

Fauna of
WESTERN HIMALAYA (U.P.)

HIMALAYAN ECOSYSTEM SERIES : PART I

ZOOLOGICAL SURVEY OF INDIA
1995

HIMALAYAN ECOSYSTEM SERIES

FAUNA OF WESTERN HIMALAYA
Part 1
UTTAR PRADESH

Edited by
The Director, Zoological Survey of India

ZOOLOGICAL SURVEY OF INDIA
CALCUTTA

Zool. Surv. India
Himalayan Ecosystem Series : Fauna of Western Himalaya. Part 1, *Uttar Pradesh* : 159-167, 1995

REPTILIA

AKHLAQ HUSAIN AND PRANJALENDU RAY
Northern Regional Station, Zoological Survey of India, Dehra Dun

The Reptiles are an interesting group of animals. Their study has always been a challenge to the herpetologists. The reptilian fauna (Crocodiles, Testudines, Lizards and Snakes) has attracted the attention of various workers during the past. It was Malcom Smith (1931, 1935, 1943) who made outstanding contribution on reptiles in the form of "Fauna of British India". Since then several workers made notable contributions to the herepetology of Western Himalaya (Uttar Pradesh). The reports of these workers (Wall, 1906, 1907; Annandale, 1907, 1914; Bhatnagar, 1967, 1969, 1972 ; Pande and Jain, 1968 ; Bhamri, 1976; Prasad, 1976; Dwivedi and Mathur, 1978;Chopra, 1979; Sanyal and Talukdar, 1979; Singh and Gupta, 1979a, b; Upadhyaya and Upadhyaya, 1980; Gupta and Pande, 1982; Murthy, 1985; Lamba, 1987; Osmaston and Sale, 1989; Husain, in press a, b) are confined to the parks, districts, forest divisions etc. Waltner (1974) gave a general account of geographical and altidudinal distribution of reptiles in the Himalaya. In view of this the latest information on the reptilian fauna of Western Himalaya, U.P. was very much needed and hence the present study was taken up. This work is based on extensive surveys of the area, published records, working plans of concerned forest divisions and the information gathered from various other sources.

There are altogether 70 species of reptiles belonging to 46 genera, 16 families and 3 orders distributed in the area.This report includes several new distributional records out of which *Varanus flavescens* (Hardwicke & Gray), the Barred Yellow Monitor Lizard, *Lycodon jara* (Shaw), the Twin Spotted Wolf Snake, and *Callophis macclellandi* (Reinhardt), the McClelland's Coral Snake are Worth mentioning.

DISTRIBUTIONBAL PATTERN OF THE SPECIES

The study reveals that the diversity of species especially lizards and snakes is more up to an elevation of 1800m after which there is a noticeable decrease for each additional elevation of 900m and hence the number of species is relatively less at higher elevations in contrast to that at lower elevations. However, the crocodiles and turtles are found at lower altitude.

CROCODILIANS : *Crocodylus palustris* Lesson, the Snubnosed Crocodile or Mugger and *Gavialis gangeticus* (Gamelin), the Long- snouted Crocodile or Gharial occur in the Ramganga river, passing through the Corbett National Park (Nainital and Pauri Garhwal districts).

TESTUDINES : The turtles and tortoises are generally found at low altitude (150m-900m) in slow moving streams, ponds and reserviors of Dehra Dun, Pauri-Garhwal and Nainital districts. *Melanochelys tricarinata* (Blyth), the Three-keeled Turtle, *M. trijuga trijuga* (Schweigger), the Indian

Pond Terrapin and *Lessemys punctata punctata* (Bonnaterre), the Indian Flap-shell Turtle are the commonly found species in the area.

SAURIANS : The distribution of the lizards *viz. Hemidactylus flaviviridis* Ruppell, the Yellow-bellied House Gecko, *Varanus flavescens* (Hardwicke & Gray), the Barred Yellow Monitor Lizard, *Mabuya carinata* (Schneider), the Common Skink and *M. macularia* (Blyth), the Little Skink are found to occur from 200m to 900m elevation. A brilliantly coloured young specimen of *Varanus flavescens* was collected from the Chilla Forest (Pauri-Garhwal). *Crytodactylus lawderanus* (Stoliczka), the Rock Gecko *Hemidactylus brooki* Gray, the Spotted Indian House Gecko, *Calotes versicolor* (Daudin), the Indian Garden Lizard, *Varanus bengalensis* (Daudin), the Indian Monitor, *Eumeces taeniolatus* (Blyth), the Yellow-bellied Mole Skink and *Riopa punctata* (Gmelin), the Dotted Garden Skink occur between 200m and 1800m. *Cyrtodactylus faciolatus* (Blyth), *Japalura kumaonensis* (Annandale) and *J. major* (Jerdon) are found between 900m and 2700m. *Scincella himalayanum* is commonly met between 1500m to 3900m. The gregarious species *Agama tuberculata* Hardwicke & Gray, the Common Rock Lizard inhabits almost through out the area (150m- 3600m.).

