GHOSH PLATE V

Forewing and hindwing of *Chrysopa (Glenochrysa) marmorata* (Needham).

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A REPORT ON THE REPTILIA FAUNA OF ANDAMAN AND NICOBARS ISLANDS IN THE COLLECTION OF ZOOLOGICAL SURVEY OF INDIA

By

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(With 1 Table and 3 Text-figures)

INTRODUCTION

(a) *General*

Andaman and Nicobar group of islands are situated in Bay of Bengal between 5°40' and 14°15' N. lat. and 92°10' and 93°30' E. long. Andaman group of islands mainly consists of four parts : North, Middle, South and Baratang cut by channels. The Landfall island is in the north and Rutland is just on the south of South Andaman. Interview, North Sentinel, Labyrinth and South Sentinel islands are on the Western side of Andaman islands and Little Andaman is in the south. The various islands forming the group of Nicobar islands are Car Nicobar, Batty Malve, Teressa, Tillangchong, Camorta, Nancowry, Katchall, Little Nicobar and Great Nicobar. There are some more smaller and unimportant islands in both the groups. Andaman and Nicobar groups of islands are separated by 10° channel and the distance between Little Andaman and Car Nicobar is 120 km. These groups of Islands form a continuous chain of submarine mountains sprawling in a crescent between cape Negrais of Burma and Achin Head of Sumatra which is nearly 155 km. away from the southern most point of Great Nicobar. While cape Negrais of Burma is 193 km. away from the Port Blair.

Not much work seems to have been done on the Reptilian fauna of Andaman and Nicobar islands but important contribution made by Blyth (1846), Stoliczka (1870), Annandale (1904, 1905) and Smith 1940-41), (F.B.I., 1931, 1935 & 1943) and recently Tiwari and Biswas (1973), Biswas and Sanyal (1977) may be referred to so far the reptilian fauna of these islands are concerned. The fauna of reptiles of the Great Nicobar islands if comparatively less known than that of Andaman and Nicobar islands. The sea-snakes of the Andaman and Nicobar coasts are also a neglected group of reptiles.

Since 1930, a number of parties of Zoological Survey of India, conducted faunistic surveys in the Andaman and Nicobar. Present report is mainly based on collections made during the period 1930-76.

Importance of studying the fauna of these isolated islands is felt necessary to know the faunal wealth of reptiles and to explain the affinities of Reptilian fauna of Andaman and Nicobar islands in relation to the fauna of Indian mainland and Sri Lanka in one hand and Indo-chinese and Malaysian fauna on the other. The fauna of these islands are also most suitable to study their insular characters and extent of their variations in some cases due to geographical isolation.

So far 71 species of reptiles (Table 1) are known to occur in these groups of island including the Great Nicobar but the collection examined contains only 1 species of chelonia, 16 species of lizards and 13 species of snakes.

(b) List of surveys from which the material for Andaman and Nicobar Islands Reptilia were studied

Name of the Survey	Year	Leader of survey party or collector	Areas
Andaman Survey	1930	K. N. Das	Port Blair area.
Andaman Survey	1952	Dr. H. C. Roy	South Andaman
Andaman & Nicobar Survey	1959	Dr. K. K. Tiwari	Andaman & Nicobar Is.
Little Andaman Survey	1961	Dr. A. K. Daniel	Little Andaman Is.
Andaman & Nicobar Survey	1964	Dr. B. S. Lamba	South Andaman
Andaman & Nicobar Survey	1969	Dr. T. D. Soota	Andaman & Nicobar Is.
Andaman & Nicobar Survey	1970 & 1972	Dr. A. G. K. Menon	Andaman & Nicobar Is.
Andaman & Nicobar Survey	1970 & 1971	Dr. B. K. Tikader	Andaman & Nicobar Is.
Andaman Survey	1972	Dr. A. K. Mondal	Andaman Is.
Andaman Survey	1972	Dr. K. Reddiah	,,
Andaman & Nicobar Survey	1972	Dr. A. K. Mukherjee	Andaman & Nicobar Is.
Andaman & Nicobar Survey	1974-75	Dr. S. K. Bhattacharya	,,
Andaman & Nicobar Survey	1975-76	Dr. P. K. Maiti	,,
Andaman & Nicobar Survey	1975-76	Shri G. Ramakrishna	,,

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SYSTEMATIC ACCOUNT

Order TESTUDINES

Suborder THECOPHORA

Family I. CHELONIIDAE

1. Eretmochelys imbricata squamata Agassiz.

1857. *Eretmochelys squamata* Agassiz, *Contr. Nat. Hist. U. S.*, i, p. 382.

1939. *Eretmochelys imbricata* Deraniyagala, *The Tetrapod Rept. Cey.*, Colombo, 1 : 187-217.

1952. *Eretmochelys imbricata squamata* Carr. *Handbook of Turtles*, pp. 273-381.

Material.—1ex., Coral beds at Konamie, 64 km. north of Gaje, Little Andaman, 26.ii.1961, *A. Daniel.*

Remarks.—This species is popularly known as the Hawksbil turtle for its bird-like head and beak. The two subspecies, typical and the *squamata* distributed in the Atlantic and Pacific respectively can be separated by the shape of the carapace which is more straightline tapering behind in *imbricata* than in East Pacific *squamata* and by colouration, which is deeper and more unrelived black in the latter than in the former.

Constable (1949) while reporting on a collection from India mentioned about a juvenile specimen of *Eretmochelys* (M.C.Z. 1415) collected by Barnard in 1857 from Bengal designated it as a "Co-Type" of the Pacific race of *squamata* but according to Deraniyagala (1939) there is no valid morphological character on which the above mentioned separation can be based. The possibility of inbreeding between the Atlantic and Pacific Ocean races is very less as they are effectively isolated.

The homing or nesting instinct of this species like other sea turtles is interesting. It has been recorded by Deraniyagala *(loc. cit)* that ringed turtles were found to visit (also *vide* Bennett, 1843) the breeding sites for about thirty two successive years. The "Tortoise Shell" of commerce is made out of the shields of carapace of this species.

Distribution.—This subspecies is found to occur in tropical and subtropical Indian and Pacific Oceans. The northern range of the turtle in the Indo-Pacific is Hainan, China and Japan and is also known from in the South East Australia. The range in the east is

East African coast as far south as Madagascar, but it is not recorded from the cape of Good Hope and on the American Coast the range of distribution extends from Baja California to Peru.

Order SQUAMATA

Suborder SAURIA

Family 2. GEKKONIDAE

2. **Cyrtodactylus rubidus** (Blyth)

1860. *Puella rubida* Blyth, *J. Asiat. Soc. Bengal*, **29** : 109.

Material.—2 ♀ ♀, Port Cornwallis, North Andaman, 31. i. 1959 ; 1 ex. juv., (with mutilated tail), Mayabunder, North Andaman, 20. ii. 1959 ; 1 ♀ , Andaman Is., *K. K. Tiwari*, 31 ii. 1959 ; 1 ex., Bugena, 25 km. west of Kwate-tu-kwage, Little Andaman, 25.ii.1961 ; 1 ex., Nachuge, Little Andamans, *A. Daniel*. 27. ii. 1961 ; 9 ex., from different parts of Andamans, *B. S. Lamba*, 22. iii. 1964 to 11. iv. 1964 ; 1 ex., Chiriatapu, S. Andaman, *K. Reddiah*, 5. iv. 1972 ; 1 ex., Chiriatapu, *A. K. Mondal*, 21. vii. 1972 ; 1 ex., Rajendra-nagar, Great Nicobar, *P. K. Maiti*, 31. xii. 1975.

Remarks.—All the specimens have indistinct pubic groove markings with faint traces of pores which are not traceable in any other species of Indian or Indo-chinese Gekko, except in the Malayan species of *C. marmoratus* (Kuhl) and *C. pulchellus* (Gray). It is very closely allied to *C. marmoratus* (Kuhl) and *C. khasiensis* (Jerdon) known from the Malay Archipelago and Khasi Hills, Assam, respectively.

Distribution.—This species is endemic in the Andaman and Great Nicobar Islands.

3. **Hemidactylus frenatus** Schlegel

1836. *Hemidactylus frenatus* Schlegel, *in* Dum. & Bir., *Erp. Gen.* iii : 366.

Material.—1 ex., Humphrygunj, South Andaman, 3. iii. 1964, *B. S. Lamba* ; 1 ex., Long Island, Middle Andman, 22. i. 1959 ; 3 ex., Aberden Bay, Port Blair, S. Andaman, 5. iii. 1959 ; 1 ex., Choldari, S. Andaman ; 15. iii. 1959 ; 2 ex., Malaca Vill., Car Nicobar, 22. iii. 1959 ; 2 ex., Mus Vill., Car Nicobar, 28. iii. 1959, *K. K. Tiwari*, 4 ex., Rangat Resthouse, 19. i. 1970, *A. G. K. Menon* ; 1 ex., Camorta, Car Nicobar, 22. iii. 1972 ; 3 ex., Rangat, Middle Andaman, 2. ii. 1972, *A. K. Mukherjee*, 1 ex., Port Blair, 1930, *K. N. Das*.

Remarks.—This species is common in Andamans and Nicobars. Cantor (1847) notes that this species is numerous in Malayan Valley and hills and also its fierce habit often destroys its own species. They prefer human habitation and are often found in houses, boats and steamers which explain its wide distribution.

