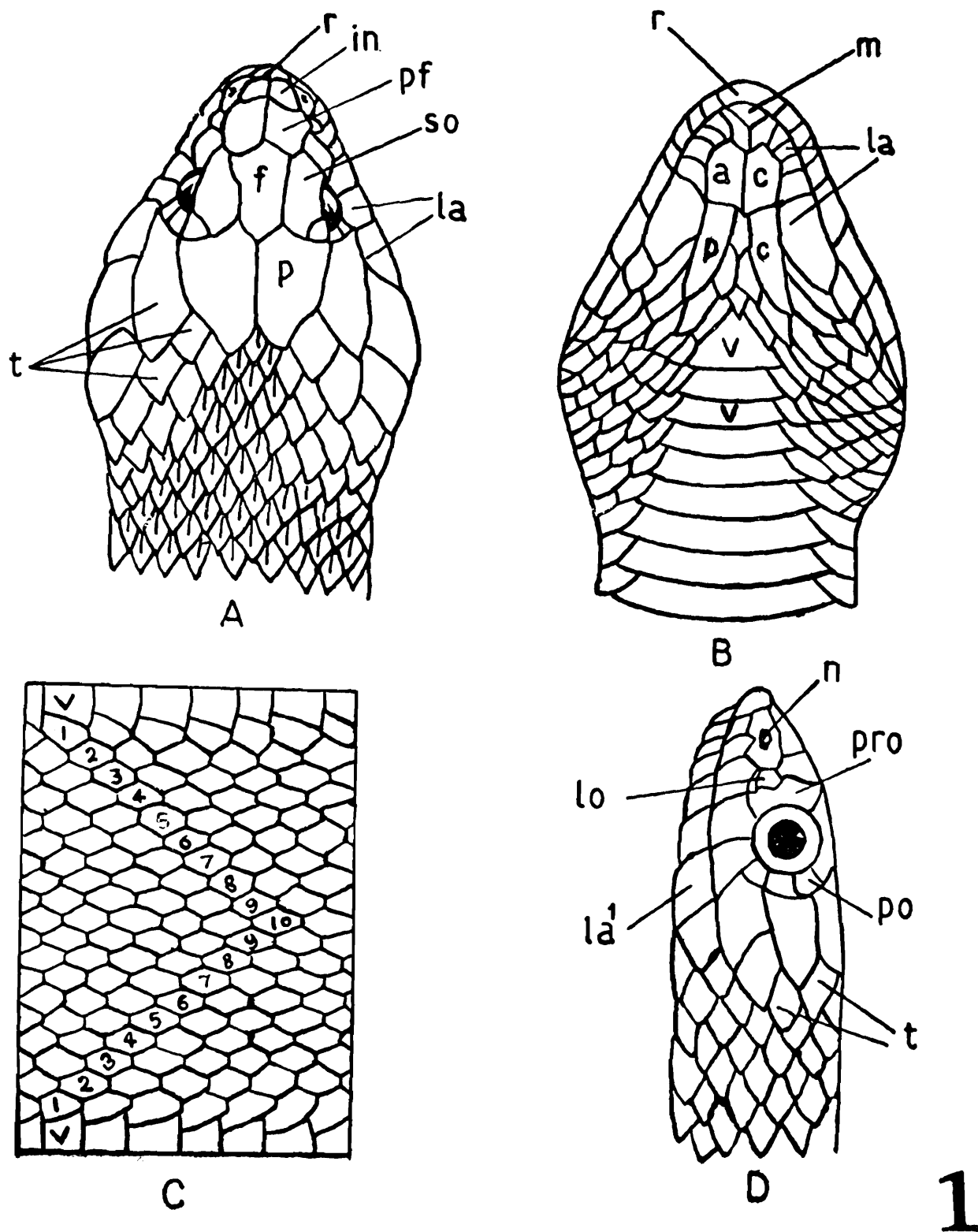
# **FIGURES**



Map 1

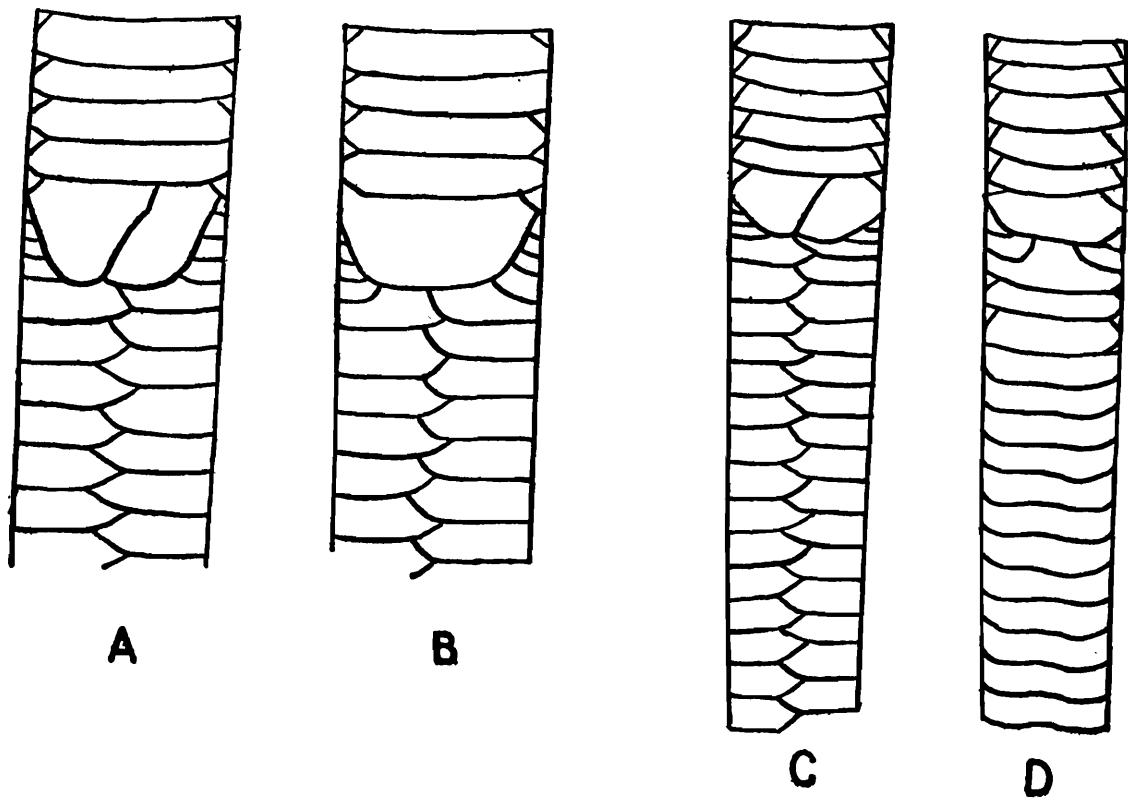


Map 2



**Fig. 1. A. Dorsal, B. Ventral, and C. Lateral Views of the head of a non-venomous snake to show the arrangement of the scales. (See Snake scale Glossary)**  
 r.-Rostral; in.-Internasals; pf.-Prefrontal; So.-Supraocular; la.-Upper labials; la'- lower labials; t.- Temporals; m.- Mental; ac.- Anterior chin shields; Pc.-Posterior chinshields; V.-Ventrals; N.-Nasal; Pro.-Preoculars; Po.- Postoculars; Lo,-Loreal.

**Fig. 1. C. Method of Counting the dorsal scales of a snake.**



**Fig. 2.** A. Underside of tail showing the divided anal plate.  
B. Under side of tail showing the undivided plate.  
C. Underside of a snake showing subcaudals in two rows.  
D. Underside of a snake showing single row of subcaudals.

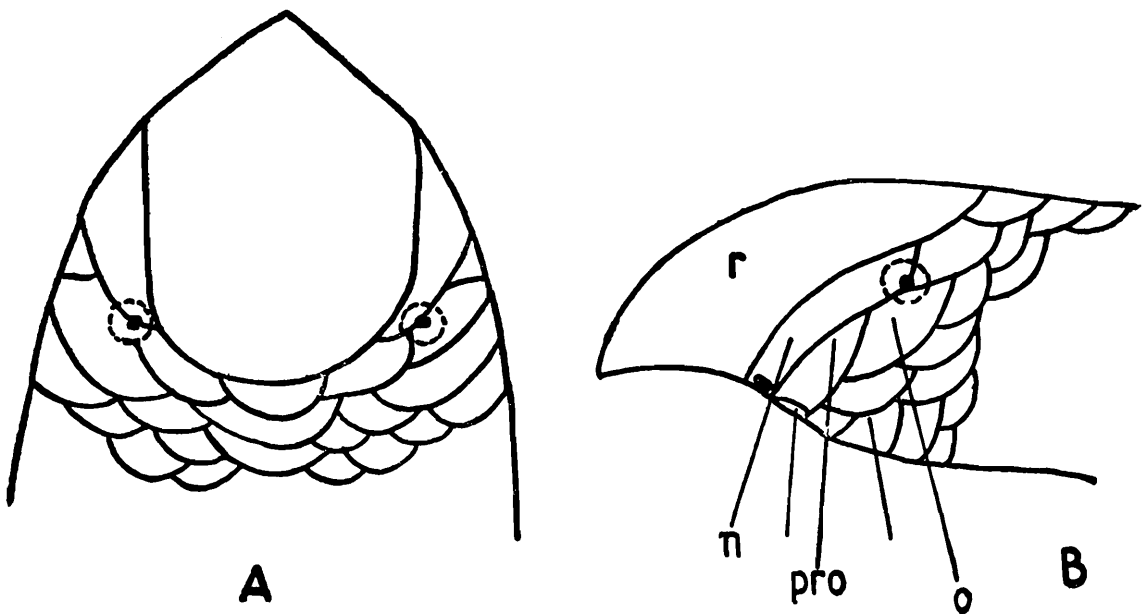
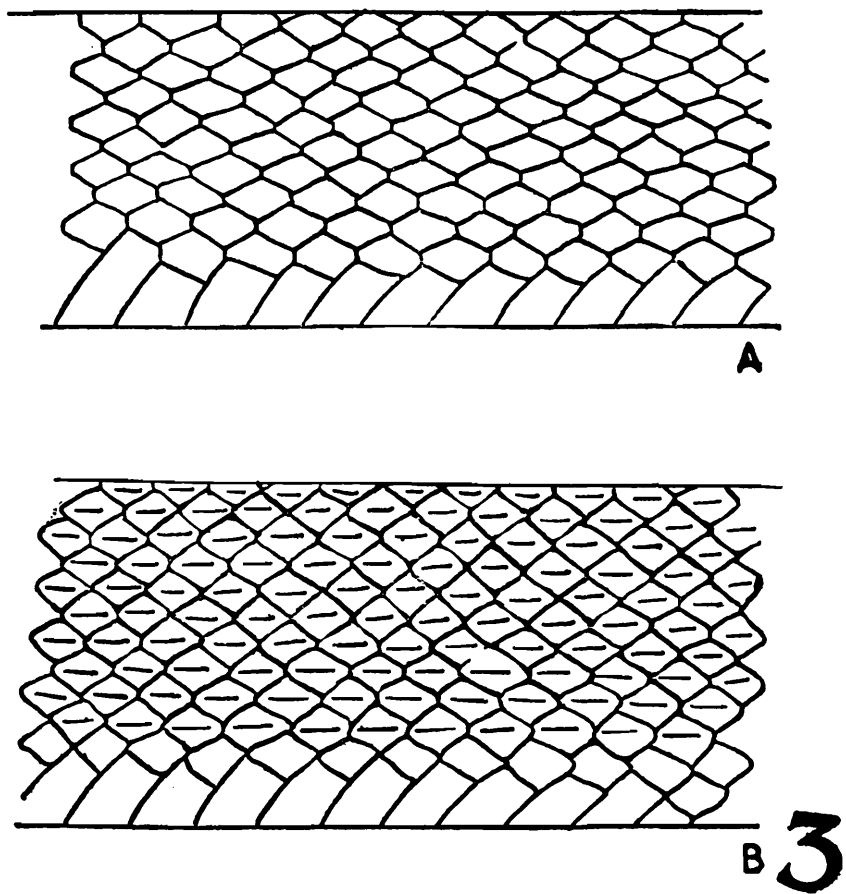


Fig. 3. A. Showing smooth scales on the body of a snake.  
 B. Showing keeled scales on the body of a snake.

Fig. 4. A. Dorsal, and B. Lateral view of the head of the Beaked Blind Snake.  
 1.- Labial , n.-Nasal ; o.-Ocular ; pro.-Preocular.

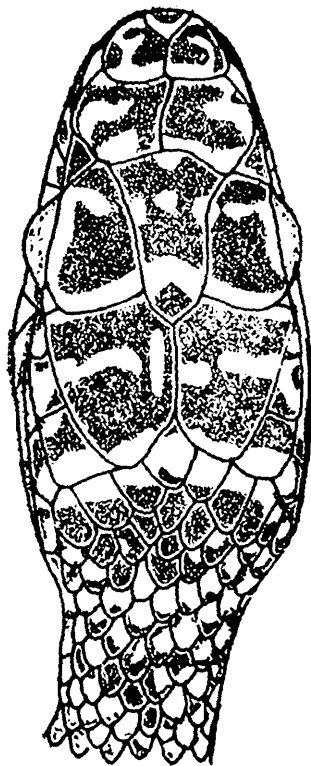
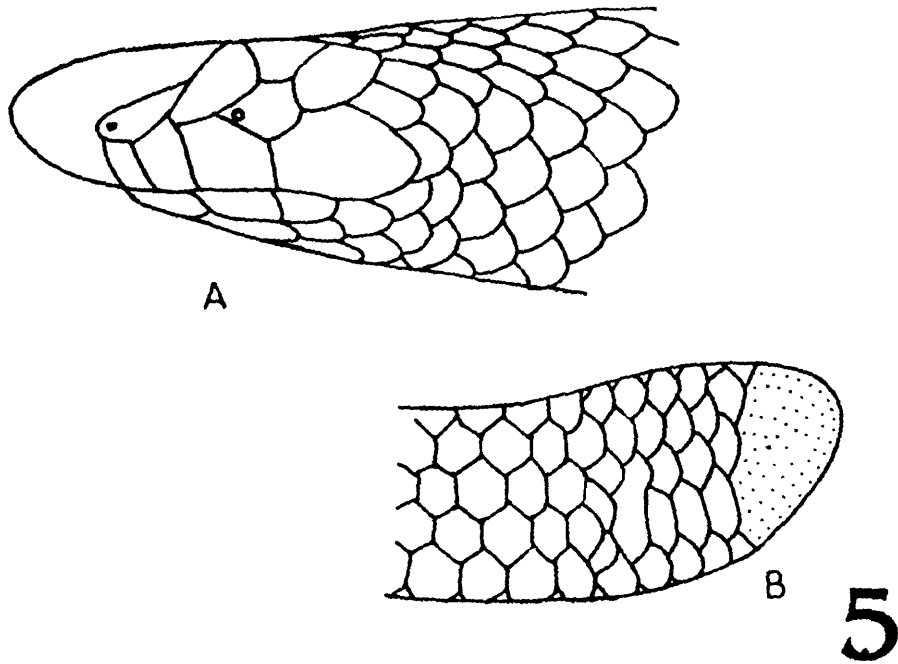


Fig. 5. A. Side view of head, and B. side view of the tail of the Shieldtail, *Rhinophis* sp.

Fig. 6. Head pattern of the Golden Tree snake, *Chrysopelea ornata*.

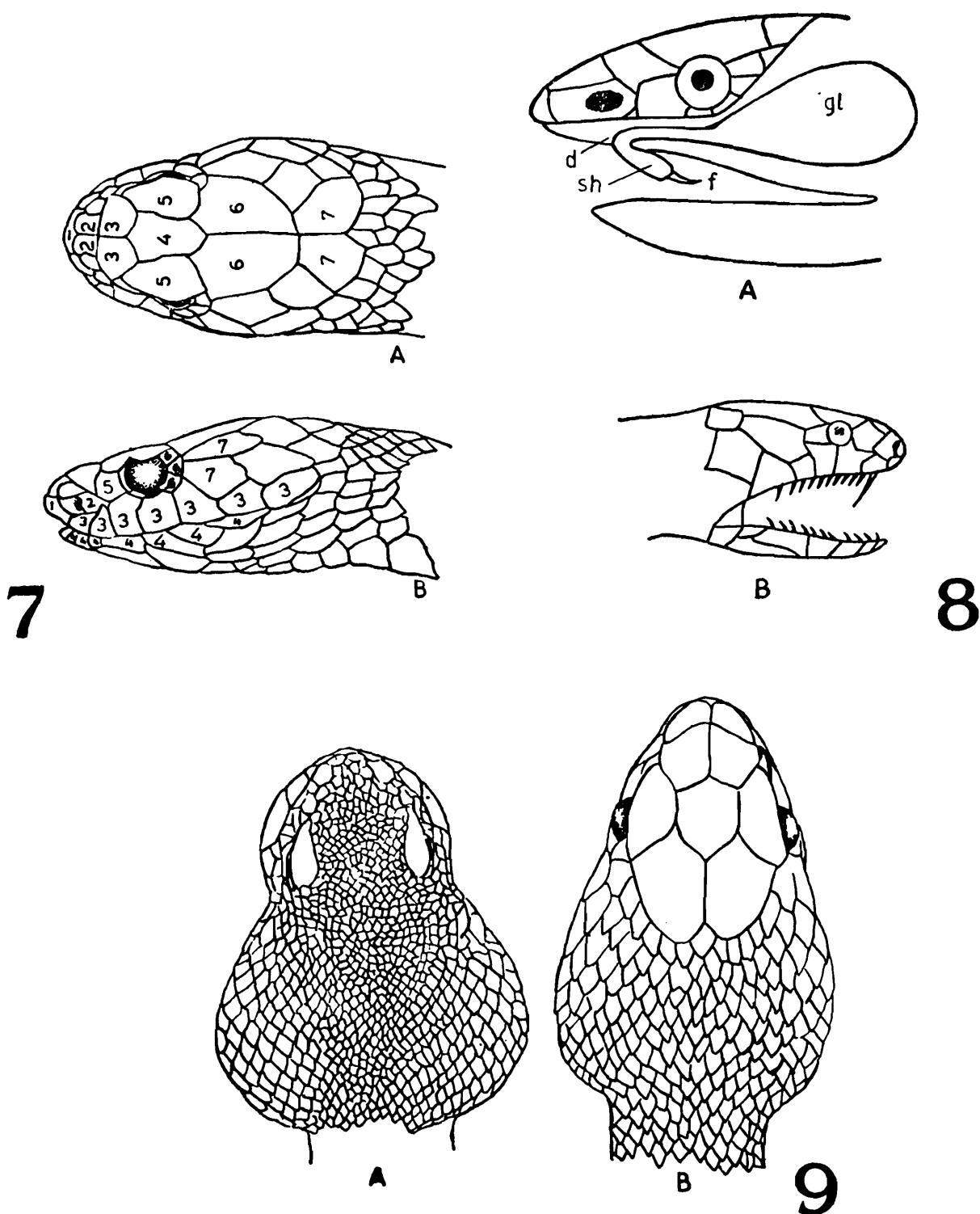


Fig. 7. A. Top view of the head of the king Cobra showing the arrangement of the scales.

1. Rostral ; 2. Internasal ; 3. Prefrontal ; 4. Frontal ; 5. Supraocular ; 6. Parietal ; 7. Occipital.

B. Side view of the head of the king Cobra

1. Rostral ; 2. Nostril (in divided nasal) ; 3. Supralabials ; 4. Infralabials ; 5. Preocular ; 6. Postocular ; 7. Temporals.

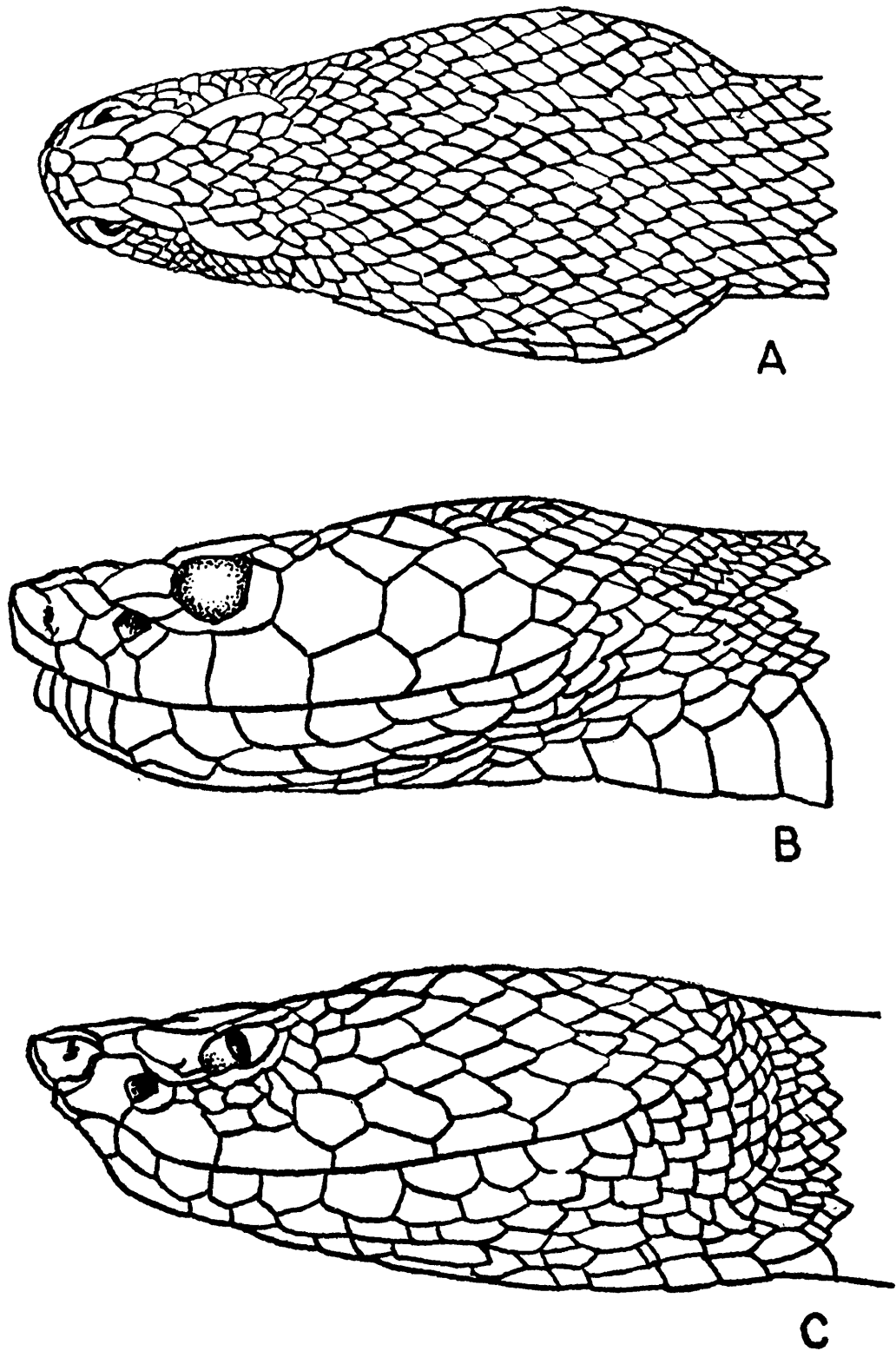
Fig. 8. A. Venom apparatus in a venomous snake.

gl.-poison gland ; d.-Duct ; sh.-Sheath ; f.-Poison fang,

B. Showing the poison fang of a venomous snake.

Fig. 9. A, Close-up of the head of a Pit Viper of the genus, *Trimeresurus*.