SERPENTES : The distribution of snakes in relation to altitude is significant. *Agkistrodon himalayanus* (Gunther), the Himalayan Pit Viper is found up to an elevation of 4875m ranging from 900m. This is the only species which has adapted itselt for such high altitude. However, *Ptyas mucosus* (Linn.), the Rat Snake *Callophis macclellandi* Reinhardt, the McClellannd's Coral Snake, and *Naja naja naja* (Linn.), the Common or Binocellate Cobra occur up to 3600m from plains. Altitudinal distribution of rest of the species occurring in the area is as under:

Plains to 900m : *Ramphyotyphlops braminus* (Daudin), the Common Blind Snake and *Typhlops diardi* Schlegel, the Large Blind Snake, *Eryx conicus* (Schneider), the Common Sand Boa, *Lycodon jara* (Shaw), the Twin-spotted Wolf Snake, *Sibynophis sagittarius* (Cantor), the Cantor's Black-headed Snake, *Elaphe helena* (Daudin), the Commn Trinket Snake, *Boiga forsteni* (Dumeril & Birbron), *Boiga trigonata* (Schneider), the Common Cat Snake, *Enhydris enhydris* (Schneider), the Smooth Water Snake, *E. sieboldi* (Schlegel), the Siebold's Water Snake, *Elachistodon westermanni*, (Reinhardt), the Indian Egg-eater and *Echis carinatus* (Schneider), the Saw-scaled Viper.

Plains to 1800m : *Typhlops porrectus* Stoliczka, the Slender Blind Snake, *Python molurus molurus* (Linn.), the Indian Python, *Lycodon aulicus* (Linn.), the Common Wolf Snake, *Lycodon striatus* (Shaw), the Barred Wolf Snake, *Oligodon arnensis* (Shaw), the Common Kukri Snake, *Amphiesma stolata* (Linn.), the Striped Keelpback, *Argyrogena rhodorhachis* (Jan), *A. ventromaculatus* (Gray & Hardwicke), the Glossy-bellied Racer, *Spalerosophis diadema arliceps* (Fisher), the Diadem Snake, *Bungarus caeruleus* (Schneider), the Common Krait, *B. fasciatus* (Schneider), the Banded Krait and *Ophiophagus hanna* (Cantor), the King Cobra (ascends 2200m).

Plains to 2700m : *Xenochrophis piscator* (Schneider), the Checkered Keelback, *Elaphe radiata* (Schlegel), the Copperhead, *Vipera russelli* (Shaw), the Russell's Viper, *Trimeresurus monticola* Gunther, the Blotched Pit Viper and *Naja oxiana* (Eichwald), the Acellate Cobra.

900m to 2700m : *Trachischium fuscum* (Blyth), the Oriental Worm Snake and *Boiga multifasciata* (Blyth), the Himalayan Cat Snake. *Amphiesma platyceps* (Blyth), the Mountain Keelback occurs from 900m to 2100m.

1800m to 2700m : *Lycodon mackinnoni* Wall, the Mussoorie Wolf Snake and *Trichischium laeve* Peracca, the Olive Worm Snake.

VENOMOUS SNAKES

Out of 41 species of snakes distributed in the area 10 are venomous (*Bungarus caeruleus*, the Common Krait ; *B. fasciatus*, the Banded Krait; *Calliophis macclellandi*, the McClelland's Coral Snake; *Ophiophagus hannah*, the King Cobra; *Naja naja, the Binocellate Cobra; Naja oxiana*, the Acellate Cobra: *Echis carinatus*, the Sawe-scaled Viper; *Vipera russelli*, the Russell's Viper; *Agkistrodon himalayanus*, the Himalayan Pit Viper and *Trimerisurus monticola*, the Blotched Pit Viper).

