

ZOOLOGY
NOTES ON NEW GUINEAN REPTILES AND AMPHIBIANS II
BY
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The present note contains the description of a new species of the genus *Liasis*. GRAY (Serpentes, Boidae), remarks on two other species, while the opportunity is taken to publish a figure of *Lygosoma (Leiolepisma) venemai* described by me in a previous note (BRONGERSMA, 1953, p. 137)

Liasis boeleni spec. nov.

Holotype, RMNH 9651, Dimija (3 56'S, 136 18' E), Wissel Lakes, Dutch New Guinea, about 1750 m (5700 feet) above sea-level, December 25th, 1952, K. W. J. Boelen, M.D., Museum Leiden reg. no. 9651.

Paratype, a flat skin, Okaitadi (3 52' S, 136 15' E), Wissel Lakes, Dutch New Guinea, about 1750 m above sea-level, 1952, Rev. J. Rose, Museum Leiden reg. no. 9652.

A *Liasis* species with two pairs of prefrontals, the loreal region covered with small shields, the rostral and the anterior three upper labials with sensory grooves.

Description of holotype

Rostral as wide and as high, visible from above, with a deep groove on each side. Internasals 1.2 times as long as wide. Anterior prefrontals only very slightly longer, than broad (length 12.2 mm, width 12.0 mm), 1.3 times as long as the internasals. The sutures between the anterior prefrontals are twice as long as the internasals. The posterior prefrontals are 1.4 times as wide as long; their length is contained 1.6 times in that of the anterior prefrontals; the posterior prefrontals are separated from one another by two narrow transverse scales, which also separate the anterior prefrontals from the frontal. Frontal 1.1 times as wide as long, and 1.4 times as wide as the supraocular; the length of the frontal is 1.3 times that of the anterior prefrontals. Supraocular large; its length is 1.1 times its width. Two pairs of parietals. The anterior pair in contact with the frontal and supraocular; they are separated from the postoculars; each of anterior parietals is 1.8 times as broad as long. The posterior parietals are in contact with one another, each of these shields is longer than wide (1.1 to 1.3 times), 1.7 times as long as the anterior parietals. On the left, a shield is wedged in between the lateral parts of the anterior and posterior parietals; on the right this shield has fused with the posterior parietal. The posterior parietals are bordered laterally by two large shields. Nasal semi-divided from its posterior border an incisure reaches to the nostril. Loreal region has seven small shields. Two of these are larger than the others; these two shields are placed one behind the other, they separate the nasal from the upper preocular; the remaining five smaller shields are placed between the two larger and the upper labials. Two preoculars; the upper preocular is large, it reaches to the upper surface of the head; on the right it is

