

## Notes on Malayan Reptiles, No. 3<sup>1</sup>

By M. W. F. TWEEDIE, M.A., C.M.Z.S.

### *Ptychozoon kuhli* Stejn. Plate 1

A pair of eggs, of the usual hemispherical shape, laid on a piece of bark, was sent to me in December 1951 by Mr. C. S. Ogilvie. They were found on a tree (*Lagerstroemia* sp.) about 20 feet from the ground under a mass of epiphytic orchids. The tree was growing at Jenut Kumbang, a salt-lick near Kuala Tahan in Pahang, and was felled on 23 November because it interfered with clear observation of animals coming to the salt-lick. One of the eggs was displaced when the tree crashed, but was replaced exactly in position and fixed with cement.

A curious feature of this pair of eggs, well shown in the photograph at Plate 1, is the existence of circles of shell adhering to the bark. There are two possible explanations of this. One is that the female applied her cloaca several times to the bark before ovipositing, and deposited the egg-sticking cement wherever she did so. More probably they are remains of previously laid and hatched eggs. It seems unlikely, however, that several individuals should resort to this one spot in an area of dense forest with abundant epiphytes and the most acceptable explanation is that the female returns to the place where she has previously laid. An interesting implication of this would be that these lizards inhabit a restricted territory for long periods, possibly for the whole of their lives.

Mr. Ogilvie records two pairs of eggs, in addition to these, one laid in early November, the other found in mid-December. The present pair appeared freshly laid when found, and he suggests a laying season during November and December. Eggs were laid by a captive female kept by Mr. H. J. Kitchner on 20 December, 1952.

The pair sent to me darkened in colour towards the end of January and hatched on the 28th and 29th of the month, 67 and 68 days after being found. The eggs laid by Mr. Kitchener's gecko hatched in 73 days, so Mr. Ogilvie's opinion that the ones he found were freshly laid is well founded. One of my young lizards escaped, the other lived for about two weeks and then sickened and died. It was very shy but fed

<sup>1</sup> Continued from Bull. Raffles Museum, 23, 1950: 191-199.

freely on small moths and flies and was always pleased to lick water from a cautiously proffered finger tip. A feature of the young *Ptychozoon* is the widely expanded and conspicuously marked tail tip. (Plate 1).

In a previous paper (Tweedie 1950A) I reported on the gliding habit of this gecko. In August 1952 Dr. J. R. Hendrickson and I conducted experiments on the flight of a male taken by Kitchener at the gap, near Fraser's Hill, about 2,400 feet altitude. The lizard was launched from a window in the University of Malaya buildings 34 feet 6 inches above the ground. Each time it "flew" it turned and glided parallel to the wall of the building, always in the same direction, that of a light wind.

The first flight was unexpected and no record of the preliminary drop was made.

Flight 2: An observer on the ground estimated that the gliding membranes were spread, and the gecko airborne, after a drop of 5 feet. It landed 39 feet in horizontal distance from the point of take-off.

Flight 3: The lizard had gripped the bag we used to contain it in its jaws and I had some difficulty in releasing it; on letting go it dropped some distance (unrecorded) before gliding, but nevertheless travelled 31 feet.

Flight 4: The lizard took off with a jump from the stick and was airborne after falling about  $2\frac{1}{2}$  feet. It landed on a window-sill 16 feet 6 inches below and 18 feet along the wall of the building.

Flight 5: The lizard was by now tired and distressed and merely fell, making two attempts to land on the way down. Flights 2 and 4 are plotted at Fig. 1. In both cases the angle of glide is about  $52^{\circ}$ - $53^{\circ}$  from the vertical.

An interesting account of the change of skin and two excellent photographs of this lizard are given by Kitchener, 1953.

#### ***Gonocephalus doriae* (Peters)**

A specimen taken by Mr. C. S. Ogilvie at Batu Che Yatin, Ulu Trenggan, Pahang, in the King George V National Park provides the first record for Malayan territory; it is otherwise known from Borneo and Peninsular Siam.

The enlarged scales on each side of the back, noted by Smith (1930:25) for the Siamese specimens are present, and there are some enlarged scales on the temporal region. The living colours are described as black and brick red. The specimen measures 163 mm. from snout to anus and the tail (truncated) is 235 mm.