B. Close-up of the head of a Pit Viper of the genus, *Hypnale*.

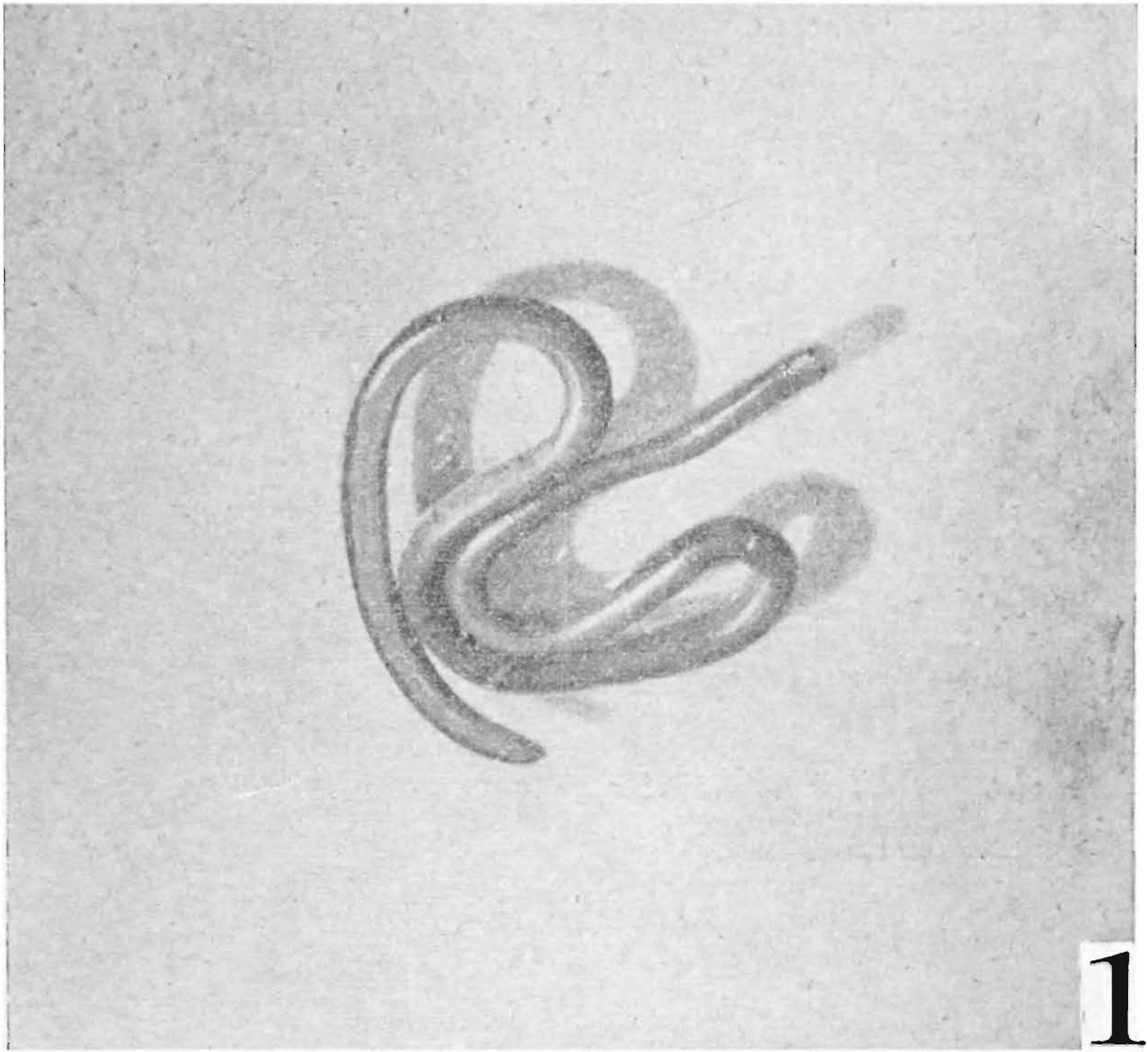


# 10

Fig. 10. A. A top view of the head of a viper of the genus, *Vipera*.  
 B. Side view of the head of a pit viper of the genus, *Hypnale*.  
 C. Side view of the head of a pit viper of the genus, *Trimeresurus*

# **P L A T E S**

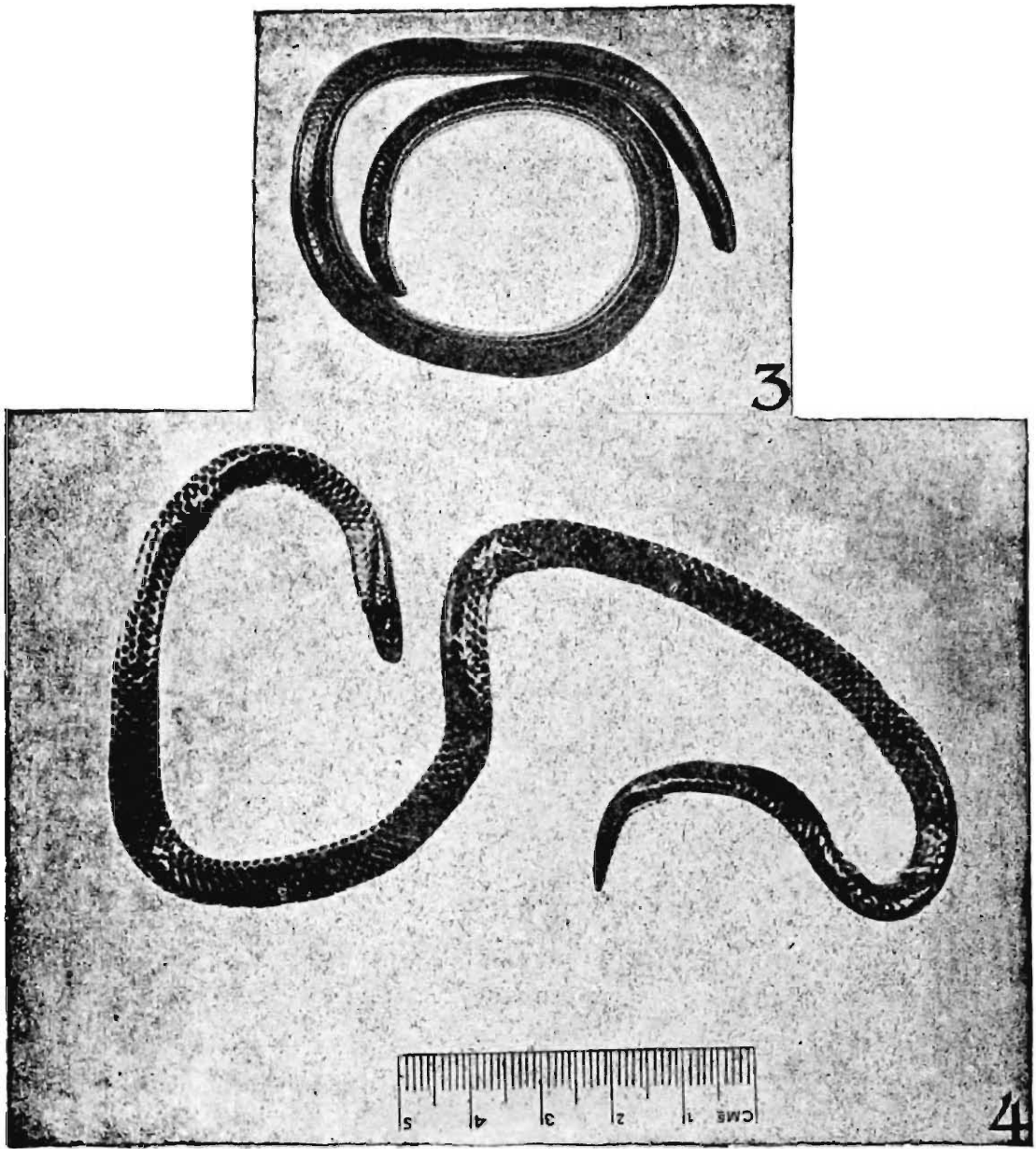




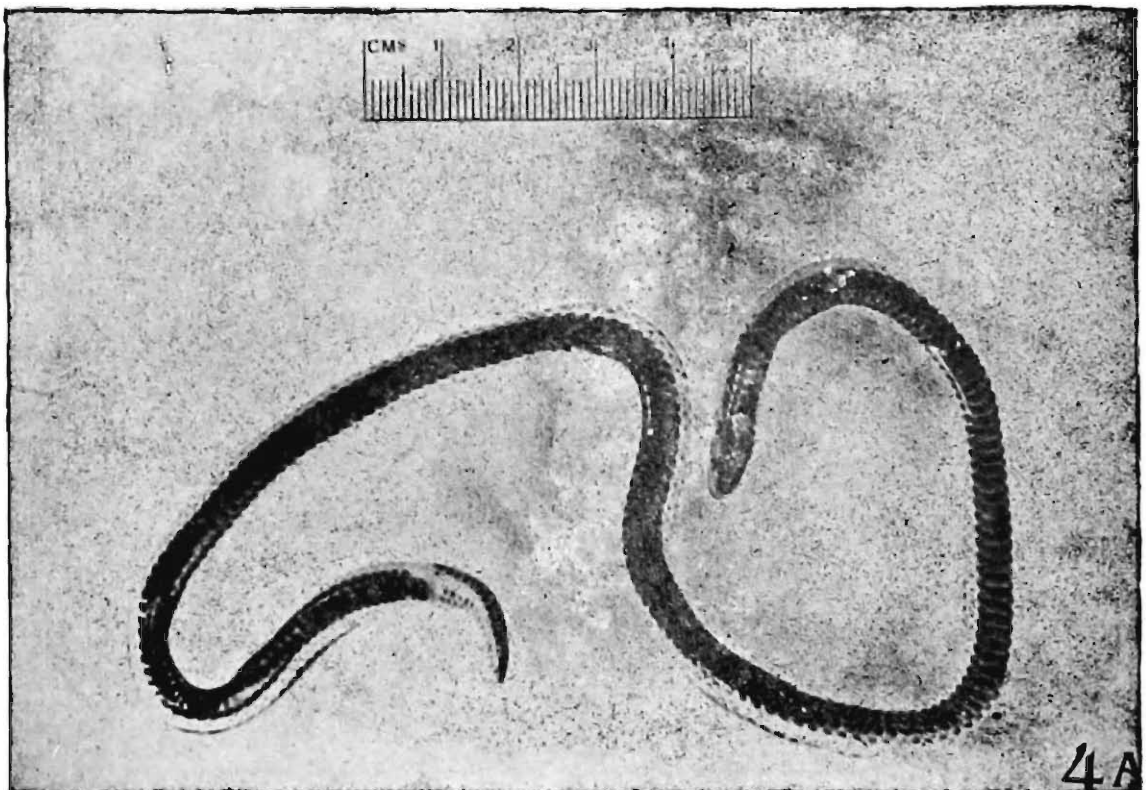
1. *Ramphotyphlops braminus*



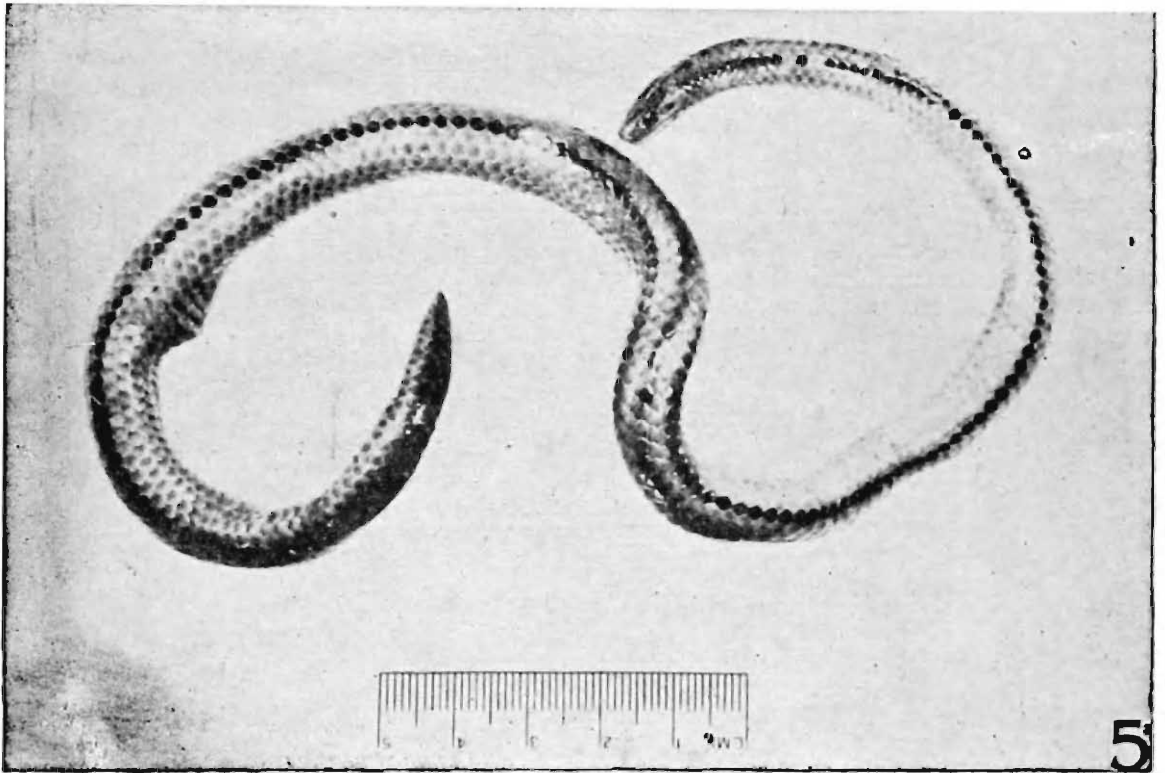
2. *Typhlops acutus*



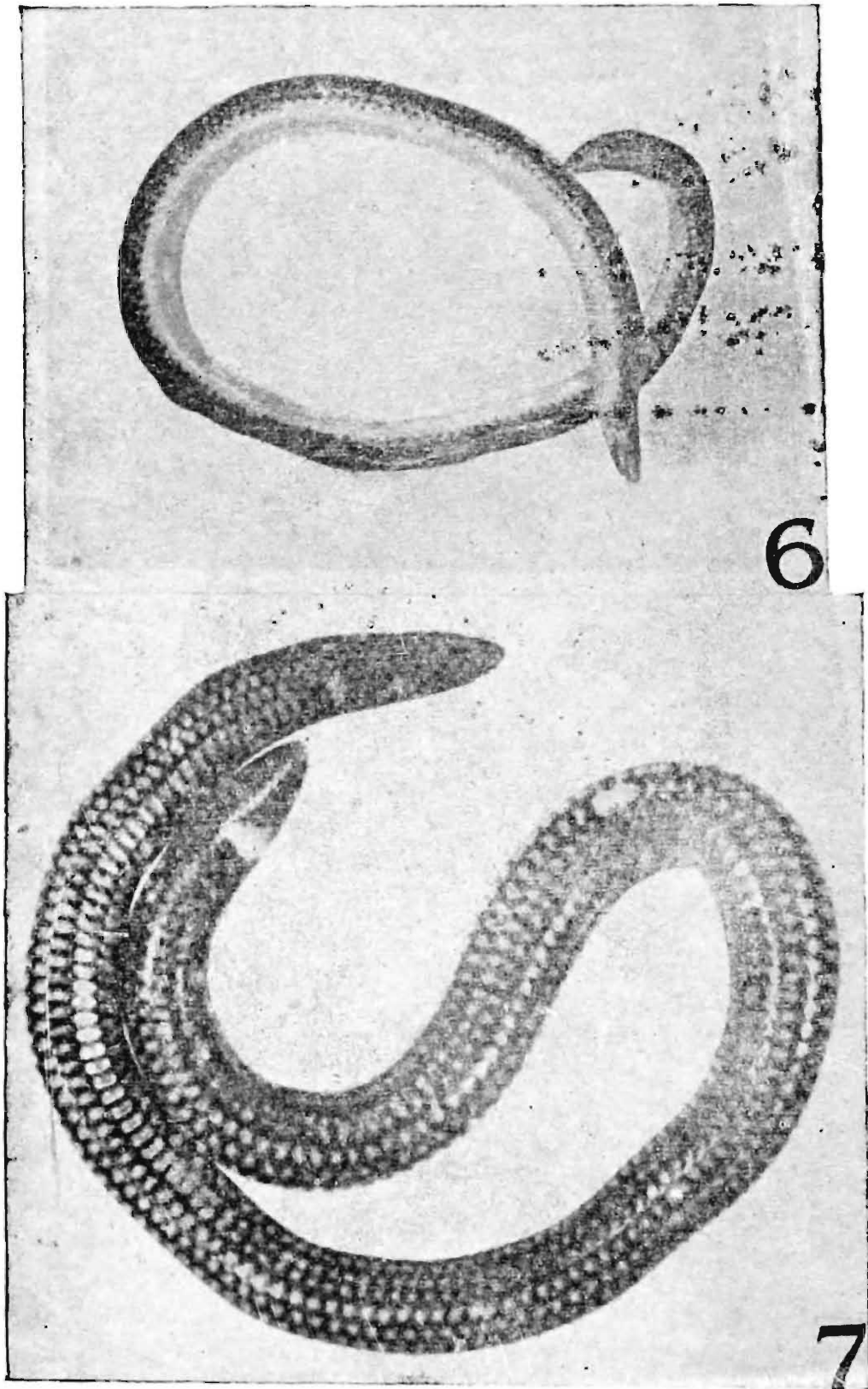
- 3. *Melanophid. um punctatum*
- 4. *Melanophidium bilineatum*



