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by Alexander Cross

OPHIDIA

Fanily ILYSTIDAE

Cylindrophis rufus.

This burrowind snake is common throughout the lowlands. It

is probably insectivorous.

The head is small and rounded and there is no distinct mech The eyes are small and the tail is very short. The general colour is black above, while below it is binded black and white! The bands of light colour on the chin and throat have often a pink flush and one of these comes up round the neck on either side and almost meet to form a collar. The bands on the tail are a deep pink, some times almost red and here scain one of the binds runs across unner side of the body.

Only one specimen has been obtained, from the Bukit Timan Road site. It is Specimen No. 205, &, taken on 21.6.44, and measures:

N.& B., 428.5 mm.; Tail, 8.5 mm.; Total, 437.0 mm.. The scale count was: Costals, 21; Ventrals, 206; Anal, divided; Subcaudals, 6 singles It is interesting to note that two of specimens were taken in the Outside Garden, Changi, which measured 373.9 and 411.1 mm. in total length; both had a costal count of 19, the ventrals were 212 and 216, the anal was divided and both had 6 single subcaudals. It is known if this difference in the costal count is individual or sexual. Specimen No. 205 is considered a very large specimen.

Nothing is known of the breeding habits. The Makay name is 'ular kepala dua'.

Family ELAPHIDAE: Subfamily ELAPHINAE.

A male rat snake, obtained on 15.5.44, was provisionally identified as of this species. The measurements of this specimen (No. 78) were: H. & B., 1272 mm.; Tail, 345 mm.; Total, 1517 mm.. The tip of the tail had been broken and regrown, so that the itail and total measurements are short. A dispecimen (No. 63) of the same species, taken at Changi, measured: H. & B., 1243 mm.; Toil, 369.5 mm.; Total, 1612.5 mm.. The scale counts of Specimens No. 63 and 78 were: Costals, 19; Ventrals, 221 and 215; Anal, single; Subcaudals,

The general colour above is a mark blackish green. Running from the neck for some distance down the back is a dark terra cotta stripe, which shows u crange between the scales. The supralabials are somewhat lighter in colour and there are three black streaks running from the eye to the mouth. The ventral side is a greenish running from the eye to the mouth. The ventral side is a greenish white. At intervals the outer third of the ventrals are plack. These black marks are most prominent near the head and get fainter in sequence towards mid-body. Usually 5 or 6 are distinct and 2 or 3 are faint. Each mark is 2 or 3 ventral shields in width, usually 2 opposite 3, and they are about 5 ventral shields apart. The eye is large; the circular pupil is circled with a narrow golden yellow ming, and the iris is a dark grange. There is a distinct neck. Specimen No. 78, taken at Sime Road, contained 3 mice and 2 small rats, syallowed in that order. Only the first mouse showed any signs of digestion and it is presumed that they were all taken

during the previous night. Nothing is known of the breeding habits. Wilkinson gives the Malay name 'ular tahi kerbau'.

Three specimens, all q, of the wolf snake have been taken in the Sime Road Camp, and others have been seen. This is a common lowland species, being very common on Singapore Island.

The usual colour is grey above, and white below. There is a white collar, and among the grey of the back are a number of irregular whitish markings caused by the white edges to some of the scales The wolf snake is very variable in colour and ranges through chocolate and purplish brown to a very pale grey; in brown specimens the white of the collar is usually replaced by yellow. Grey and white is, however, the usual colour. There is a distinct neck; the eye is of average size and completely black.

The average measurements of five specimens (16, 4q) which includes some taken at Changi, are: H. & B., 312.4 - 343.9 - 361.5 mm.; Tail, 68.2 - 74.6 - 81.5 mm.; Total, 384.5 - 418.5 - 441.0 mm.. There appears to be no sexual difference in size. The scale count is Costals, 17; while the Ventrals range from 186 to 202; the Anal is

divided; the Subcaudals range from 63 to 65 pairs.

This species is a great climber and at Changi a sloughed skin was found about ten feet up in a joint of the garden wall. One of the specimens taken at Sime Road contained a well digested gecko. Identification was impossible, but it was probably Hemidactylus

ENAMEREM frenatus.

On 2.12.42, E.H. Lawrence, while cutting bamboos not far from Changi Prison, found some snake eggs. He described the site as follows: "In a clump of bamboo, one stem, about 1.5 inches in diameter, was lying over at an angle of about 30 degrees from the vertical. This bamboo had been broken off at the top and had an open crack running some distance down its length. I cut the bamboos down and on splitting open this particular bamboo I found ten snake eggs inside one of the segments about three feet from the ground. The snake had presumably entered through the crack. Of the ten eggs, four were damaged in splitting open the bamboo with the parang, but the other six were brought into camp." The eggs are elliptical, leathery but fairly hard, white in colour, with a marled surface. They varied from 31.75 to 38 mm. in length, and were about 12.75 mm. in diameter. One egg was opened and the young snake extracted. It measured 209.5 mm. in total length. Mr. E.O. Shebbeare gave it as his opinion that it was of this species:

Pseudorhabdium longiceps.