separated from the frontal because the posterior prefrontal and the supraocular form a short suture; on the left a small scale is wedged in between the posterior prefrontal, upper preocular, supraocular, and frontal. Three postoculars, the upper is the largest. Upper labials: left 10, right 11, the first, second, and third with pits; these pits are deep on the first and second upper labials; the pit of the third labial is shallower, but still well marked. The fifth and sixth upper labials border the orbit; on the left the seventh labial is very long, on the right two labials are present in the corresponding space. Lower labials: 17, seven which show pits (7th to 13th). The left first lower labial is shorter than that of the right side; it is followed by two scales placed side by side. The skin of the throat forms a fold that partly covers the grooves in the lower labials. Scales in 47 rows on neck, 51 at mid-body, and 25 in front of the vent. Ventrals 290+2/2; anal single; subcaudals 3/3 + 2 + 40/40 + *n*. The tail is apparently broken off and the skin has regenerated at the newly formed tip. Length of head and body 2190 mm; tail 215 + *n* mm. The body is subcylindrical; the greatest height is 1.2 times the greatest width; the greatest width is contained about 34 times in the length of head and body. Head uniformly black above. Rostral black with the outer borders of the grooves yellow. Of each of the upper labials the anterior part is black, the posterior part yellow. The lower labials are yellow with a black bar on their anterior borders; this black bar does not always reach the tip of the shields. A black stripe from the angle of the mouth along the scale rows bordering the lower labials; this stripe reaches anteriorly to the sixth lower labial. Throat yellow, some scales with black spots. Body black above: in the anterior two thirds of the body the lower part of the sides and the ventral surface are greenish-yellow. From this yellow area of the sides oblique yellow bars go dorsally and anteriorly, encroaching upon the black area. These bars are one or two scales wide and reach dorsally to the 14th or 15th scale row (Pl. I fig. 2). Some of these bars are more or less distinctly divided into two yellow stripes, separated by a black line, or they are broken up into two series of yellow spots, as each scale has a yellow centre and a black border. At about one quarter of the length of head and body the bars are connected across the back with those of the other side by a series of yellow dots (Pl. I fig. 4). At about half the length of head and body the black colour of the back reaches farther downwards and reaches to the second or first scale row; the bars become less high, but they are broader at their bases (Pl. fig. 3); they become subtriangular. At two thirds of the length of head and body the black colour reaches the ventrals, each of which is partly yellow, partly black. From this point posteriorly the sides are black without yellow markings. Gradually the area of black on the ventrals becomes larger; the belly becomes black with a few yellow spots, and in the fifth part the body is black all round. Tail is black.

Remarks on paratype

The paratype is a flat skin. Some small cuts have been made in the skin of the head, and this makes it difficult to give an exact description of the head shields. On the right the loreal region is covered by 12 shields; of which the upper anterior is very much larger than the others; this large shield and two smaller shields form an upper row, and separate the nasal from the upper preocular. The posterior prefrontals are separated by two shields, placed the one behind the other; the posterior of these shields is much broader than the anterior. Moreover, a small shield is present between the mesio-posterior border of the

left anterior prefrontal and the right posterior prefrontal. Upper labials: 10 on both sides, of which the anterior three show pits, and the fifth and sixth border the orbit; the eighth labial is much longer than the others. Three small scales are wedged in between the posterior prefrontal, upper preocular, supraocular, and the frontal. On the right three postoculars, on the left four postoculars. Scales in 47 rows on the neck, 51 at mid-body, and 25 in front of the vent; about 284 ventrals; subcaudals 60/60 + *n*, the tip of the tail broken off. Length of the head and body 2880 mm; tail 175 + *n* mm. The coloration is much the same as the holotype. Some of the bars are divided into a basal part connected to the yellow of the sides, and a yellow spot more dorsally. There are less bars that are continued across the back by a series of yellow dots. The Papuan name (Kepauku language) for this snake is: maawega. The differences between the genera *Liasis* GRAY and *Python* DAUDIN such as these can be culled from the descriptions given by BOULENGER (1893, pp. 76, 80) and by DE ROOIJ (1917, pp. 16, 19) are not very great. Sometimes it may prove difficult to refer a species to the other or the other of these genera. This is evident from the history of *Liasis amethystinus* (Schn.) (cf. BOULENGER, 1893, pp. 83-84). GRAY placed *amethystinus* in the genus *Liasis*, and in this he was followed by most authors; BOULENGER (1893, p. 83) transferred the species *Python*, and recently STULL (1933, p. 3; 1935, pp. 388, 391) returned it to *Liasis*. It is to be regretted that STULL'S revision of the Boidae has not been published, as this author does not mention the reasons for the taxonomic changes made in her check list (STULL, 1935). At present, current opinion has it that the genus *Python* does not occur in New Guinea, *amethystinus* having been transferred to *Liasis*, and another species (*Python spilotes* auct.) is now known as *Morelia argus* (L.). Therefore, I have placed the new species in the genus *Liasis*, although the rostral and labial grooves are deeper than usual in *Liasis* species. Of the genus *Liasis* only two species have the loreal region covered by a number of small shields, like in the new species. Of these two, *Liasis amethystinus* (Schn.) occurs in New Guinea and Australia; it differs from the new species in the more compressed body, in four or five anterior upper labials having grooves, and in the colour pattern. Moreover, in *amethystinus*, the anterior prefrontals generally are relatively longer and narrower, and also the frontal is generally distinctly longer than broad. The other species, the Australian *Liasis childeni* GRAY, has a lower and broader rostral without grooves; the upper labials are without grooves or the first upper labial shows a very feeble groove; the number of scale rows is lower (31 to 45 at mid-body), and the colour pattern is different (cf. BOULENGER, 1893, p. 77, pl. IV fig. 1). The other *Liasis* species known from New Guinea and Australia have the loreal region covered by a single shield, and in this as well as in the colour pattern they differ from the new species. *Morelia argus* (L.) of New Guinea and Australia is very variable in colour, and one of its varieties is black with yellow dots, sometimes with scattered yellow spots. On the base of the colours alone it might be supposed that the snake from the Wissel Lakes area represents another colour variety of *Morelia argus*. However, *Morelia argus* has the greater part of the upper surface of the head covered with small scales; it never shows the regular arrangement of large shields present in the new species.