Distribution.—The distribution of this species is very wide spread and its occurrence is recorded from South Asia, Tropical Australia and East Africa. This species is now established in Mexico.

4. Ptychozoon kuhli Stejneger

(Text-fig. 1)

1902. *Ptychozoon kuhli* Stejneger, *Proc. Biol. Soc. Washinaton.*, **15** : 37.

Material.—2 ♂ ♂, Malaca Village, Car Nicobars, 28. iii. 1959 and 2. iv. 1959, *K. K. Tiwari* ; 1 ex., Nancowry Island, 12. v. 1966, *A. Daniel.*

Remarks.—The cutaneous expansions on the sides of the head are not much developed. The expansions on the side of the body are broader, but they do not meet or overlap in the belly.

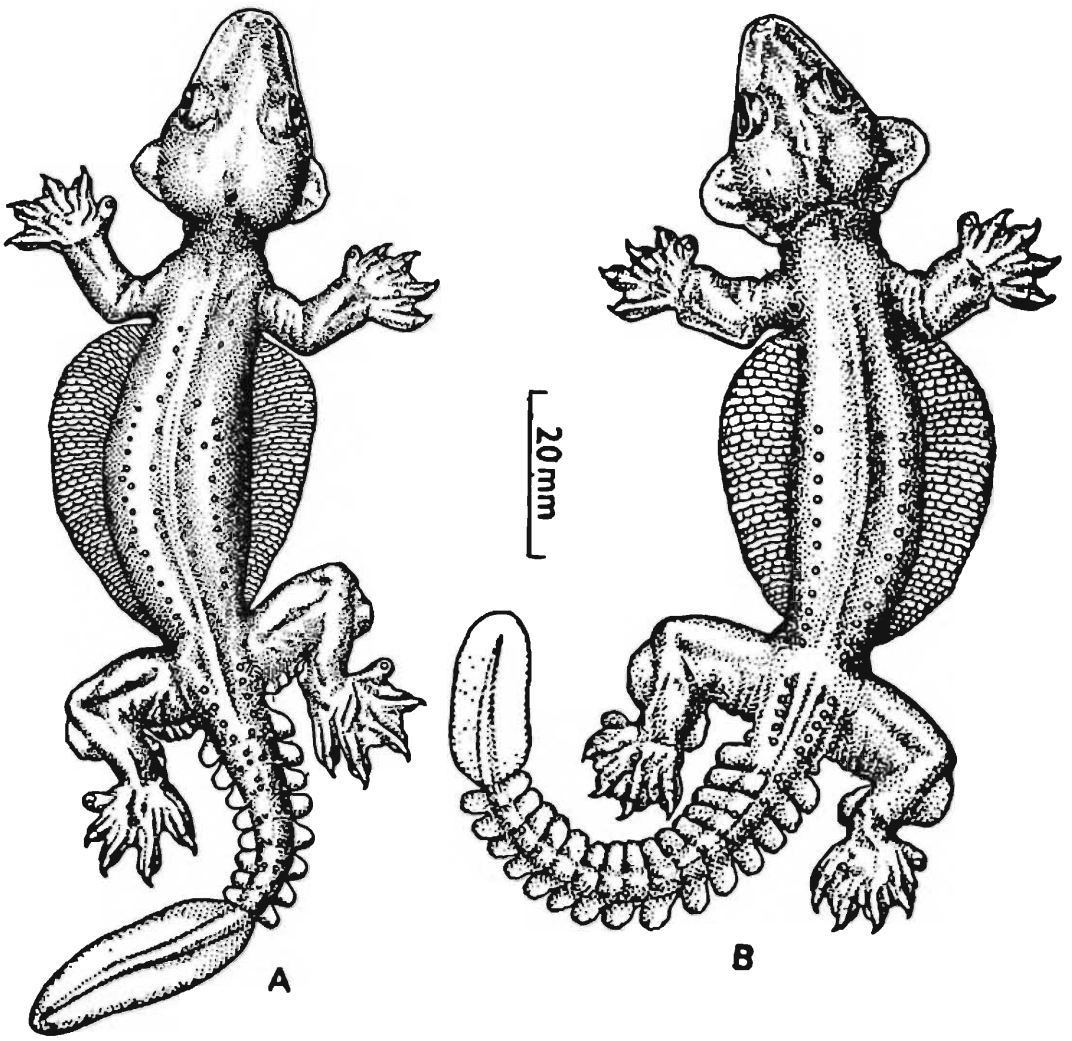
In one of the specimens (2. IV 1959) a regenerated tail is present. It is elongated, depressed and almost half of the tail is fringed with asymetrical small cutaneous lobes upto the distance of 34 mm. from the vent, after which loose membraneous growth surrounds the tail and tapers down to the tip. There is no expansion at the tip of the regenerated tail. The squamation on it is much poorly developed, uniform in size than those upon the uninjured portion. The dorsal tubercles are completely absent. The original tail has some ornamentation (Text-fig. 1) with whorls of enlarged tubercles. Barbour (1912) has given diagrams of four different types of regemerated tails found in *P. kuhli.* The regenerated tail of the specimen from Car-Nicobars can be compared with it.

In preserved specimens, the general colouration appears to be grayish black with indistinct traces of markings on the body.

Length from snout to vent 84 mm. and 86 mm. ; tail (regenerated) 61 mm., upper labials 13, lower labials 10 to 11. Pre-anal pores 20 and 22 in number. Dorsal tubercles well developed and not arranged in a regular order.

Tiwari (1961) collected a pair of white egg of *Ptychozoon,* from the bark of a tree, at Parsa Bridge, Car Nicobar on 23rd March 1959. At the first sight, the eggs looked like that of *Aristelliger* Cope, a geckonid of American origin. One of the eggs when opened up, a

full grown embryo of *Ptychozoon* was found with cutaneous expansion of the sides of the body and tail paratially developed. The embryo measures snout to vent 20 mm. and tail 17 mm.



Text-fig. 1. *Ptycozoon kuhli* Stejneger. A. and B. showing two kinds of tails found in the collection examined.

Discussion.—Annandale (1904) (in Muller 1892) regarded the character of the lobes of the tail of *Ptychozoon* as being important diagonastic character for distinguishing the species. Thus the specimens with regenerated tail from localities where both *P. kuhli* and *P. horsfieldi* (Gray) are found will pose a great problem to identify them correctly.

Distribution.—*P. kuhli* has been recorded from Java, Sumatra, Penang and Malay Peninsula, where as *P. horsfieldi* has been recorded from Malay Peninsula and Borneo.

5. Phelsuma andamanense Blyth.

1860. *Phelsuma andamanense* Blyth, *J. Asiat. Soc. Bengal*, **29** : 108.

Material.—1 ex., Ferargunge, S. Andaman, Sept. 1950, 1 ex., South point, Port Blair, 17.xii.1975, *P. K. Maiti.*

Remarks.—There were two specimens in the collection but one of them is not traceable now. Length of the specimen - from snout to vent 35 mm. and vent to tail 38 mm., upper labials 10 and lower labials 8 in number, 14 lamellae beneath the fourth toe.

In the spirit, preserved specimen "green above with red or orange spots and marking" is absent. Head is black and body is deep gray or blackish, lower part of the body is brownish.

Distribution.—This speceis is endemic in Andaman.

6. Gecko smithi Gray

1842. *Gecko smithi* Gray, *Zool. Misc.*, p. 57.

Material.—1 ex., from Rengachang, S. Andaman, 12. iv. 1964 ; 1 ex., from Wright Myo, Mt. Harriet Range, S. Andaman, 12. iv. 1964, *B. S. Lamba.*

Remarks.—The character used by Smith (1935) in the key to the species that the 'rostral not touching the nostril' is not constant. In one example from the named specimens of Z S. I. collection the rostral is excluded from the nostril on one side but it is touchiug on the other side.

The head is longer than its breadth, dorsal tubercles are less robust and specimens are comparatively slender than the earlier named collection from the Andamans. The differences are may be due to their younger age.

Distribtion.—India : Andaman and Nicobar Island. Burma, Malacca and Indonesia.

Family 3 AGAMIDAE

7. Goniocephalus subcristatus (Blyth)

1860. *Tiaris subcristata*, Blyth, *J. Asiat. Soc. Bengal*, **29** : 109.