A of specimen (No. 80) of this species was obtained on 22.5.44. It is a uniform dark brown in colour, the ventrals being edged with a slightly lighter shade. The head is small and there is practically no neck.

It measured: H.& B., 164 mm.; Tail, 27 mm.; Total, 191 mm..
The scale count was Costals, 15; Ventrals, 131; Anal, single; Subcaudals, 27 pairs. Mr. G.H. Sworder, who has found this species common on Singapore Island among rotten logs, states that the tail in females is only about half the length of that in makes.

Nothing is known of its habits.

^{*} would amend this to a dull dark grey with collar & pregular markings of very light, almost white olive: the manner of these markings is constant & highly characteristic

Ahaetulla picta.

This beautiful tree snake is a bronze brown above with a black. edged cream coloured lateral stripe, and with the hinged ventrals brownish on the edges shading to whitish beneath.

A o specimen (No. 92) was obtained on 12.6.44 on a banana tree

where it had just captured and swallowed a tree frog, Rhacophorus leucomystax. This snake measured: H.& B., 611.3 mm.; Tail, 301.5 mm. Total, 912.8 mm.. The scale count was: Costals, 15; Ventrals, 173; Anal, divided; Subcaudals, 129 pairs. The head is large, and the neck very narrow.

This species is very common throughout the lowlands, but we know nothing of its breeding habits. Wilkinson gives the Malay

name 'ular lidi'.

Psammodynastes pictus.

A d specimen (No. 90) of this lowland species was obtained on 9.6.44. It is reddish brown above, duller on the sides, with a row of widely spaced black lateral spots; beneath it is yellow. The supralabials have a white stripe which extends on to the neck. The head is distinct from the neck; the eye is small and black with a round pupil: ins golden-yellow

The measurements of this specimen were: H.& B., 287.3 mm.;

Tail, 194.8 mm.; Total, 482.1 mm.: and the scale count was: Costals, 17; Ventrals, 148; Anal, single; Subcaudals, 104 pairs.

Nothing is known of the habits. Wilkinson gives the Malay name 'ular sampah'.

Family ELAPHIDAE.

Subfamily ELAPINAE.

Maticora intestinalis.

This is the only poisonous species which has been taken in the Sime Road Camp; a o specimen (No. 108) being obtained on 14.6.44.

It is generally dark brown above with a black edged red dorsal stripe and a black edged very thin white lateral stripe. Beneath it is narrowly banded black and white, the bands of both colours being two or three ventrals wide. The underside of the tail is a vivid vermilion with two narrow black transverse bars.

It measured: H.& B., 386.5 mm. I Tail, 25.5 mm. I Total, 412.0 mm. The scale count was: Costals, 13; Ventrals, 253; Anal, single; Subcaudals, 22 pairs. This coral snake carries the distinguishing mark of the cobras and coral snakes in that the third supralabial touches the nasal, the eye and the mouth.

is 'ular tedong mata hari'.

LACERTILIA.

Family GECKONIDAE.

Hemidactylus frenatus

The Common House Gecko is abundant in buildings throughout the whole country. It is very variable in colour and changes with the background on which it is resting. Generally it is a mottled grey above and white beneath. The skin of the back is granulated, while the belly is scaled. The feet are furnished with digital expansions in the form of lamellae which enable the gecko to stick to smooth surfaces, and the sight of these little geckos chasing insects across the bungalow ceiling must be as familiar to residents of this country as is the ventriloquial call 'chi-chi-chi-chi-chak'. This country as is the ventriloquial call 'chi-chi-chi-chi-chi-chak'. This is one of the clean-limbed geckos and the feet are not webbed. Males have 15 femoral pores on the underside of each hind leg. The tail of this species has a regular series of lateral and dorsal small fleshy projections. It is very brittle and specimens with regrown tails areccommon. The eye is large and prominent. The black contractile pupil is, during the day, a vertical slit with two transverse bulges. The pupil is outlined with a narrow light coloured edge and the iris is fawn coloured finely veined with black.

Four specimens (26, 20) have been obtained at Sime Road. These together with 20 and 20 taken at Changi give average measurements for 8 adult specimens as follows: H.& B. 45.4 - 51.8 - 56.8 mm.:

Together with 20 and 20 taken at Changi give average measurements for 8 adult specimens as follows: H.& B., 45.4 - 51.8 - 56.8 mm.; Tail, 49.7 - 57.3 - 68.3 mm.; Total, 97.2 - 109.2 - 123.3 mm.; Point of snout to aperture of ear, 12.0 - 13.7 - 15.1 mm.; Axilla to Groin, 21.3 - 26.5 - 30.4 mm.; Fore Leg, 13.9 - 14.8 - 18.0 mm.; Hind Leg, 17.9 - 20.7 - 23.0 mm.; Longest digit in Mind Foot, 3.9 - 4.7 - 5.4 mm.