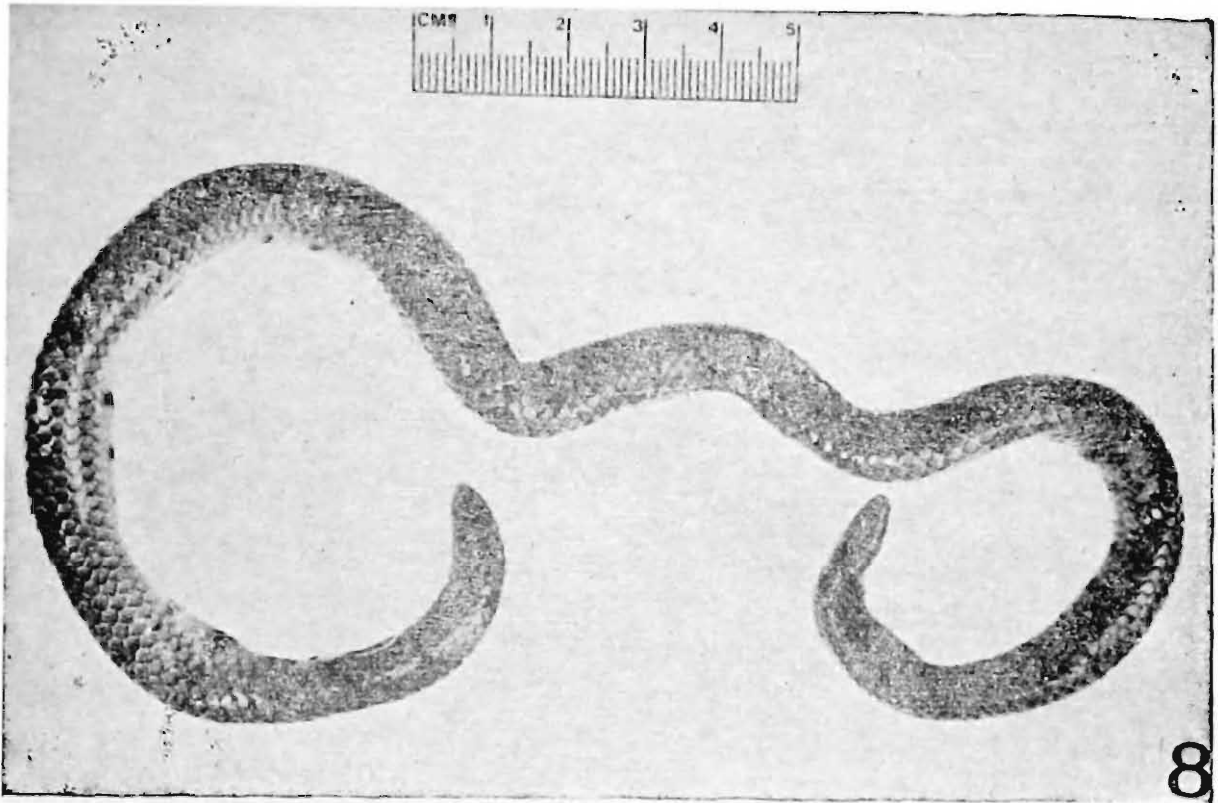
4A. Ventral view of *M. bilineatum*



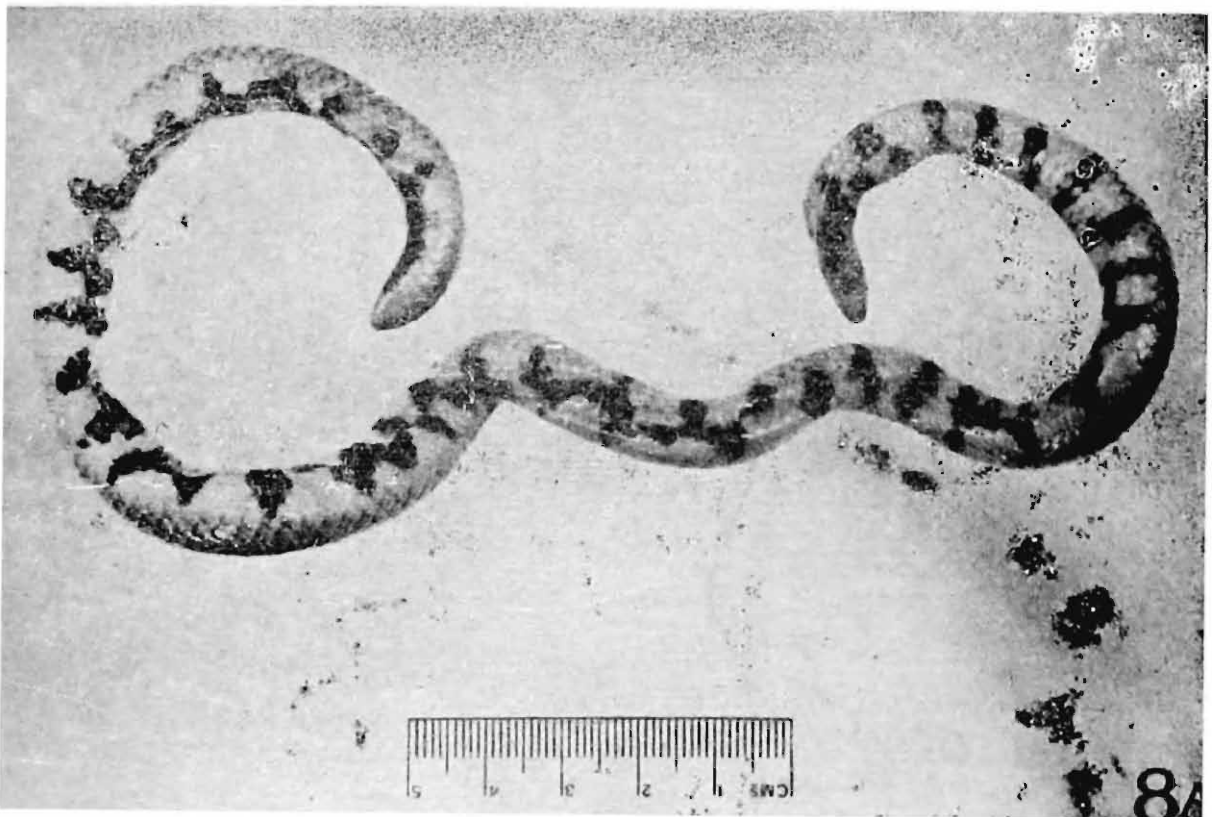
5. *Plectrurus trilineatus*



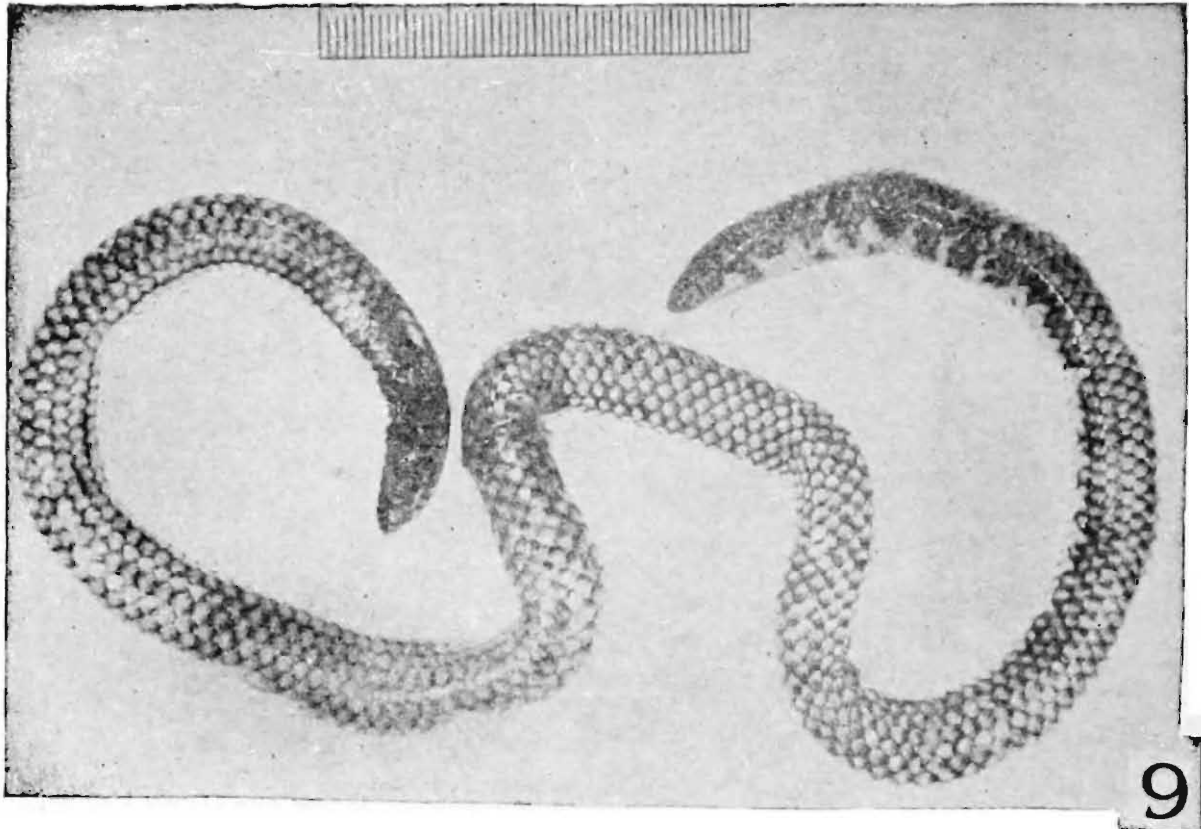
6. *Brachyophidium rhodogaster*  
7. *Plectrurus perroteti*, ventral view.



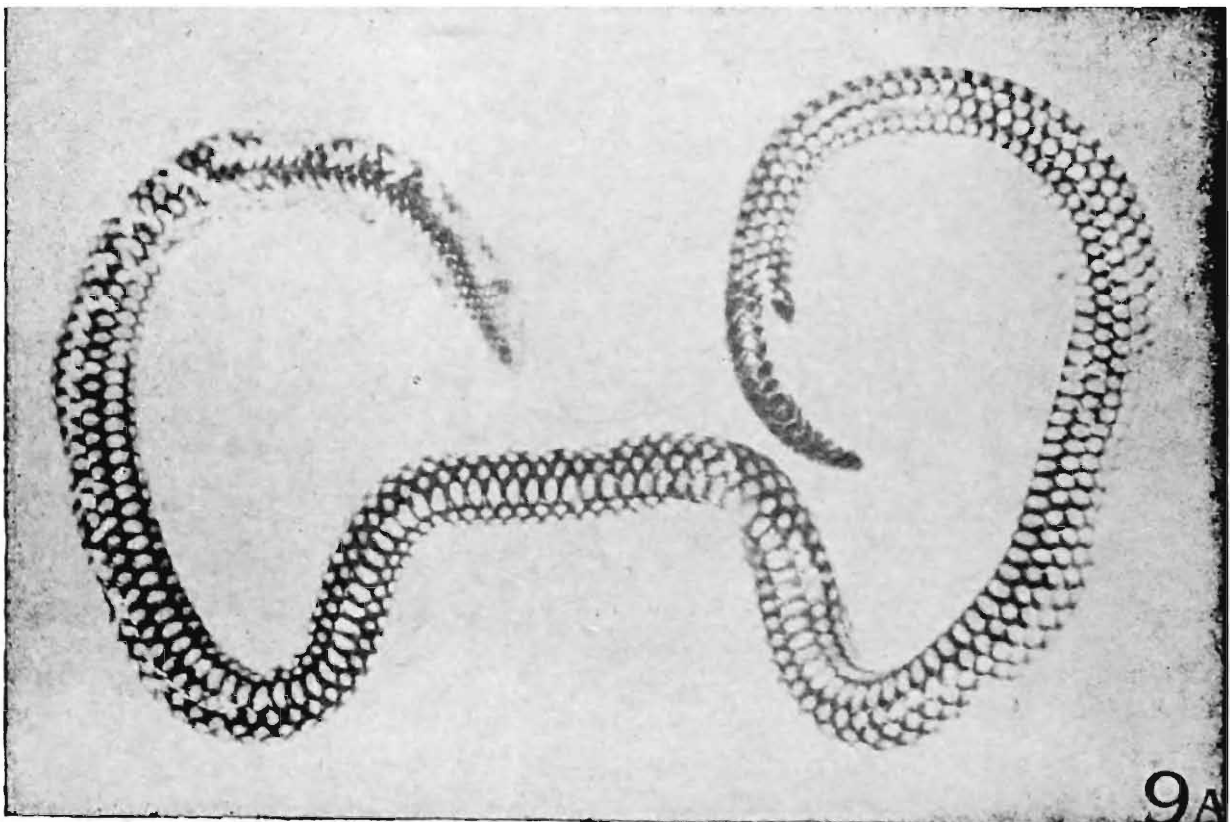
8. *Plectrus aureus*



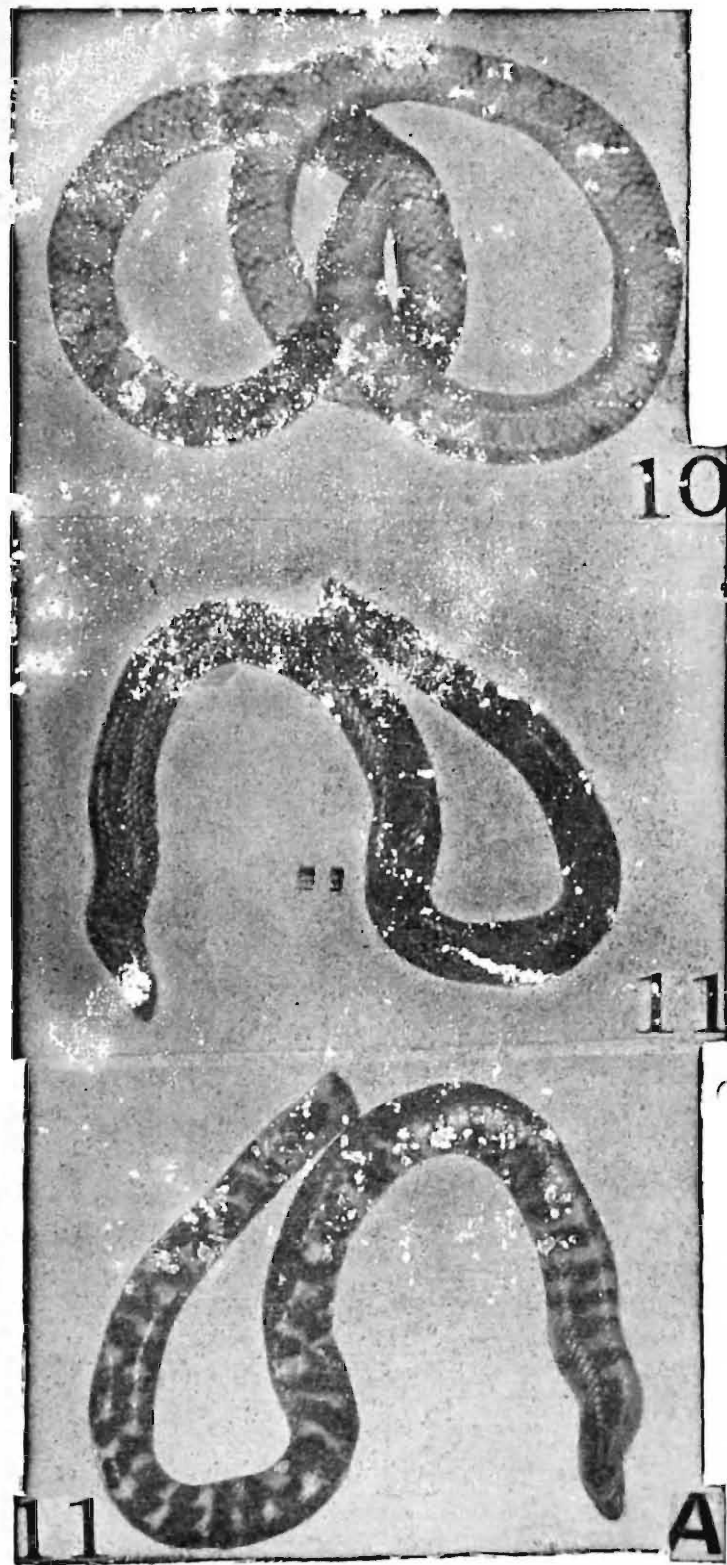
8A. Ventral view of *P. aureus*.



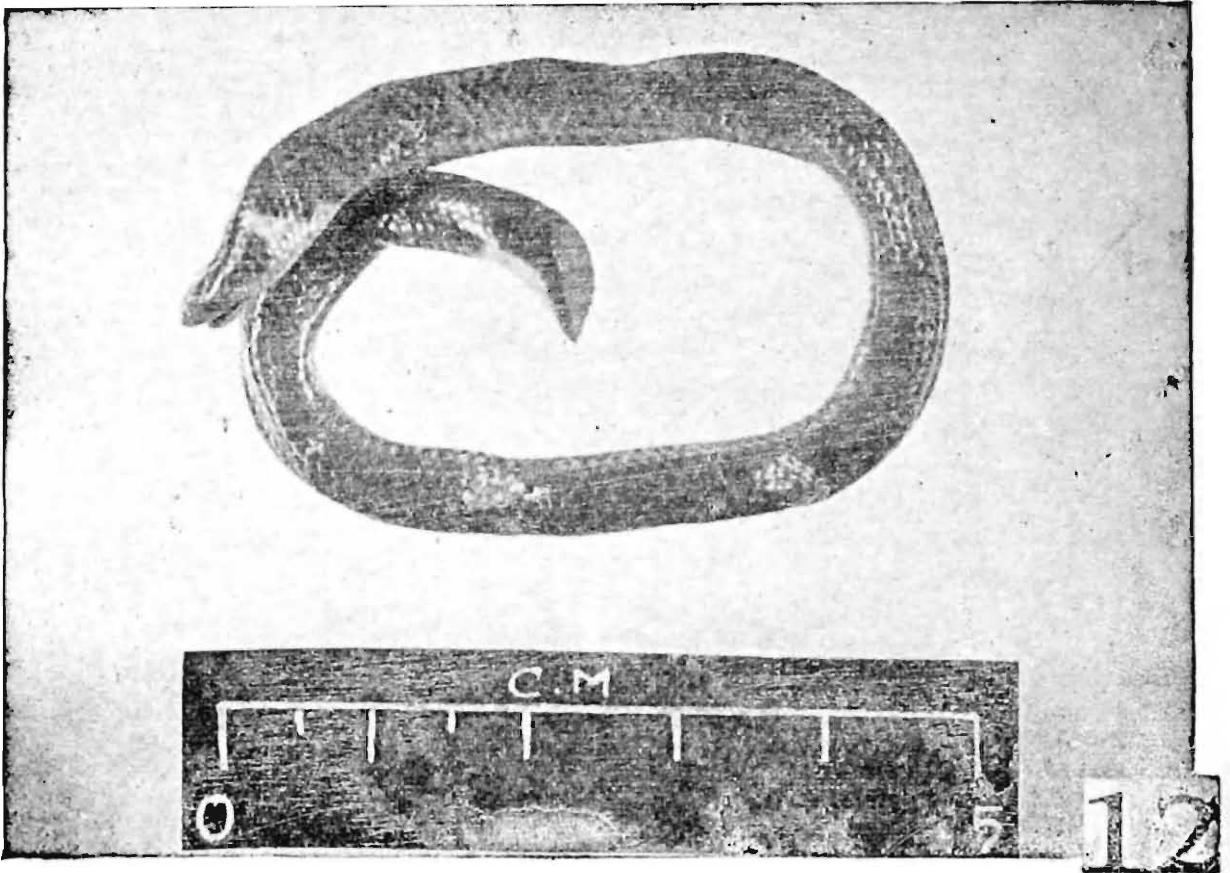
9. *Plectrurus canarius*



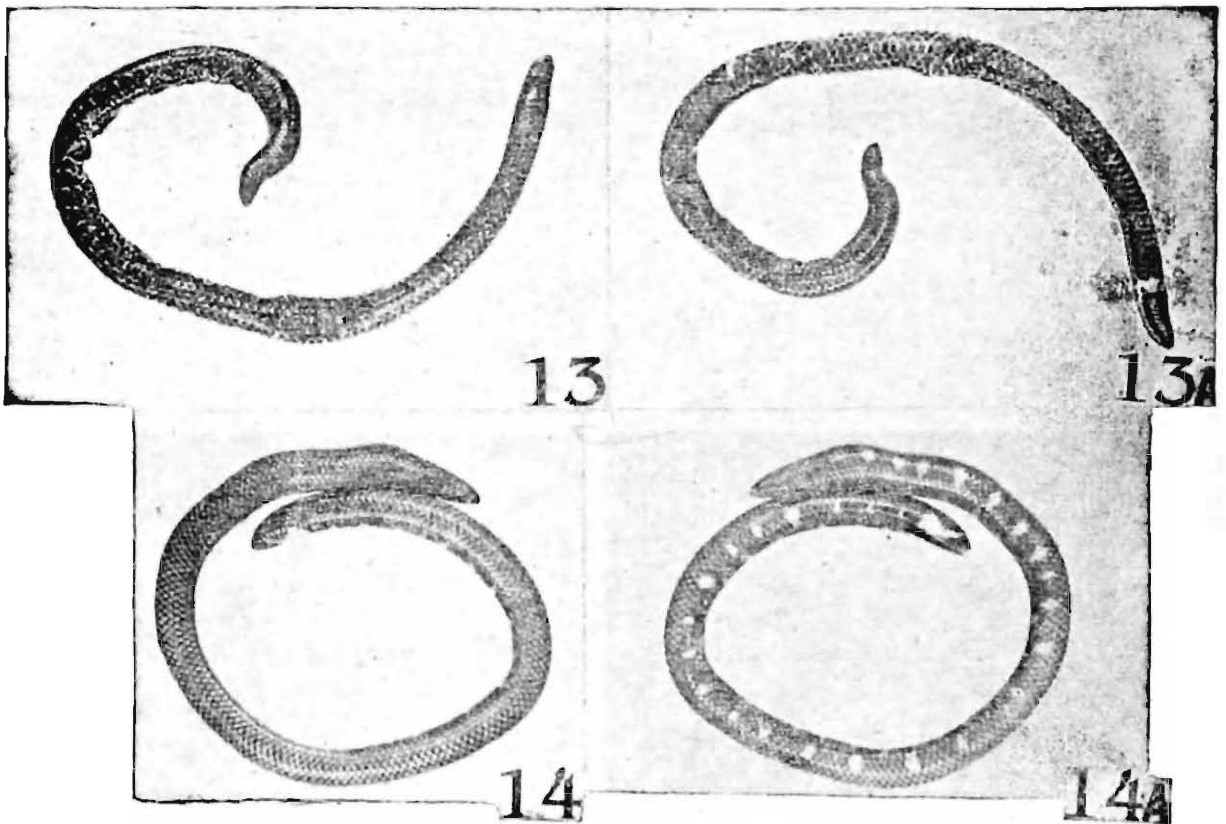
9A. Ventral view of *P. canarius*



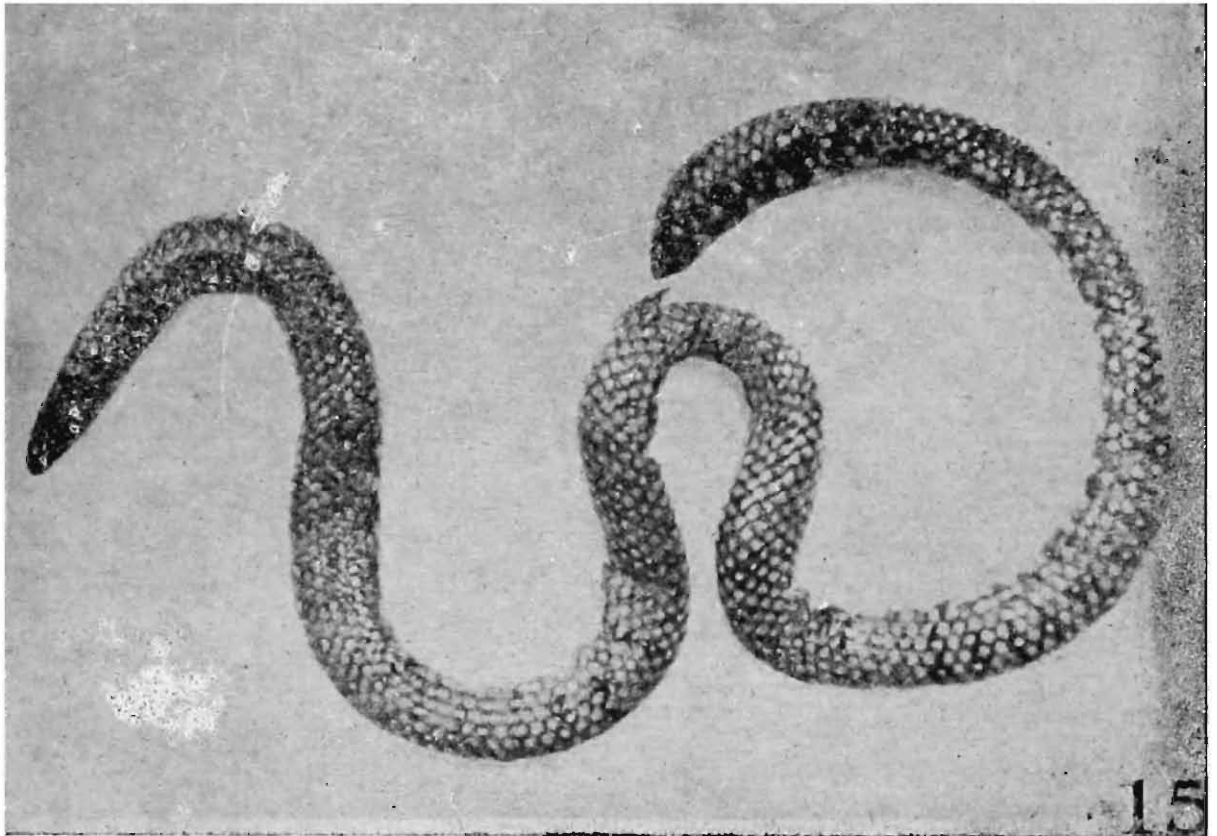
10. *Uropeltis ocellatus*  
11. *Uropeltis ceylanicus*  
11A. Ventral view of *U. ceylanicus*



