

10.—*A Revision of the Lizards of the Genus Nucras, Gray.*—By G. A. BOULENGER, LL.D., D.Sc., F.R.S. (Published by permission of the Trustees of the British Museum.)

(With Plates VI–VII.)

INTRODUCTION.

When, some twenty-five years ago, the late Dr. R. Klebs submitted to me the oldest known Lacertid (Oligocene) with the lepidosis preserved through imbedding in amber, a careful comparison with recent lizards led me to refer it to the genus *Nucras*, although the essential generic character of the position of the nostril could not be ascertained, my conclusion being based on an examination of the digits and of the scaling of the gular and pectoral regions, which agreed better with *Nucras tessellata* than with any other lizard with which I was acquainted.\* Since then I have made a more thorough study of the Lacertidae from the point of view of their probable evolution, and independent, correlative reasons have confirmed my provisional identification so far that, quite apart from any palaeontological consideration, I am now inclined to regard *Nucras* as, on the whole, the most primitive genus of the Lacertidae.

At the time I examined the lizard in amber, the representatives of the genus were believed to be confined to Africa no further north than the Zambesi Basin, and my suggested identification may therefore have seemed somewhat risky from the standpoint of zoogeography. We must, however, bear in mind that, in Tertiary times, the general character of the reptile fauna of the northern parts of

\* Cf. R. Klebs, Schrift. Phys.-oek. Ges. Königsberg, li., 1910, p. 227. As this lizard has not received a name I propose to designate it as *Nucras succineus*.

what is now the Palaearctic Region differed strongly from that of the present day. Iguanidae, now confined to the New World, Fiji, and Madagascar, occurred in the Miocene of Europe, and the Pleurodiran Chelonians, at the present time found only in Tropical and South Africa, Madagascar, and South America, were represented in the Eocene as far north as England. Within the last fifteen years the range of *Nucras* has been ascertained to extend further to the north in Africa (Lake Victoria), and, in accordance with the view of the probable origin of these lizards, the northernmost species (*N. emini*) has every claim to be considered, from the morphological standpoint, as the most primitive of the genus. I therefore believe that *Nucras* had a northern origin, an opinion further supported by the fact that the Lacertidae, like the Agamidae, being absent from Madagascar, must have extended their range towards the south only after the connection of Africa with that island had been severed, whilst the presence of Iguanidae, Gerrhonotidae, and Chamaeleontidae may be explained by these having reached Madagascar from Africa at a period previous to the southern extension of the Lacertidae and Agamidae.

The reasons for regarding the genus *Nucras* as the most primitive of the Lacertidae are the same as set forth in my recent paper on the derivation of the species of *Lacerta*,\* in which *L. agilis* is held to be the surviving representative of the ancestor of most, if not all, of the species of the genus *Lacerta* with which we are at present acquainted. Of the ten characters, or sets of characters, there mentioned nine are in accordance with this view, the only two (7, 9) in which *Nucras* is not so primitive being the reduction of the dorsal lepidosis to smooth granules and the long tail, in which all the species at present known agree.† Otherwise we find (1) constant presence of teeth on the palate; (2) a non-depressed or feebly depressed skull of moderate ossification (no supraorbital fontanelle, no dermal ossifications in the temporal region), although less primitive than that of *L. agilis*, owing to the narrower internarial space (comparable to *L. vivipara* in *N. delalandii*, to *L. muralis* in *N. tessellata*); (3) presence, in some forms at least, of the foramen parietale; (4) nostril between two or three nasals, the first upper labial being well separated from it, and absence, in some species, of small scales between the supraoculars and the superciliaries; (5) lower eyelid without transparent disc; (6) no

\* Tr. Zool. Soc. xxi., 1916, p. 1.

† Unless it be true that the tail of *N. boulengeri* is only  $1\frac{1}{4}$  to  $1\frac{1}{2}$  times the length of head and body, as stated in the description; but it is not improbable that the fact of the organ being in a regenerated condition has been overlooked.

denticulation in front of the ear-opening; (8) cylindrical or feebly compressed digits with smooth lamellae inferiorly; (10) the ideal type of primitive markings in some forms, no vivid colours on the head and body.

The main principles of the evolution of markings, as held by me, are well supported by a study of the genus *Nucras*, which embraces striated, ocellated, and barred forms. The most primitive pattern, with 11 light longitudinal streaks, at least anteriorly, occurs in *N. intertexta*, var. *holubi*, and in *N. tessellata* (*taeniolata*, Smith). In the latter species the markings may vanish towards the posterior part of the body, and the streaks on the sides break up into spots and, further, rearrange themselves into cross-bars, as happens also in *N. intertexta*, var. *holubi*. The dorsal striation may disappear and lead to ocellated forms (*N. intertexta*, *typica*). The most pronounced ocellar pattern, accompanied by the loss of the longitudinal streaks, is exemplified by *N. delalandii*, in which, further, the ocelli may disappear, to be replaced by black cross-bars. As a rule the white longitudinal streaks are more numerous on the nape than on the body, but I find one individual exception in a typical *N. tessellata*, which shows three dorsal streaks on the nape and four on the body.

There are two important points in which the striation in *Nucras* differs from that in *Lacerta*: (*a*) The outer light dorsal streak, instead of starting from the superciliary edge, originates on the border of the frontal shield and then follows the supraorbital border and the parietal shield; (*b*) the vertebral streak, instead of ending on the base of the tail, may be continued a considerable distance along that organ; evidently a primitive condition in accordance with Eimer's law.