Material.—5 ex., Stn. 25, Sl. 928, Malaca Vill., Car Nicobar, 30. iii. 1959 ; 1 ex., Stn. 29, Kakana vill., Car Nicobar, 27. iii. 1959 ;

2 ex., Stn. 32, Sl. 1004, Sawai vill., Car Nicobar, 5. iv. 1959 ; 5 ex., Stn. 25, Sl. 769, Tamalu vill., Car Nicobar, 24. iii. 1959 ; 6 ex., Stn. 25, Sl. 739, Malaca vill., Car Nicobar, 23. iii. 1959 ; 4 ex., Stn. 30, Sl. 1039, Mus vill., Car Nicobar, 7. iv. 1959 ; 2 ex., Stn. 13, Interview Is., N. Andaman, 8. iii. 1959 ; 2 ex., Stn. 24, Sl. 653, Herbertabad, S. W. of Port Blair, 15. iii. 1959 ; 2 ex., Stn 6, Sl. 147, Long Is., M. Andaman, 23. i. 1959 ; 2 ex., Stn. 27, Sl. 1000, Passa Bridge, Car Nicobar, 5. iv. 1959 ; 2 ex., Interview Is., N. Andaman, 7. ii. 1959 ; *K. K. Tiwari* ; 2 ex., Stn. 2, Sl. 207, Bedealdalu, Ca. 32 Km. South of Tekoiluen, Little Andaman, 16.ii.1961 ; 1ex., Stn.2, Ranikhar, Port Blair, Andamans, 7. iii. 1961 ; 5 ex., Stn. 2 & 3, different localities of Little Andaman, from 14.ii.1960 to 20.ii.1961, *A. Daniel* ; 82 ex., Stn. 16, 21, 27, 34, 36, 42, 48, 51, 57, 60, 64, 74, 76, 78 & 86, different localities of S. Andamans, from 7. iii. 1964 to 16. iv. 1964, *B. S. Lumba* ; 3 ex., Ca. 2 km. S. E. of Teatop rest house, Car Nicobar, 10-15. iii. 1969, *T D. Soota* ; 3 ex., Rutland Island, Ca. 6kms. from Chiriatapu & Write Mayo, S. Andaman, 19-26. vii. 1972. *A. K. Mondal* : 6 ex., Neil Island, S. Andaman, 11-12. iv. 1970, Camorta, 22. iii. 1970, Malaca vill., Car Nicobar, 4-8. iii. 1970 and 7 ex., from different localities of Car Nicobar from 17-30. v. 1971, *B. K. Tikader* ; 33 ex., from different localities of Car Nicobar from 29.ii. to 15. iii. 1972, *A. G. K. Menon* ; 2 ex., on way to Mt. Harriet, Port Blair, 30. xii. 1974, *S. K. Bhattacharya* ; 10 ex., from different localities of Andaman & Nicobar Islands from 17. i. to 22. ii. 1972, *A. K. Mukherjee.*

Remarks.—There are altogether 251 specimens in the collection. This species shows variation in respect of both scalation and colouration.

There are eight to nine upper and of the same number of lower labials. Scales in the mid-body varies between 87 to 98 scales. The maximum length from snout to vent is 100 mm. Tail is incomplete in most of the specimens. Stoliczka (1870) noted that *G. subcristatus* is true arboreal lizard, fairly common in the Andamans and are found in abundance in the Nicobar Islands.

Distribution.—Endemic in Andaman and Nicobar Islands.

8. **Calotes cristatellus** (Kuhl)

1820. *Agama cristatella* Kuhl, *Beitr. Zool. Vergel. Anat.*, **1** : 108.

Material.—2 ex., Mus vill., Car Nicobars, 28. iii. 1959, *K. K. Tiwari.*

Remark.—Scale counts (mid-body) 64-70, snout to vent 80 and 98 mm., tail 87 (broken) and 336 mm., upper and lower labials 8, 6 to 8. Upper dorsal scale-row pointing backwards and upwards.

In the living specimen, the body colour is bright green. In the preserved specimen the entire looks black.

Scale count round the body shows that these specimens come very near to the group of specimens from Amboyna. This species is closely allied to *C. jubatus* of Nicobars and Malayan Islands. One of the chief distinguishing characters between these two species could be found in the formation of the upper dorsal scale-rows. It has 6 to 10 upper dorsal scale-rows, where as in *C. jubatus* the dorsal scale-rows varies between 2 to 4.

Distribution.—This is a Malayan species extending its range in the Indo-Chinese subregion. It is found in the East Indian Archipelago except New Guinea, Nicobar Is. and Malay Peninsula. So far it is not recorded beyond 15°N in Burma.

9. Calotes jubatus (Dum. & Bibr.)

1837. *Bronchocela jubata* Dum. & Birb. *Erp. Gen.*, **4** : 397.

Material.—1 ex., Camorta, 18. xi. 1970, *B. K. Tikader*

Remark.—Scale counts (Mid-body) 50, 4 compressed scales on the temple behind the supercillum. Upper labials and lower labials 9.

Distribution.—The Nicobar Islands, Java, Philippine Islands.

10. Calotes versicolor (Daudin)

1802. *Agama versicolor* Daudin, *Hist. Nat.*, Reptilia **3** : 395, pl. XLIV.

Material.—5 ex., from Diglipur about 16 km. N. E. of Cornwallis, N. Andaman, 2. ii. 1959, *K. K. Tiwari* ; 4 ex., from different localities of N. Andaman, 23-24. iv. 1971, *B. K. Tikader.*

Remarks.—Scales in the mid-body varies between 42 to 47, snout to vent 78 to 101 mm., tail imperfect.

C. versicolor and *C. andamanensis* are two closely related species, the former having two separated spines above the tympanum where as the spines are missing in the latter.

C. andamanensis has been described by Boulenger (1891, p.288-9) from a single male obtained from Andaman Is. Since then there has been no collection of this species from that area.

Anderson has recorded that "in the Andamans, *Calotes*

versicalor is found only in the Cocos-group, not south of the Table Island. It is essentially a mainland form and does not as a rule, penetrate into primaeval 'jungle."

11. Calotes mystaceus Dum. & Bibr.

1837. *Calotes mystaceus* Dum. & Bibr., *Erp. Gen.*, 4 : 408.

Material.—1 ex., from Andaman, date and collector unknown.

Remarks.—The specimen agrees with the description of typical one mentioned in the literature excepting that the present specimen has 12 upper labials on one side and 13 on the other and the same number of lower labials. The scale round the body are 49 and the tuil appears round.

Distribution.—This is an example in which though the distribution is Indo-Chinese but does not extend above lat. 12°N and also available in Andamans.

Family 4 SCINCIDAE

12. Mabuya multifasciata (Kuhl)

1820. *Scincus multifasciatus* Kuhl, *Beitr. Zool. Vergl. Anat.*, p. 126.

Material.—1 ex., from Malaca village, Car Nicobar, 24. iii. 1959 ; 1 ex., Tamalu village, Car Nicobar, 24. iii. 1959, *K. K. Tiwari* ; 2 ex., Car Nicobor, 4-11. xi. 1970, *B. K. Tikader.*

Remarks.— Kuhl did not mention about the type locality. Pope (1935) on the authority of Mertens (1930, p. 257), suggested that as Kuhl's specimen came from Java, it may be presumed that Java may be taken as type locality.

Distribution.—This species is widely distributed in the Indo-chinese and Malayan Subregions extending in the Nicobar Islands.

13. Mabuya tytleri (Theobald)

1868. *Scincus tytleri* Tytler Mss., Theobald, *Cat. Rept. Asiat. Soc. Museum*, p. 23.

Material.—1 ex., Entjie, 26 km. west of Tokoibuea, Little Andaman, 14. ii. 1961.

Remarks.—Scales round the mid body 26, lamellae under fourth toe 29. from snout to vent 133 mm., tail 278 mm.

This is the largest of all the Indian skinks. Stoliczka (1870, p. 169) received specimen of this species from Andaman Is., sent by Roepstrofl, measured 20 inches in length of which tail was nearly 12 inches.

Distribution.—This species is peculiar to the Andaman Is. only.

14. **Mabuya andamanensis** Smith

1935. *Mabuya andamanensis* Smith, *Fauna. Brit. India,* Rept. & Amph. **2**: 271.

Material.—1 juv. ex., from forest at Kwate-tu-kwage, Little Andamans, 18. ii. 1961.

Remarks.—Scales in the mid body 30. Lamellae smooth, 27 in number beneath fourth toe.

Brown above with two distinct series of black spots one on either side of the vertebral line.

Distribution.—It is mainly confined to the Andamans, though some specimens have been collected from the Nicobar Islands.

15. **Riopa bowringi** (Günther)

1864. *Eumeces bowringii* Günther, *Rept. Brit. Ind.*, p. 91.

Material.—2 ex., Stn. 21, Andaman, 11. ii. 1927, collector unknown.

Remarks.—Present collection contains two specimens from Andamans without any name of collector which measures :

Length — 44+51 & 25+33 mm. ; scale round the body — 28 & 27 ; scale down middle of the back *c.* 55 ; upper labials — 7 and lamellae beneath the 4th toe — 14 & 12.

Colouration of the spirit preserved specimens differs markedly from the description. Instead of a dark brown or black dorsolateral stripe a white stripe is present in both the specimens and dorsally between the two stripes it is chocolate colour. In the smaller specimen a short fine line starts from the back of the head. The scales of tails are dotted with reddish colour. The scales are faintly tricarinate.

Distribution.—The species is known from both the Indo-chinese and Malayan subregions.

16. Sphenomorphus maculatum (Blyth)

1853. *Lissonota maculata* Blyth, *J. Asiat. Soc. Bengal*, **22** : 653.

Material.—3 ex., Swai, Car Nicobar, 22.ii.1972, *A. K. Mukherjee.*

Remarks.—In all the three specimens the scale round the body are 36. The characters and colouration of these specimens tallies with the description of the species given in the literature.

Distribution.—The Eastern Himalayas (Sikkim ; Darjeeling Dist. ; North Bengal) Assam ; the Andaman & Nicobar Islands ; S. W. Yunnan ; Burma and Thiland as far south as the Isthmus of Kra ; Combodia, S. Annam.

Family 5. VARANIDAE

17. Varanus salvator andamanensis Deraniyagala.

1944. *Varanus salvator andamanensis* Deraniyagala, *Spolia Zeylan.*, **24** (1) : 59-62, pls. 10-12.