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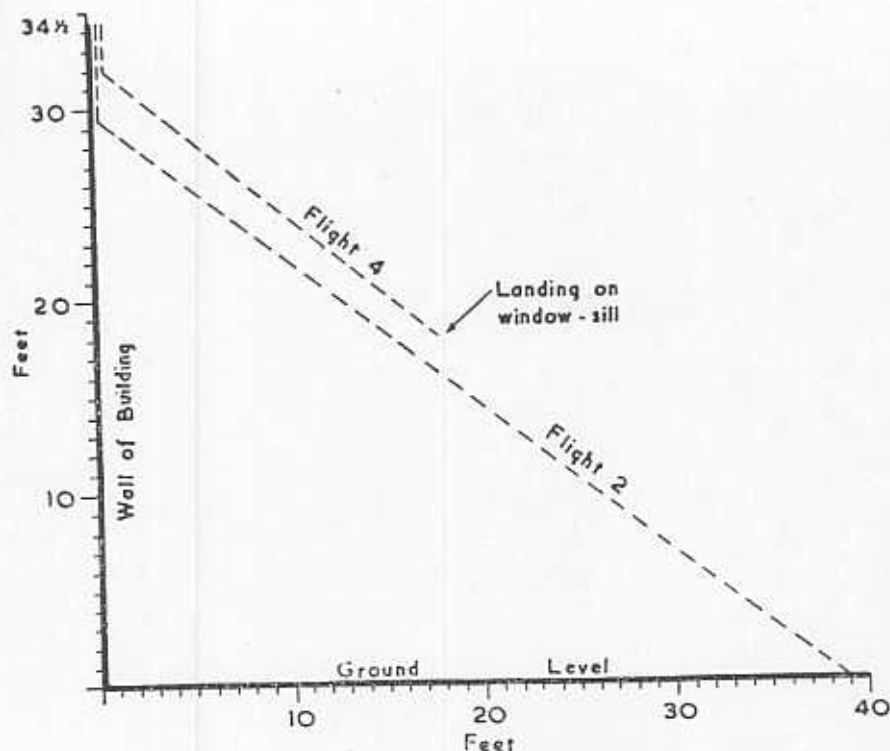


Fig. 1. Diagram showing recorded angles of descent of gliding *Ptychozoon kuhli*.

### *Typhlops albiceps* Boulenger

A specimen was taken in Kedah in 1950 by Mr. J. Waters, and another on Jarak Island in the Malacca Strait by the writer on 14th January, 1953. Identification of the latter specimen has been confirmed by Dr. Malcolm Smith.

### *Oligodon signatus* (Guenther)

A young specimen of 120 mm. was taken at the 12th mile, Thomson Road, Singapore in March 1951. It was dark brown in life with fifteen dorsal cross-bars, the anterior three large and chevron-shaped, the posterior ones transverse and increasingly narrow. These bars were bright red, the lighter elements of the pattern on top of the head duller red, the belly pink, the underside of the head white mottled with brown.

In a recent account of Malayan snakes (Tweedie 1953: 48) I stated that records of this species were confined to Singapore Island. Since then two specimens have been taken on the mainland, one by Mr. D. M. Batchelor at Asahan Estate, Malacca, the other by Mr. J. M. Ross at Seremban in Negri Sembilan. Both had the cross-bars red in life.

***Calamaria vermiformis* Dum. and Bibr.**

Four more specimens have been acquired since I reported the existence of montane and lowland colour forms. (Tweedie 1950B: 192).

One, of the montane form, is from Fraser's Hill, collected by Mr. Cho Nyit Tew. The other three are all of the lowland and sub-montane form and confirm that the pattern described for it is consistent. The largest of them has total length 375 mm. and was found in the stomach of a *Maticora bivirgata* of 640 mm. in length. All three are from the Kepong Forest Reserve in Selangor.

***Calamaria leucocephala* Dum. and Bibr.**

Eleven specimens are in the collection, seven of which are from Singapore Island. All of the latter have the top of the head and the neck, for a distance of about four vertebral scales behind the parietals, white (pink in life).

The other four specimens are localised, and have the head coloration, as follows:

Penang Hill, 2,200 feet, 1898. Bleached, but the top of the head appears to be coloured as the body, the sides of it are white.

The Gap, Fraser's Hill, 2,800 feet, 1947. The whole top of the head coloured as the body except for a trace of white on the hinder ends of the parietals.

Maxwell's Hill, 3,500 feet, 1930. Head dark from the frontal forwards and immediately behind the parietals, which are white, the effect being of a broad white band on the top of the head.