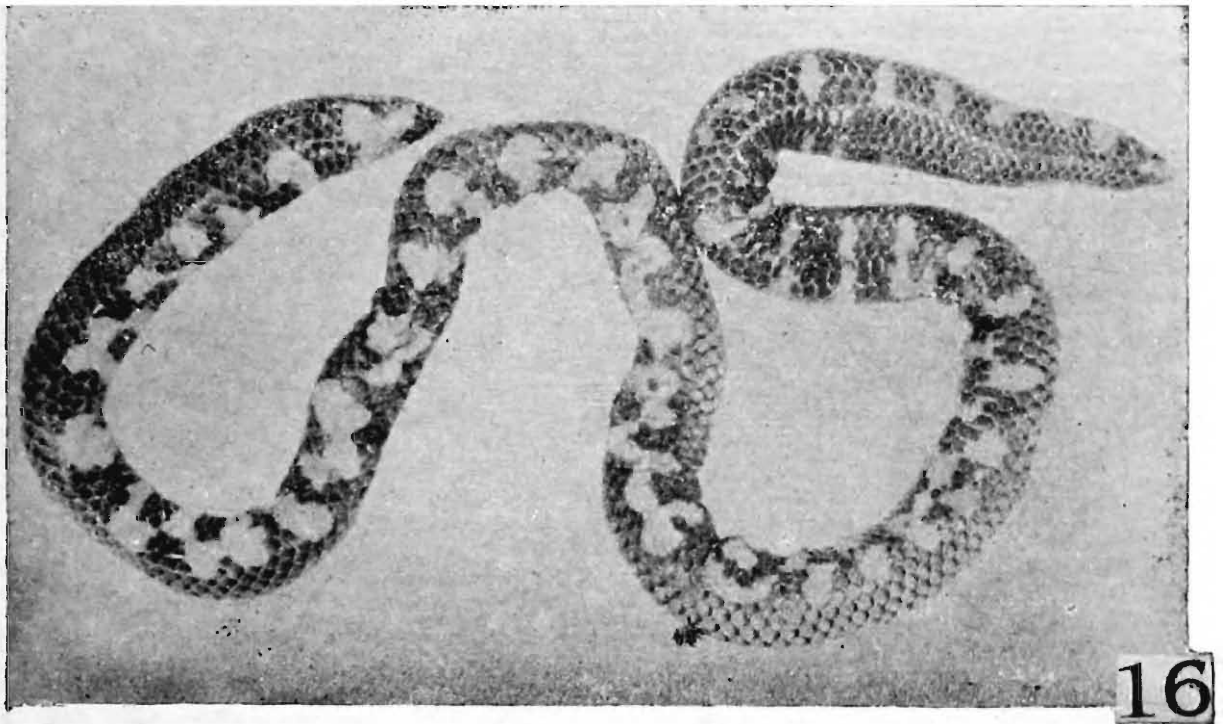
12. *Uropeltis rubromaculatus*



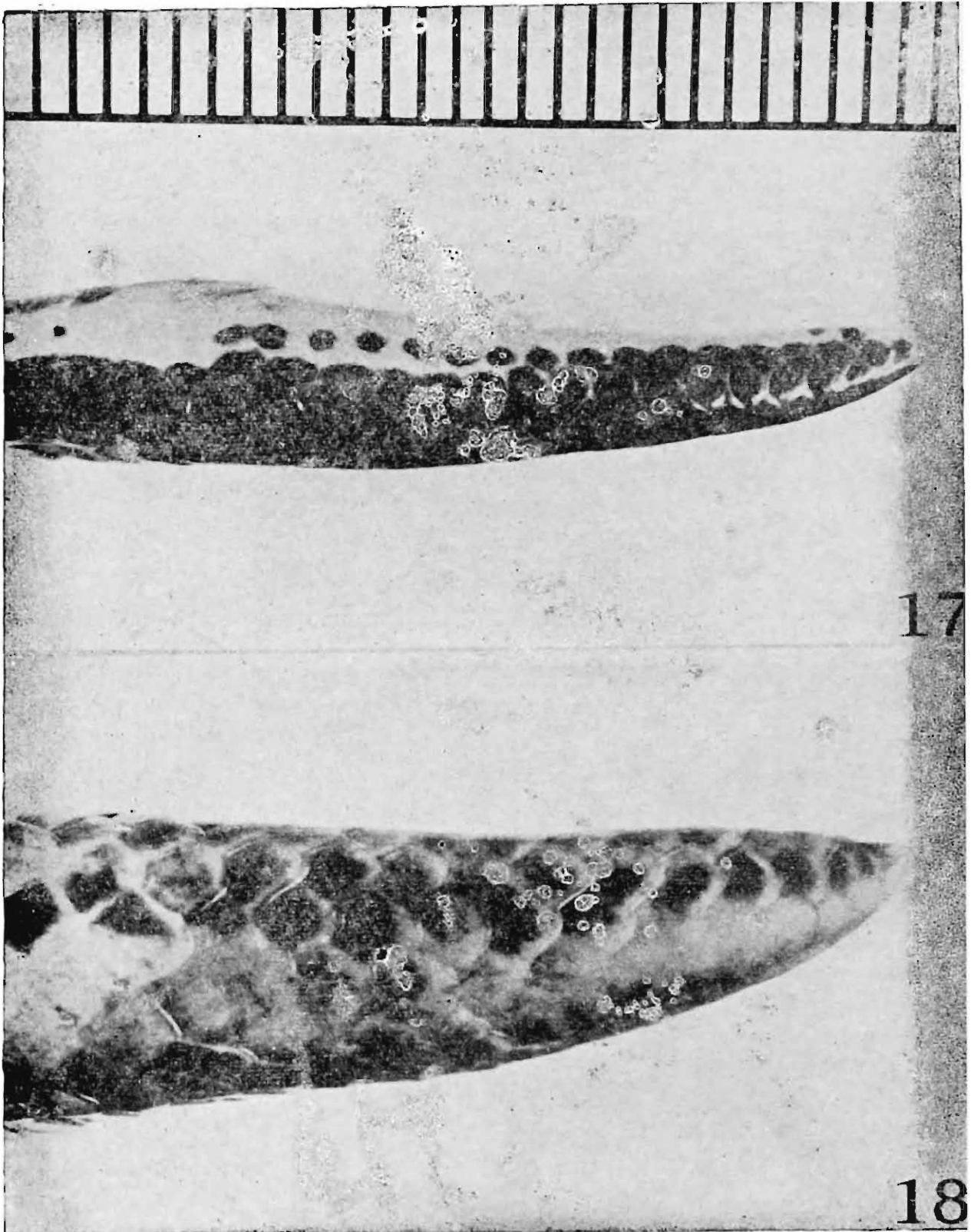
13. *Uropeltis rubrolineatus*  
 13A. Ventral view of *U. rubrolineatus*  
 14. *Uropeltis pulneyensis*  
 14A. Ventral view of *U. pulneyensis*



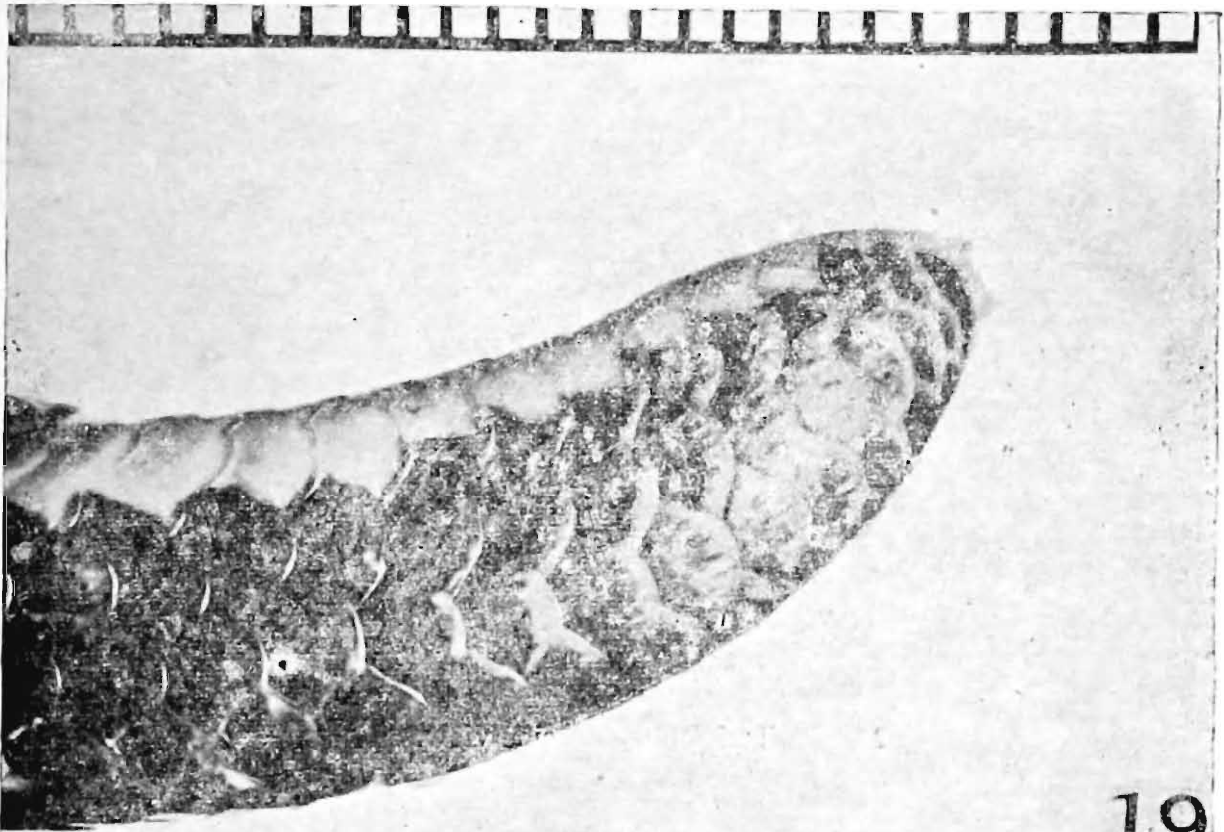
15. *Uropeltis liura*



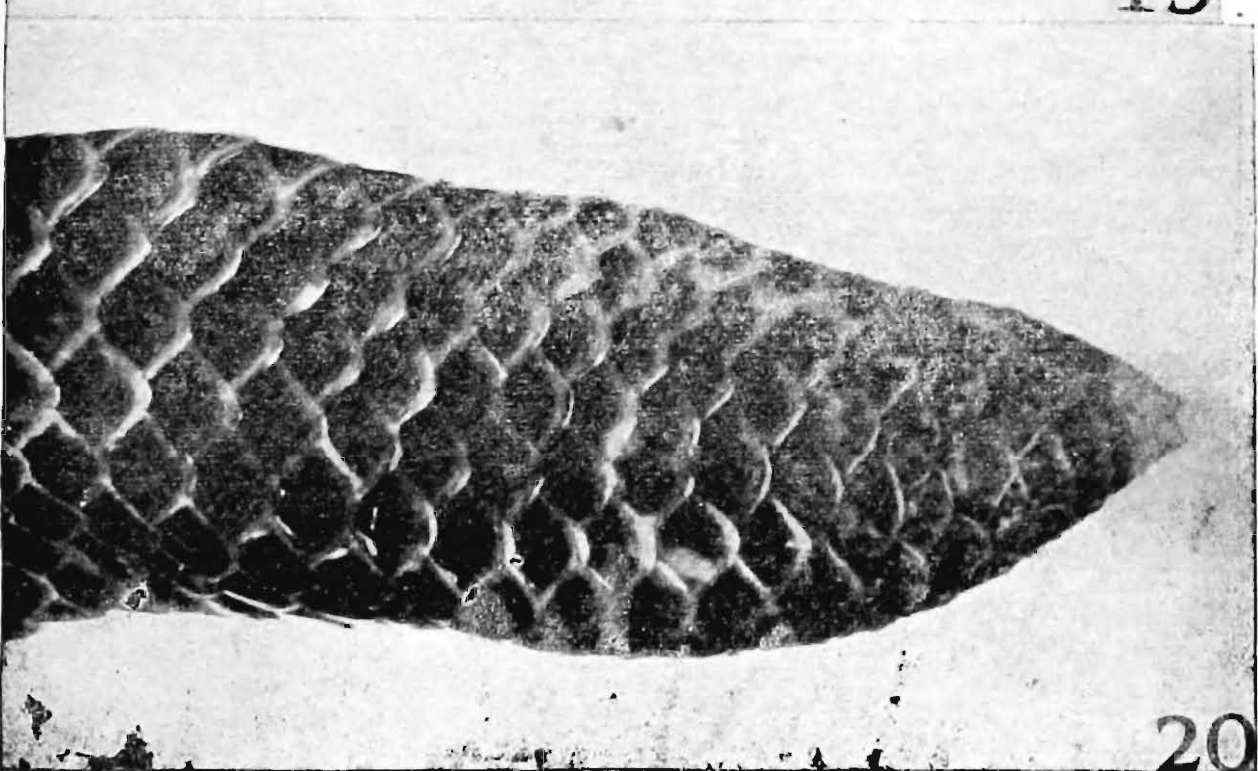
16. Ventral view of *Uropeltis smithi*



17. Tail of *Melanophidium*, side view.  
18. Tail of *Plectrurus*, side view.

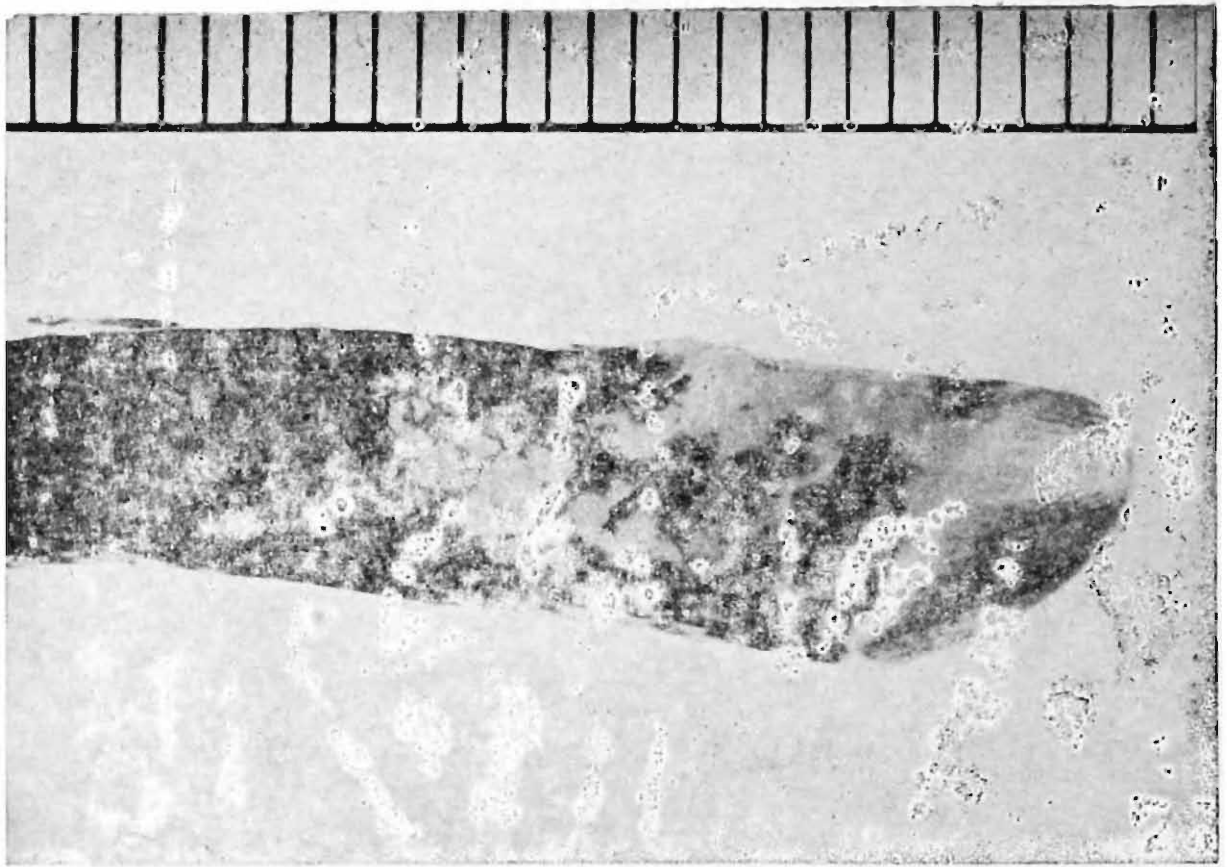


19

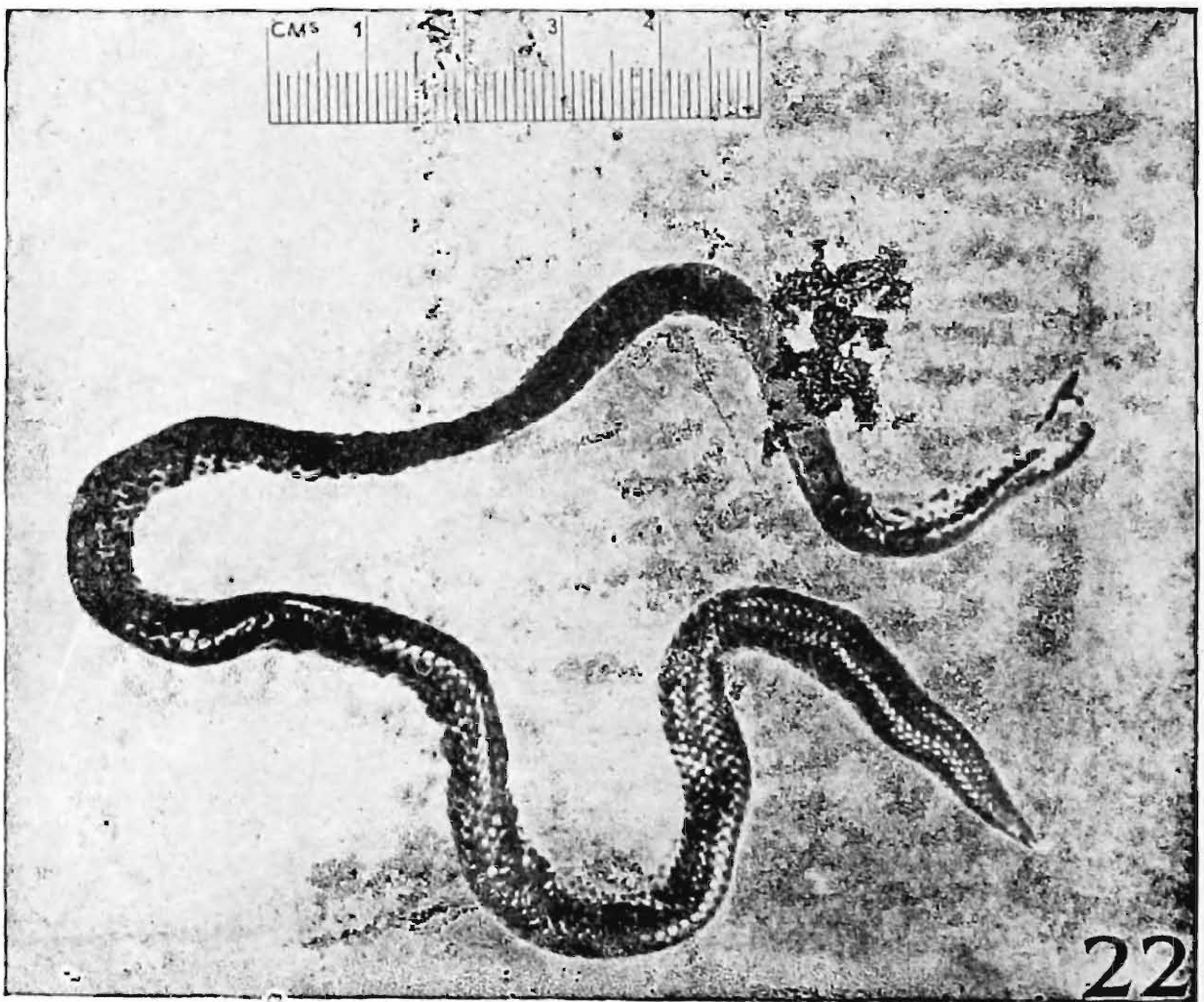


20

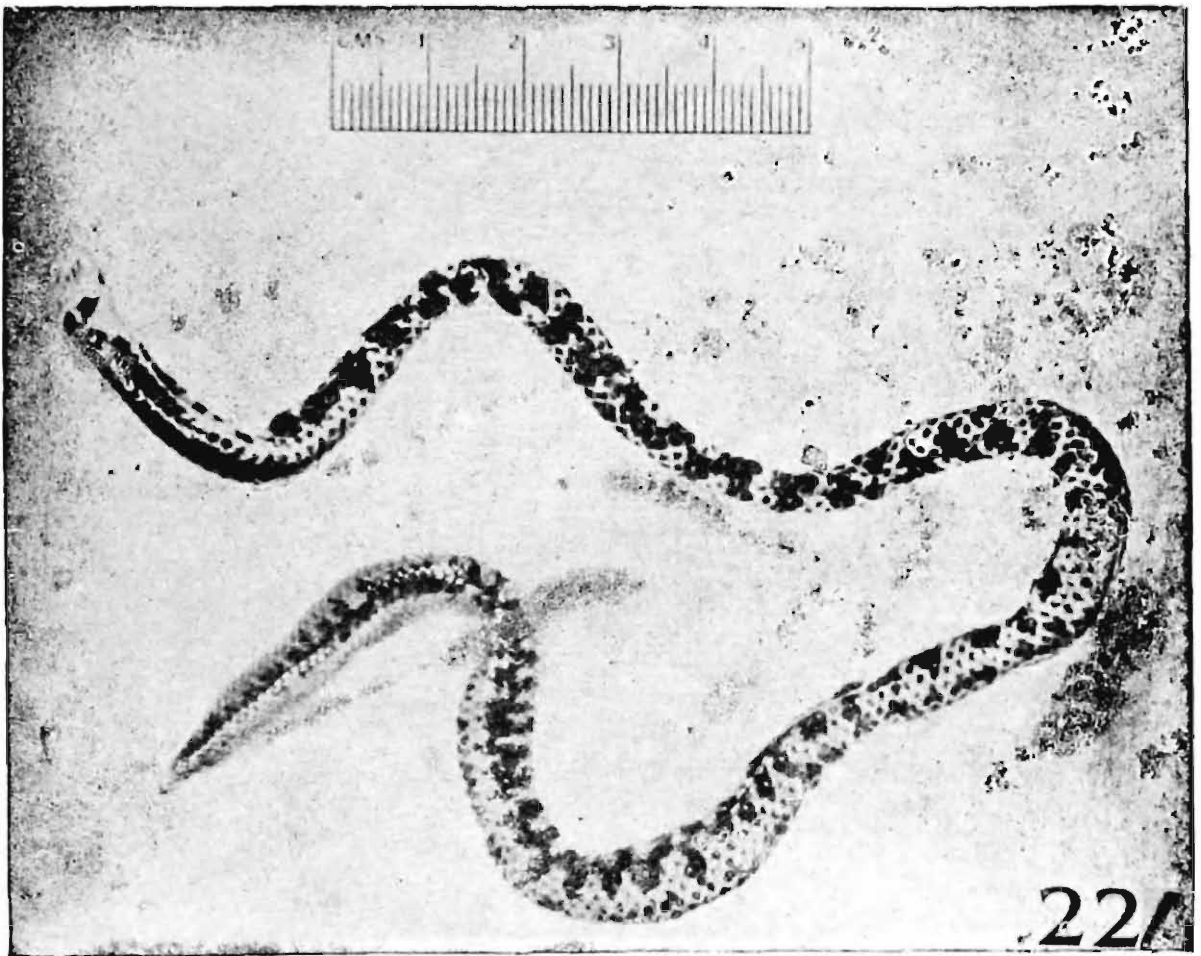
19. Tail of *Plectrurus perroteti*, side view  
20. Tail of *Uropeltis*, side view



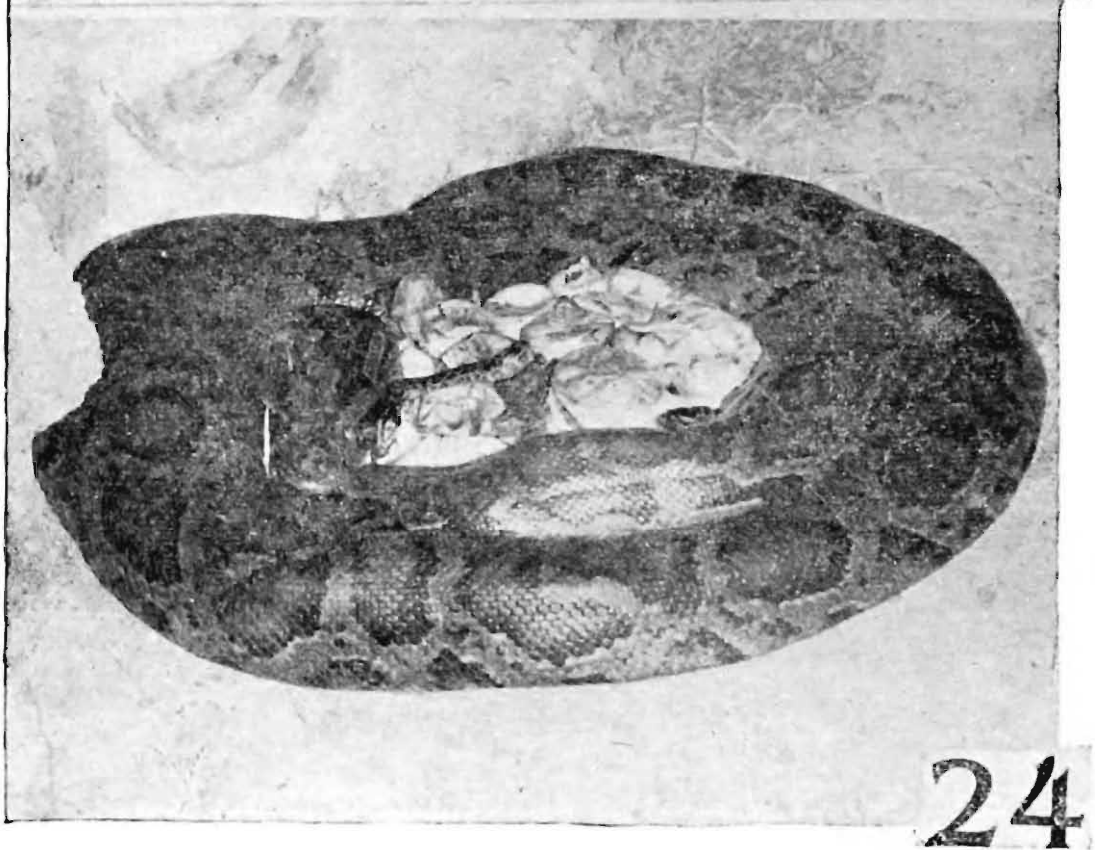
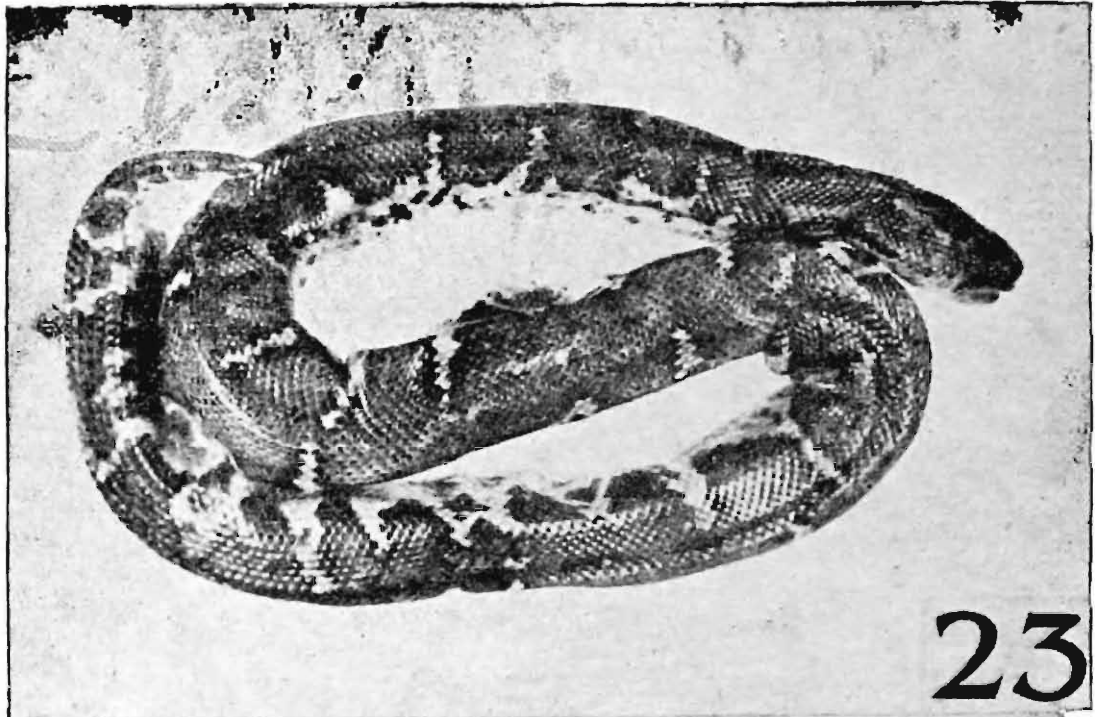
21. Tail of *Rhinophis*, side view.