Material.—1 ex., from Laitora, 26 km. north of Tokiobuea, Little Andaman, 14. ii. 1961 ; 1 ex., Bedcabdula, 32 km. south of Tokoibuea, Little Andaman, 16. ii. 1961 ; 1 ex., 26 km. west of Kwate-tu-kwage, Little Andaman, 20. ii. 1961, *A. Daniel* ; 1 ex., Manarghat, Mt. Harriet Range, S. Andamans; 24.iii.1964 ; 1 ex., Humphraygung, S. Andamans, 8. iii. 1964 ; 1 ex., Burma Nalah, S. Andaman, 19. iv. 1964, *B. S. Lamba.*

Remarks.—Abdominal scales varies between 93 to 95 in the transverse series. Tail compressed, with tooth crest above. Largest specimen a male from Little Andaman measures from tip to tail 1202 mm. and the smallest specimen from S. Andaman 360 mm.

The yellow dorsal body spots are absent and the specimens have a blackish appearance as in the type with few narrow, vertical black V - shaped marks extending on to the sides of the belly.

Deraniyagala (1944) after examining a series of specimens from Ceylon, Andaman, Nicobar, Indochina and Philippines, came to the conclusion that four different races of this species could be found with its range of distribution. The main consideration of its separation into different races was made on the basis of colouration i.e. yellow pigments (Ocelli) or bars present on the dorsal aspect of their bodies. According to him following are the four subspecies :

1) *Varanus salvator salvator* "forma typica" from Ceylon, type no. 40, Colombo Museum.

2) *Varanus salvator andamanensis* sp. nov. Burma, Indochina and Nicobar Is., type catalog no. 151a, Index No. 84.77, in the Museum d'historie Naturelle, Paris.

3) *Varanus salvator andamanensis* sp. nov. Andaman Is., type no. 2176 of the Indian Museum, Calcutta.

4) *Varanus salvator philippinensis* sp. nov., the Philippines, type catalog no. 15.30, Museum d'histoire Naturelle, Paris.

Order SQUAMATA

Suborder SERPENTES

Family 6. TYPHLOPIDAE

18. Typhlops braminus (Daudin) Common blind snake

1803. *Eryx braminus* Daudin, *Hist. Nat. Rept.* **7** : 279: (based on Russell's *Ind. Serp.*, **1**, p. 48, pl. XLIII)

Material.—1 ex. juv., from Choldari, S. Andaman 27. ii. 1959, *K. K. Tiwari* ; 1 ex., Mayabandar, N. Andaman, 7. v. 1971, *B. K. Tikader* ; 1 ex., Stn. 3 Mongluton, 20 km. S. W. of Port Blair, 18. xii. 1975, *P. K. Maiti* ; 1 ex., Govt. Agricultural farm, 20 km. W. of Port Blair, 14. i. 1976, *G. Ramakrishna* ; 1 ex., Port Blair, June, 1930, *K. N. Das*.

Remarks.—Scale rows round the body 20. Total length 130 mm. Stoliczka (1871) described a specimen from Andaman Is., as *T andamanensis* but the type specimen is unfortunately lost. The main distinguishing factor between *braminus* and *andamanensis* lies in the following characters :—

T. braminus	*T. andamanensis*
Tail ending in a fine point.	Tail obtuse ending in a spine.
20 scales round the body, the diameter of the body 30-45 times into total length.	18 scales round the body ; the diameter of which is contained 17-20 times into total length.
Transverse scale-rows on body 290-320.	Transverse scale rows on body.

This is the common Typhlops of the Oriental region.

Distribution.—The whole of India, The Andaman & Nicobar Island, Mexico ; Sri Lanka ; Indo-china ; Hainan ; Southern China ; The Malay Peninsula and East Indian Is ; Persia ; Arabia and Africa.

Family 7. COLUBRIDAE

19. Acrochordus granulatus (Schneider)

1799. *Hydrus granulatus* Schneider, *Hist. Amph.*, 1 : 243.

Material.—1 ex., Stn. M. 18, opposite Chotagna village, Camorta, Nicobar, 24.iii.1970, *B. K. Tikader.*

Remarks.—The specimen has been assigned to the species having the following characters :

Nostril on the upper surface of the snout, presence of enlarged scale behind each nasal shield, 10 scales present between the eyes 98 scales round the middle of the body. Dark-gray with whitish cross bars. Head dark-gray with light spots above. Snout to vent 520 mm., vent to tail 65 mm.

Distribution.—The coasts of Sri Lanka, India, Nicobar Is. and Indo-china. The range is as far as Bombay in the West and Vietnam in the East.

20. Ptyas mucosus (Linn.)

1758. *Coluber mucosus* Linn., *Mus. Ad. Frid.*, 1 : 27, : 23

Material.—1 ex., from Junglighat, Port Blair, S. Andaman, 29. ii. 1964, *B. S. Lamba.*

Remarks.— Upper labials 8, 4th and 5th touching eye, dorsal-17, ventral 198, caudal 117 and anal 2.

The dark cross bars on the body which are prominent in the posterior part of the mainland specimens are absent in the present specimen and another important difference is that the labials and dorsal scales on its anterior side are not so prominently edged with black. Smith (1943) also noticed this colour variation in specimens from Chin Hills, Toungi, Mandalay and Andaman. Whether this colour variation is important enough and to be considered in these specimens to give them at least a sub-specific rank can not be just now settled unless some more specimens from Andaman are examined.

Distribution.—The whole of India including Andaman Is., Sri Lanka, Baluchistan, Afganisthan, Turkestan, The whole of Indo-China Yunnan and Southern China ; Hainan.

Genus **Dendrelaphis**

Dendrelaphis Boulenger, 1890, *F.B.I*, p. 339.

Under mentioned key for the identification of the group of species

belonging to the genus *Dendrelaphis* which have common character of posterior 3 or 4 maxillary teeth enlarged than the other and the costal in 15 rows will help in distinguishing them from each other.

I. Last 3 or 4 maxillary teeth larger.

Stouter and usually larger than the others.

A. Scales in 15 rows.

a. Ventral scales not strongly enlarged, not broader at mid-body than the scales of the outer row.

1. Diameter of the eye not more than its distance from the nostril ; a black temporal stripe, V - 164-200, C-127-164—*Dendrelaphis ahaetulla ahaetulla* (Linn.) and on colour variation - *D. ahaetulla andamanensis* (Anderson).

2. Diameter of the eye more than its distance from the nostril ; no black temporal stripe. *D. granodoculis* (Boulenger)

b. Ventral scales strongly enlarged, broader at mid-body than scales of outer row.

1. Single loreal, V-186-211, C-135-159 ; no black flank stripe ... *D. cyanochloris* (Wall).

2. Single loreal, V-171-178, C-135-148 ; lateral bars in the neck ... *D. humayani* Tiwari & Biswas.

3. Two loreals, V-186-211, *D. bifrenalis* (Boulenger).

21. Dendrelaphis ahaetulla andamanensis (Anderson).

1871. *Dendrelaphis picta andamanenis* Anderson, *Proc. zool. Soc.*, p. 184

Material.—1 ex., Aberdeen, Port Blair, S. Andaman, 17. iii. 1952, *H. C. Roy* ; 1 ex., Ziitiji forest, 26 km. West of Tokoibuea, Little Andaman, 15. xi. 1961 ; 1 ex., near Bugene, 26 km. West of Kwate-tu-kwage, Little Andaman, 20.ii.1961, *A. Daniel* ; 1 ex., Cowriiaghat, South Andaman, 16. iv. 1964, *B. S. Lamba* ; 2 ex., Hermandergarh shore, Great Nicobar, 10. i. 1975, *S. K. Bhattacharya.*

Remarks.—Two colour forms viz. *Dendrelaphis a ahaetulla* and *Dendrelaphis a andamanensis* are known. The former is distributed in Bengal and also from the Eastern Himalayas to S. China and the latter is confined only in Andaman & Nicobar Islands.

The scale counts of the 4 specimens of each of the subspecies are noted below and in the comparative chart the specimens of *D. a. ahaetulla* are from the Indian mainland.

Reg. No.	LOC.	D	V	C	Labial	Measurement in mm. body+Tail—Total
			Dendrelaphis a. ahaetulla			
7686	Assam	15	184	134	9	665+350—1015
7701	Assam	15	193	122	9	765+340—1105
7886	Chittagong Bangladesh	15	186	140	9	505+290—795
7687	Assam	15	164	57 damaged	9	555+150—710
			Dendrelaphis a. andamanensis			
20916	L. Andaman	15	185	135	7	660+330—990
2084	Port Blair	15	189	113	7	815+350—1165
21226	S. Andaman	15	189	138	7	755+375—1130
20917	L. Andaman	15	188	137	7	690+355—1045

Over and above the colour differences following are the main differences between the two sub-species.

	D. a. ahaetulla	*D. a. andamanensis*
Shape of head	More or less elliptical more deep.	Gradally narrower laterally from head to snout, less deep.
Loreal.	Rectangular and broader.	Narrower.
Preocular.	Higher.	Not so high.
Colour.	A prominent black stripe start from behind the nostril reaches up to neck, then a short gap, starts again lateally reaches up to vent.	Without any stripe, if head colour not strong, a narrow stripe is prominent from the nostril to the neck. Head is bluish or bluish black.
Scale count	Ventral 164-200 Subcaudal 185-189.	Ventral 122-164 Subcaudal 133-138.