Many of the females contained two eggs. These are laid in crevices in walls, etc., but the incubation period is not known. They are rounded ovals, $8.5 \times 7.0 \text{ mm}$, white, brittle, and with a rough surface.

This house gecko is insectivorous, probably entirely so, and has been seen taking insects from the size of a mosquito up to large moths. One has also been seen taking caterpillars from a container in which they were being bred. Malay name, 'chichak'.

Family AGAMIDAE.

Calotes cristatellus.

The Green Changeable Lizard is common throughout the whole country from Singapore as far north as Alor Star, Kedah, in gardens

and wherever there is open country with bushes.

The normal colour is a bright green above, slightly lighter below, and yellowish on the throat and gular appendage. The distal half of the long whip-like tail is brown. The tympanum of the ear is black, but the most conspicuous feature is the prominent crimson iris to the eye, which has a circular pupil. When agitated this lizard changes colour to a dark brown or black. The whole body is covered with very small pointed scales, and there is a prominent nuchal and smaller dorsal crest.

Several specimens have been seen in the Sime Road Camp but only one (No. 82 - φ) has been taken. A δ (No. 57) was obtained at Changi. The measurements of Nos. 57 and 82 were: H.& B., 110.6 and 99.1 mm.; Tail, 317.6 and 246.5 mm.; Total, 428.2 and 345.6 mm.; Point of Snout to centre of Tympanum of Ear, 29.0 and 24.5 mm. Axilla to Groin, 59.2 and 57.0 mm.; Fore Leg, 55.7 and 50.1 mm.;

- 5 -

Hind Leg, 92.1 and 80.1 mm.; Longest digit in Hind Foot, 32.2 and 28.0 mm..



The o specimen obtained at Sime Road on 26.5.44 contained two eggs. They were pure white, smooth, and shuttle-shaped, measuring 35.5 mm. in length by 8.0 mm. in diameter. These eggs are presumably laid among grass roots, but nothing is known about the incubation period or the young.

The changeable lizard is mainly arboreal in habit and can leap several feet from one branch to another. When at rest among leaves it is very difficult to see and is usually discovered by the crimson eye or the black tympanum. It is almost certainly insectivorous. Malay name, 'sumpah-sumpah'.

Dracd volans.

The Common Malay Flying Lizard. This is the commonest of the flying lizrds in Malaya, of which there are some eight or nine species. The members of the genus are at once distinguished from all their kindred by the depressed body being provided with a large wing-like membranous expansion, supported by the elongated extremities of the six or seven hind ribs, and capable of being felded up like a fan. The throat is furnished with a large membranous expansion, or gular appendage. The tail is long and whip-like.

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DE-volans is one of the smallest species, growing to a total length of about 200 mm. The general colour above is a greenish brown or greyish lichen effect. The gular appendage, which in this species projects forwards and downwards and is triangular in shape, is vellew in wallow and blaish in formulae and is triangular in shape,

It is a common species throughout the whole country in cultivated areas where there are trees and is very common on rubber estates. A large number have been seen in Sime Road Camp but no specimens have, as yet, been obtained. They have been seen to glide thirty yards from one tree to another. The usual habit is to glide from high on one tree to a lower point on the trunk of another tree and then to work their way us the trunk in a series of jerky runs searching for insects. According to Malays the eggs are hand buried at the roots of trees.

Family SCINCIDAE.

Mabuia multifasciata.

This large and handsome skink is common throughout the whole country in both jungle and cultivated land. It prefers grassy banks and the neighbourhood of streams and wet ditches. It takes readily to water and swims well.

In colour the male is a brilliant metallic bronze above, usually with a broad red stripe down each side. Below it is a brilliant yellow on the chin and throat and greenish white on the belly. The female is duller and often lacks the red stripe on the side and the yellow on the chin.