The distinction of species in this genus has always been a matter of difficulty, all the greater for the small number of specimens which most authors have had at their disposal. I have been so fortunate as to be able to compare large series, preserved partly in the South African Museum, partly in the British Museum. Not long ago\* I attempted a rearrangement into varieties from the South African material entrusted to me by my friend Dr. L. Péringuey, but I have since made a more profound study of the subject, resulting in the present monograph, in which detailed descriptions are given of the species and varieties. So much doubt still exists as to the value of certain characters of lepidosis and coloration, that the minute analysis of individual variations, as presented in this paper, will prove useful to

\* Ann. S. Afr. Mus. v., 1910, p. 473.

those who might feel inclined to pursue further the investigation of this difficult group of lizards.

#### NUCRAS.

*Nucras*, Gray, Ann. N. H., i, 1838, p. 280; Lataste, Ann. Mus. Genova (2), ii, 1885, p. 124; Bouleng., Cat. Liz., iii, p. 52 (1887).

*Lacerta*, part., Dum. & Bibr., Erp. Gén., v, p. 174 (1839); Bedriaga, Abh. Senck. Ges., xiv, 1886, p. 24.

*Nucras*, part., Gray, Cat. Liz., p. 33 (1845).

*Zootoca*, part., Gray, op. cit. p. 27.

*Bettaia*, Bedriaga, t.c., p. 435.

Head-shields normal. Nostril well separated from the labials, pierced between two or three nasals. Lower eyelid scaly. Collar well marked. Dorsal scales small; ventral shields feebly imbricate, smooth. Digits cylindrical or very feebly compressed, with smooth lamellae inferiorly. Femoral pores. Tail long, cylindrical.

#### *Synopsis of the Species.*

- I.** No small scales between the supraoculars and the superciliaries, or one or two exceptionally present; head not or but little broader than deep; 16 to 20 lamellar scales under the fourth toe.

Head 4 to  $4\frac{1}{2}$  times in length to vent\*; foot as long as or a little longer than head; parietal foramen present; 40 to 51 scales across middle of body; ventrals in 28 to 32 transverse series; transversely enlarged plates under the fore-arm

1. *N. emini*.

Head  $4\frac{1}{2}$  to  $5\frac{1}{2}$  times in length to vent; foot not longer than head; parietal foramen usually absent; 34 to 41 scales across middle of body; ventrals in 32 to 37 transverse series; transversely enlarged plates under the fore-arm absent or small . . . . .

2. *N. delalandii*.

Head  $4\frac{1}{3}$  to 5 times in length to vent; foot shorter than head; 45 to 53 scales across middle of body; ventrals in 27 to 34 transverse series . . . . .

3. *N. boulengeri*.

- II.** A series of 2 to 7 small scales between the supraoculars and the superciliaries; 40 to 60 scales across middle of body; transversely enlarged plates under the fore-arm.

\* The head is measured to the posterior border of the ear-opening, the skull being considerably longer than the pileus, which accounts for Bedriaga's statement that the ear-opening is situated further back than in *Lacerta*, "on the side of the neck."

Head  $3\frac{2}{3}$  to  $4\frac{1}{2}$  times in length to vent, not or but little broader than deep; foot not or but slightly longer than head; parietal foramen usually present; ventrals in 27 to 34 transverse series; 20 to 26 lamellar scales under the fourth toe . . . . . 4. *N. intertexta*.

Head 4 to  $4\frac{2}{3}$  times in length to vent, considerably broader than deep; foot considerably longer than head; parietal foramen usually absent; ventrals in 25 to 33 transverse series; 25 to 31 lamellar scales under the fourth toe . . . . . 5. *N. tessellata*.

### 1. *NUCRAS EMINI*.

*Nucras delalandii*, Tornier, Zool. Jahrb., Syst., xiii, 1900, p. 593.

*Nucras emini*, Bouleng., Ann. and Mag. N. H. (7) xix, 1907, p. 488; Nieden, Mitt. Zool. Mus., Berl., viii, 1913, p. 76.

*Nucras ukerewensis*, Bolkay, Archivum Zool. (Budapest), i, 1909, p. 13, figs.

*Nucras tessellata*, Sternf. in Schubotz, Wiss. Ergebn. Deutsch. Z.-Afr. Exped. iv, ii, p. 222 (1912).

But for the longer tail, proportions much as in *L. agilis*. Head a little broader than deep,  $1\frac{2}{3}$  to  $1\frac{1}{2}$  times as long as broad, its length (to posterior border of ear-opening) 4 to  $4\frac{1}{3}$  times in length to vent; snout obtuse; cheeks swollen in the male. Pileus twice as long as broad. Body scarcely depressed. Hind limb reaching the wrist or the axil; foot as long as the head or a little longer; digits feebly compressed. Tail nearly twice as long as head and body.

Nasals in contact behind the rostral; frontonasal broader than long; praefrontals forming a median suture, or frontal narrowly in contact with the frontonasal; frontal about  $1\frac{2}{3}$  times as long as broad, as long as its distance from the end of the snout; frontoparietals much shorter than the frontal; parietals  $1\frac{2}{3}$  times as long as broad; interparietal 2 to  $2\frac{1}{2}$  times long as broad; occipital very small. Four supraoculars, first and fourth small, first in contact with the frontal; 4 or 5 superciliaries, in contact with the supraoculars.

Two superposed postnasals; anterior loreal not half as long as second; subocular not or but little narrower beneath than above, between the fourth and fifth upper labials; two large upper temporals, first much longer than the second and in contact with the fourth supraocular; lower temporal scales rather large, upper smaller and granular; a large tympanic shield. Five large and vertically elongate scales in the middle of the lower eyelid.

Parietal foramen and pterygoid teeth present.

Gular scales much enlarged towards the collar, 18 to 21 between the symphysis of the chin-shields and the median collar-plate; no gular fold. Collar serrated, composed of 7 to 9 plates.