22. *Rhinophis fergusonianus*

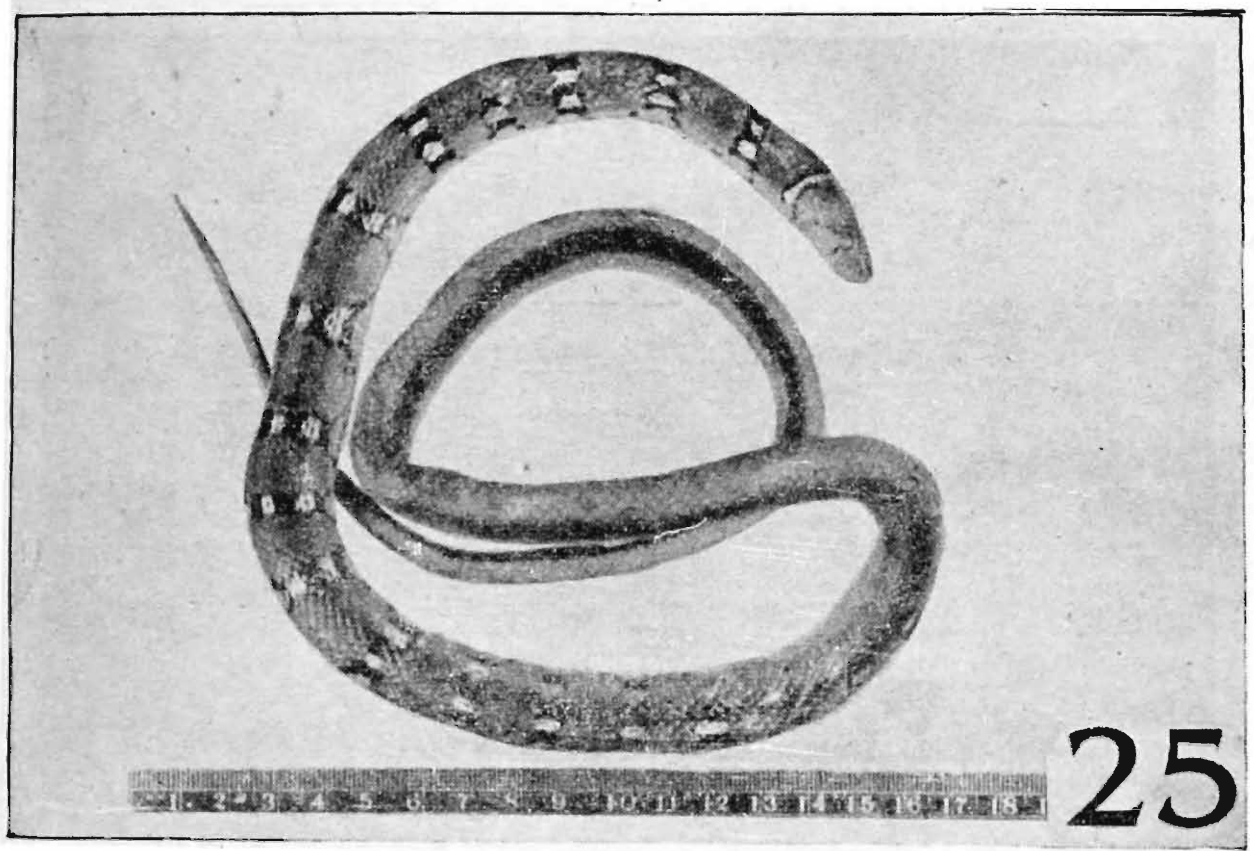


22A. Ventral view of *Rhinophis fergusonianus*

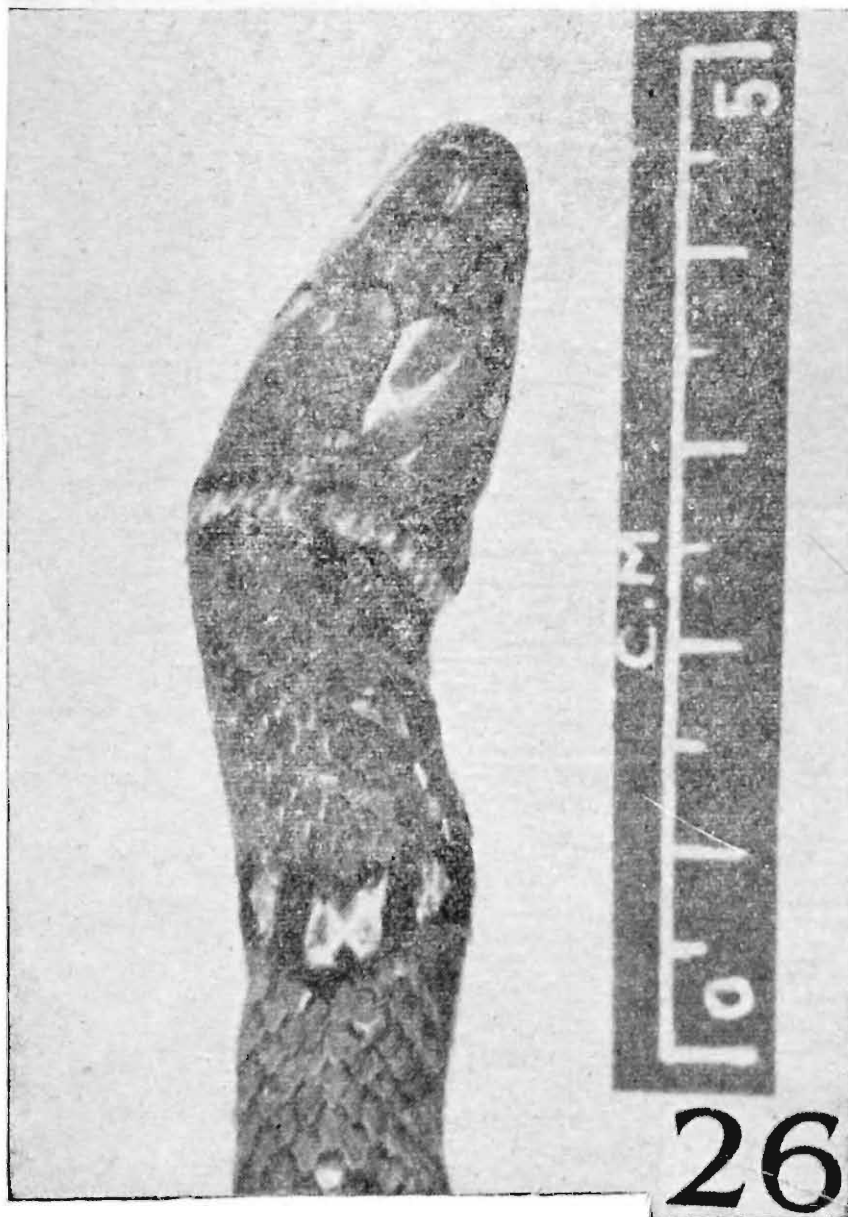


23. *Eryx conicus*

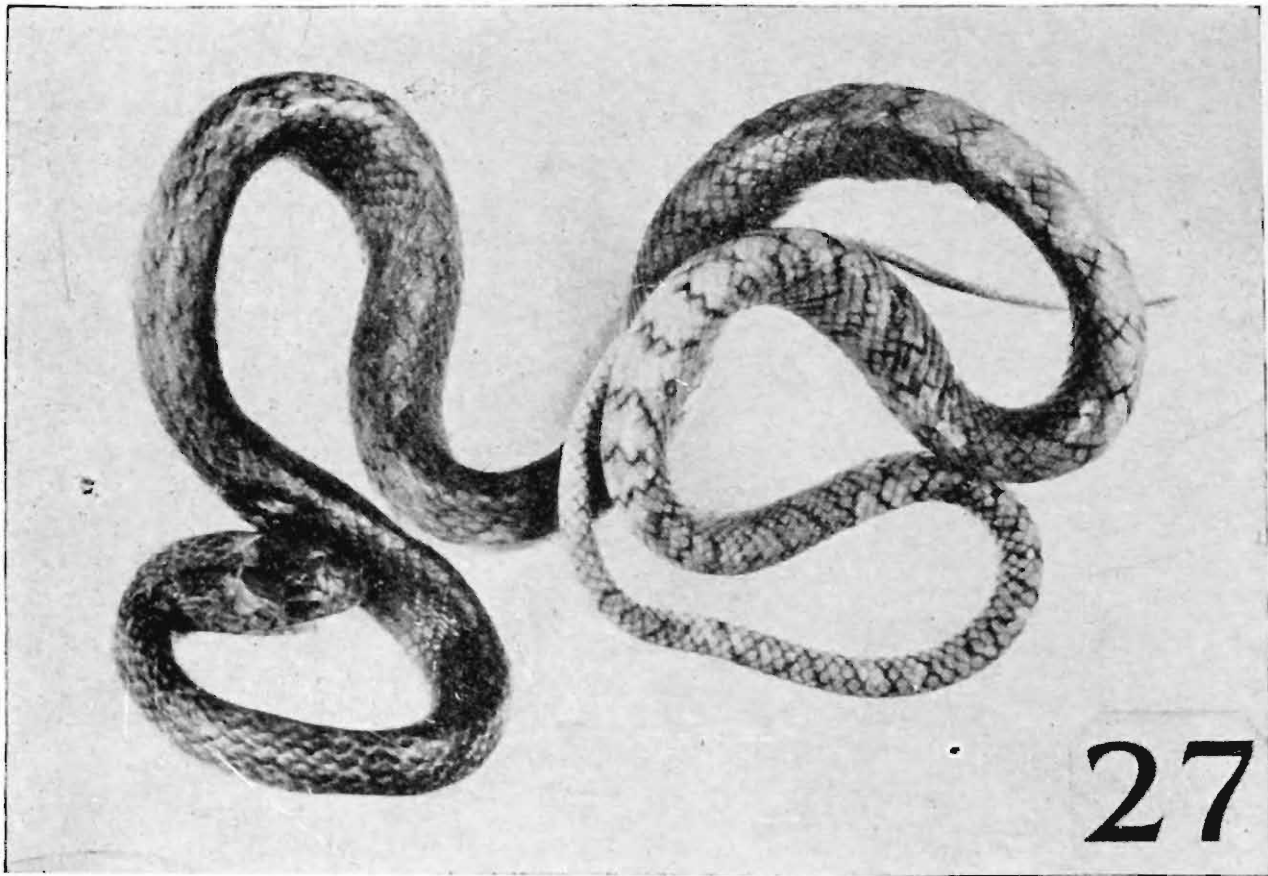
24. *Python molurus*-Female incubating eggs.



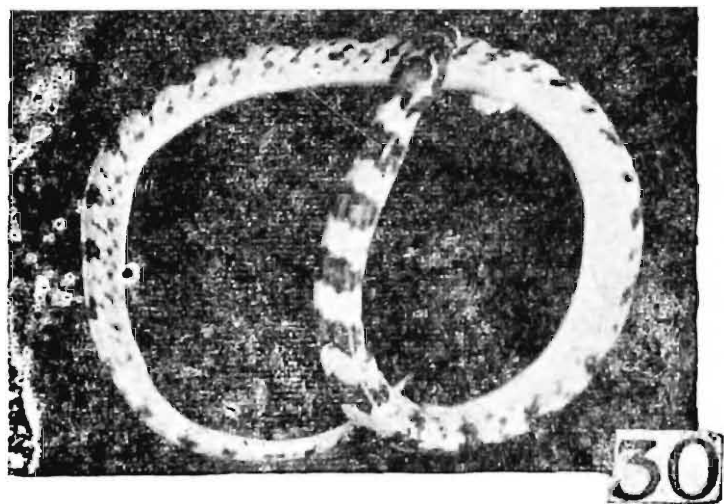
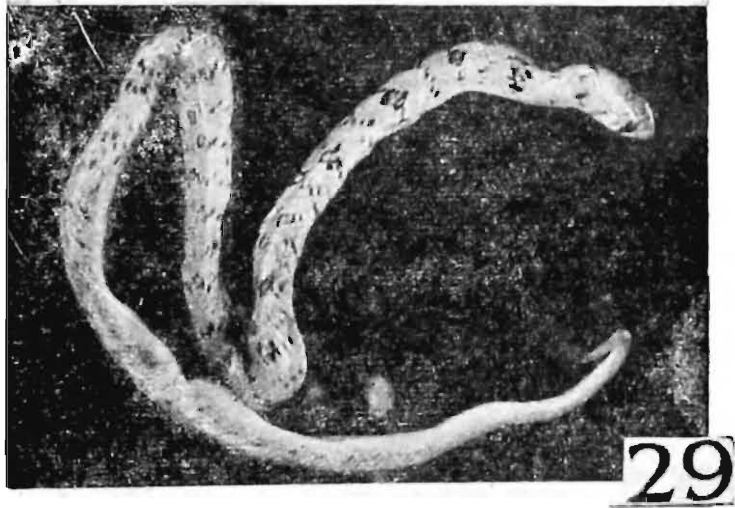
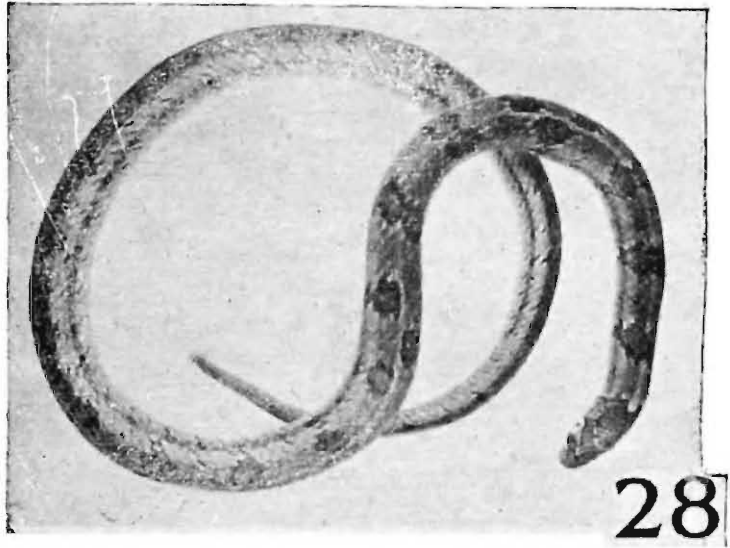
25. *Elaphe helena*, juvenile,



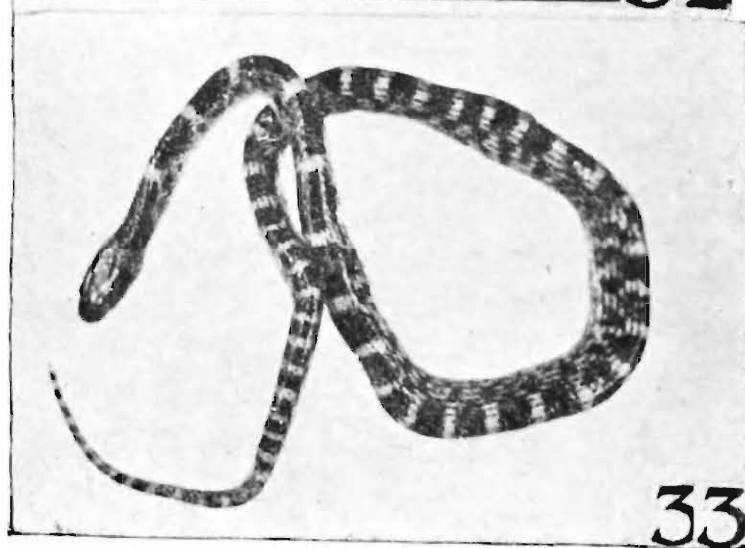
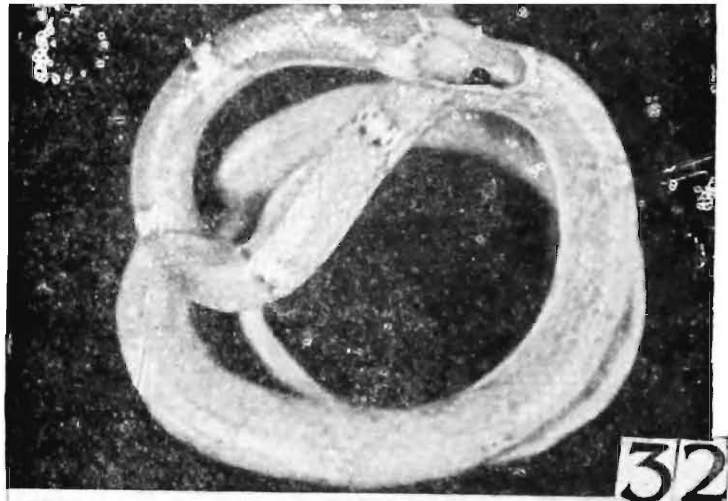
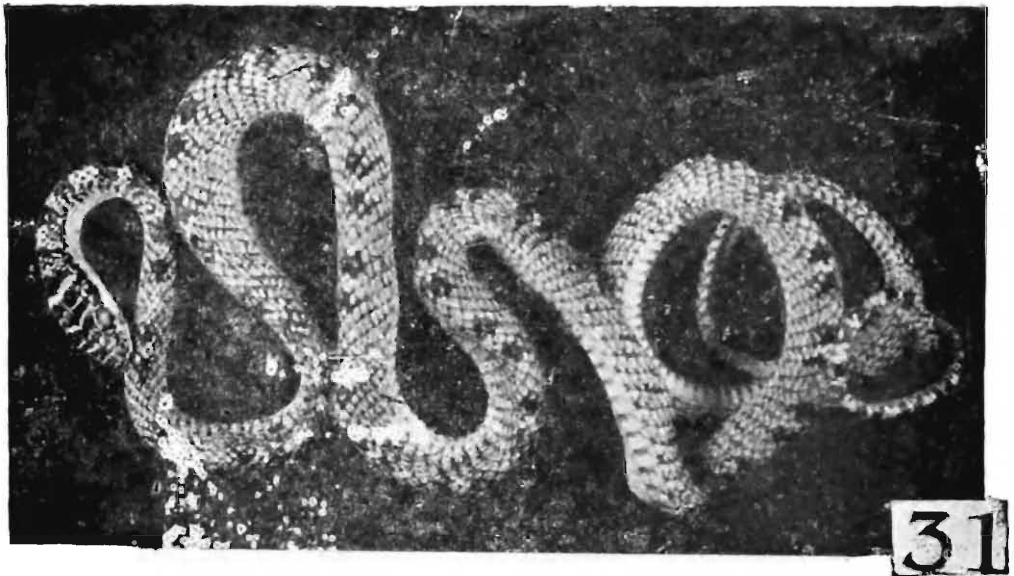
26. Head of *E. helena*