Acknowledgments

“I am greatly indebted to the Rev. J. Rose, Enarotali, Wissel Lakes for presenting the skin of the Oakaitadi specimen to the Rijksmuseum van Natuurlijke Historie, Leiden. It

provided the first evidence of a large Boid snake occurring in the Wissel Lake region. My sincere thanks are due to K. W. J. Boelen, M.D., government surgeon at Enarotali, for his successful efforts to procure a specimen of this interesting species for our museum. To the Fleet Air Arm of the Royal Netherlands Navy I am grateful for the speedy way in which this snake reached me.”

The following is an abbreviated version of Brongersma’s notes on *Liasis boeleni* as communicated in February 22, 1969

Notes on *Liasis boeleni*

BY

L. D. BRONGERSMA

This species was described by me from two specimens from the Wissel Lakes area in the central mountain range of Western New Guinea (BRONGERSMA, 1953: 317, pl. I figs. 1-5). Two additional specimens were acquired in 1955 (BRONGERSMA, 1956: 451, figs, lc, d, 3). Early in October 1961, Dr. C. J. Royer obtained a live female of this species to the west of Lake Paniai, Wissel Lakes area; the snake he presented to the Royal Zoological Gardens, Rotterdam, where it lived till February 19th, 1963. After its death the snake was sent to the Rijksmuseum van Natuurlijke Historie, Leiden. Thus, we now dispose of the following five specimens, all from the Wissel Lakes area:

1/9651, Dimija, December 25th, 1952, leg. Dr. K. W. J. Boelen, RMNH 9651, holotype;
1 flat skin, Okaitadi,, 1952, leg. Rev. J. Rose, RMNH 9652, paratype;
1/10190, Okito, March 1955, leg. R. den Haas, RMNH10190;
1/10191, Wissel Lakes area, 1955, leg. R. den Haas, RMNH 10191
1/14097, west of Lake Paniai, October 1961, leg. Dr. C. J. Royer; don. Royal Zoological Gardens, Rotterdam, February 19th, 1963, RMNH 14097.

As was to be expected, the specimen has also been recorded from elsewhere in New Guinea, be it under another name. A specimen, stated to have been taken at Lae, Territory of New Guinea, was described by WORRELL (1958: 26, figs. 1-4) as belonging to a new species, which he named *Liasis taronga*. The description and figures published by WORRELL clearly show this snake from Lae to be a specimen of *Liasis boeleni*. If the holotype of *Liasis taronga* was really taken at Lae this would mean that *L. boeleni* has a very great vertical distribution, viz., from about sea-level (Lae) to about 1750 m (or about 5700 feet, Lake Paniai). However, I would not deem it possible that the

holotype of *L. taronga* was not taken at Lae itself, but in the mountains somewhat more to the interior.