Scales granular, round or squarish, smooth, enlarged on the lower part of the side and passing gradually into the ventral plates; 42 scales across the middle of the body. Ventral plates in 6 or 8 longitudinal and 28 or 29 transverse series.\* Two large praeanal plates, one before the other, and a single semicircle of smaller plates.

A series of 7 or 8 transversely enlarged plates on the lower surface of the forearm. Scales on upper surface of tibia smaller than dorsals. 10 to 12 femoral pores on each side. 17 or 18 lamellar scales under the fourth toe.

Upper caudal scales rather broad, slightly oblique, strongly keeled, posterior border very obtusely pointed or rounded.

The two specimens examined differ in the coloration.

The smaller, the type of *N. emini*, appears to be a half-grown male. Pale reddish brown above, with very small black dots and a faint trace of a light vertebral streak; a black lateral band from the eye to the root of the tail, edged with a light streak above and beneath and bearing a series of white spots with a tendency to run together into a streak; limbs with small dark brown spots or vermiculations; tail reddish; lower parts white.

The larger specimen, an adult male of stouter habitus, agrees better with Bolckay's figure of *N. ukerevensis*. Dark brown above, with an interrupted white vertebral streak; five series of small, white, black-edged spots on each side, the upper and lower corresponding to the light streaks of the preceding specimen; hind limbs with small white, black-edged ocellar spots; lower parts white.

Measurements (in millimetres):

From end of snout to vent	.	.	.	.	63	46
"          "      fore limb	.	.	.	.	23	16
Length of head	.	.	.	.	15	11
Width of head	.	.	.	.	10	7
Depth of head	.	.	.	.	9	6
Fore limb	.	.	.	.	20	15
Hind limb	.	.	.	.	26	24
Foot	.	.	.	.	15	14
Tail	.	.	.	.	134	—

\* 32 in the type of *N. ukerevensis*, according to Bolckay.

*Particulars of Specimens Examined.*

	1.	2.	3.	4.	5.	6.	7.
♂, Loika . . . . .	63	42	29	10	21	11-10	17
Hgr. ♂, type. . . . .	46	42	28	8	18	12	18

1. Length from end of snout to vent (in millimetres). 2. Number of scales across middle of body. 3. Transverse series of ventral plates. 4. Plates in collar. 5. Gular scales in a straight line between symphysis of chin-shields and median collar-plate. 6. Femoral pores (right and left if differing). 7. Lamellar scales under fourth toe.

The type is from the southern shore of Lake Victoria, from the collection of Emin Pasha. A second specimen, from Loika, British East Africa, from the collection of Mr. W. P. Lowe, is preserved in the British Museum. A third, from Shirati, east shore of Lake Victoria, has been described and figured by Bolkay as *N. ukerewensis*.

The lizard from Katoma, German East Africa, shortly noticed by Tornier under the name of *N. delalandii*, is referred to this species by Nieden. It is stated to have 40 scales across the body, 30 transverse series of ventral plates, 14 femoral pores, and the foot a little longer than the head. Specimens from Ukamba and Taita, also referred to this species by Nieden, have 42 to 51 scales across the body, 26 to 31 transverse series of ventrals, and 12 to 14 femoral pores on each side. Sternfeld's "*N. tessellata*" is from the Kili-manjaro district.

2. *NUCRAS DELALANDII.*

*Lacerta lalandii*, M.-Edw., Ann. Sc. Nat., xvi, 1829, pp. 70, 84, pl. v, fig. 6.

*Eremias (Nucras) lalandii*, Gray, Ann. N. H., i, 1838, p. 280.

*Lacerta delalandii*, vars. *a*, *c*, Dum. & Bibr. Erp. Gén., v, p. 241, pl. xlviii (1839).

*Nucras lalandii*, Gray, Cat. Liz., p. 33 (1845).

*Bettaia delalandii*, Bedriaga, Abh. Senck. Ges., xiv, 1886, p. 435, pl. —, figs. 1, 5, 35.

*Nucras delalandii*, Bouleng., Cat. Liz., iii, p. 53 (1887); Werner, Jahrb. Nat. Ver. Magdeb., 1896-98, p. 141; Bouleng., Ann. S. Afr. Mus., v, 1910, p. 475.

*Nucras delalandii*, var. *bedriagai*, Werner, l.c.

Head small, not or but slightly broader than deep,  $1\frac{1}{2}$  to  $1\frac{2}{3}$  times as long as broad, its length  $4\frac{1}{2}$  to  $5\frac{1}{2}$  times in length to vent in males, 5 to  $5\frac{3}{4}$  times in females; snout very obtuse. Pileus  $1\frac{3}{4}$  to  $2\frac{1}{4}$  times as long as broad. Body much elongate, cylindrical. Limbs short, just

meeting (males) or more or less widely separated when adpressed in the adult, overlapping in the young; foot  $\frac{3}{4}$  to once length of head; digits short, not or but scarcely compressed. Tail thick, swollen for some distance behind the base in males,  $1\frac{2}{3}$  to  $2\frac{1}{4}$  times as long as head and body.