TABLE SHOWING DISTRICTWISE DISTTRIBUTION OF SPECIES

	1	2	3	4	5	6	7	8
CLASS : REPTILIA								
ORDER : CROCODYLIA								
FAMILY : CROCODYLIDAE								
Crocodylus palustris Lesson, Snub-nosed Crocodile, Mugger			+	-		+		-
FAMILY : GAVIALIDAE								
Gavialis gangeticus (Gamelin), Long-snouted Crocodile, Gharial	-		+	-	-	+	-	-
ORDER : TESTUDINES								
FAMILY : EMYDIDAE								
Geoclemys hamiltoni (Gray), Spotted Pond-Turtle	-	-	-	-	-	+	-	-
Kachuga kachuga (Gray), Sail Terrapin				-	-	+	-	-
Kachuga smithi (Gray), Smith's Terrapin	+				-	+	-	
Kachuga tecta (Gray), North Indian Roofed Turtle	+		-	-	-	+	-	-
Melanochelys tricarinata (Blyth), Three-keeled Turtle	+	-	+		-	+	-	-
Melanochelys trijuga trijuga (Schweigger), Indian Pond Terrapin	+		+			+		
FAMILY : TRIONYCHIDAE								
SUBFAMILY : LISSEMYNINAE								
Lissemys punctata punctata (Bonnaterre), Indian Flap-shell Turtle	+		+	-	-	+	-	

	1	2	3	4	5	6	7	8
SUBFAMILY : TRIONYCHINAE								
Chitra indica (Gray), Narrow-necked Soft-shell Turtle	+		+		-	+	-	-
Trionyx ganageticus Cuvier, Indian Soft-shell Turtle	+		+	-	-	+	-	-
ORDER : SAURIA								
FAMILY : GEKKONIDAE								
SUBFAMILY : GEKKONINAE								
Crytodactylus fascilolatus (Blyth), Rock Gecko		+	+	-	-	+	+	-
Crytodactylus lawderanus (Stolioczka), Bent-toed Gecko		-	+	-	-	-	+	-
Hemidactylus brooki Gray, Spotted Indian House Gecko	+	+	+	+	+	+	+	+
Hemidactylus flaviviridis Ruppell, Yellow-bellied House Gecko	+	+	+	+	+	+	+	+
Hemidactylus leschenaulti Dumeril & Birborn, Bark Gecko	+	-	-	-	-	-	-	-
FAMILY : AGAMIDAE								
Agama tuberculata Hardwicke & Gray, Rock Lizard	+	+	+	+	+	+	+	+
Calotes versicolor (Daudin), Indian Garden Lizard	+	+	+	+	+	+	+	+
Japalura kumaonensis (Annandale), Kumaon Mountain Lizard	+			-	-	+	+	+
Japalura major (Jerdon), Garhwal Mountain Lizard	+	+	+	+	+	-		-
FAMILY : VARANIDAE								
Varanus bengalensis (Daudin), Monitor Lizard	+	-	+	+	-	+	+	+
Varanus flavescens (Hardwick & Gray), Barred Yellow Monitor Lizard	-	-	+	-	-	-	-	-
FAMILY : LACERTIDAE								
Ophisops jerdoni Blyth, Striped Race-runner	+	-	-	-	-	-	-	-

	1	2	3	4	5	6	7	8
FAMILY : SCINCIDAE SUNBFAMILY : LYGOSOMINAE								
Eumeces taeniolatus (Blyth), Yellow-bellied Mole Skink	+	-	+	-	-	+	-	-
SUBFAMILY : SCINCINAE								
Mabuya carinata (Schneider), Common Skink	+	-	+	-	-	+	-	-
Mabuya macularia (Blyth), Little Skink	+		+	-	-	+	-	-
Riopa punctata (Gmelin), Dotted Garden Skink	+	-	+	-	-	+	-	-
Scincella himalayanum (Gunther), Himalayan Ground Skink	+	+	+	+	+	+	+	+
ORDER : SERPENTES FAMILY : TYPHLOPIDAE								
Ramphotyphlops braminus (Daudin), Common Blind Snake	+	-	+	-	-	+	-	-
Typhlops diardi Schlegel, Large Blind Snake	+	-	-	-	-	-	-	-
Typhlops porrectus Stoliczka, Slender Blind Snake	-	-	+	+		+	-	-
FAMILY : BOIDAE SUBFAMILY : PYTHONINAE								
Phython molurus molurus (Linn.), Asiatic Rock Python	+	-	+	+	-	+	-	-
SUBFAMILY : BOINAE								
Eryx conicus (Schneider), Common Sand Boa	-	-	+	-	-	+	-	-
Eryx Johni johni (Russell), Red Sand Boa			+			+	-	
FAMILY : DIPSADIDAE SUBFAMILY : LYCODONTINAE								
Lycodon aulicus (Linnaeus), Common Wolf Snake	+	-	-	-	-	+	+	-
Lycodon jara (Shaw), Twin-spotted Wolf Snake	+	-	-	-	-	-	-	-