Fraser's Hill, received from the Health Officer, Mr. Cho Nyit Tew in September 1952. The whole top of the head is grey, a little lighter than the body, but in strong contrast with the white of its under surface.

It appears from this evidence that there may be two forms of this snake, one with the whole upper surface of the head and neck pink in life, the other having this region dark with or without not very extensive paler markings, their colour in life not recorded.

The existence of a pink-headed Singapore race is unlikely, and it seems to me probable that there is a lowland form of this type, unfortunately not represented in the collection by specimens from the

mainland, and a montane and sub-montane form in which the head is wholly or partly dark.

The case of *Calamaria vermiformis* is analogous, but there a high montane form is distinct and lowland and foothill specimens agree.

#### **Calamaria gimletti** Boulenger

A specimen was taken from the stomach of a *Maticora intestinalis* collected at Kepong, Selangor by Mr. B. L. Lim in May 1952. Digestion had not proceeded far and I have no doubt about the identification. Ventrals 188, subcaudals 15 pairs, brown above, yellow below, the lowest two rows of dorsal scales partly yellow, a pair of spots on the tail are the only light dorsal markings.

#### **Xenelaphis ellipsifer** Boulenger

A fine specimen of this rare and very beautiful snake, hitherto known only from Borneo and Sumatra, was in the collection of Mr. E. N. W. Oliver, Superintendent of Maxwell's Hill, Perak, which I examined in July 1954. Mr. Oliver told me that it was taken three or four years ago in a ravine above his office at an altitude between 3,500 and 4,000 feet.

The characteristic colour pattern is well developed and the arrangement of the scales surrounding the eye is just as described by Boulenger (1900: 184, Plate XVI). Minor departures from the condition of the original specimen are as follows:

Internasals a little longer than prefrontals (nearly as long); frontal shorter than its distance from the end of the snout (as long as); temporals asymmetrical, on the right 2+2 with a small additional scale between the two superior temporals and the parietal, on the left seven scales occupy the temporal region, arranged 2+3+2; upper labials 9 on the right, 5th entering eye, 8 on the left, 4th entering eye (upper labials 8, separated from eye or 4th entering it); ventrals 197 (186) subcaudals 112+ (134) the tip of the tail being truncated.

The specimen has been preserved coiled in a bottle and an exact measurement of length is hard to obtain. Total length is in excess of 230 cm. and the length snout to anus is about 170 cm. Length of head, from snout to last upper labial, is 51 mm. Its size is very close to that of the specimen from Sumatra, and Brongersma and Wehlburg (1933: 2) report a similar asymmetry in the upper labials. The affinities of the species are discussed by these authors.

This specimen represents a notable addition to the Malayan fauna, and Mr. Oliver has very generously presented it to the Raffles Museum.

**Gonyophis margaritatus** (Peters)

Since I gave an account of the status of this species in Malaya (Tweedie 1953: 58) Mr. D. M. Batchelor has published a sight record from Mount Ophir (Malayan Nature Journal, 8, 4, 1954: 167) and I have seen two specimens in the collection of Mr. E. N. W. Oliver, Superintendent, Maxwell's Hill, Perak from this locality.

**Chrysopelea ornata** (Shaw)

A young specimen taken by Mr. W. H. Kong in Penang in 1944 and presented to the Museum in 1953.

The presence of this snake in northern Malaya was reported by me (1950B: 194), and I observed that the most northern specimens of the allied species, *paradisi*, in the collection were from Penang. This specimen of *ornata* confirms the existence of an overlap in the territories of the two species, already implied by Dr. M. A. Smith's report of *paradisi* from Mergui (Smith 1943: 255).

**Lycodon effraenis** Cantor

A fifth<sup>1</sup> Malayan record of this snake is established by a living specimen brought to the Museum by Mr. Waters, taken at Kepong, Selangor in September 1952.

It measured 780 mm. in total length, and was chocolate brown with speckles and flecks of white, sparsely and quite irregularly distributed on both dorsals and ventrals. A faint trace could be seen of the most anterior pale band, about 30 mm. behind the occiput, and the white-bordered pale bands running from the snout over the eye to the occiput were obscurely visible.

The behaviour of this snake suggested that the species is arboreal, like *L. subcinctus*. It climbed well and the keels on the ventrals are well developed.