Nasals in contact behind the rostral; frontonasal broader than long, as broad as or broader than the internarial space; praefrontals forming a median suture which may be very short; frontal as long as its distance from the rostral or the end of the snout,  $1\frac{1}{2}$  to  $1\frac{2}{3}$  times as long as broad, usually narrower, behind, than the supraoculars; frontoparietals much shorter than the frontal, usually shorter than their distance from the posterior extremity of the pileus; parietals  $1\frac{1}{4}$  to  $1\frac{1}{2}$  times as long as broad, outer border sometimes feebly emarginate for the accommodation of the upper temporal; interparietal narrow, 2 to 4 times as long as broad, sometimes divided into two; occipital very small, sometimes pushed back behind the pileus, or separated from the interparietal by the parietals forming a short median suture. Four supraoculars, first and fourth small, first usually \* in contact with the frontal; 5 to 7 superciliaries, rarely 4, in contact with the supraoculars, or one or two granular scales intervening between them. Two superposed postnasals, rarely one †; anterior loreal  $\frac{1}{3}$  to  $\frac{2}{3}$  length of second; 4 upper labials ‡ anterior to the subocular, which is usually a little narrower beneath than above; an elongate upper temporal, sometimes very broad, sometimes narrow, often divided into two or three, nearly always in contact with the fourth supraocular §; temple covered with small hexagonal or granular scales, which are not or but little larger than the dorsals; a round or oval tympanic shield, rarely absent. 5 or 6 vertically enlarged scales in the middle of the lower eyelid.

Parietal foramen usually absent. Pterygoid teeth present.

Gular scales small, juxtaposed, increasing in size and imbricate towards the collar, 23 to 30 in a straight longitudinal series; no gular fold. Collar feebly serrated, composed of 7 to 14 scales (usually 8 to 10).

Scales on body round or oval, juxtaposed, smooth, 34 to 41 across the middle of the body, 2 or 3 on the side corresponding to a ventral plate. Ventral plates in 8 longitudinal series, those of the second

\* In 17 specimens out of 24.

† On both sides in a male from Van Reenen, on the right side in a male from Damaraland.

‡ Five on both sides in a male from Peri Bush, on the right side in a female from Lessouto.

§ Exceptions in a male from Peri Bush and in another from Barberton.



series from the median line the broadest, the outer small, and 32 to 37 transverse series. Praeanal region covered with irregular small plates or with a large plate, which may be longer than broad or broader than long, bordered by one or two semicircles of smaller plates; sometimes with two subequal broad plates, one in front of the other.

No transversely enlarged plates on the lower surface of the fore limb, or a series of a few feebly enlarged plates. Scales on upper surface of tibia smaller than dorsals. 10 to 15 femoral pores on each side. 16 to 20 lamellar scales under the fourth toe.

Caudal scales forming whorls of nearly equal length, upper moderately broad, the median pair broader, strongly keeled, obtusely pointed behind, with distinct sensory pits.

Young pale brown above, with 8 or 10 longitudinal series of white black-edged ocellar spots, with traces of a white vertebral streak on the nape and anterior part of the back (Pl. VI, fig. 1); sides of head and sometimes of neck with black and white vertical bars; hind limbs and tail orange or reddish.

The ocelli usually persist in the adult (Pl. VI, fig. 2) which is greyish or reddish brown above, and the black rings may expand into large spots with a tendency to run together into cross-bars (Pl. VI, fig. 3), in which case the white eyes may become much reduced or disappear, leaving nothing but more or less regular black cross-bars (Pl. VI, figs. 4, 5); head with black spots above, with black spots or vertical bars on the sides, the latter sometimes extending to the throat; these black bars may be accompanied by five very conspicuous white bars between them, the first behind the eye, the fourth behind the tympanum; tail with black spots, or with ocelli as on the body. Lower parts white, uniform or with more or less numerous round black spots.

Measurements (in millimetres):

	♂			♀		
	1.	2.	3.	4.	5.	6.
From end of snout to vent . . . . .	96	94	81	112	89	88
"          "          " fore limb . . . . .	30	27	24	35	26	24
Length of head . . . . .	19	19	17	20	16	16
Width of head . . . . .	12	12	11	14	10	11
Depth of head . . . . .	11	11	11	13	10	11
Fore limb . . . . .	25	24	21	27	23	22
Hind limb . . . . .	35	35	31	39	29	29
Foot . . . . .	18	17	15	19	15	15
Tail . . . . .	215	195	155	225	145	155

1. Port Elizabeth. 2. Damaraland. 3, 5. Krugersdorp. 4. S. Africa. 6. Pirie Bush, near King Williamstown.

The specimens in the South African Museum are from the following localities: Knysna, Kentani, Uitenhage, Port Elizabeth, Burghersdorp, East London, Encobo, and West Pondoland, in Cape Colony, Umvoti in Natal, Morija in Basutoland, and Johannesburg in the Transvaal. The following particulars are taken from specimens in the British Museum:

*Particulars of Specimens Examined.*

	1.	2.	3.	4.	5.	6.	7.
♂ S. Africa (A. Smith) . . . . .	90	36	36	9	29	15	17
” ” ” . . . . .	86	38	34	12	29	?	?
” ” ” . . . . .	60	38	32	9	25	13	17
♀ ” ” . . . . .	120	40	37	9	30	13-14	19
♂ ” . . . . .	89	37	34	9	30	14-13	18
♀ ” . . . . .	112	39	35	14	27	13-11	20
♂ Port Elizabeth (Leslie) . . . . .	96	37	36	13	31	14	18
” ” (Moorhouse) . . . . .	75	41	34	10	27	12-13	19
♀ ” (Drege) . . . . .	86	36	35	9	25	11-12	19
” ” ” . . . . .	71	40	35	11	29	15	20
” Pirie Bush (Trevelyan) . . . . .	88	35	35	9	24	12-10	17
♂ ” (Stenning) . . . . .	102	36	37	10	24	12	18
♀ East London . . . . .	106	35	37	8	23	12	16
♂ E. Cape Colony . . . . .	93	39	36	8	26	12-13	20
” Van Reenen, Natal . . . . .	83	37	34	10	23	12	19
” Natal . . . . .	102	34	32	8	26	12-13	18
♀ Sibudeni, Zululand . . . . .	74	40	35	9	23	10-11	17
” Lessouto, Basutoland (Lataste coll.) . . . . .	90	35	36	10	25	13-14	17
♂ Krugersdorp, Transvaal . . . . .	81	38	35	7	29	14-15	19
♀ ” ” . . . . .	89	35	35	9	30	13	19
♂ Barberton, ” . . . . .	93	37	37	9	29	11	20
” Damaraland . . . . .	94	37	34	10	28	14	19

Columns as in the preceding species.