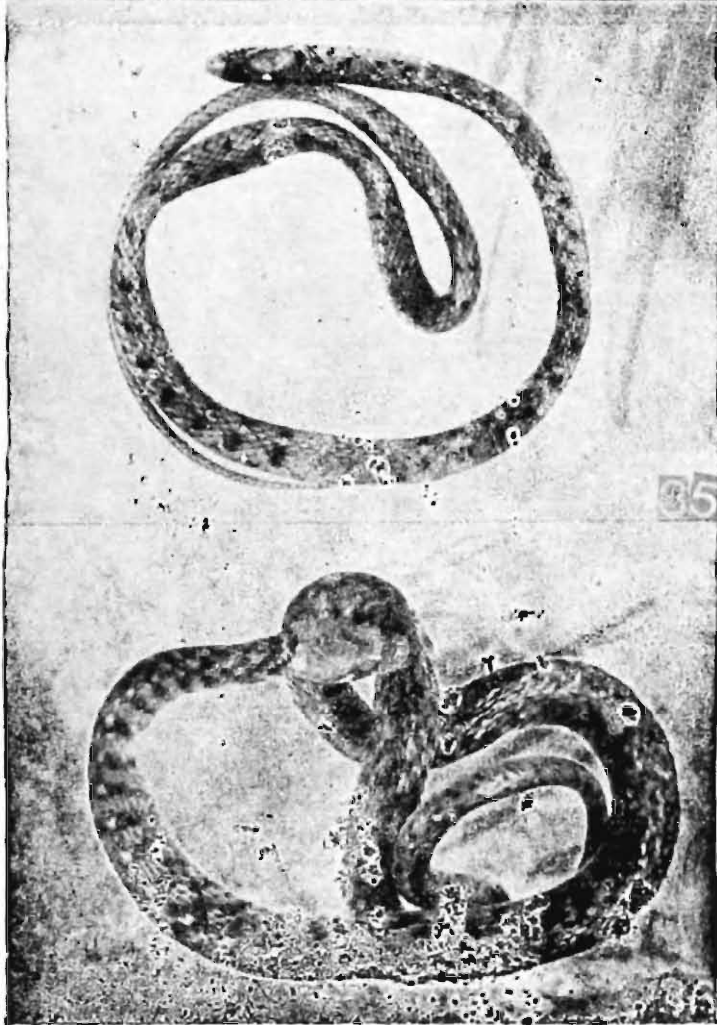
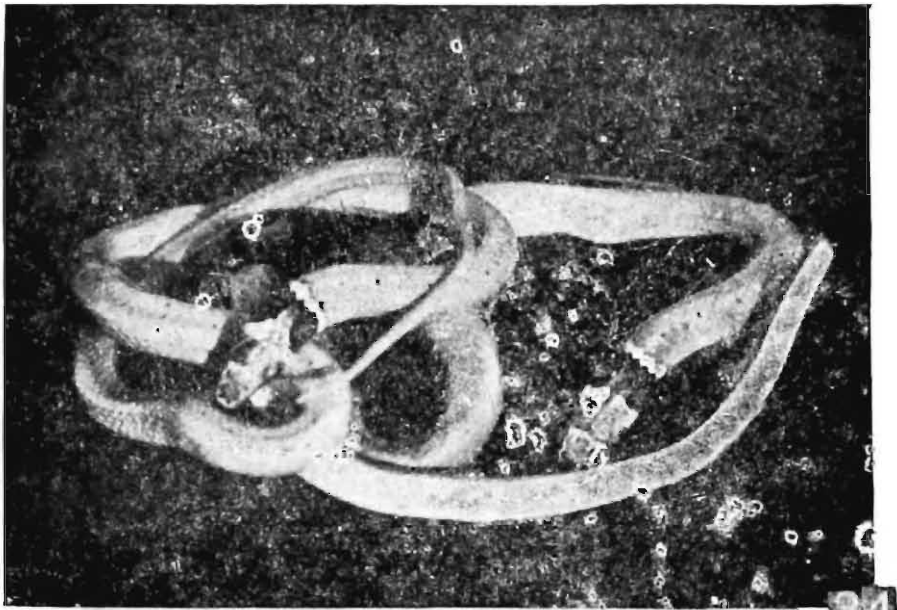
27. *Ptyas mucosus*



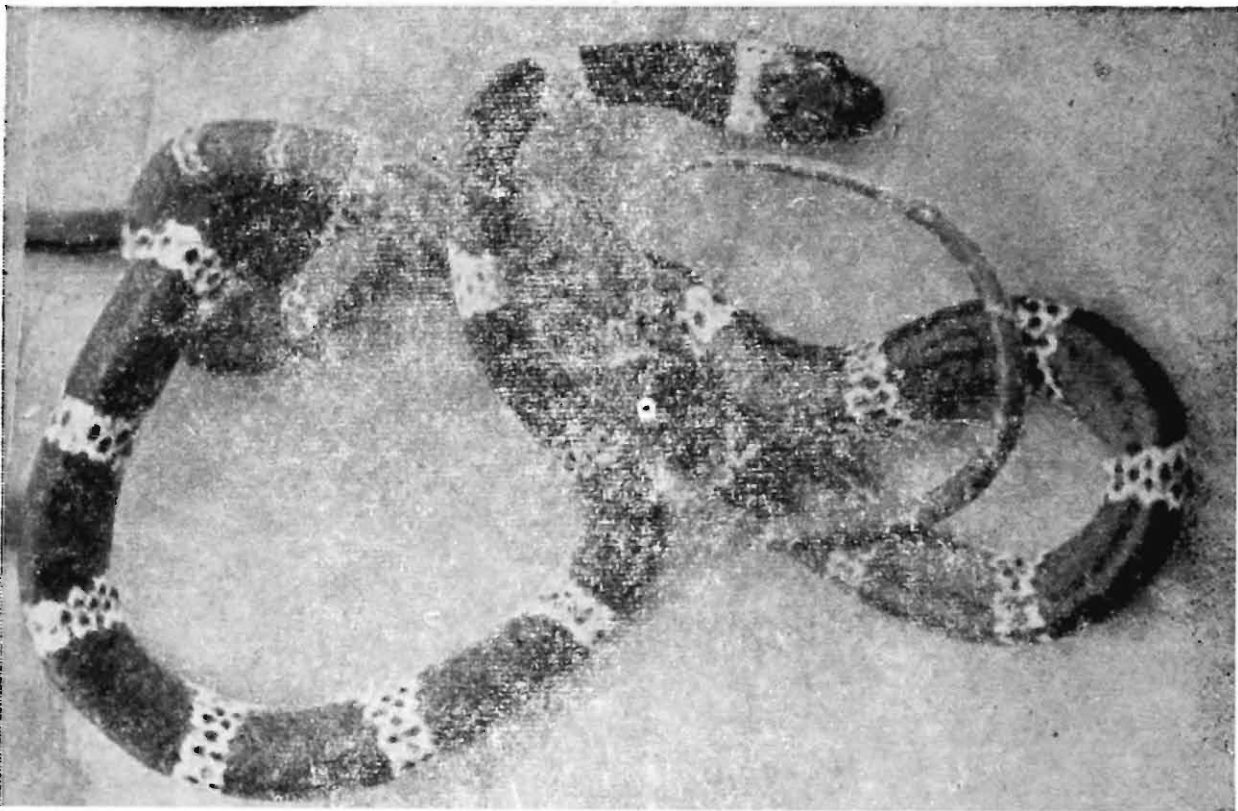
28-30. *Oligodon taeniolatus*



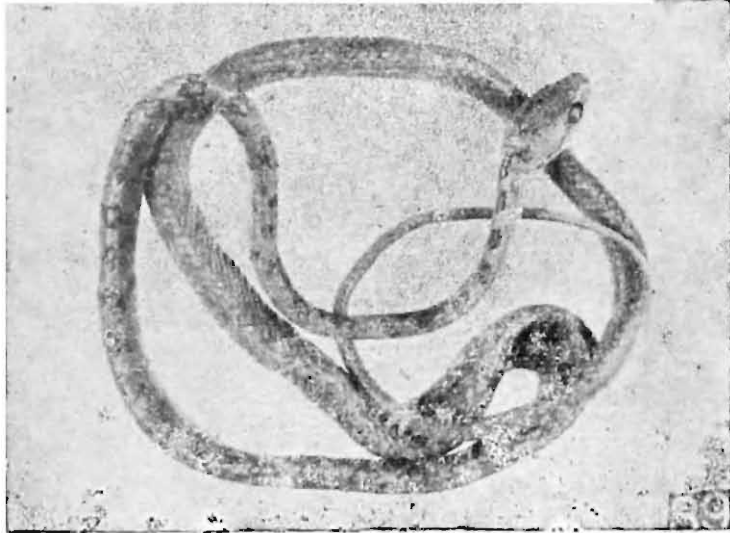
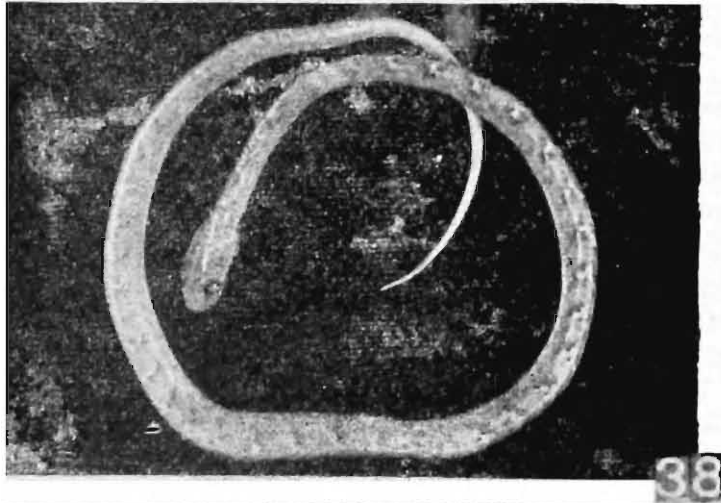
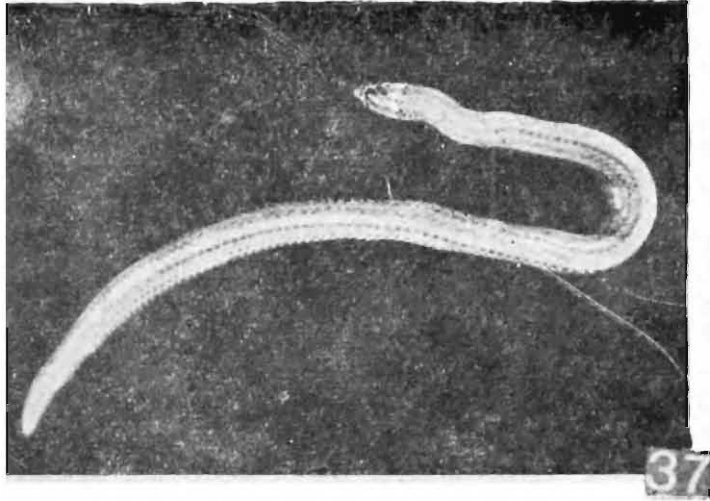
- 31. *Chrysopelea ornata*
- 32. *Lycodon aulicus*
- 33. *Lycodon travancoricus*



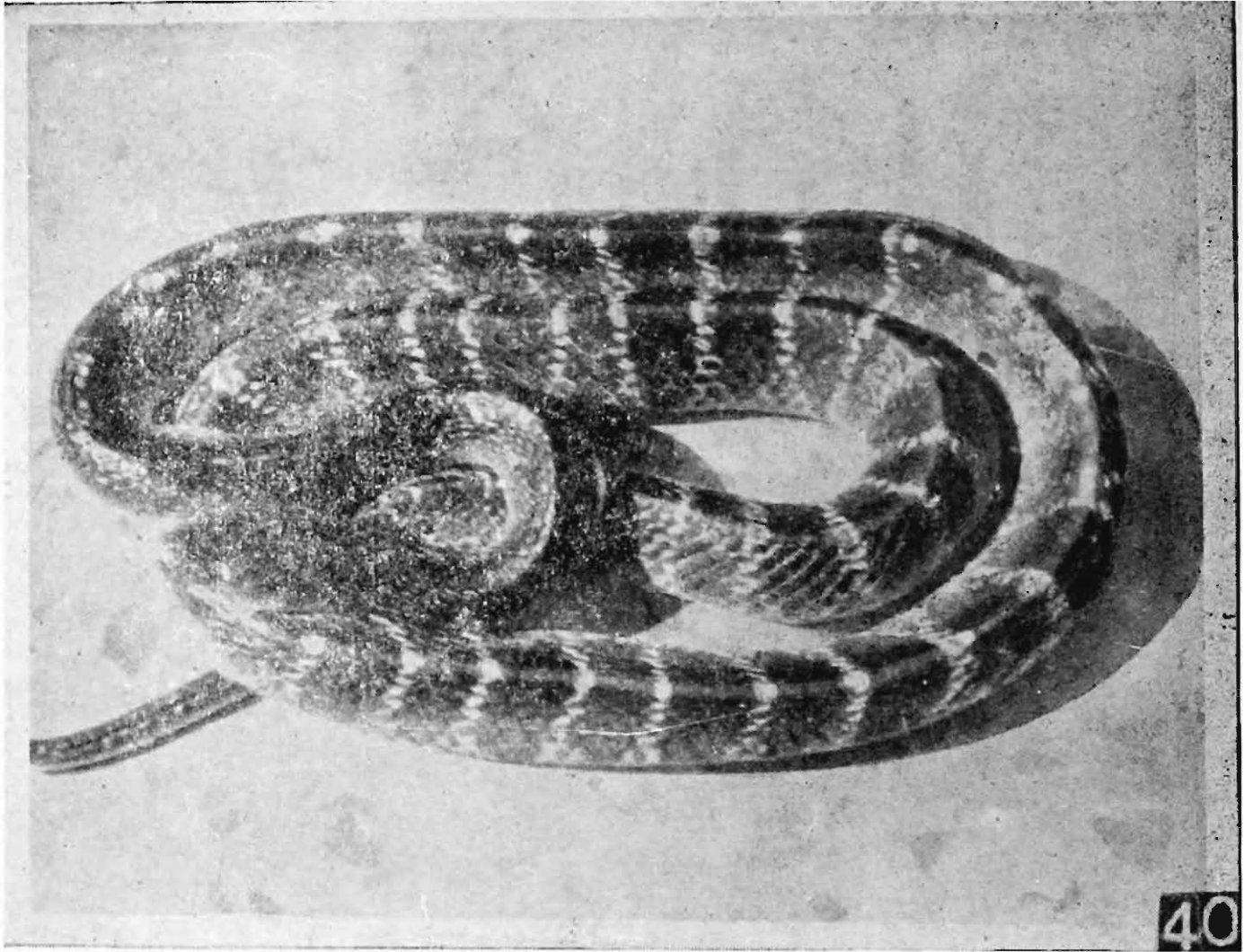
34. *Sibynophis subpunctatus*  
35. *Amphiesma beddomei*  
36. *Xenochrophis piscator*