The scale counts for the four specimens from the Wissel Lakes area and those for the holotype of *L. taronga* (taken from WORRELL, 1958) have been indicated in Table 1. The fact that the holotype of *L. taronga* has a slightly lower number of ventrals (282, as opposed to 292-298 in the Wissel Lakes specimens) is negligible; if a larger number of specimens from various localities becomes available, the range of variation will probably show to be even greater. There seems to be no marked difference in the number of ventrals between the sexes, two males from the Wissel Lakes area having 292 to 295 ventrals, and two females from the same area 292 to 298 ventrals. It is interesting that the two females have mutilated tails, ending in very blunt tips, whilst in the males the tails apparently are complete. Usually two upper labials enter the orbit, but in RMNH 14097 (Pl. II fig. 3) only a single upper labial (the 6th) forms the lower border of the orbit. In RMNH 10191 (Pl. I fig. 3) and 14097, the mental is rather small and the lower labials of the first pair meet behind it. In RMNH 9651 (Pl. I fig. 1), the left first lower labial is much much shorter than the right side, but the two still touch behind the mental. In RMNH 10190 (Pl. I fig. 4) the labials of the first pair are separated from each other by the mental, which reaches the median groove of the chin.

The only feature mentioned by WORRELL (1958:26) states that in his specimen the third to seventh lower labials are deeply pitted; in the specimens examined by me the pitted lower labials are situated more posteriorly (7th to 13th). However, if WORRELL counted the pitted lower labials from the rear to the front, the third to seventh from the rear would be the eighth to twelfth as counted from the front, and this would agree with the situation found in the other specimens.

There is some variation in the coloration of the chin and throat, and this may be related to the sex of the specimens, the males showing more black markings. The holotype of *L. boeleni* (Pl. I fig. 1) is a female, and the chin and throat are yellowish with only a few small, black spots. The female RMNH 14097 (Pl. I fig. 2) also shows but little black on the chin and throat, although it is somewhat more strongly marked than the holotype and it has a black spot at the base of the first two ventrals. The two males (RMNH 10190, 10191) are more distinctly marked with black on the chin and throat; in RMNH 10190 (Pl. I fig. 4) the black markings are more numerous than in RMNH 10191 (Pl. I fig. 3). In RMNH 10190 black spots are present on the anterior seven ventrals. RMNH 10191 has black spots on the second to fifth ventrals, but these are not visible in (Pl. I fig. 3), because they are covered by the preceding ventrals. Black markings are also distinct on the chin and throat of the holotype of *L. taronga* (WORRELL, 1958: fig. 2), which is also a male.

When Dr. ROYER received his specimen (RMNH 14097) it measured about 175 cm; at the time of death the total length was 220.5 cm and, thus, in sixteen months it grew about 45.5 cm.

The female (RMNH 14097) has been dissected to examine the position of some of the viscera, and to study the pulmonary artery. On opening the anterior part of the body

cavity from ventrally it was found that the viscera were more or less overturned, a situation also found in some specimens of other boid snakes. The junction of the left and right aortic arches, which normally is hidden from view by the lungs, was visible in this specimen. The dorsal surface of the heart was turned to the ventral wall of the body cavity. By this overturning, the left lung had been displaced to the right, and the right lung was visible on the left side. The liver also had been partly overturned, the postcaval vein facing the dorso-lateral wall of the body cavity.

To indicate the position of the viscera the distance from the tip of the snout to the anterior and posterior tip of each is mentioned, and to indicate their relative position of the viscera, these measurements have also been given in percent of the length of the head and body.