Four specimens (10, 1 sub-adult 0, 10 and 1 immature) have been obtained at Sime Road where it is exceedingly common among the lallang and along the edges of the drains. Four specimens (30, 10) were obtained at Changi in the outside garden. Two of these had regrown tails, but the average measurements of the others (20 from Changi; 10 and 10 from Sime Road) are: H.& B., 97.0 - 106.6 - 115.5 mm;

Tail, 141.1 - 176.0 - 226.6 mm.; Total, 238.2 - 281.6 - 338.4 mm.; Point of Snout to centre of Aperture of Ear, 20.0 - 22.6 - 25.0 mm.; Axilla to Groim, 49.3 - 53.8 - 58.9 mm.; Fore Leg, 30.4 - 34.6 - 37.0 mm.; Hind Leg, 45.0 - 48.5 - 53.9 mm.; Longest Digit on Hind Foot, 17.8 - 19.5 - 21.4 mm.. An immature specimen, unsexed, measured: H.& B., 45.0 mm.; Tail, 74.0 mm.; Total, 119.0 mm.; Boint of Snout to centre of Aperture of Ear, 11.3 mm.; Axilla to Groin, 24.0 mm.; Fore Leg, 13.9 mm.; Hind Leg, 20.0 mm.; Longest Digit on Hind Foot, 7.8 mm..

The scales are subhexagonal in form and arranged in a quincuncial manner. Those of the upper side are keeled, each scale having three keels. The keeling is most prominent on the scales of the back, and is fainter on the tail and legs, being entirely absent from the belly. There are 32 rows of scales round mid-body.

These lizards are mainly insectivorous but other small prey is also taken. Mr. G.H. Sworder records one which he shot which had a large red centipede (Scolopendra) hanging from its mouth. The centipede, which was as long as the head and body of the skink, had been killed by transverse bites across the fore part of the body and swallowed head first. The stomache contents of Specimen No. 254, o, taken at Sime Road, were examined by Capt. H.M. Pendlebury, who identified the larvae of noths of the subfamilies Trifinae and Quadrifinae, the head of a butterfly or moth, and an immature cockroach (Blattidae). Nothing is known of the breeding habits. Malay name, 'benkurong'.

Lygosoma bowringii.

A small skink which was very common in the inside garden at Changi, and is also fairly numerous at Sime Road is thought to be of this species. The male is light earthy brown above, the head being speckled with dark brown. Down the centre of the back are two thin dark brown lines. There is a yellowish-cream subdorsal stripe, which is narrowly edged with dark brown on its dorsal edge. This cream line begins just above the eye and fades out near the base of the tail. On the sides, below the cream line, and very sharply demarcated from it, is a broad black line running from behind the eye to the hind leg, beyond which, on the tail, it becomes broken and fades out. This black line is broader on the body than on the neck. While the upper edge is clearly demarkated from the cream, the lower edge gradually breaks up into small black spots which become fewer and farther apart on the sides of the body, until they are absent from the belly. The ground colour on which these black spots are laid is whitish on the sides of the neck, chin, and throat, deep lemon yellow on the sides of the body and on the belly, and a rose pink on the sides of the tail paling to pinkish white on the underside of the tail, On the body, between the legs, and just where the black line starts to break up, runs a longitudinal streak of deep rose pink. The upper surface of the tail is light earthy brown with a pink flush towards the tip, and irregularly speckled with black. The legs are pinkish, mottled with black. The iris of the eye is yellow granulated with black, while the pupil is round. In females the yellow on the sides and belly, and the red streak between the limbs are very pale or absent.

A number of specimens were taken at Changi but several of these had lost their tails which are extremely brittle and are cast on the least provocation. At Sime Road 3d and 1 immature ex ovum have been obtained. There appears to be no difference in the measurements between the sexes, and the average measurements of seven specimens (4d, 3o) are: H.& B., 46.0 - 48.9 - 53.0 mm.; Tail, 42.1 - 53.8 - 6500 mm.; Total, 93.1 - 102.6 - 114.0 mm.; Point of Shout to centre of

Aperture of Ear, 8.0 - 8.7 - 9.1 mm.; Axilla to Groin, 27.5 - 30.2 - 36.0 mm.; Fore Leg, 8.0 - 8.4 - 9.7 mm.; Hind Leg, 11.7 - 12.5 - 13.3 mm.; Longest Digit on Hind Foot, 4.6 - 4.9 - 5.3 mm..

There are 28 rows of scales round mid-body. The scales are not

keeled, are subhexagonal in form, and quincuncial in arrangement.

On 16.6.44 Dr. C.A.GibsonWHill found some lizard eggs lying among the rubble on the ground among grass roots. They were perfect ovoids measuring 9.8 x 6.5 mm., white in colour with a matt surface. One of these eggs was opened by Dr. Gibson-Hill and contained a fully formed young lizard of this species, which measured 38 mm. in total length. Other immature specimens of about the same size have been seen but not captured, and this is probably the approximate

This skink frequents banks and open spaces where there is grass or rubbish among which it hides during the day, coming out to feed in the evening. The stomache contents of some specimens taken at Changi consisted entirely of small Blattidae in various stages of development, including egg cases. They are probably entirely insect-

ivorous.

Manderhier

Sime Road Internment Camp. SINGAPORE. 3rd. July 1944.