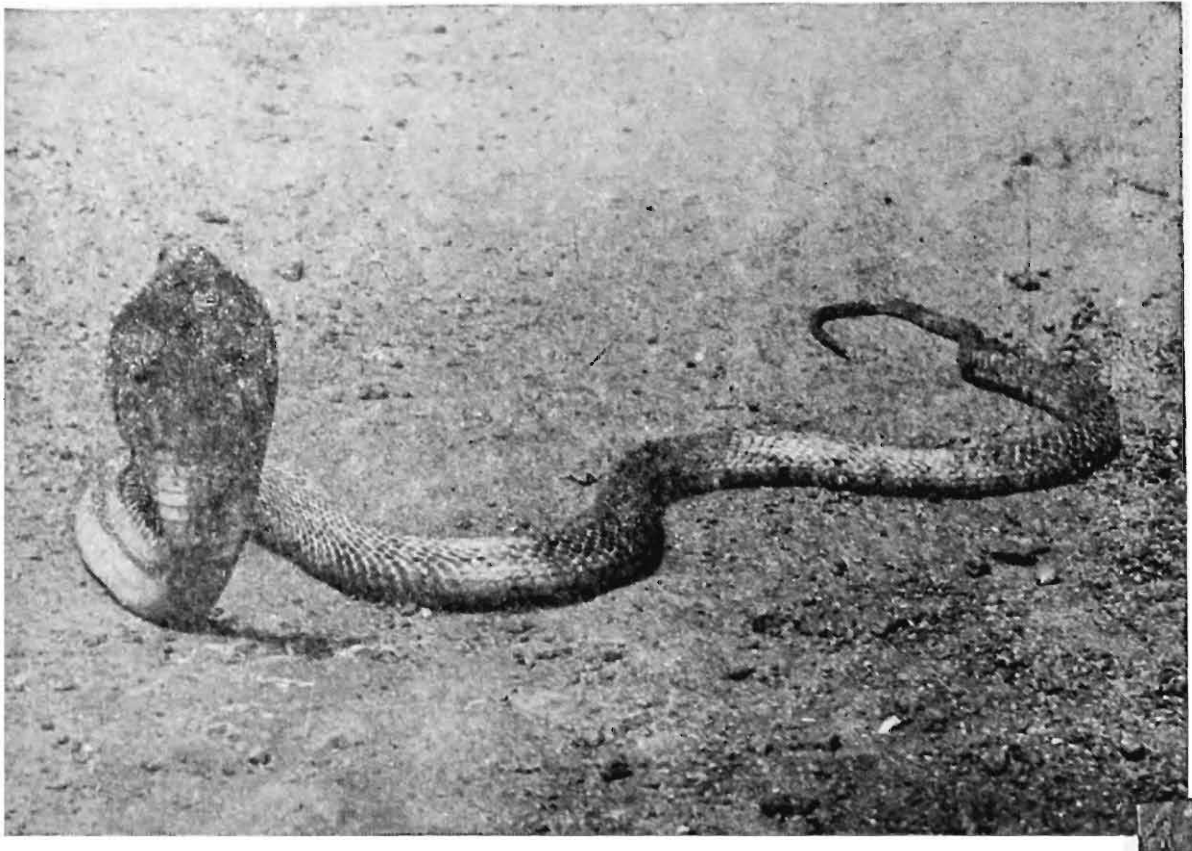
36A. *Dryocalamus nympha*



- 37. *Xylophis perroteti*
- 38. *Boiga trigonata*
- 39. *Boiga dighotoni*



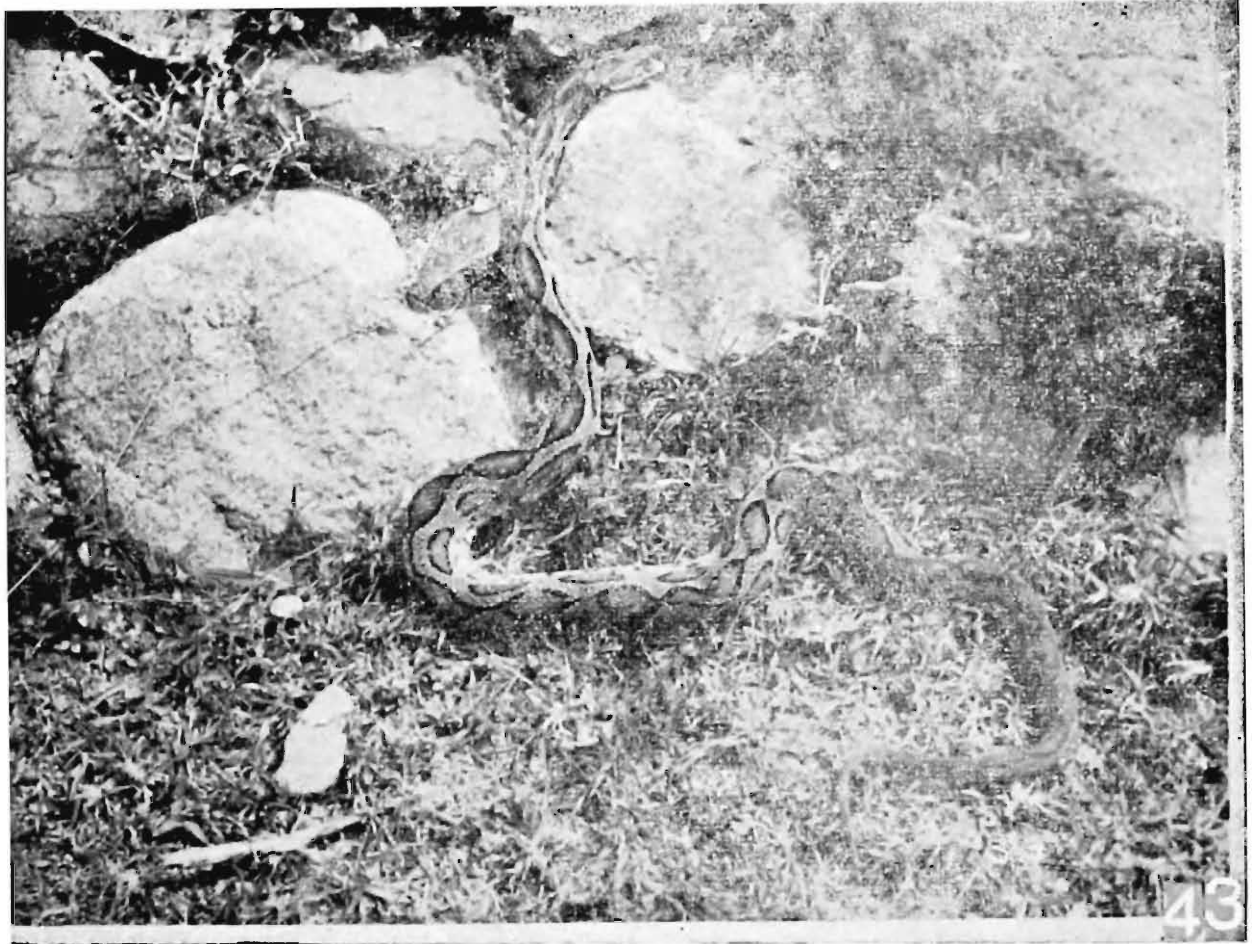
40. *Bungarus caeruleus*



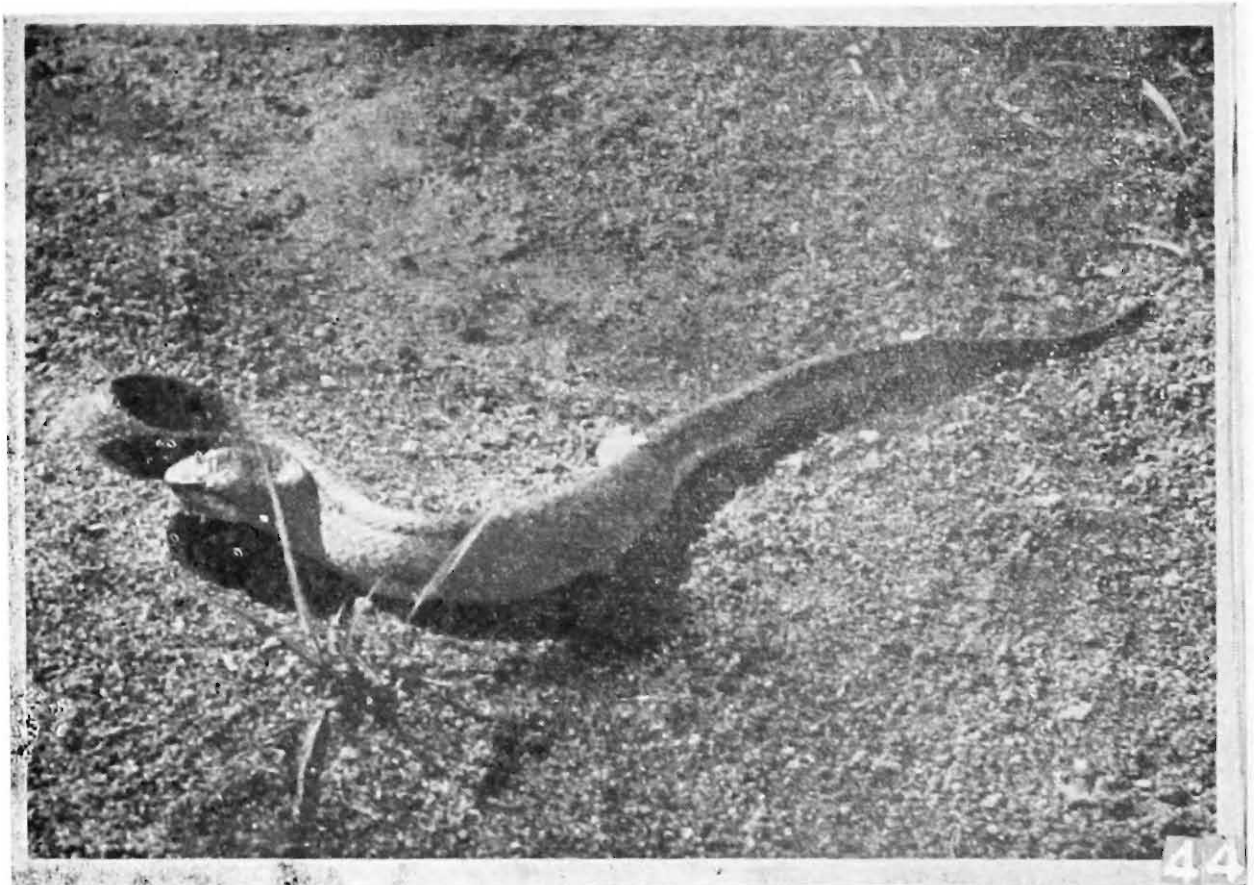
41. *Naja naja*



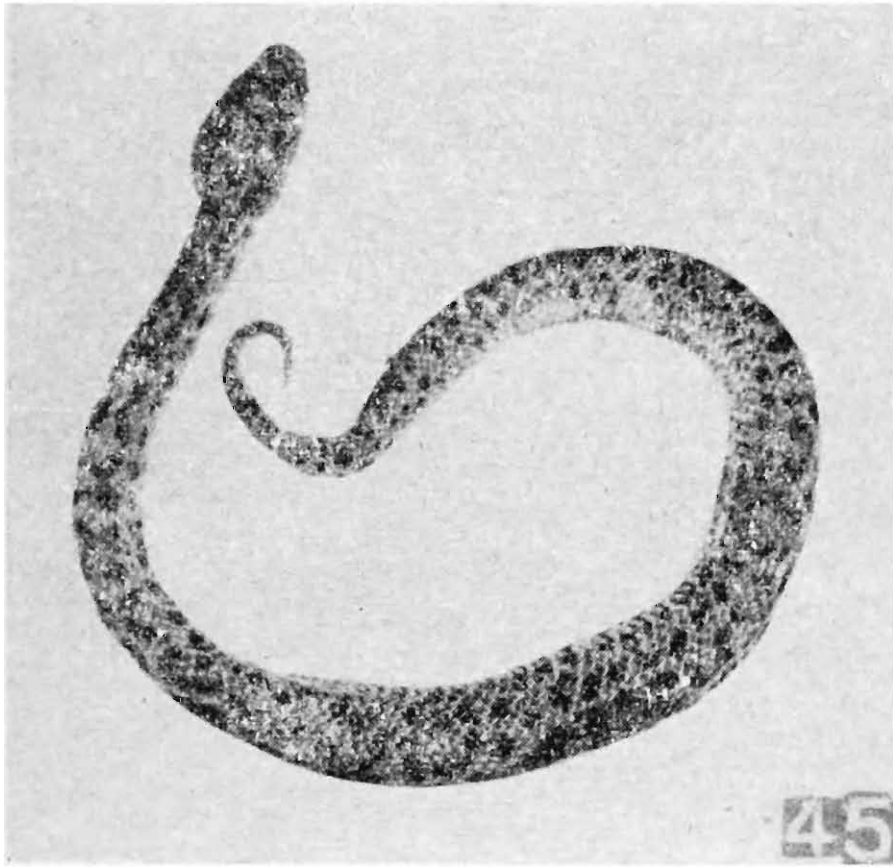
42. *Ophiophagus hannah*



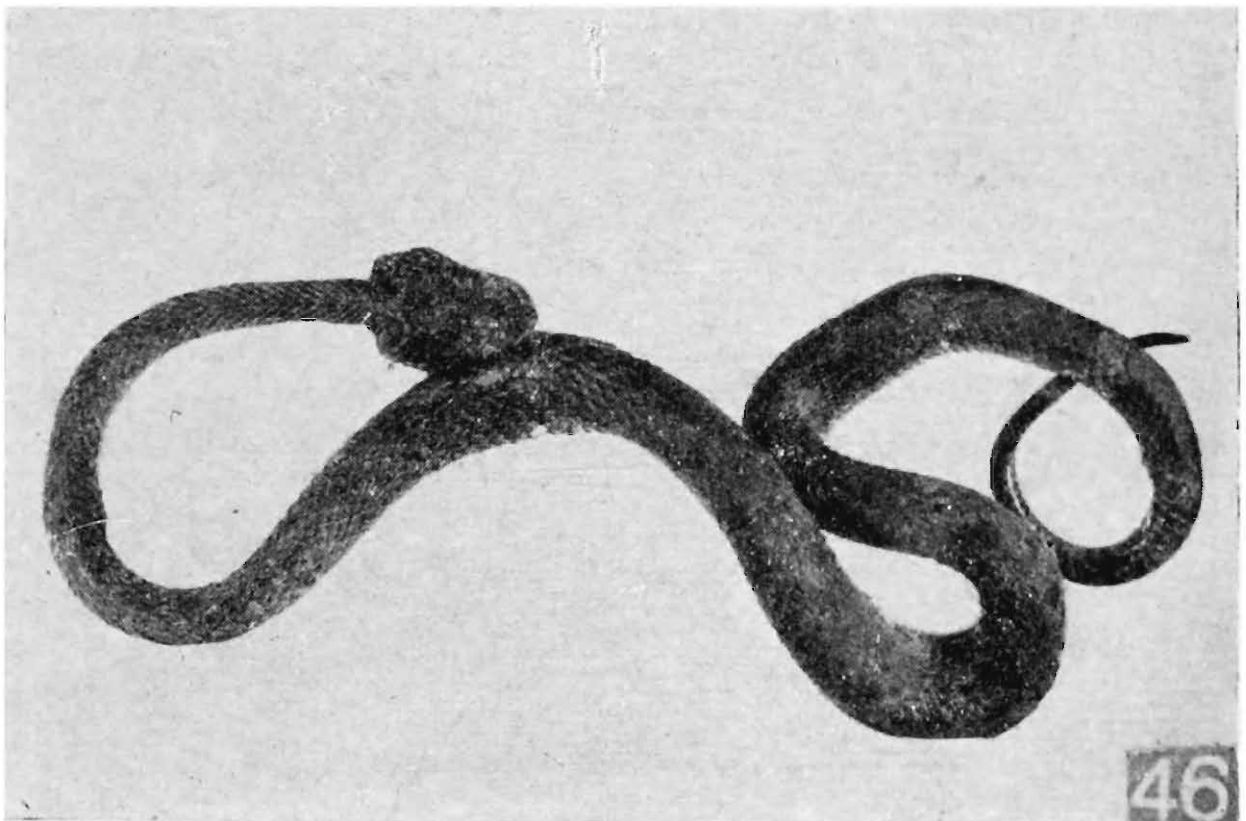
43. *Vipera russelli*



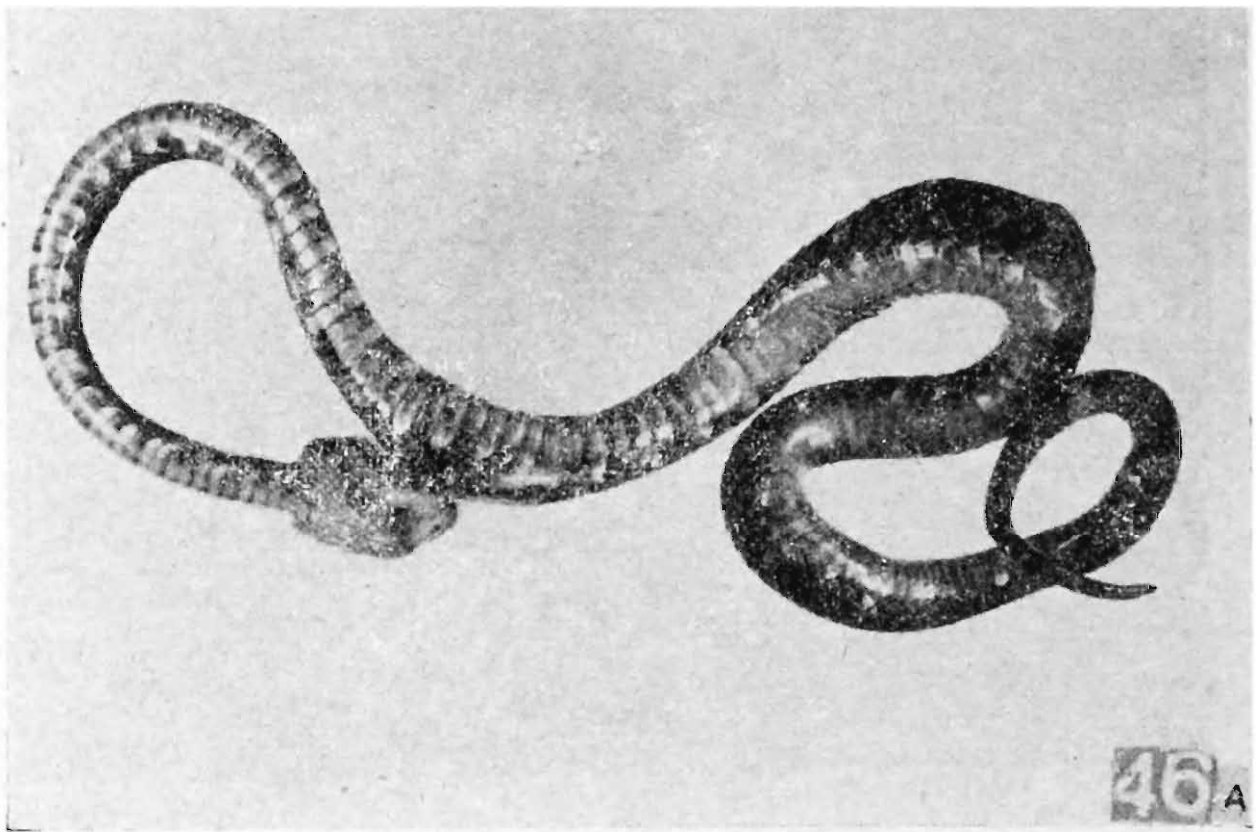
44. *Trimeresurus macrolepis*



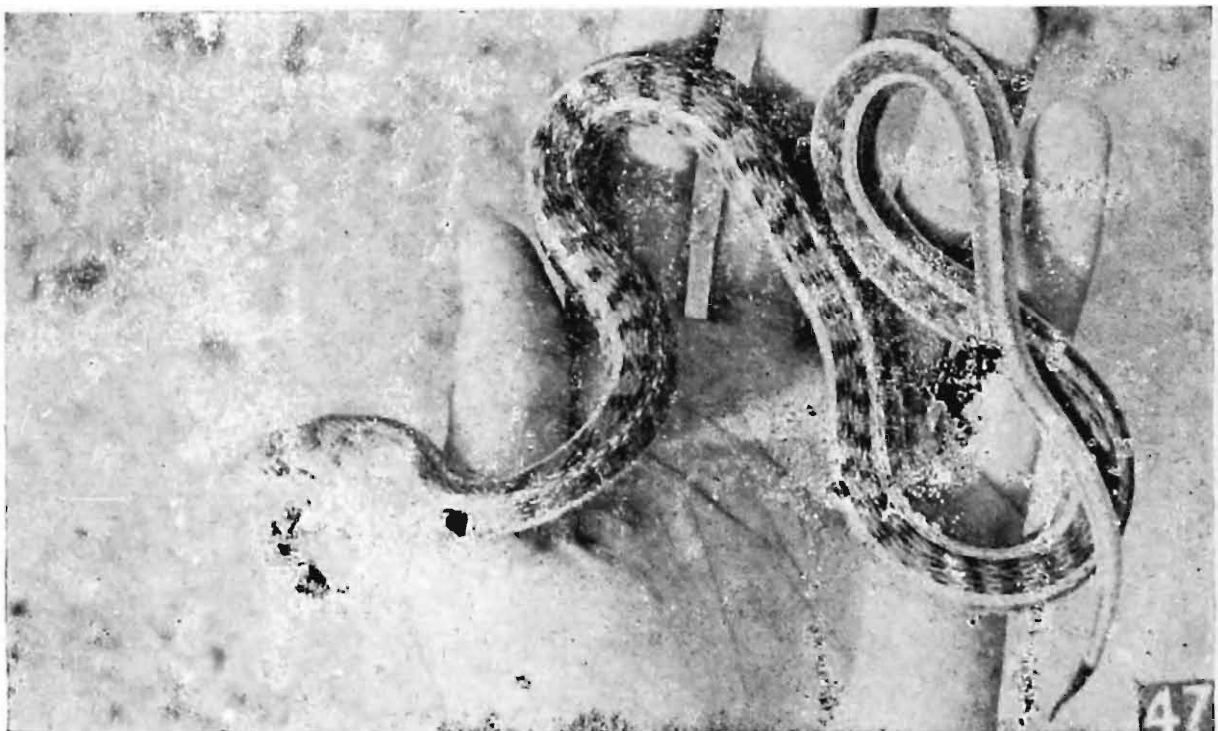
45. *Trimeresurus strigatus*



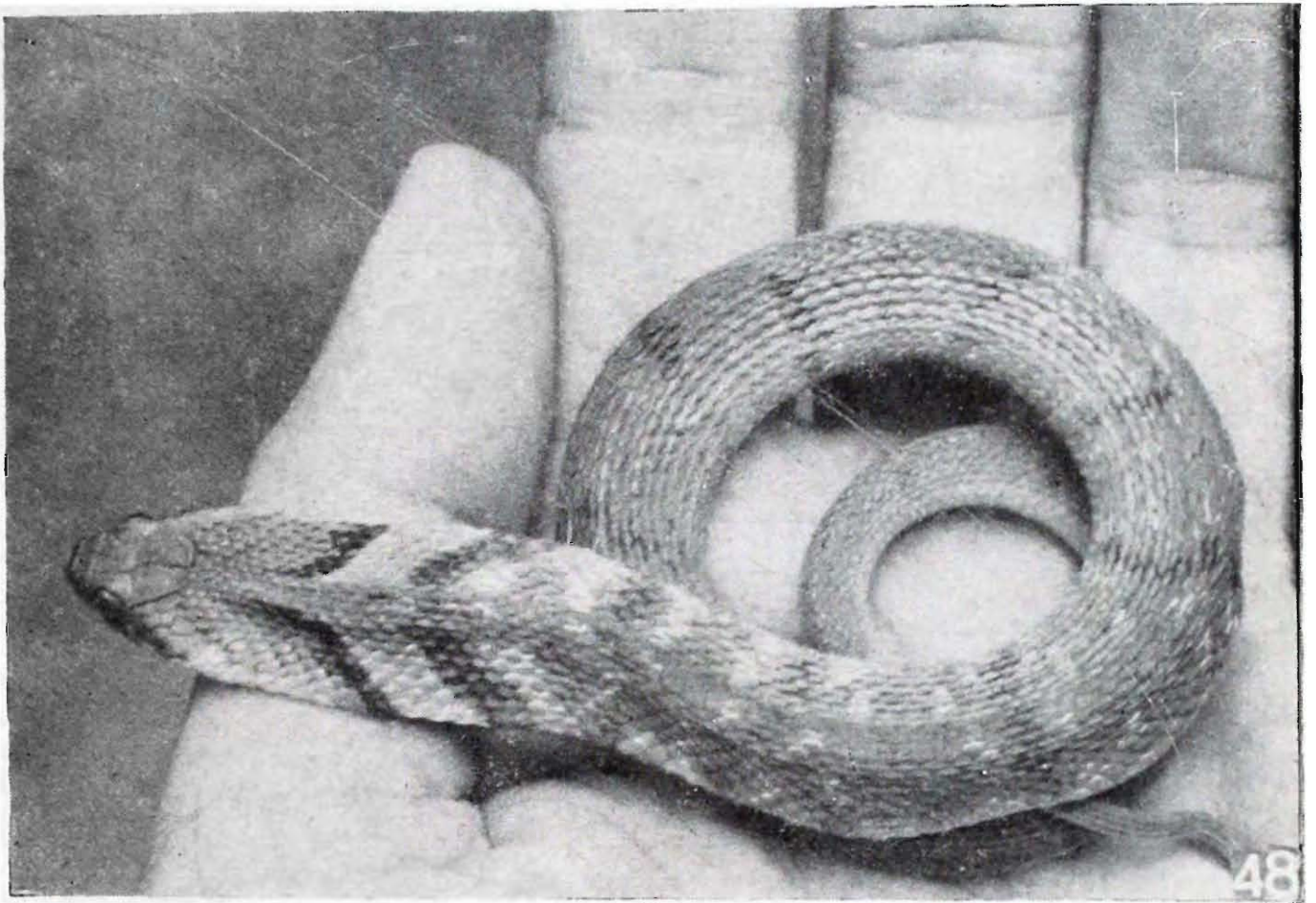
46. *Trimeresurus malabaricus*



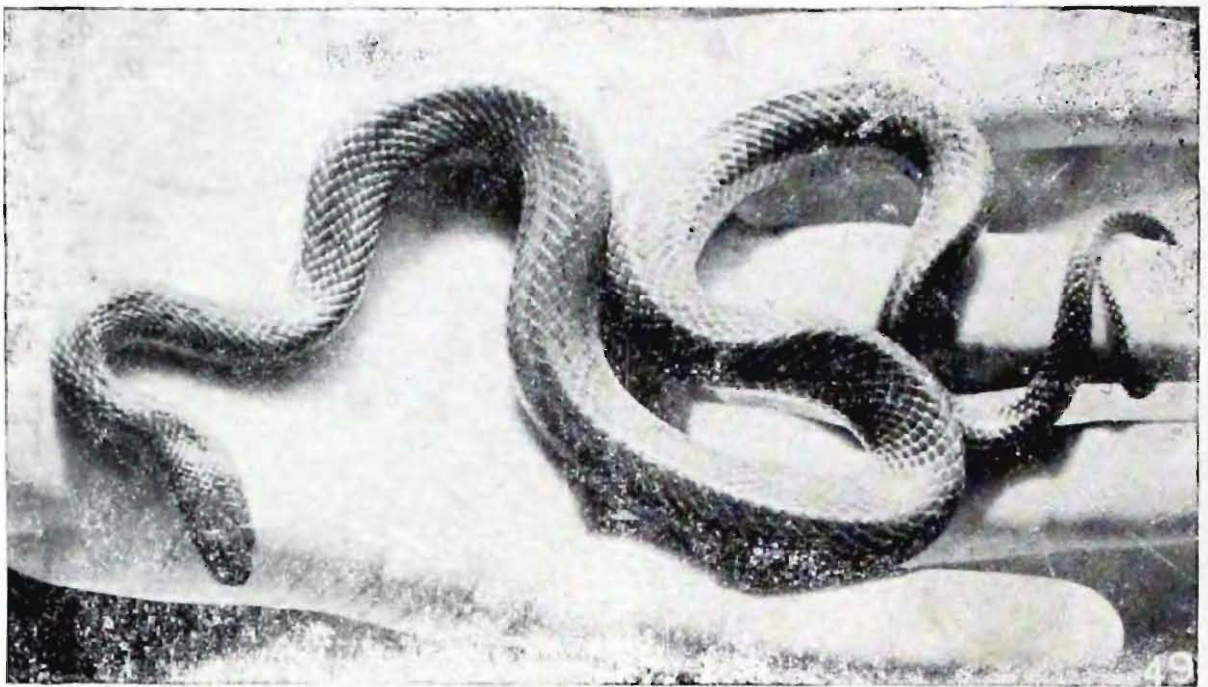
46A. Ventral view of *T. malabaricus*



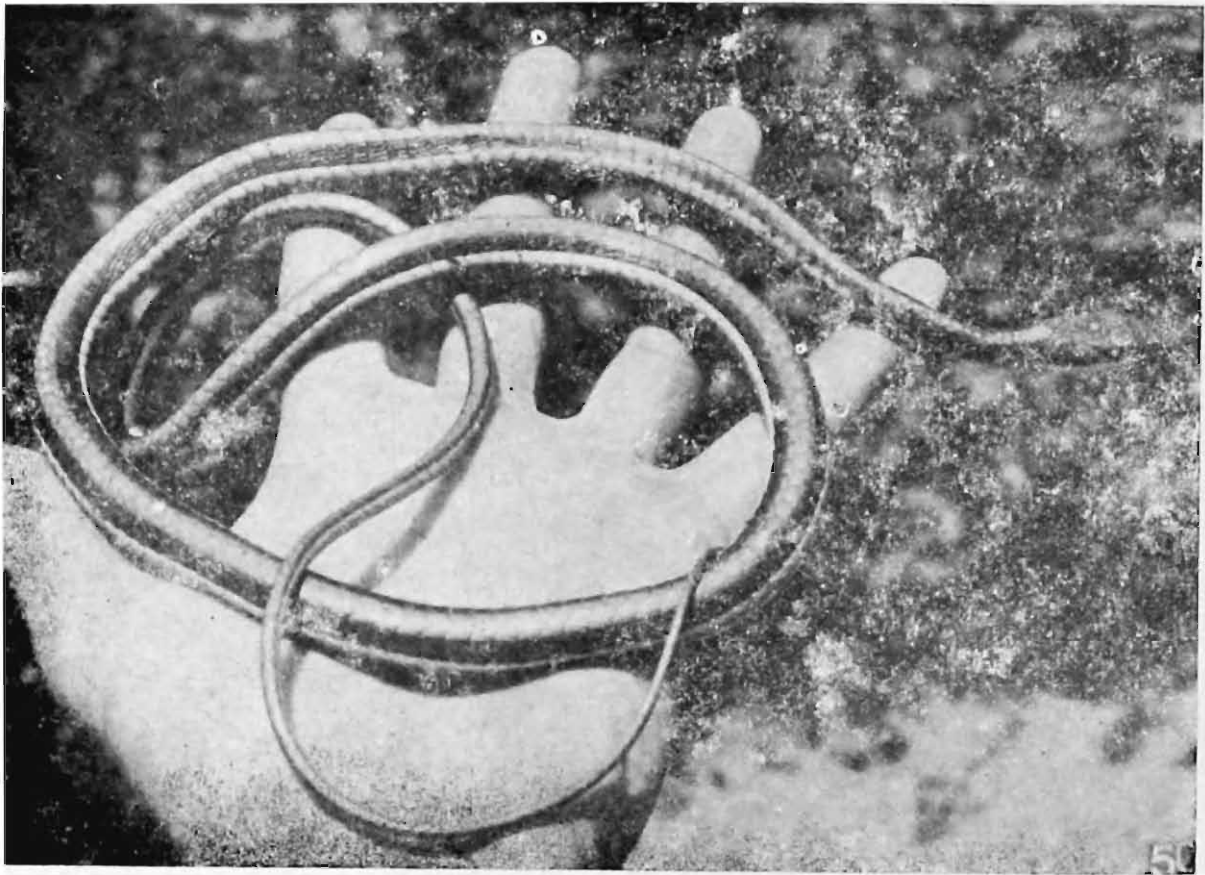
47. *Amphiesma stolata*



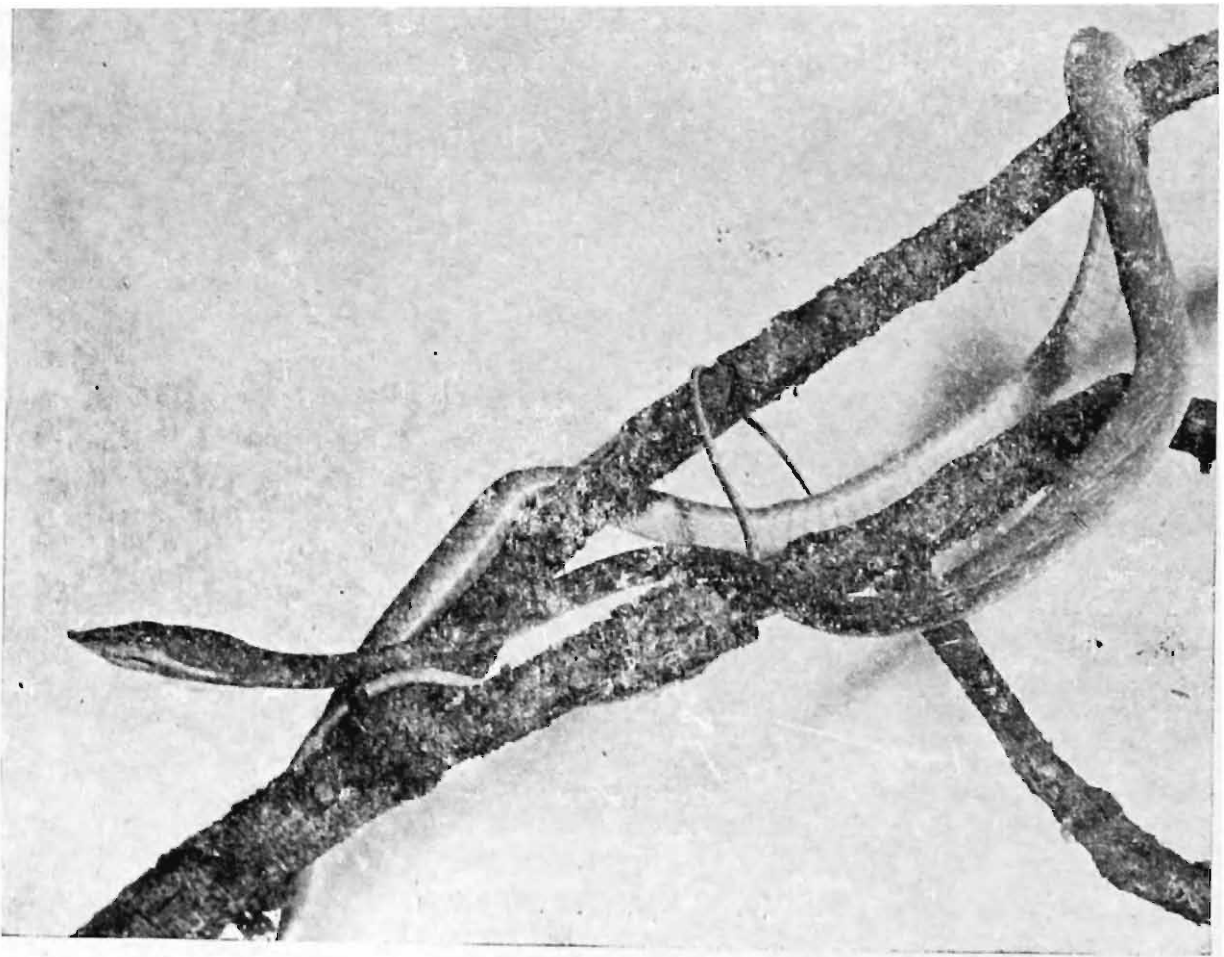
48. *Macropisthodon plumbicolor*



49. *Elaphe helena*, adult.