Distribution.—The species is endemic to Andamans.

22. **Dendrelaphis humayuni** Tiwari & Biswas

1973. *Dendrelaphis humayuni* Tiwari & Biswas, *J. zool. Soc. India*, Calcutta, **25** (1 & 2) : 57-63.

Material.—1 ex., Magarnala, Campbell Bay, Great Nicobar, 7. i. 1975, *S. K. Bhattacharya.*

Remarks.—Dorsal 15 : 15 : 9, Ventrals 171, Caudals 57 (incomplete), Anal 2.

The ventral scale count in other specimens of the species examined (Biswas & Sanyal 1977) ranges between 172-178 but the count in the specimen examined is 171 So the ventral scale count now ranges between 171-178. The characteristic white bars on the side of the neck are also present in the specimen.

Distribution.—Nicobar group of Islands.

23. Lycodon aulicus capucinus Boie

1827. *Lycodon capucinus* Boie, Isis, p. 551 (based on Ruseil ii, pl. xxxvii)

Material.—2 juv. ex., Port Blair, C. M. P's Quarter, 3. iv. 1952, collector not known ; 2 adult ex., Aberdeen, Port Blair, S. Andamans, 24. iii. 1952, *H. C. Roy* ; 1 ex., Burmah Nallah, S. Andamans 15. iv. 1964, *B. S. Lamba.*

Remarks.—Total length of two adult specimens (Collected on 24. iii. 1952) 475 and 565 mm. tail 90 and 105 mm.

The colouration of adult specimens is uniform brown above having slight traces of reticulation on the fore part of the body but in the juvenile specimens white reticulation is well marked.

Distribution.—Out of the two races of the species *aulicus*, *L. a. aulicus* (Linn.) is distributed in Sri Lanka, India, Nepal and Burma, north of lat. 17°, whereas *L. a. capucinus* is confined to Burma south of lat. 24° Siam, S. Indo-china, Andaman and Nicobars Islands.

24. Xenochrophis piscator melanozostus (Boie)

1826. *Tropidonotus melanzostus* Boie, Isis, p. 206.

Material.—2 ex, Port Blair, found in the compound of C. M. P's Bunglow, 21 iii. 1952 ; 1 ex., Aberdeen, Port Blair, 24. iii. 1952, *H. C. Roy* ; 5 ex, Wright Myo, Mt. Harriet range, 28. iii. 1964. to 1. iv. 1964 ; 3 ex., Mannarghat, Mt. Harriet range, 30. iii. 1964 ; 1 ex., Katan, Baratang, 21. iii. 1964 ; 2 ex., Rajatgarh Baratang, 19. iii. 1964 ; 1 ex., Cowriaghat, 11. iv. 1964 ; 1 ex., Humphrygung, S. Andaman, 8. iii. 1964, *B. S. Lamba* ; 1 ex., Chouldhari, S. Andaman, 1. i. 1975, *S. K. Bhattacharya* ; 1 ex., Port Blair, 8. vi. 1976, *A. Bayley de castro.*

Remarks.—Following are the measurements and scale count of specimens belonging to the three sub-species of *X. piscator* in the collection of Zoological Survey of India.

Above chart shows that beside the typical *X. piscator* there are distinct 4 more races in the Indo-Chinese and Indian subregions. The specimens at present grouped as *melanozostus* from Andaman are two distinct varieties which differ in colouration as well as scale count. Therefore, according to the writers the specimens which differ from the typical *melanozostus*, may possibly be classified under a new sub-specific rank but some more specimens should be examined before coming to a definite conclussion.

25. Cerberus rhynchops (Schneider)

1799. *Hydrus rhynchops* Schneider, *Hist. Amph.*, **1** : 246.

Material.—4 ex, Humphrygung ; S. Andaman, 7. iii. 1964, 2 ex., from Mannarghat, 2. ii. 1964 and 3. iv. 1964, *B. S. Lamba.*

Remarks.—Frontal broken into smaller scales, loreal in contact with 1st, 2nd, 3rd or 4th labials and internasal (this character is variable) ; 9 upper labials, 5th and 6th below eye and separated by subocular, last 2 or 3 scales horizontally divided ; body scales strongly keeled.

Distribution.—It occurs in sea coasts, estuaries and rivers and it is particularly common in East Indian estuaries. This snake is equally well adapted in Sea as well as fresh water rivers.

Family 8. HYDROPHIIDAE

26. Laticaudata laticaudata (Linn.)

1758. *Coluber laticaudatus* Linn. *Syst. Nat.* (10th ed.) p. 222.

Material.—1 ex., near Aberdeen Jetty, Port Blair, S. Andaman 18. v. 1951, collector unknown.

Remarks.—Measurement of the present specimen from snout to vent 335 mm. and vent to tail 47 mm. Dorsal 19, Ventral 236, Caudal 42.

The specimen is beautifully coloured with black and a yellow alternating bands. Most of the black bands are complete excepting 5 bands in the middle of the body. There are 55 black rings on the body and 8 on the tail. The median elongated patch of yellow on the jaw is also absent. In this species colour bars are narrower and more in number than that of *L. colubrina* (Schneider).

There are two specimens in the Z.S.I. collection with the following details.

Xenochrophis piscator melanozostus (Bioe), Two colour forms

Reg. No.	Ventrals	Caudals	Lenth in m.m. Snout to Vent + Vent to tip of tail	Locality	Remarks
21216	140	59	665+217	Mannarghat, S. Andaman	140-145, 59-89 ; resembles large spotted Indian form or the vertebral series of spots united to form a sinuous stripe on the fore part.
21221	145	89	275+155	Humphrygung, S. Andaman	
20857	136	87	570+260	Aberden, Port Blair S. Andaman	
20858	135	74	450+145	Port Blair (C.M.P's Camp)	135-139, 59-89 with 5 longitudinal lines.
21214	138	74	640+245	Wright Myo, S. Andaman	
21214	137	86	360+180	,,	
21215	139	89	540+280	,,	
21215	137	59	270+175	,,	
21220	138	68	550+235	Cowriaghat	

X. piscator piscator (Schneider)

7368	142	92	165+72	Samogaoting, Assam	140-151, 61-92; smaller black spots arranged quincancially, ventral edged with black spots may be broken up, 6 to 7 series of spots.
7367	148	68	855+262	,,	
4687	151	83	735+255	Haliakandi, S. Cachar	
4688	152	61	515+182	,,	
4024	140	37 (damaged)	575+145 (damaged)	Sibsagar, Assam	
4025	151	85	685+255	,,	

X. piscator asperrimus (Boulenger)

11393	141	83	145+55	Gallee, Sri Lanka	136-141, 83-85, with two series of district large roundish or rhomboedal spots.
8670	139	85	283+115	Sri Lanka	
7369	141	83	925+268	20 mls. from Gallee, Sri Lanka	
7366	136	85	517+250	Gallee, Sri Lanka	

Reg. No.	Locality	No. of Ventral	No. of caudal	No. of colour bars
8286	Penang, Malay Peninsula	229	32	42+4
8289	Tolly's Nallah Calcutta	235	35	54+6

Distribution.—From the Bay of Bengal and the Seas of South Japan to the coast of Australia and islands of Oceania.

27. **Laticauda colubrina** (Schneider)

1799. *Hydrus colubrinus* Schneider, *Hist. Amphib.*, i, p. 238.

Material.—1 ex., Phonix Bay, Port Blair, S. Andaman, 14.iii. 1969, *T D. Soota.*

Remarks.—In two adult specimens from the Car Nicobar, the body above is bluish gray and yellowish below 35 and 36 black bands on the body and 3 or 4 on the tail but in the Andaman specimen which appear to be young, the bluish body colour is absent and with 32 brown bands on the body. In all the three specimens black or brown patch on the head starts between eyes extending backwards which coterminate with the bands behind the eys and also connects laterally with 1st body head.

Distribution.—Bay of Bengal, Calcutta, Ramri Island off the coast of Arakan, Andaman & Nicobar Islands.

28. **Pelamis platurus** (Linn.)

1766. *Anguis platurus* Linn. *Syst. Nat.* (ed. 12) **1** p. 39.

Material.—1 ex., Coral reef at Otirubora, ca : 18 km. West of ingoie, Little Andaman, 23. ii. 1961, *A. Daniel.*

Remarks.—Colour of this species is extremely variable. As many as 7 colour patterns commonly could be seen. Smith (1943, p.476) has given short description of the various colour patterns generally met with. The present specimen confirms to the pattern as shown in No. 6. It is yellow with black dorsal stripe and spots on the sides and belly posteriorly.

For the sake of comparison scale count and measurements of three specimens of different localities and of colour variants with present specimen are mentioned in the table below :

Tailor (1950) recognises three main colour patterns in the specimens

Pelamis platurus (Linn.)

Reg. No.	No. of regular ventrals	No. of irregular ventrals	Caudal	Length of specimen	Scales round the body		Locality
				S. to V. + V. to T. in mm.	thickest part	Near head	
14448	389	18	59	230+85	60	52	Puri, Orissa.
21128	310	35	56	545+59	56	48	Tanjore coast Madras
8284	305	24	55	268+37	54	47	Sri Lanka
20920	340	36	52	250+37	56	50	Little Andaman

of Ceylon coast and is willing to accept three species corelating three groups of scale counts. There may be a scope of subspecific distinction within this species but this should be supported by a series of specimens from different localities.