**Natrix piscator** (Schneider)

Two specimens from Kodingang, Kedah were sent to the Museum in October 1950 by Dr. E. D. B. Wolfe.

The late Mr. C. P. J. de Haas suggested (1949: 81) that collectors in the Malay Peninsula may have overlooked or neglected to collect this snake because it is too common to merit their notice. I believe that this is not the case, and that the species is restricted in

<sup>1</sup> While this paper was in the press (Aug. 1954) yet another specimen was sent to me from the same collector and locality. It is peculiar in having eight, instead of the usual nine upper labials. The first five are normally developed, the fifth as usual partly embracing the eye; behind the fifth there are only three more.

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Malaya to the most northern States, which have a climate with well marked dry and wet seasons. The occurrence of the viper *Ancistrodon rhodostoma* in northern Malaya and in the more southern parts of the Greater Sunda Islands can be regarded as analogous.

The typical checkered dorsal pattern is not developed in these specimens. Both are brown with large black spots, higher than long, on each side, their bases meeting the ventrals. These spots are only well developed on the anterior one-third to one-half of the body; posteriorly they become narrower and ill defined. Dorsally the body is dark brown with a few black spots on and just behind the neck, behind which there are only scattered dark and dark-edged scales. The black marks below and behind the eye are distinct. The scales are not very strongly keeled, the lowest three or even four rows being smooth.

These characters seem to correspond with those described by Smith (1943: 296) for *N. p. flavipunctata*, but reduction of the pattern, and perhaps of the carination of the scales as well, is rather more extreme.

### *Natrix sanguinea* Smedley

A specimen of 540 mm. total length from Dusun Wan, Selangor, about 2,000 feet altitude, was sent to the Museum by Mr. B. L. Lim. The colour in life is described as yellowish green above with four series of black spots, and anteriorly, two series of red spots; a white streak from eye to neck on each side; belly reddish anteriorly, yellowish posteriorly, the ventrals tipped with square black spots. This record, and that of de Haas (1949: 80) of a juvenile from the Gombak Valley, Selangor, 1,500 feet, show that the snake is not restricted to the high mountainous country whence it was described.

Mr. Lim records that this snake bit the aboriginal trapper who caught it on one of the fingers of the left hand. During that night the arm swelled and was painful, next day this had subsided but the finger was still swollen. It was incised and allowed to bleed and two days later was quite healed. The incident suggests that the saliva of this snake is to some degree toxic.

### *Boiga drapiezii* (Boie)

Two very distinct colour patterns are represented by the material in the collection. These are figured diagrammatically at Fig. 2 *a* and *b*. In both the elements of the pattern may alternate or lie opposite to each other, but in *a* they more usually lie opposite, and in the smallest specimens the meeting of the dark areas at the vertebral line is marked by a dark transverse bar. In life the colour of pattern *a* specimens is darker and lighter reddish-brown, of these of pattern *b* grey and greenish.