*Habitat.*—Eastern parts of Cape Colony, Natal, Basutoland, Transvaal.

As observed by Hewitt, *Ann. Transv. Mus.*, ii, 1910, p. 114, the occurrence of this eastern species in Damaraland is doubtful and rests only on the specimen recorded above, which forms part of a series of Reptiles purchased in 1865, without any indication of the collector; but there is this to say in favour of the correctness of the locality, that the other specimens associated with it belong to species known to inhabit S.W. Africa.

3. *NUCRAS BOULENGERI*.

*Nucras boulengeri*, O. Neumann, Ann. and Mag. N. H. (7), v, 1900, p. 56; Sternfeld in Schubotz, Wiss. Ergebn. Deutsch. Z.-Afr. Exped., iv, ii, p. 222 (1912); Nieden, Mitt. Zool. Mus., Berl., vii, 1913, p. 76.

“Body elongate; head not depressed, its length (to ear-opening) contained  $4\frac{1}{2}$  to 5 times in the length from snout to vent; two postnasals; no granules between the supraoculars and the superciliaries; interparietal not so long and narrow as in *N. tessellata* and *N. delalandii*; occipital very small; subocular bordering the lip between the fourth and fifth upper labials; two supratemporals bordering the parietals; tympanum half as large as the ear-opening. Dorsal scales small, pointed behind, larger on the sides of the body; 45 to 53 scales round the body; ventrals in 6 longitudinal and 27 to 30 transverse series. Femoral pores 11 or 12. Foot much shorter than the head. Tail thinner than in *N. tessellata* and *N. delalandii*,  $1\frac{1}{4}$  to  $1\frac{1}{3}$  as long as head and body.\* Colour brown above, with small indistinct blackish spots; bluish white beneath.”

Distinguished from *N. delalandii* by the smaller size, the smaller and pointed dorsal scales, fewer ventrals, and the shorter foot.

Lubwas, Usoga, British East Africa (two specimens).

This species, which is only known to me from the above description, appears to be perfectly distinct.

A third specimen, a male 63 mm. long from snout to vent, from Lake Victoria, has since been described by Sternfeld. 51 scales round the body, ventrals in 8 longitudinal and 34 transverse series, 12 femoral pores on each side. A fourth, from the Eldama River, British East Africa, with 10–11 femoral pores, has been noticed by Nieden.

4. *NUCRAS INTERTEXTA*.

*Forma typica.*

*Lacerta intertexta*, A. Smith, Mag. N. H. (2), ii, 1838, p. 93.†

*Lacerta delalandii*, var. *b*, Dum. & Bibr. Erp. Gén., v, p. 243 (1839).

\* Tail probably regenerated. In the specimen noticed by Nieden, it is nearly twice as long as head and body.

† The type specimen, described by A. Smith and by Duméril and Bibron, was presented to the British Museum by the former author in 1865, under the name of *L. delalandii*, along with the types of the other *Nucras* in his private collection, and its absolute concordance with the original description was overlooked by me, when, following Smith himself, I placed *L. intertexta* in the synonymy of *N. delalandii*. Although not labelled as such, the specimen is certainly A. Smith's type. It was referred by me to *N. tessellata*,

*Nucras tessellata*, part., Boulenger, Cat. Liz., iii, p. 52 (1887); Hewitt, Ann. Transv. Mus., ii, 1910, p. 112.

*Nucras tessellata*, var. *ocellata*, Bouleng., Ann. S. Afr. Mus., v, 1910, p. 475.

*Nucras delalandii*, part., Hewitt, t.c., p. 111.

Head small, slightly broader than deep,  $1\frac{1}{2}$  to  $1\frac{3}{5}$  times as long as broad, its length 4 to  $4\frac{1}{8}$  times in length to vent; snout obtuse. Pileus  $2\frac{1}{5}$  times as long as broad. Body feebly depressed. Limbs moderate, the hind limb reaching the wrist or the elbow; foot as long as the head; digits feebly compressed. Tail tapering from the base,  $1\frac{1}{2}$  to  $2\frac{1}{5}$  times as long as head and body.

Nasals forming a short or very short suture behind the rostral; frontonasal broader than long, broader than the internarial space; praefrontals forming a short or very short suture; frontal as long as its distance from the end of the snout,  $1\frac{1}{2}$  to  $1\frac{2}{3}$  times as long as broad, narrower, behind, than the supraoculars; frontoparietals much shorter than the frontal or than their distance from the posterior border of the pileus; parietals  $1\frac{2}{3}$  times as long as broad, outer border sometimes emarginate for the accommodation of the anterior upper temporal; interparietal narrow, 3 times as long as the occipital, which may be broader or rudimentary and pushed back behind the pileus; parietals and interparietal shorter in proportion to their width in the very young. Four supraoculars, first and fourth small, first narrowly in contact with the frontal; 5 or 6 superciliaries; 2 to 4 small scales between the supraoculars and the superciliaries. Two superposed postnasals; anterior loreal barely half as long as second; 4 upper labials anterior to the subocular, which is usually narrower beneath than above; an elongate upper temporal, in contact with the fourth supraocular, followed by 2 or 3 smaller shields; temple covered with small hexagonal or granular scales, which are about as large as the dorsals; a round or oval tympanic shield. Lower eyelid with 5 or 6 vertically enlarged scales in the middle.

Parietal foramen and pterygoid teeth present.