	1	2	3	4	5	6	7	8
Lycodon mackinnoni Wall, Mussoorie Wolf Snake	+	-	+		-	+	+	-
Lycodon striatus (Shaw), Barred Wolf Snake	+	-		-		-	-	-
Oligodon arnesnsis (Shaw), Common Kurki Snake	+	-	-	-	-	-	+	-
Trachishium fuscum (Blyth), Oriental Worm Sanke		-	+	-	-	-	-	-
Trachischium laeve Peracca, Olive Worm Snake	-	-	+			+	-	-
SUBFAMILY : SIBYNOPHINAE								
Sibynophis sagittarius (Cantor), Cantor's Black-headed Snake			+			+	+	+
FAMILY : NATRICIDAE								
Amphiesma platyceps (Blyth), Mountain Keel-back	+	-	-	+	+	-	-	-
Amphiesma stolata (Linnaeus), Striped Keel-back	+	+	+	+	+	+	+	+
Xenochrophis piscator (Schneider), Checkerd Keel-back	+	+	+	+	+	+	+	+
FAMILY : COLUBRIDAE								
SUBFAMILY : COLUBRINAE								
Ahaetulia nasuta (Lacepede), Common Whip Snake	+	-	-	-	-	-	-	
Argyrogena rhodorhachis (Jan)	-		+	-	-	+	-	
Argyrogena ventromaculatus (Gray & Hardwicke), Glossy-bellied Racer		-	+			+	+	-
Elaphe helena (Daudin), Common Trinket Snake	+		+	+		+	+	
Elaphe hodgsoni (Gunther), Himalayan Trinket Snake			+		+	+	-	-
Elaphe radiata (Schlegel), Copperhead	+	-	-	-	-	-	-	
Liopeltis calamaria (Gunther), Faintly Striped neck Snake				-	-	-	+	-
Ptyas mucosus (Linnaeus), Rat Snake	+	+	+	+	+	+	+	+

	1	2	3	4	5	6	7	8
Spaleorophis diadema articeps Fisher, Diadem Snake	+		-	-		-	-	-
FAMILY : HOMALOPSIDAE								
SUBFAMILY : BOIGINAE								
Boiga foresteni (Dumeril & Birbron), Cat Sanke	+		+			+	-	
Boiga multifasciata (Blyth), Himalayan Cat Snake	+	-	+			+		
Boiga trigonata (Schneider),	+		+	-	-	+		
SUBFAMILY : HOMALOPSINAE								
Enhydris enhydris (Schneider), Smooth Water Snake	+		+		-	+	-	-
Enhydris sieboldi (Schlegel), Siebold's Smooth Water Snake			+		-	+	-	-
SUBFAMILY : DASYPELTINAE								
Elachistodon westermanni Reinhardt, Indian Egg-eater	-	-	+		-	+		
FAMILY : ELAPIDAE								
SUBFAMILY : ELAPINAE								
Bungarus caeruleus (Schneider), Common Krait	+		+	+		+	+	+
Bungarus fasciatus (Schneider), Banded Krait	+	+	+	-	+	+	-	
Calliophis macclellandi (Reinhardt), McClelland's Coral Snake	-	-	-	-	+	-	-	-
Ophiophagus hannah (Cantor), King Cobra	+		+	-	-	+	-	
Naja naja (Linnaeus), Binocellatae Cobra	+		+	+	-	+	+	+
Naja oxiana (Eichwald), Acellate Cobra				+				
FAMILY : VIPERIDAE								
SUBFAMILY : VIPERINAE								
Echis carinatus (Schneider), Saw-scaled Viper	+		+			+		

	1	2	3	4	5	6	7	8
Vipera russelli (Shaw), Russell's Viper	+	-	+	-	-	+	+	+
SUBFAMILY : CROTALINE								
Agkistrodon himalayanus (Gunther), Himalayan Pit Viper	-	-	+	+	-	-	+	+
Trimeresurus montiola Gunther, Blotched Pit Viper	+	-	-	-	-	+	+	-

REFERENCES

BHAMRI, M. L. 1976. *Uttarkashi Van Prabhag, Tehri Virat, Uttar Pradesh Ki Karya Yojana (1976-1977 se 1985-86 tak).* Nainital. Bhag 1 va 2 : 55.