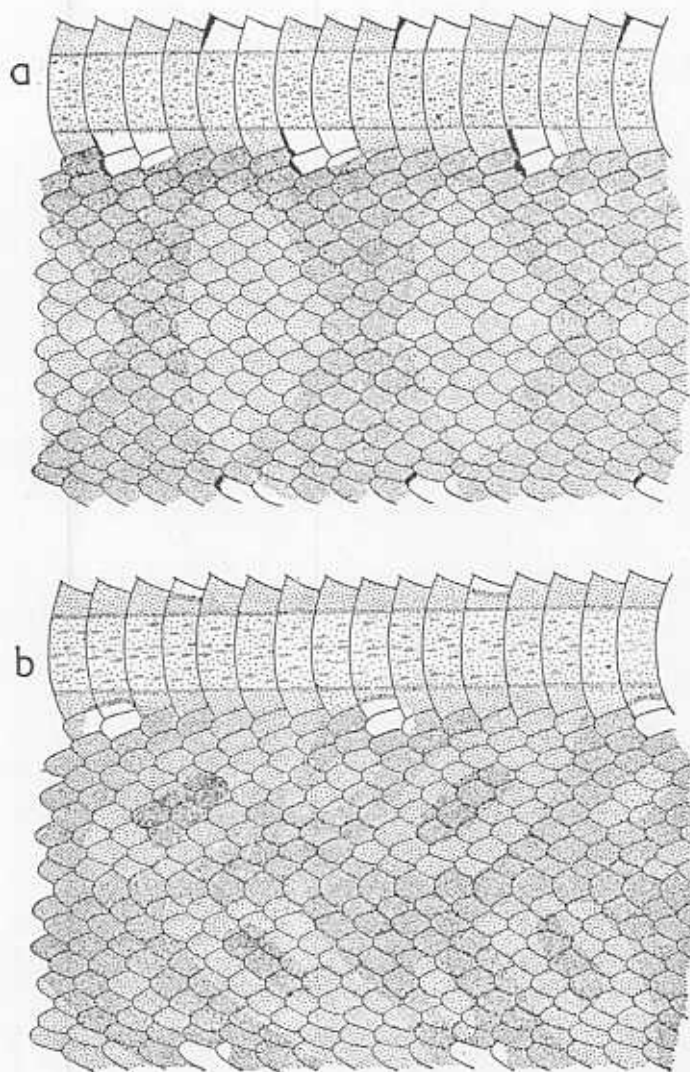


Fig. 2. Diagrammatic representations of the colour-pattern at mid-body of two forms of *Boiga drapiezii*.

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Specimens examined, in order of increasing size, are as follows:—

1. Johore, 1898; length 540 mm. (juv.); pattern *a*; ? sex.
2. Dindings, Perak, 1902; 1200 mm.; pattern *a*; ♀.
3. Kuala Tahan, Pahang, 1951; 1240 mm.; pattern *a*; ♀.
4. Kepong, Selangor, 1949; 1400 mm.; pattern *b*; ♂.
5. Kuala Tahan, Pahang, 1952; 1540 mm.; pattern *b*; ♀.
6. Kepong, Selangor, 1954; 1680 mm.; pattern *a*; ♂.
7. North Natuna Islands, 1928, 1935 mm.; pattern *b*; ♂.
8. Kepong, Selangor, 1951; 2100 mm.; pattern *b*; ♂.

The sex was ascertained in every case (except that of the juvenile No. 1) by dissection. There is no correlation of pattern with sex, and while the three smallest have pattern *a* No. 6 with *a* precludes any complete correlation with size.

The male from Kepong, 1951, appears to be the largest yet recorded. Smedley (1931: 48) made the same claim for the Natuna specimen, No. 7.

### ***Bungarus flaviceps* Reinhardt.**

In a previous series of notes (1950B: 198) I described the coloration of two young individuals of this species. Since that time two adult specimens, both from Selangor and collected by Mr. B. L. Lim, have been sent to the Museum. The smaller, taken in Ulu Langat Forest Reserve in 1951 has the total length 1610 mm., the larger, from Sungei Buloh, 1953, is 2010 mm. long and its weight, when freshly killed, was 935 gm. I know of no other record of this snake exceeding two metres in length.

Mr. J. L. Harrison made colour notes of the large specimen before it was preserved. He records the head as orange-red, the tail scarlet dorsally, salmon pink ventrally, the back black with a bluish sheen and the belly buffy white. My colour notes on the smaller adult specimen, made shortly after it was preserved read: black above, the lowest dorsals edged with white; in the posterior part of the body a red vertebral line, and further back, just before the base of the tail, the black gives place to red which continues uninterrupted onto the tail, a few black markings within the red, even on the tail. Head and neck red, the black extending forward in a median row of spots on the nape and along the inter-parietal suture. Belly ivory white, the ventrals clouded with black at their outer ends; underside of tail and posterior red part of body light red, underside of head white. The Sungei Buloh specimen also has the ventrals tipped with black.

The colour change from young to adult therefore consist of the disappearance of the vertebral light coloured row of dots and of most of the light colour of the lowest dorsals, and of a change in the ventrals, which are black in the young, whitish tipped with black in the adult.

Subcaudal counts of material in the collection are as follows; figures in italics stand for single, in Roman type for paired shields:—

Kuala Tahan, Pahang 1940, (juv). *12* + 43.

Lumut, Perak, 1950 (juv). *11* + 40.

Ulu Langat, Selangor, 1951. *1* + *20* + 29 (tail truncated).

Sungei Buloh, Selangor, 1953. *8* + *1* + *8* + 36.

Nias Island, 1891. *21* + *5* + *1* + *2* + *1* + *1* + *1* + 10 (tail truncated).

Kiau, Mt. Kinabalu, North Borneo (*B. j. baluensis* Loveridge). *1* + 42.