Gular scales small, juxtaposed, increasing in size and imbricate towards the collar, 27 to 36 in a straight longitudinal series; no gular fold. Collar even-edged or feebly serrated, composed of 10 to 13 plates.

Scales on body oval, juxtaposed, smooth, 40 to 44 across the middle of the body, 2 and 3 on the side corresponding to a ventral plate. Ventral plates in 6 or 8 longitudinal series, those of the second series from the median line the broadest, and 29 to 34 transverse series

Praeanal plate large, with a smaller one on each side and a large pair in front, or two subequal praeanal, one in front of the other.

A series of 4 to 7 transversely enlarged plates on the lower surface of the fore limb. Scales on upper surface of tibia smaller than dorsals. 11 to 14 femoral pores on each side. 20 to 25 lamellar scales under the fourth toe.

Caudal scales forming whorls of nearly equal length, upper rather narrow, the median pair sometimes broader, rather strongly keeled, truncate behind, with distinct sensory pits.

The type specimen, a female from Latakoo, near Kuruman, now rather bleached, has the markings well preserved, although the black has turned to a pale brown, and answers to A. Smith's diagnosis: "Colour above, reddish brown, with two rows of circular white spots, discontinued about half-way between the anterior and posterior extremities, each spot surrounded by a black ring; sides chequered, black and white, the latter colour disposed in narrow vertical stripes. Tail light brown, with a dotted black line on each side, and the space between them above marked with small black spots. Under parts white." This description is supplemented by a very good account of the same specimen by Duméril and Bibron, of which this is a translation:

Instead of a great number of small black spots with white pupils (as in *L. delalandii*), there are only two series, but a little larger, on each side of the back. Two or three irregular blackish spots on the upper lip. Two vertical blackish stripes on the temple, which is white; a third above the ear, and three or four on the neck. Others along the flanks, but shorter; on examining them carefully, one may guess how they were formed. It is probable that, in early youth, white spots encircled with black existed on the flanks; gradually, as they enlarged, the black circle opened above and beneath; then each of the two portions became raised and fused with the other, whilst simultaneously the white central spots enlarged vertically, thus producing alternating black and white vertical bars. Upper surface of hind limbs with some white spots incompletely surrounded with blackish. Here and there some black spots on the upper surface of the base of the tail; others, smaller, are present on the sides, so regularly arranged and so crowded as to form a longitudinal stripe (Pl. VI, fig. 8).

The interpretation given to the markings by the authors of the 'Erpétologie Générale' is fully confirmed by the examination of the young, with which we are now acquainted (var. *ocellata*, Blgr.).

Very young specimens (37-40 mm. to vent), from Pietersburg, Transvaal, are dark brown above and blackish on the sides, with

numerous white ocelli in three or four series on the back and three series on each side; a white vertebral streak on the nape, which may be continued, interrupted, on the body; sides of head and neck with black and white vertical bars; upper orbital border whitish; a white streak on each parietal shield, continuous with the outer dorsal series of ocelli; tail coral-red. In a larger young (4.3 mm.), from Kokong, Bechuanaland, the dorsal markings are the same, but the ocelli on the sides of the body have fused to form vertical bars (Pl. VI, fig. 7).

A half-grown female, from Rustenburg, Transvaal, is reddish brown above, with an interrupted light, black-edged vertebral streak, a dorso-lateral series of ocelli, and three series of ocelli on each side, the lower of which are more or less confluent into a light longitudinal streak from the shoulder to the root of the hind limb; head and neck as in the preceding (Pl. VI, fig. 6).

A half-grown male, from Rustenburg, Transvaal, is similar to the preceding, but the white eyes of the ocelli on the nape are in the form of longitudinal lines, whilst the black borders of the ocelli run together to form cross-bands on the back, as is frequent in *N. delalandii*, from the young of which it is hardly to be distinguished, so far as the coloration is concerned.

Measurements (in millimetres):

	1.	2.	3.
From end of snout to vent . . . . .	80	63	55
"          "      fore limb . . . . .	25	21	17
Length of head . . . . .	17	14	12
Width of head . . . . .	11	9	8
Depth of head . . . . .	9	7.5	7
Fore limb . . . . .	22	20	16
Hind limb . . . . .	34	29	26
Foot . . . . .	17	15	13
Tail . . . . .	117	106	112

1. ♀, type, Latakoo. 2. ♀, Pietersburg, Transvaal. 3. ♂, Rustenburg, Transvaal.

Under the name of var. *holubi*, Stdr., I group together a number of specimens which, whilst agreeing essentially in structure with *N. intertexta*, differ from the type in the back being striated throughout life.

Var. *holubi*.

*Lacerta tessellata*, part., Peters, Reise Mossamb., iii, p. 44 (1882).

*Eremias holubi*, Steind., Sitzb. Ak. Wien, lxxxvi, i, 1882, p. 83, pl. —.

*Lacerta cameranoi*, Bedriaga, Abh. Senck. Ges., xiv, 1886, p. 378 pl. —, figs. 2, 9, 11, 31.

*Nucras tessellata*, part., Bouleng., Cat. Liz., iii, p. 52 (1887).

*Nucras tessellata*, Bouleng., in Distant, Nat. Transv., p. 174 (1892).

*Nucras tessellata*, var. *taeniolata*, Bocage, Herp. Ang., p. 30 (1895).

*Nucras tessellata*, var. *ornata*, Bouleng., Ann. Natal Mus., i, 1908, p. 225.

*Nucras tessellata*, vars. *holubi*, *ornata*, Bouleng., Ann. S. Afr. Mus., v, 1910, p. 474.

*Nucras holubi*, Sternf. in Schubotz, Wiss. Ergebn. Deutsch. Z.-Afr. Exped., iv, ii, p. 222 (1912).