BHATNAGAR, R. K. 1969. Extension of range of Copper-head Snake *Elaphe radiata* Schelagel (Ophidia : Colubridae) to Doon valley and Doon Siwaliks. *J. Bombay nat. Hist. Soc.,* **66**(2) : 383.

BHATNAGAR, R.K. 1972. Reptile fauna of Dehra Dun district (Uttar Pradesh). Part - I *Cheetal,* 15 (4) : 15-23.

CHOPRA,R.N. 1979. Fauna of Corbett National Park 3. Reptlies. *Cheetal* , 21 (1) : 30 -31.

DWIVEDI, B. N. AND MATHUR, R.S. 1978. Working *Plan for the Nainital Forest Division, Kumaon Circle, UttarPradesh, 1978-79 to 1978-88. Nainital.* Part I & II : xii-xiii

HUSAIN, A. (in press a). Fauna of Rajaji National Park, Uttar Pradesh-Turtles amd Tortoises (Reptilia: Testudines). *Rec. zool. Surv. India*, Ms : 1-13.

HUSAIN, A. (in press b). Fauna of Rajaji National Park, Uttar Pradesh. Snakes (Reptilia : Serpentes). *Rec. zool. Surv. India*, Ms : 1-39.

LAMBA, B.S. 1987. *Fauna of Corbett National Park.* Fauna of Conservation Areas: 2, Z.S.I., Calcutta.: 82-86. figs.

MURTHY, T.S.N. 1985. Classification and distribution of the Reptiles of India. *The Snake.* 17 : 48 :71.

OSMASTON, B.B. AND SALE, J.B. 1989. *Wildlife of Dehra Dun and adjacent hills.* Dehra Dun. : 1-104.

GUPTA, D.P. AND PANDE, I. D. 1982. *Purvi Almora Van Prabhag, Kumaon Virat, Uttar Pradesh ki Karya Yojana (1980-81 se 1989 90).* Nainital. Bhag 1 va 2 : 48.

PANDE, D. C. AND JAIN, K. C. 1968. *Working Plan for the Haldwani Forest Division, Western Circle, Uttar Pradesh. 1966-67 to 1975- 76.* Nainital. Vol. 1, parts I & II : 445-45

PRASAD, J. 1976. *Paschimi Almora Van Prabhag, Kumaon Virat Uttar Pradesh ki Karya Yojana. 1976-77 se 1985-86 tak*). Nainital. Bhag 1 va 2 : 52-53.

SANAYAL, D.P., TALUKDAR, S.K. AND DASGUPTA, G.1979. Two new distributional records of snakes from the Dun valley and the Corbett National Park, Uttar Pradesh. *Cheetal,* 21 (1) : 11-12.

SINGH, K. N. AND GUPTA, P. N. 1979a. *Working Plan for the East Dehra Dun Forest Division, Uttar Pradesh (1979-80 to 1988-89).* Nainital. Vol. 1 (I-II) : 65.

SINGH, K. N. AND GUPTA, P. N. 1979b. *Working Plan for the West Dehra Dun Forest Division, Uttar Pradesh, 1979-80 to 1988-89.* Nainital. Vol. 1 : 63-64.

SINGH, L. K. 1986. Crocodiles : Status and Management (in Majupuria, T.C. *Wildlife Wealth of India,* Bangkok) : 261-275.

SMITH, M.A. 1931. *The Fauna of British India, including Ceylon and Burma. Reptilia and Amphibia* Vol. I. - Loricata, Testudines. London. : i - xxviii, 1-185. map, pl. I -II.

SMITH, M. A. 1935. *The Fauna of British India, including Ceylon and Burma. Reptilia and Amphibia.* Vol. II. - Sauria. London. : i-xiii, 1-440. 2 maps, pl. I.

SMITH, M.A. 1943. *The Fauna of British India Ceylon and Burma, including the whole of the Indo-Chinese Sub-Region. Reptilia and Amphibia.* Vol. III. Serpentes. London. : i-xii, 1-583, 1 map.

UPADHYAYA, M. D. AND UPADHYAYA, N.K. 1980. *Garhwal Van Prabhag, Garhwal Virat, Uttar Pradesh ki Karya Yojana (1981-82 se 1990- 91 tak).* Nainital. Khand I, Bhag 1 va 2 : 53.