### *Naja naja* (Linn)

A specimen taken near Baling in Kedah by Mr. Waters is perhaps referable to the form *kaouthia*. In life it was gamboge yellow above, each scale bordered or tipped with brown; the throat white some pale brown median markings on ventrals 4 to 8 and black marks on the ends of ventrals 11 and 12; the three lowest rows of dorsal scales on the neck pale yellow, separated from the brown and yellow of the dorsal surface by a dark line extending over ventrals 4 to 16. When the hood was spread the marks on ventrals 11 and 12 appeared as two black spots and the pale yellow bordered its front or ventral aspect, the dorsal aspect being bordered by the dark line on each side, but lacking any other markings.

All other Malayan specimens of *Naja naja* that I have seen are black more or less marked with white ventrally. Most usually the white is confined to the underside of the head and throat extending onto the lowest dorsals and back (in young snakes) on about 15 to 20 ventrals. Irregular black markings are frequently contained in the white, and in adults the white is partly or wholly obscured. There is no marking on the dorsal surface of the neck (i.e. on the hood); apart from this the form corresponds with var. *sputatrix* (Boulenger 1896: 384). Two young specimens from Singapore Island have, in addition to this feature, a series of ventral white cross-bands extending along the body, each band encroaching slightly on the lowest dorsals. If this form is really confined to southernmost Malaya its resemblance to the Bornean form *mirolepis* (Boulenger l.c.) may be zoogeographically significant. In *mirolepis* the young is marked with white rings which encircle the body.

Snakes with the throat white marked with a transverse black bar, and a pair of lateral black spots in front of it, are referable to var.

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*leucodira*. Specimens from the northern States, Kedah and Kelantan are in the collection, and also from Gallang Island in the Rhio Archipelago, south of the tip of the Malay Peninsula.

The ventral count in the specimens here referred to has been made from the first anterior unpaired scale.

### *Naja hannah* (Cantor)

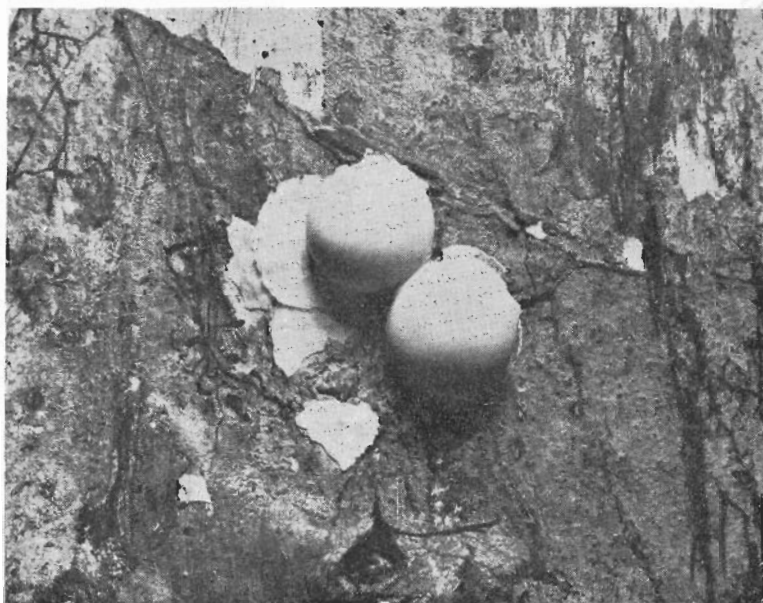
On 10 July, 1950 a large Hamadryad was brought to the Museum, which had been captured by three greensmen in the grounds of the Island Golf Club, Singapore. Its large size led the men to believe that it was a python, and they commenced operations by seizing its tail; it made no effective resistance. It was kept alive at the Museum for two days, during which time it voided a large quantity of excrement; its sluggishness at the time of capture may have been due to the fact that it was digesting a heavy meal. It was allowed to drink while in captivity.

On 12 July it was killed and was found to measure 15 feet 7 inches (4.77 m.) and to weigh 26½ lb. (12 kg.). The weight is interesting when compared with Ditmars' figure (1937: 150) of 16 lb. for a 15 foot captive specimen.

A small median interstitial shield is present in this specimen between the parietals and the occipitals. The subcaudals were: 44 + 5 + 3 + 46 (single shields in italics). A cast of the snake was made and has been placed in the exhibition galleries.

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*Ptychozoon kuhli*, eggs and young lizard (M. W. F. Tweedie).