Head  $3\frac{5}{6}$  to  $4\frac{1}{4}$  times in length to vent, sometimes as deep as broad, sometimes a little broader, the cheeks often swollen in the males, Pileus usually twice as long as broad. The hind limb reaches the wrist or the elbow, rarely the axil\* or just overlaps the fore limb †; foot as long as or slightly longer or slightly shorter than the head.

Lepidosis as in the typical form, but suture between the praefrontals sometimes longer, frontal sometimes nearly twice as long as broad. interparietal often broader (2 to 3 times as long as broad), first supraocular often extensively in contact with the frontal, the fourth sometimes separated from the anterior upper temporal ‡; 2 to 6 small scales between the supraoculars and the superciliaries, of which there may be 7; anterior loreal sometimes more than half as long as second §; tympanic sometimes very small, rarely absent. 25 to 33 gular scales in a longitudinal series; collar composed of 7 to 14 plates. 44 to 60 scales across the middle of the body. Ventral plates in 27 to 34 transverse series. A large praeanal bordered by 4 or 6 smaller shields, or 2 large praeanal, one in front of the other, or 3 forming a triangle bordered by a semicircle of small plates. 11 to 20 femoral pores on each side. 20 to 26 lamellar scales under the fourth toe.

\* Male and young from Bulawayo.

† Female from Lake Nyassa.

‡ Males from Vredefort Road and Rustenburg, females from Lydenburg and Kimberley. The upper temporal is then entirely on the temple. Bedriaga observes, à propos of his *L. cameranoi*, that the upper temporals are on the upper surface, forming part of the pileus, in the South African species (my *Nucras*). The series of specimens here referred to *N. intertexta* shows this character to be by no means a constant one, as these shields may be lateral and perpendicular to the parietals. There is thus in *Nucras* the same amount of variation with respect to this feature as in *L. muralis*, in which Méhely has used it for the distinction of his *Archaeolacertae* and *Neolacertae*.

§ A single postnasal on one side in a young from Bulawayo.

Varies much in markings. The principal variations may be arranged as follows, starting with the most primitive.

A. (*N. tessellata*, var. *taeniolata*, Bocage.). Four or five\* white dorsal streaks separated by wider dark brown interspaces, and three white streaks on each side, the upper (proceeding from the temple above the ear-opening) broken up, anteriorly, into a series of round spots; on the posterior part of the body, these markings fade into a pale buff colour, which also occupies the upper surface of the limbs and tail. The coloration is thus very similar to that of Smith's *L. taeniolata*.—Dongwenna, Mossamedes. (Pl. VII, fig. 1.)

B. (*E. holubi*, Stdr., l.c., lower figure). Three white dorsal streaks separated by broader black or dark brown interspaces, and 2 (sometimes broken up into spots) along each side; the white vertebral streak continued for a short distance on the tail, which bears 3 dark longitudinal streaks; the outer dorsal light streak extends on the parietal shield, where it joins the light supraorbital border.—Limpopo Valley, Transvaal (Steindachner); Rustenburg, Transvaal; Vredefort Road, Orange River Colony; Kimberley, Burghersdorp, Cape Colony. (Pl. VII, fig. 2).

C. (*E. holubi*, Stdr., l.c., upper figure). Back reddish brown, with 3 dark-edged light streaks; a broad dark brown or black lateral band from the temple to above the hind limb, bearing 1, 2, or 3 series of roundish white spots, and edged below by a white streak which may be broken up into spots.—Limpopo Valley (Steindachner); Zoutpansburg, Transvaal; Lydenburg, Transvaal; Vredefort Road, Orange River Colony; Bulawayo; Port Elizabeth. (Pl. VII, fig. 3).

D. As in the preceding, but temple and side of neck with black and white vertical bars.—Umfolosi River, Natal; Pretoria; Bindura, S. Rhodesia. (Pl. VII, fig. 4).

E. The black and white vertical bars are continued, more or less distinct, on the flanks.—Umfolosi River. (Pl. VII, fig. 5).

F. Back reddish brown with black dots and mere traces of the 3 light streaks; a blackish lateral band with very numerous small round white spots; sides of head with black and white vertical bars, tail with numerous small dark and light spots.—Lake Nyassa. (Pl. VI, fig. 10). This form appears to represent Bedriaga's *L. cameranoi*, from Tette, Mozambique, but the fingers are not quite so short †, the figure accompanying the description showing them to be very similar to those of *N. delalandii*.

Four in the male, five in the female; only two specimens examined.

† They are shorter and thicker in the female than in the male.



G. As in E, but without the light vertebral streak, and with black dots on the back and on the sides of the belly.—Umfolosi River.

H. As in D, but no light vertebral streak, and the light dorso-lateral streak ending midway between the fore and hind limbs; black dots on the sides of the belly. This variation forms a complete connection with the typical *N. intertexta*, the only difference being that the light ocellar spots on the nape and anterior part of the back have fused to form a dark-edged lateral streak.—De Kaap Goldfields, Transvaal. (Pl. VI, fig. 9).

All the young specimens examined have 3 or 5 light dorsal streaks and the tail is of a coralline red.

The var. *holubi* must be regarded as more primitive than the typical form, and the pattern described under A, along with the *taeniolata* form of *N. tessellata*, as the original from which all others in the genus can be derived without the least difficulty.