WALL, F. 1906. A new Himalayan snake (*Lycodon mackinnoni*). *J. Bombay nat. Hist. Soc.,* 17 (1) : 29-30.

WALL, F. 1907. Ophidia (in Boulenger, G. A., Annandale, N. and Regan, C.T. Reports on a collection of Batrachia, Reptiles and Fish from Nepal and the Western Himalayas.). *Rec. Indian Mus.,* 1 (2) : 155-157.

WALTNER, R.C. 1974. Geographical and altitudinal distribution of Amphibians and reptiles in the Himalayas. *Cheetal,* 16 (1) : 17- 25; 16(2) : 28-36; 16 (3) : 14-19 ; 16 (4) : 12-17.



Fig. 1 : *Cyrtodactylus fasciolatus* (Blyth) Fig. 2 : *Kachuga smithi* (Gray)
Fig. 3 : *Ptyas mucosus* (Linnaeus) Fig. 4 : *Xenochrophis piscator* (Schneider)

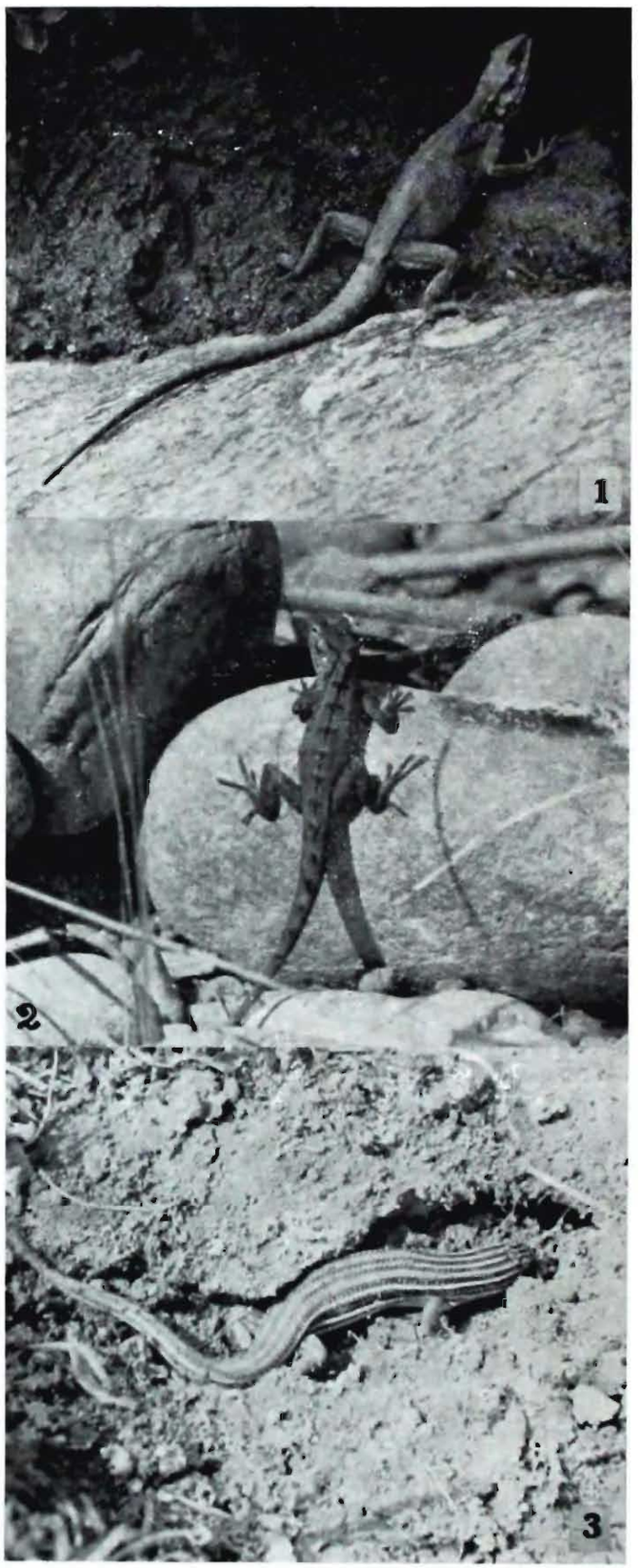

Fig. 1 : *Agama tuberculata* Hardwicke & Gray
Fig. 2 : *Calotes versicolor* (Daudin)
Fig. 3 : *Riopa punctata* (Gmelin)