Length of head and body.....	2110.....	100
Length of tail.....	95 + <i>n</i>	----
Distance from tip of snout: anterior border of heart.....	530.....	25.2
Apex of heart.....	597.....	28.3
Anterior tip of right lung.....	580.....	27.5
Posterior tip of right lung.....	1260.....	59.7
Anterior tip of left lung.....	590.....	28.0
Posterior tip of left lung.....	980.....	46.4
Anterior tip of liver, on the right.....	705.....	33.4
Anterior tip of liver, on the left.....	715.....	33.9
Posterior tip of the liver, on the right.....	1045.....	49.5
Posterior tip of the liver, on the left.....	985.....	46.7
Length of right lung.....	680.....	33.2
Length of left lung.....	390.....	18.5

The length of the left lung is 57.3 percent of that of the right lung. The right lung is angious over a distance of 235 mm (ca. 34.6 percent of its length); the left lung is angious over 145 mm of its length (ca. 37.2 percent of its length). The series of cartilages is continued in the right lung over a distance of 6.5 mm.

Of the branches that arise from the medial side of the right pulmonary artery, the anterior two ramifications only to the right lung. The third to twelfth branches send ramifications to both the right and to the left lung. After sending ramifications to the ventral, mesial,

and dorsal walls of the right lung, the third branch crosses ventrally over the trachea; it sends ramifications to the ventral, mesial, and dorsal walls of the left lung. The fourth to ninth branches pass obliquely to the left, and they send ramifications to the ventral wall of the right lung; arriving at the level where the two lungs are lying against each other, ramifications are sent to the ventral surface of the left lung, but the main branch passes obliquely dorsally and posteriorly between the lungs. On its way dorsally, this main branch gives off small ramifications to the medial walls of both lungs; arriving at the dorsal surface of the lungs, the branch ramifies in the dorsal wall of both lungs. The tenth branch (at 80 mm behind the apex of the heart) forms an anastomosis with the left pulmonary artery. The part of the left pulmonary artery anteriorly of the anastomosis is narrower than the part posteriorly of the anastomosis. From the anastomosis a ramus passes between the lungs to ramify in the dorsal wall of both lungs. Posteriorly of the anastomosis, two further branches of the right pulmonary artery send ramifications to the ventral and dorsal walls of both lungs. (Plate and figures not reproduced)

A New Papuan Python

By Eric Worrell

This spectacular python was sent to Sir Edward Hallstrom in 1955. It was kept for several months in the reptile section of Taronga Zoological Park, Sydney, and then died from a head infection.

Acknowledgment

Sir Edward Hallstrom, chairman of taronga Zoological Park Trust, gave me permission to describe the species. Mr. O. Cann Curator of Reptiles at taronga Zoological Park assisted me with the taking of photographs in life. Mr. A. Loveridge of Harvard College, Cambridge, Massachusetts, checked the first draft and offered valuable suggestions which have been incorporated in this paper. The drawings were skillfully reconstructed from photographs by Mr. J. Dwyer as the head of the holotype is swollen and distorted by the infection responsible for its death.

Liasis taronga, sp. Nov.

Type: An adult taken at Lae, Papua, by Mr. T. G. Downs, District Commissioner of Goroka, in 1955. It is now lodged in the Australian Museum, Sydney.

Diagnosis: The scalation most nearly resembles, *Liasis childreni*, GRAY, of northern Australia. Characterized by 48 midbody scale rows; 282 ventrals; single anal; 57 pairs of subcaudals. Yellow and black above; underside anteriorly lemon yellow, posterior half black.

Description: Head distinct from neck, form robust. Premaxillary teeth present. Grooved rostral visible from above; internals less than half the length of anterior prefrontals which are separated from the frontal by a small ovate azygous shield; the frontal is almost as broad as long, and about as long as but wider than the supraoculars: 2 pairs of parietals, posterior pair is followed by a border of enlarged shields: single nasal: loreal area is broken into small shields; 2 preoculars; 2 postoculars; temporals are broken into small scales; 8 supralabials, first to third grooved, fifth and sixth enter the eye; 14 infra-labials, third to seventh deeply pitted. Total length 246 cm or 8 feet 2 inches; tail 25 cm or 10 inches.

Colour: Above, blue-black, a yellow spot inside each nostril, labials posteriorly edged with yellow; flanks with yellow diagonal stripes that merge into the belly colouring. Below, anteriorly lemon yellow with black spots under the head; posterior half black with occasional yellow spots.