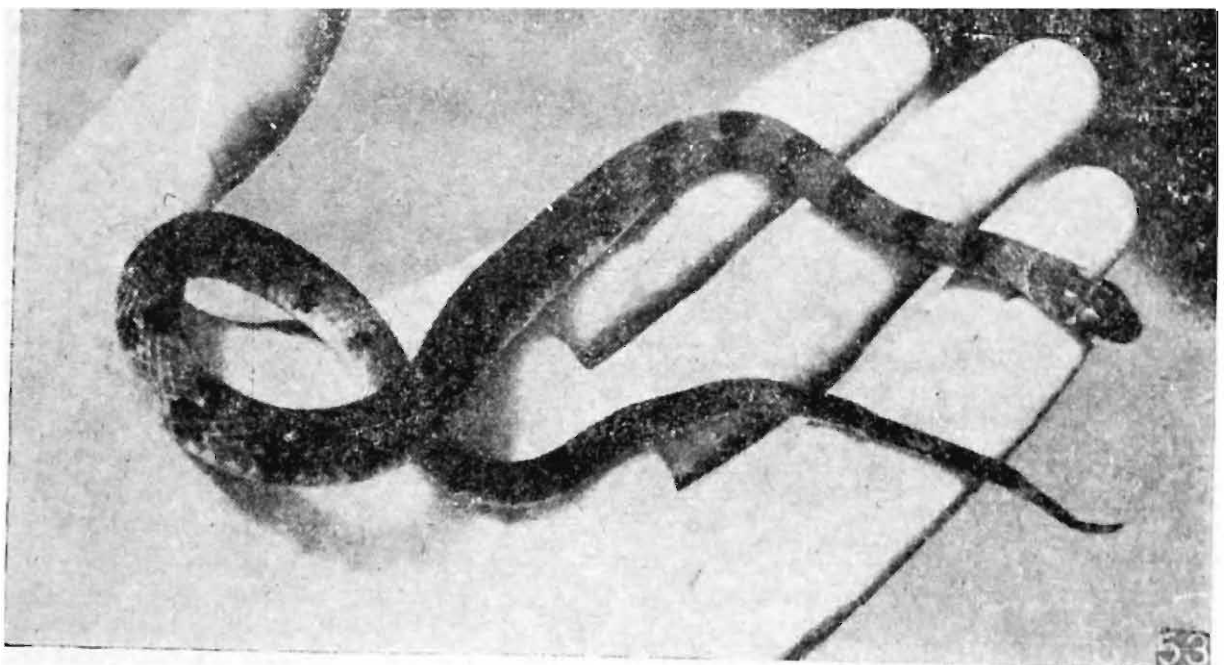
50. *Dendrelaphis tristis*



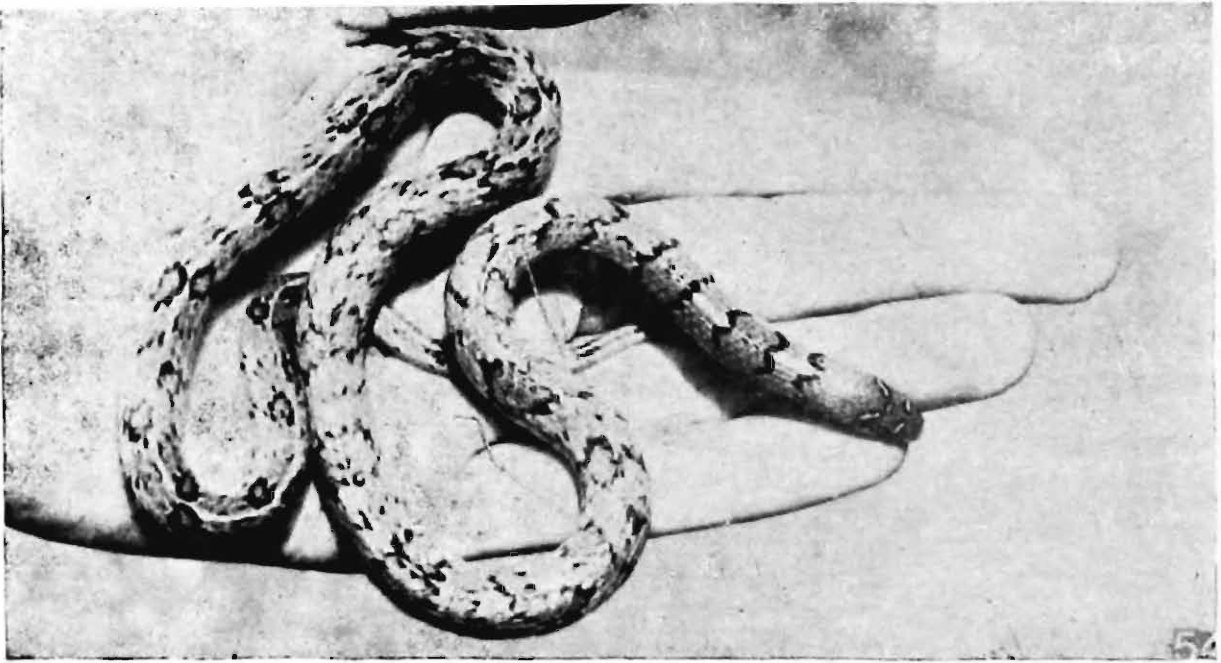
51. *Ahaetulla nasuta*



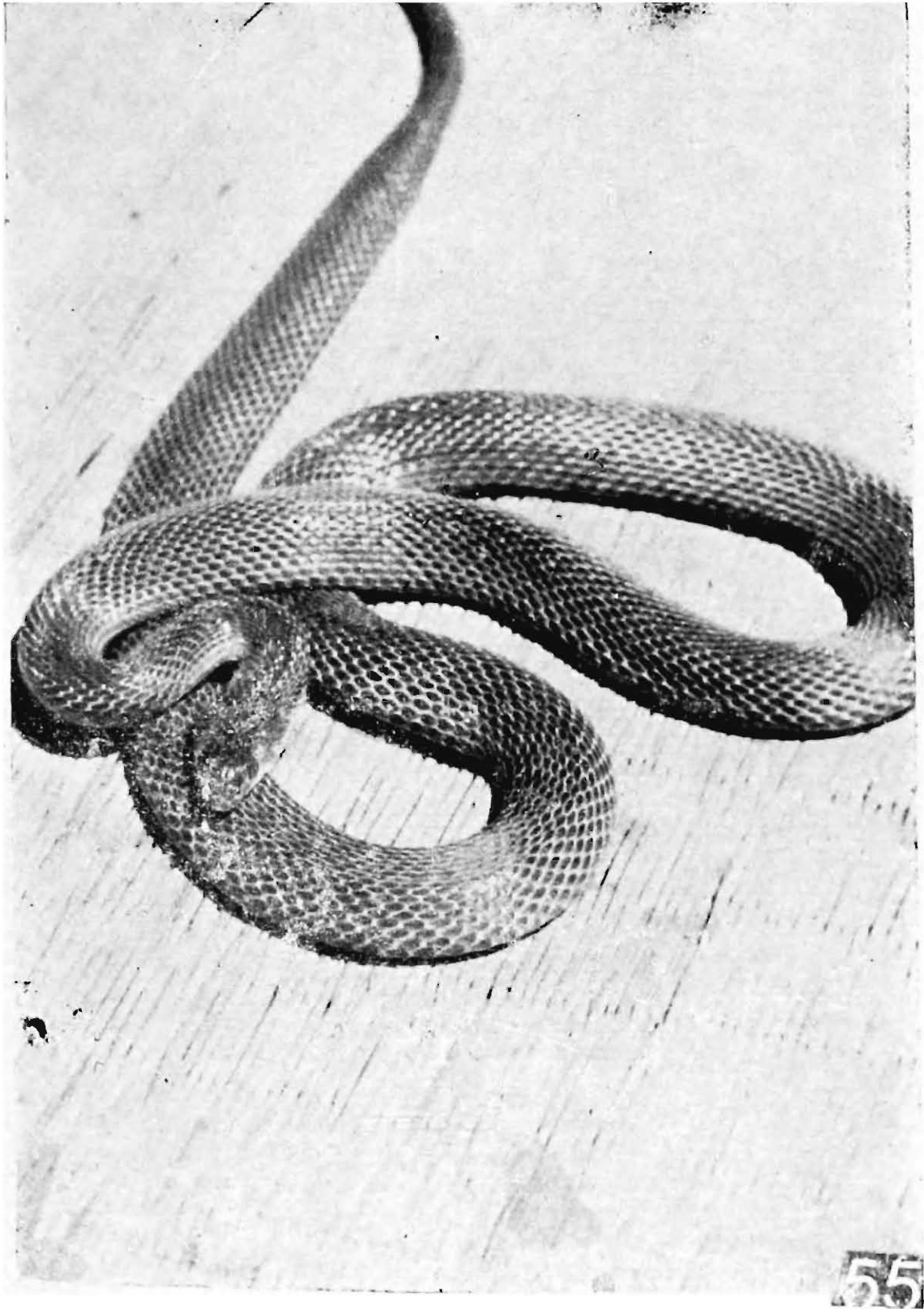
52. *Oligodon affinis*



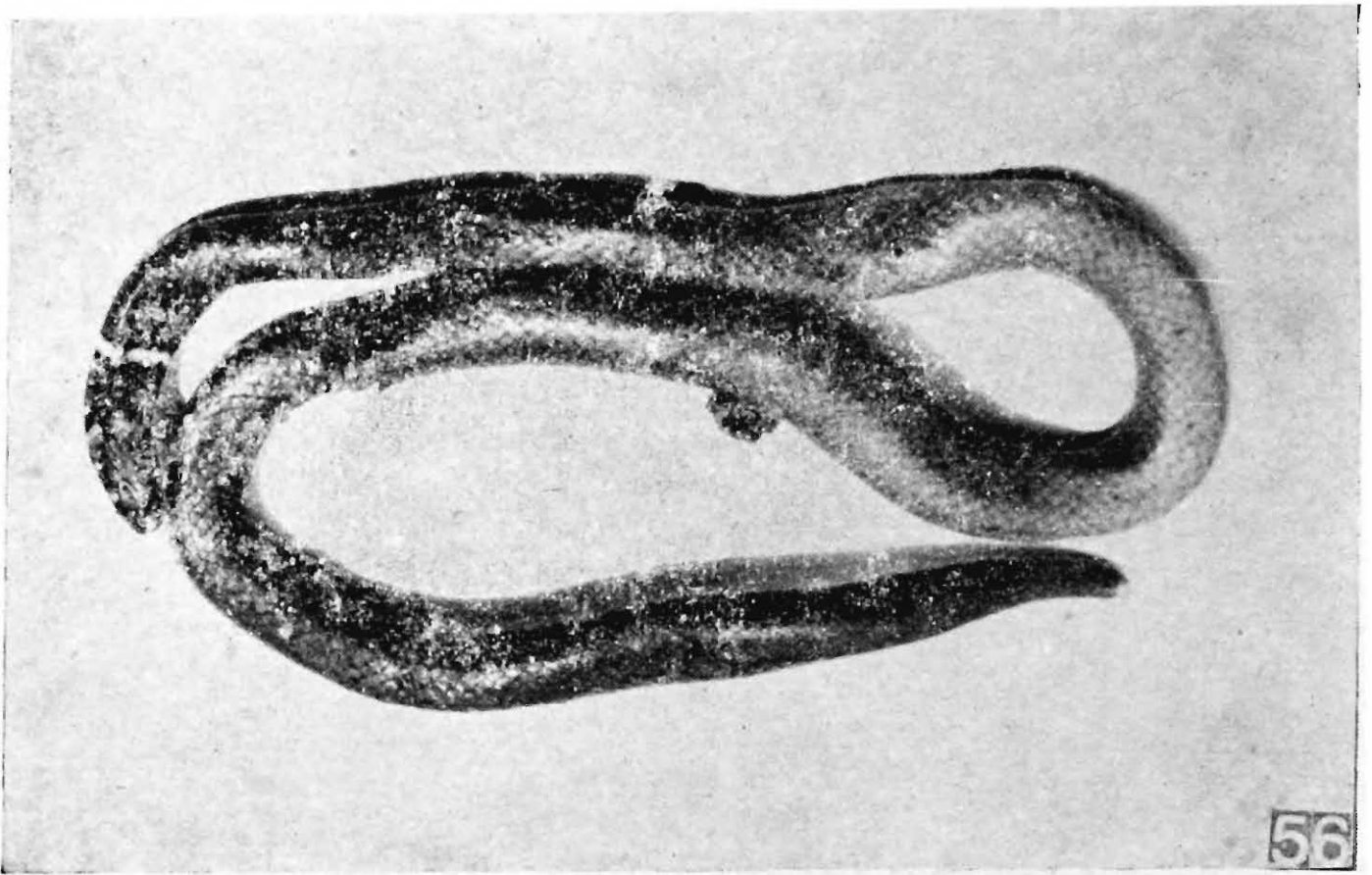
53. *Oligodon arnensis*



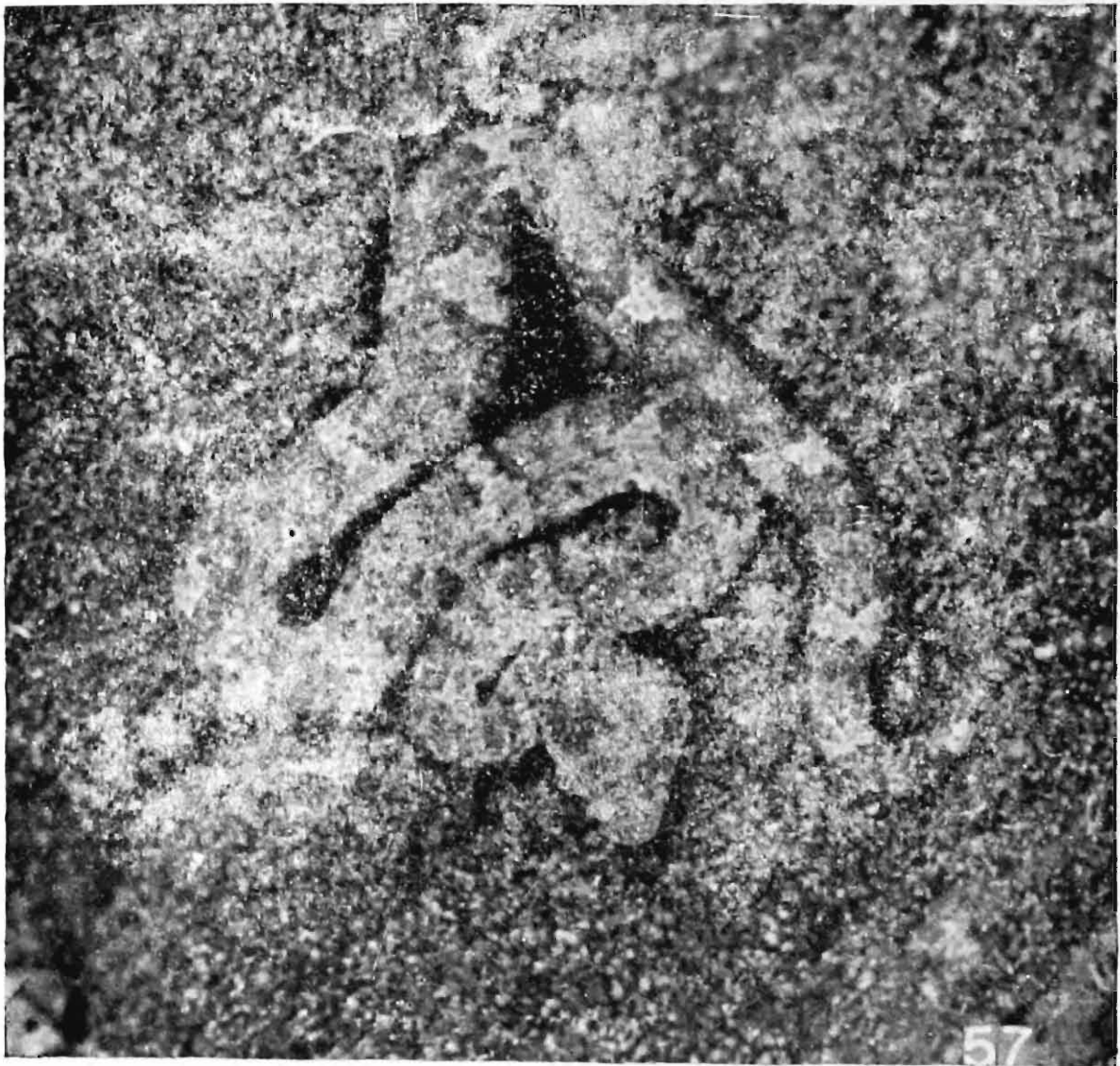
54. *Oligodon taeniolatus*



55. *Atretium schistosum*



56. *Callophis melanurus*

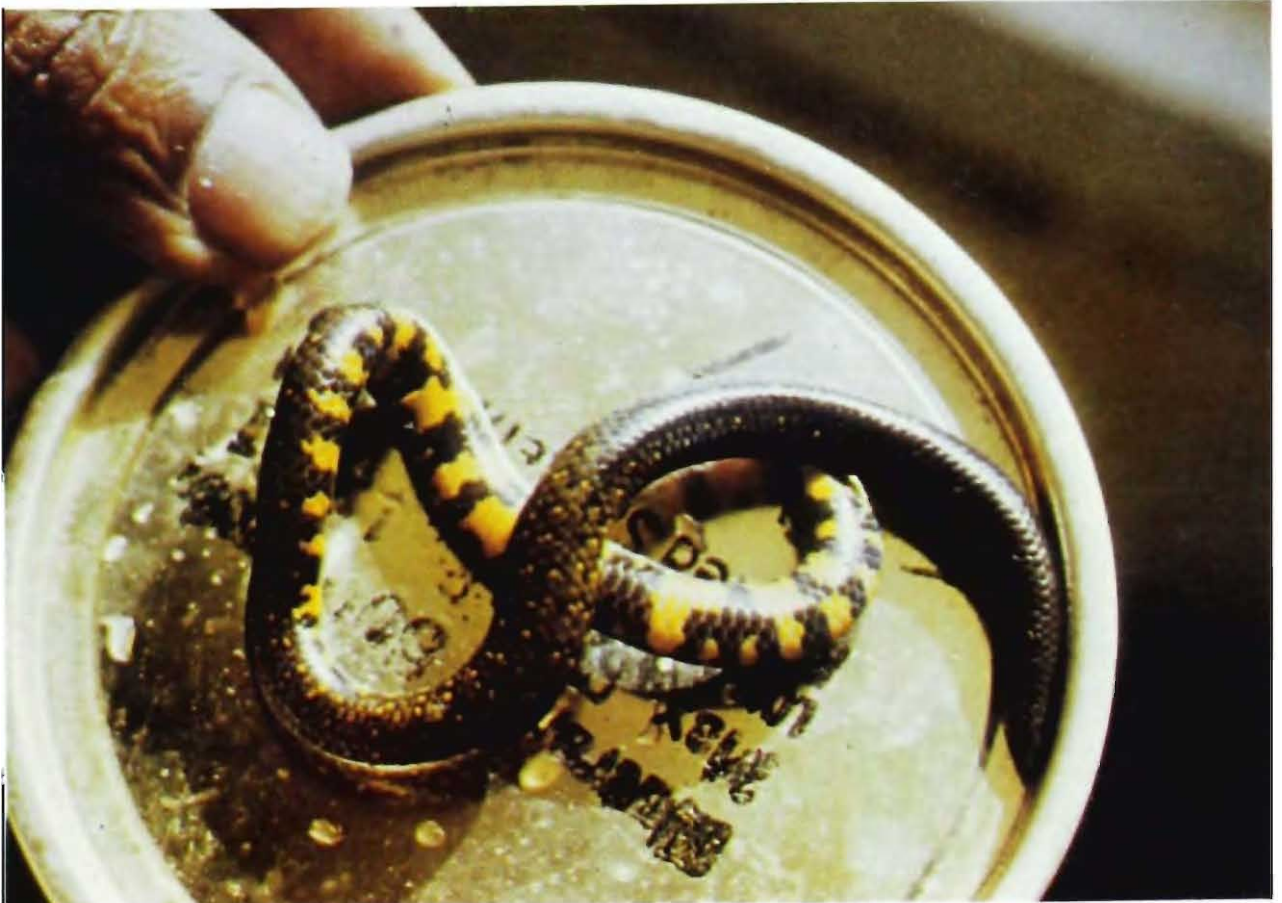


57. *Trimeresurus malabaricus*



1. Red-bellied Uropelt, *Brachyophidium rhodogaster*

2. Palni Uropelt, *Uropeltis pulneyensis*





3. Indian python, *Python molurus*



4. Banded Racer, *Argyrogena fasciolatus*

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5. Banded Kukri Snake, *Oligodon arnensis*



6. Common Indian Bronze-back, *Dendrelaphis tristis*



7. Common Wolf Snake, *Lycodon aulicus*



8. Spot-bellied Polyodont Snake, *Sibynophis subpunctatus*



9. Forsten's Cat Snake, *Boiga forsteni*



10. Brown Whip Snake, *Ahaetulla pulverulenta*

11. Hump-nosed Pit-viper, *Hypnale hypnale*