Distribution.—It is most widely distributed of all the sea snakes. It is a common species in the Indo-Australian Seas ; it extends north to Southern Siberia and South to Tasmania. Its eastward range crossed the pacific and established itself on the west coast of Central America and also known from all parts of the coast of East Africa. Recorded also from the Red Sea.

Family 9. VIPERIDAE

29. Trimeresurus purpureomaculatus andersoni (Theobald)

1868. *Trimeresurus andersoni* Theobald, *Cat. Rept. Asiat. Soc. Mus.*, p. 75.

Material.—1 ex., Rajatgarh, Baratang, S. Andaman, 19. iii. 1964 ; 1 ex., Cowriaghat, S. Andaman, 8.iv.1964, *B. S. Lamba* ; 2 ex., (one juv.), Car Nicobar, donated by the *Govt. Hospital* ; 2 ex., Little Andaman, 14. ii. 1961, *A. Daniel* ; 1 ♂, Port Blair, S. Andaman, 8.iv.1926, *A. Bayley de Castro.*

Remarks.—In the specimens under report the scale round the body are 23 excepting one (Reg. No. 20918) in which it is 25, Ventrals 168-181, Caudal 49-71.

The Andaman race *T p. andersoni* differs from the typical form *T p. purpureomaculatus* by having 23 to 25 scale round the body and by the absence of green colouration of the head. The colouration of these specimens conform to the colour from as is found in this subspecies. The scale count and measurement of the specimens are mentioned in the chart (see page 278).

Distribution.—Known only from Andaman and Nicobar group of Island.

30. Trimeresurusus labial's (Fitzinger)

1861. *Bothrophis labialis* Fitzinger, *Sitzb. Akad. wiss. wien.*, 42, p. 411.

Material.—1 ex., Tee-top, Car Nicobar, 1. iii. 1972 ; 1 ex., Parka, c. 5 km. N. E. of Malaca Vill., Car Nicobar, 14. ii. 1972, *A. K. Mukherjee.*

Remarks.—Colouration of one specimen out of four is uniform dark brown, two are with dark brown spots transversely arranged and

Sl. No.	Reg. No.	Dorsal	Ventral	Caudal	Measurement S. to V. + V to T. in mm.	Locality	Remarks
1.	20918	25	184	23 damaged	810+80 broken	From Jungle 1 mile east Latitora	1 ex.
2.	20856	23	177	62	620+150	Car Nicobar	,,
3.	20919	23	176	70	528+135	From the jungle near Bugena 10 mile W. of Kwate-tu-Kwate Little Andaman.	1 ex.
4.	20853	23	168	49	475+85	Malaca village, Car Nicobar	,,
5.	21229	23	181	56	335+92	Rajatgarh, Baratang, S. Andaman.	,,
6.	20897	23	176	68	383+120	Port Blair, S. Andaman	,,
7.	20855	23	174	52	325+60	Malaca Vill. Donated by Govt. Hospital Car Nicobar	1 ex. Juv.
8.	20854	23	170	53	220+39	,,	,, ,,

in the 4th a light streak starting from back of the eye continues along the side of head, neck and body. There are much variations in respect of colouration and scale arrangement in this species.

Distribution.—Known only from Nicobars.

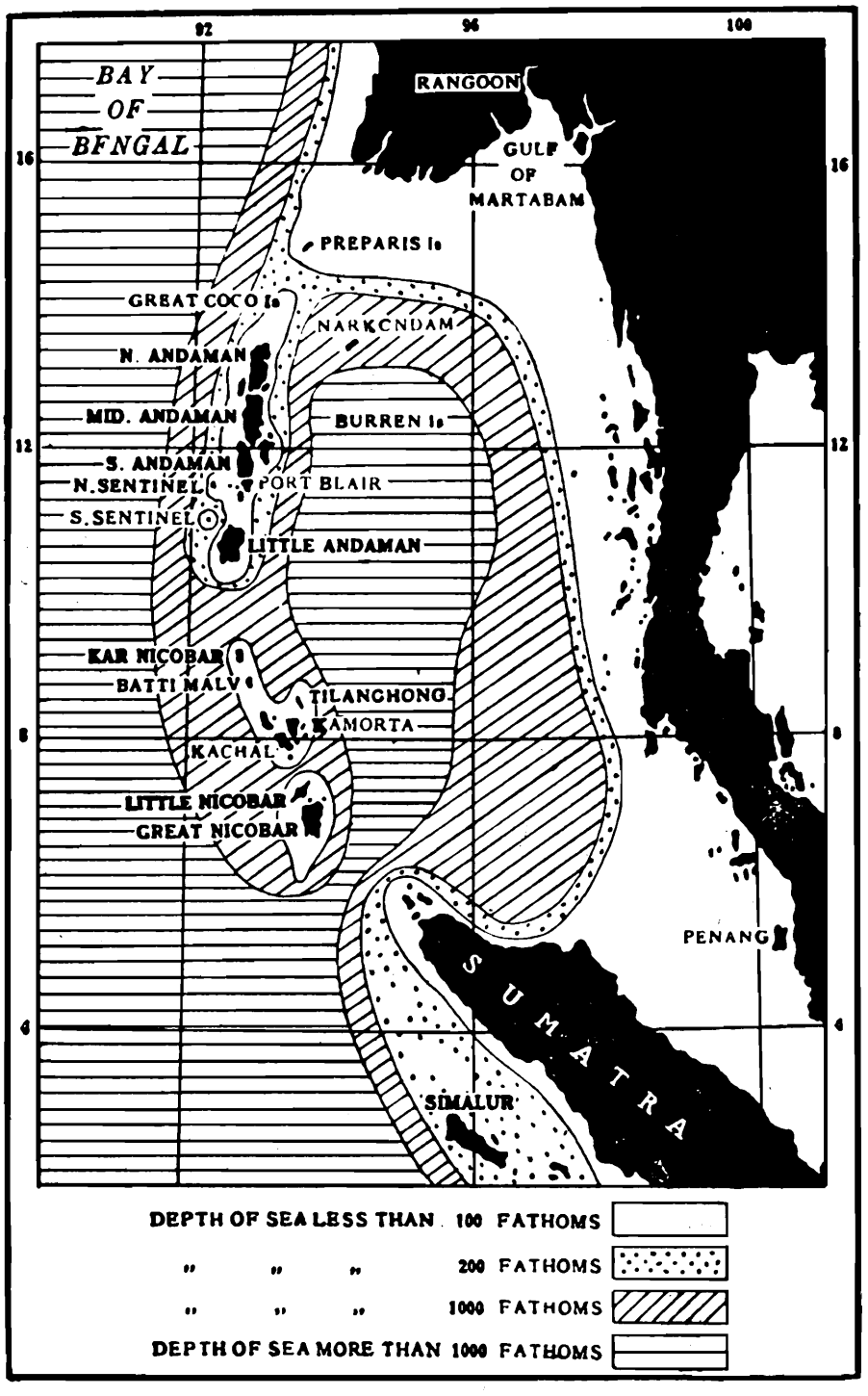
ZOOGEOGRAPHY

Andaman and Nicobar groups of island are separated by 10° channel and the distance between Little Andaman and Car Nicobar is 125 km. This group of islands form a continuous chain of submarine mountains sprawling in crescent between Cape Negrais of Burma and Achin Head of Sumatra, the latter being about 145 km. away from the southern most point of Great Nicobars, while Cape Negrais of Burma is nearly 193 km. away from the Port Blair.

The entire chain is nearly 1126 km. long and covered by evergreen rain forests except where they have been destroyed by men. These islands are situated within the tropical monsoon climate receiving a mean annual rainfall 325 cm. adequately spread over a period of 8 months between May and December ; comparatively drier period is between January and April.

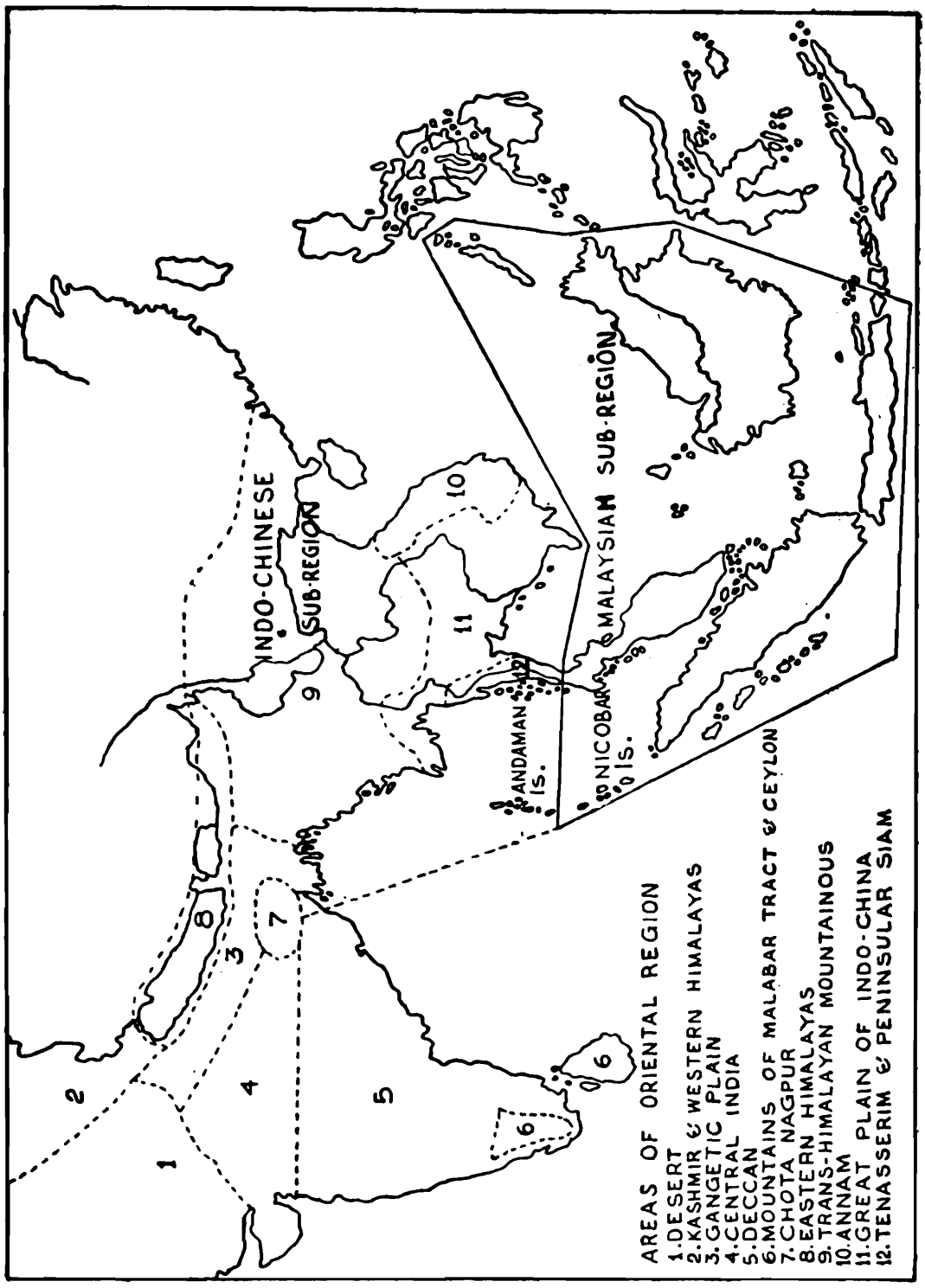
The great mountain chain which a continuation of the Arakan Hills at Burma and links on at southern end with the mountains of Sumatra is supposed to be a part of the Great Alpine-Himalayan system that was gradually thrown up during the Miocene and early Pliocene periods. According to Karunakaran (1962, 1967) the geologically quite young mountain ranges of the Andaman and Nicobar group of island were formed at the expense of a narrow but deep oceanic furrow in upper Mesozoic about 100 million years ago, The end of deposition of the sediment was marked by a tremendous earth movement sometimes in upper Oligocene, about 30 million years ago and thus long mountain ridges, a few above sea level but mostly submarine, developed and thus the embryo of the present day archipelago came into existence. Another very important earth movement had overcome the deposition in this belt and the rocks were thrown into several folds and thrusts by which the present day configuration of these islands (Text-fig. 2) were more clearly established. Since then subsequent upheaval of this belt took place in several strides and these islands have undergone several periods of partial submergence and elevation, but the terrestrial fauna in Miocene or Pliocene was never completely wiped out. This process of geological changes are continuous even in present time. Many a loose shell and sand beach are raised which cap certain hills and hummocks from where the sea had receded in very recent years.

Geographical proximity and the past geological connection with Andamans group to the Burma of Indo-chinese subregion (Text-fig. 3)



Text-fig. 2. Hydrographical map of the sea around the islands of Andaman and Nicobar and near the mainland. (*After* Boden Kloss)

reflect primarily Indo-chinese elements in its distribution and through Sumatra, Malayan distribution in the Nicobar group of island. But there is no rigid demarcating line about these two types of distribution which has been pointed out by Stoliczka (1870) while commenting on the reptile fauna of Nicobars — "Andaman and Nicobar will show a great similarity to each other ; several species of lizards and snakes are common to both, and the whole fauna greatly resembles the



Text-fig. 3. Map of Oriental Region demarcating the two sub-regions and the areas. (*After* Boden Kloss & M. A. Smith).

Malayan, gradually passing into Burmese fauna" More or less same view has been expressed by Smith (1931). "The Andaman contain an impoverished Burmese fauna ; that of the Nicobar approximates to the Sumatran type" But while considering the zoogeography of the Ophidian fauna of "British India" Smith (1943) has included Andaman and Nicobar in the Indo-chinese subregion and it has been

shown in the list of Ophidian species occuring in this region that most of the species which occur in Andamans and Nicobar belong both to the Indo-chinese and Malaysia excepting three species i. e., *Ptyas mucosus, Naja naja kaouthia* and *Ophiophagus hannah* which are Indo-chinese only in distribution and also absent from Nicobars.

One faunal peculiarity for Nicobar is the predominance of *Calotes* over other reptiles and in respect of Great Nicobar the total absence of *Trimeresurus* though this genus occur in Nicobar and Sumatra islands. Considering the general distribution of reptile in the surrounding countries it may be presumed that the species *Cyclemy dhor* (Gray), *Hemidactylus garnoti* Dum. & Bibr.. *Goniocephalus grandis* (Gray), *Natirx chrysarga* (Boie), *Dendrelaphis caudolineatus* (Gray), *Simotes octolineatus* (Schn.) and *Boiga cynodon* (Boie) may be also available in these islands.

Distribution of lizards in this region in relation with the Indian mainland as mentioned by Smith (1935) which has a close affinity of Indo-chinese and Malayan lizards with East India and South Indian including Andaman and Nicobars excepting the Northern part of the Indian Peninsula is important for zoological distribution of South East Asia.

The *Varanus salvator* occurring in Indo-china, East India, Andamans and Sri Lanka but absent from the Northern India is an example in support of the above mentioned view. The same kind of distribution can be seen in case of *Dendrelaphis ahaetulla.* In both the above mentioned species occuring in Andaman and Nicobars further supspeciation has been reached due to long isolation. The distribution of polytypic Cat snake genus *Boiga* of these region are interesting. *B. Ceylonensis* Gunther has been recognised by Smith (1943) into four forms i. e., *ceylonensis, beddomei, nuchalis* and *andamanensis* due to there very close similarity though other authors have recognised them as distinct species. In this instance the subspeciation has reached further to bring them into the standard closer to species rank. The *Bungurus andamanensis* which belong to the *B. caeruleus* species complex is an appropriate example. This process of speciation is complete between *Sphenomorphus maculatus* and *S. dussumieri,* the two skinkid lizards originated from the same stalk. Former is distributed in Trivandrum and Ceylon and the latter is Indo-chinese (including East India and Andaman and Nicobars).

Hora & Jayaram (1949) tried to explain the above mentioned distribution in the Indian subcontinent by the Satpura Hypothesis which stipulates that the Malayan fauna and flora distribution took place from Assam Himalayas in the East through Vindhya-Satpura ranges to the Western Ghats in the West of Peninsular India. The overall zoogeographical distribution of this part of South-East Asia can only be explained by taking into considaration that branches of these distribution in early ages started from Chinese and Indo-chinese

region through Burma bifurcating one subbranch came in Indian mainland through Assam, Bengal and Vindhya-Satpura ranges to South India and another from Burma to the Andamans by its land connection which existed at that time. The extreme limit of the branch through Indian mainland reached even upto Sri Lanka which has been expressed very aptly by Annandale (1904) — "It was seen from this list that the Ophidian fauna of the Islands has close affinities with that of Burma and Malaya, while there is possibly less obvious connection with Ceylon" The other main branch from Malaya came to Sumatra and from there to Nicobars uniting ultimately in these islands with the branch that came from Burma.

After reaching the Malayan fauna to Nicobar Islands it mixed up with Indo-chinese fauna coming from the Burma but the branch that came to India from Burma was an extension of Indo-chinese and Malayan fauna in the fauna of Indian subregion as for example *Draco* and *Cylindrophis.*

After the completion of above mentioned distribution the land connection of these islands and with the mainland were severed and due to geographical isolation for long periods we find several new subspecies or species indigenous to Andaman and Nicobar islands. This is well explained when we see that out of 74 species so far enlisted from different islands, 22 are indigenous, even some species are confined only within the limit of that island only.

A careful analysis of reptile fauna of Andaman-Nicobars and Sri Lanka islands shows that apart from Indian relationship, these islands possess one group of reptiles *(Phelsuma* and *Gehyra)* peculiar to Java and Sumatra *(Lepidodactylus)* Therefore, as the available evidence favouring western affinities is very less than the eastern so according to Deraniyagala (1939) the western connection was the first to be interrupted

SUMMARY

This report is on the reptile fauna of Andaman and Nicobar Islands and contains notes on 30 species which were collected by survey parties of Zoological Surves of India during the period of 1930-1976. There is also a note on zoogeographical distribution with a comparative distributional chart of reptiles which are known to occur in the area.

TABLE 1. Species recorded from Andaman, Nicobar and Great Nicobar groups of Islands and their distribution.

Species	Andaman Is.	Nicobar Is.	Great Nicobar Is.	Sumatra and Adjacent	Indigenus	Distribution outside the area
Order Crocodilia						
Fam. Crocodilidae						
1. *Crocodilus porosus* Schneider	+		+		No	
Order Testudines						
Sub-order Thecophora						
Fam. Chelonidae						
2. *Eretmochelys imbricata squamata* Agassiz						Marine
3. *Chelonia mydas* (L.)						Marine
Fam. Emydidae						
4. *Cuora amboinensis* (Daudin)	—	+	+	+	No	Indo-chinese and Malaysia
Order Squamata						
Sub-order Sauria						
Fam. Gekkonidae						
5. *Cyrtodactylus rubidus* (Blyth)	+	—	+	—	Yes	— (closely related with other species of Malayan subregion)
6. *Cnemaspes kandiana* (Kelaart)	+	—	+	+	No	Sri Lanka, S. India, Malay Archi.
7. *Gehyra mutilata* (Wiegmann)	+	+	—	+	No	E. Afrika, S. India, Sri Lanka, Indo-chinese.

Table 1. Contd.

8.	*Hemidactylus frenatus* Schlegel	+	+	+	+	No	Indo-chinese, Malaysia, Indo-Australia.
9.	*Hemiphyllodactylus typus typus* Bleeker	—	—	+	+	No	Sri Lanka, E. India Archi, Burma.
10.	*Gekko gecko* (Linnaeus)	+	—	+	—	No	Indo-chinese extending, Malaysia.
11.	*Gekko smithi* Gray	+	—	—	+	No	Malaysia, Burma, India.
12.	*Lepidodactylus lugubris* Dum & Bibr.	+ (?)	+ (?)	—	—	No	Sri Lanka, E. India Archi, Malay Penni.
13.	*Cosymbotus platyrus* (Schneider)	—	—	+	—	No	Sri Lanka, Indo-chinese extending Malaysia, E. Indian Archi.
14.	*Ptychozoon kuhli* Stegnerger	—	+	—	+	No	Malaysia.
15.	*Phelsuma andamanense* Blyth	+	+	—	—	Yes	—
	Fam. Agamidae						
16.	*Goniocephalus subcristatus* (Blyth)	+	+	—	—	Yes	— (very common)
17.	*Calotes cristatellus* (Kuhl)	—	+	+	+	No	Malayan extending to Indo-chinese, E. India Archi.
18.	*Calotes jubetus* (Dum & Bibr.)	—	+	—	—	No	Java, Philippine.
19.	*Calotes danieli* Tiwari & Biswas	—	—	+	—	Yes	—
20.	*Calotes versicolor* (Daudin)	+	—	—	—	No	Afghanisthan, Sri Lanka, Indo-chinese, N. Malay Penni.

Table 1. Contd.

21.	*Calotes mystaceus* (Dum. & Bibr.)	+	+	—	—	No	Indo-chinese
22.	*Calotes calotes* (Linnaeus)	—	+	—	—	No	Sri Lanka, S. India.
23.	*Calotes andamanensis* Boulenger	+	—	—	—	Yes	—
	Fam. Scincidae						
24.	*Mabuya multifasciata* (Kuhl)	—	+	—	+	No	Indo-chinese extending to Malaysia, E. India Archi, New Guinea.
25.	*Mabuya andamanensis* Boulenger	+	+	—	—	Yes	—
26.	*Mabuya rudis* Rafinesque	—	—	+	+	No	Borneo
27.	*Mabuya tytleri* (Theobold)	+	—	—	—	Yes	—
28.	*Mabuya rugifera* (Stoliczka)	—	+	—	+	No	Malay Penni., Java, Borneo
29.	*Dasia nicoberensis* Biswas & Sanyal	—	+	—	—	Yes	—
30.	*Dasia olivacea* Gray	+	+	+	+	No	Indo-chinese and Malaysia
31.	*Sphenmorphus maculatum* (Blyth)	+	+	—	+	No	Indo-chinese
32.	*Sphenmorphus quadrivittatum* Peter	—	—	+	+	No	Malaysia, Philippines, Calebes.
33.	*Leiolopisma macrotympanum* (Stoliczka)	+	—	—	—	Yes	—
34.	*Riopa browringi* (Gunther)	+	—	—	—	No	Indo-chinese, Malayan, Philippines
	Fam. Dibamidae						
35.	*Dibamus novae-guineae* Dum. & Bibr	—	+	+	—	No	Malay Penni. and Archi., New Guinea.

Table 1. Contd.

	Fam. Varanidae						[V. salvator]
36.	*Varanus salvator andamanensis* Deraniyagala	+	+	+	+	Yes	(Indo-chinese, E. Indian Archi., N. Australian, Sri Lanka)
	Serpentes						
	Fam. Typhlopidae						
37.	*Typhlops braminus* (Daudin)	+	+	—	+	No	Oriental Region, Africa, E. India Is. and Is. of Indian Ocean.
38.	*Typhlops oateri* Boulenger	+	—	—	—	Yes	—
39.	*Typhlops andamanensis* Stoliczka	+	—	—	—	Yes	—
	Fam. Xenopeltide						
40.	*Xenopetis unicolor* Reinwardth	+	—	—	+	No	Malaysian extending to Indo-chinese
	Fam. Boidae						
41.	*Python reticulatus* (Schneider)	—	+	+	+	No	Indo-chinese and Malaysia
	Fam. Colubridae						
42.	*Acrochordus grannulatus* (Schneider)	—	+	—	—	No	Indo-chinese, Malaysia (Marine)
43.	*Ptyas mucosus* (L.)	+	—	—	—	No	India, Indo-chinese extending to Oricntal region and Malay Penni.
44.	*Oligodon woodmasoni* (Sclater)	+	+	—	—	Yes	—
45.	*Elapke parasina* (Blyth)	+(?)	—	—	—	No	Indo-chinese extending to Malaya Penni.
46.	*Elaphe flavolineata* (Schlegel)	+	+	—	+	No	Malayan reaching, Indo-chinese (Tenasserim)
47.	*Elaphe oxycephala* (Boie)	+	+	—	+	No	Indo-chinese, Malay Penni.

Table 1. Contd.

48.	*Liopeltis nicobariensis* (Stoliczka)	—	+	—	—	Yes	—
49.	*Dendrelaphis ahaetulla andamanensis* (Anderson)	+	—	+	—	Yes	—
50.	*Dendrelaphis cyanochloris* (Wall)	+	+	—	—	No	Indo-chinese
51.	*Dendrelaphis humayuni* Tiwari & Biswas	—	—	+	+(?)	No	(Penang and Malacca) Probably Malaysia.
52.	*Dendrelaphis tristis* (Daudin)	—	—	+	—	No	Sri Lanka, India(excepting Assam, Rajasthan, M. P.)
53.	*Lycodon tiwarii* Biswas & Sanyal	+	+	—	—	Yes	—
54.	*Lycodon aulicus capucinus* Boie	+	—	—	—	Yes	— (*L aulicus*, Indo-chinese, Malaysia
55.	*Sibynophis bistrigatus* (Gunther)	—	+(?)	—	—	No	Burma
56.	*Xenochrophis nicobarensis* Sclater	—	+	—	—	Yes	—
57.	*X. piscator piscator*	+	—	—	—	No	India, Java.
58.	*X. piscator melanzostus* Boie	+	—	—	—	No	India, Java.
59.	*X. trianguligera* (Boie)	—	—	+	+	No	Malaysia extending to Indo-chinese.
60.	*X. stolata* (L.)	+	—	—	—	No	Indo-chinese, Sri Lanka, India up to N.W.F.P. of Pakistan.
61.	*Chrysopelea paridisi* Boie	+	—	—	+(?)	No	Malay Penni., Borneo, Sumatra, Java, Philippine.

Table 1. Contd.

62.	*Boiga dendrophilus* (Boie)	—	—	+	+	No	Malaysian
63.	*Boiga andamanensis* Wall	+	—	—	—	Yes	— (Nr. *B. ceyloninsis*, Sri Lanka, S. India)
64.	*Boiga ochracea walli* Smith	+	+	—	—	No	Burma
65.	*Cerberus rhynchops* (Schneider)	+	+	—	+	No	Indo-chinese, Malaysia, Marine
66.	*Fordonia leucobalia* (Schlegel)	—	+	—	—	No	Indo-chinese, Malaysia, Marine
67.	*Cantoria volacea* Girard	+	—	—	—		Indo-chinese, Malaysia, Marine
	Fam. Elapidae						
68.	*Ophiophagus hannah* (Cantor)	+	—	—	+	No	Indo-chinese, Malay Penni. & Archi, Philippine, India.
69.	*Naja naja kaouthia* Lesson	+	—	—	—	No	India, Indo-china
70.	*Bungarus andamanensis* Biswas & Sanyal	+	—	—	—	Yes	— (Previously *B. caeruleus*) (India and Sri Lanka)
71.	*Laticauda laticaudata* (L.)	—	+	—	?	No	From Bay of Bengal and seas S. of Japan, Coast of Australia, Islands of Oceania, Marine.
72.	*Laticauda colubrina* (Schneider)	+	+	—	?	No	Rare in Indian and Indo-chinese water, common at Singapore, Marine.
73.	*Trimeresurus contori* Blyth	+(?)	+	—	—	Yes	—
74.	*Trimeresurus purpureomaculatus andersone* Theobald	+	+	—	—	Yes	—
75.	*Trimeresurus albolabris* Gray	+	+	—	+	No	North and Central India, Indo-chinese, Malaysia.
76.	*Trimeresurus labiatis* (Fitzinger)	+(?)	+	—	—	Yes	—

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