Measurements (in millimetres):

	1.	2.	3.	4.	5.	6.	7.	8.	9.
From end of snout to vent	80	96	95	75	86	55	62	58	70
"    "    "    to fore limb.	28	29	34	25	30	19	20	21	23
Head . . . . .	19	20	24	17	20	13	14	13	15
Width of head . . . . .	12	13	15	11	12	8	9	8	10
Depth of head . . . . .	11	11	13	10	10	7	7	8	8.5
Fore limb . . . . .	25	26	29	22	25	17	17	18	20
Hind limb . . . . .	38	39	45	33	36	26	26	29	33
Foot . . . . .	19	20	21	17	18	13	13	14	16
Tail . . . . .	170	—	215	123	180	—	—	116	135

1. ♂, Nyassa. 2. ♀, Nyassa. 3. ♂, Umfolosi R. 4. ♀, Zoutpansberg. 5. ♀, De Kaap Goldfields. 6. ♂, Vredefort Rd. 7. ♀, Vredefort Rd. 8. ♂, Dongwenna. 9. ♀, Dongwenna.

*Particulars of Specimens Examined.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Forma typica.									
♀ Latakoo (type) . . . . .	80	40	8	32	12	34	11	24	4-3
Hgr. Kokong, Bechuanaland . . . . .	44	42	6	31	13	33	13	24	4-3
♂ Rustenburg, Transvaal . . . . .	55	44	6	29	13	34	13-14	22	3
♀ Pietersburg, " . . . . .	63	44	8	34	12	36	14	25	4
Yg. " . . . . .	40	43	8	30	10	37	13-12	23	3
" " . . . . .	38	42	8	31	11	31	12	20	2
var. <i>holubi</i> .									
♂ Port Elizabeth . . . . .	56	50	6	28	9	26	11	21	4-5
" Burghersdorp, Cape Col. . . . .	50	49	6	28	11	28	12	24	5
♀ Kimberley (S. A. Mus.) . . . . .	52	44	8	28	11	29	12-13	22	4
♂ Vredefort Road, O.R. Col. . . . .	55	46	8	29	12	28	12	24	4-5
" " " " . . . . .	52	48	8	28	10	26	12-14	21	5

	1.	2.	3.	4.	5.	6.	7.	8.	9.
var. <i>holubi</i> .									
♀ Vredefort Road, O.R. Col. . . . .	62	48	8	30	12	26	14-13	21	4
" " " " . . . . .	50	52	8	30	10	27	12	21	4-3
" " " " . . . . .	48	55	8	29	8	28	13	20	5
♂ Umfolosi R., Zululand . . . . .	95	60	8	31	12	32	17-16	22	2-3
" " " " . . . . .	65	58	6	31	13	33	15	25	4-6
Yg. " " " " . . . . .	46	57	6	32	14	33	16	25	5-4
♂ De Kaap Goldfields, Transvaal . . . . .	86	55	6	30	12	32	15-16	23	4-3
Yg. Pretoria, " " " " . . . . .	44	48	6	30	10	28	14	26	3-4
♂ Rustenburg, " " " " . . . . .	53	45	8	29	14	31	13	21	5-6
♀ Lydenburg, " " " " . . . . .	66	52	8	31	9	28	17-18	25	5
" " " " " " " " . . . . .	64	49	8	31	11	30	17-16	24	6
" " Zoutpansberg " " " " . . . . .	75	55	8	32	11	32	20-19	24	3
♂ Bulawayo . . . . .	50	50	8	27	7	28	13-15	22	6-4
Yg. " " " " " " " " . . . . .	42	58	6	29	9	33	15	23	5
♀ Bindura, S. Rhodesia (S. A. Mus.) . . . . .	49	46	6	28	10	25	15-17	25	4
♂ L. Nyassa . . . . .	80	44	6	30	10	30	16-15	25	4
♀ " " " " " " " " . . . . .	96	46	6	31	8	31	16-17	25	4-2
♂ Dongwenna, Mossamedes . . . . .	58	45	8	28	10	27	14-13	25	2-3
♀ " " " " " " " " . . . . .	70	45	8	34	12	30	14	26	4-5

1. Length from snout to vent. 2. Number of scales across middle of body. 3. Longitudinal series of ventral plates. 4. Transverse series of ventral plates. 5. Plates in collar. 6. Gular scales in a straight line between symphysis of chin-shields and median collar-plate. 7. Femoral pores (right and left if differing). 8. Lamellar scales under fourth toe. 9. Scales between supraoculars and superciliaries.

*Habitat*.—The range of *N. intertexta* extends from Portuguese East Africa, Nyassaland, and Angola to the northern and eastern parts of Cape Colony. The specimens in the South African Museum are from Burghersdorp, Little Namaqualand, and Kimberley in Cape Colony, Smithfield in the Orange River Colony, Barberton in the Transvaal, Bindura and Bulawayo in Southern Rhodesia.

#### 5. NUCRAS TESSELLATA.

*Lacerta tessellata*, A. Smith, Mag. N. H. (2) ii, 1838, p. 92; Dum. & Bibr. Erp. Gén., v, p. 244 (1839); Bedriaga, Abh. Senck. Ges., xiv, 1886, p. 374.

*Lacerta livida*, A. Smith, l.c.

*Lacerta elegans*, A. Smith, l.c.

*Lacerta taeniolata*, A. Smith, t.c., p. 93; Dum. & Bibr., t.c., p. 247 Bedriaga, t.c., p. 381.

*Zootoca taeniolata*, Gray, Cat. Liz., p. 29 (1845).

*Nucras tessellata*, Gray, op. cit., p. 33; Werner, Jen. Denkschr., iv, p. 329 (1910).

*Teira ornata*, Gray, Proc. Zool. Soc., 1864, p. 58.

*Lacerta tessellata*, part., Peters, Reise Mossamb., iii, p. 44 (1882).

*Lacerta tessellata*, subsp. *pseudotessellata*, Bedriaga, t.c., p. 377, pl. —, figs. 8, 21.

*Nucras tessellata*, part., Bouleng., Cat. Liz., iii, p. 52 (1887).

*Nucras tessellata*, vars. *elegans*, *livida*, *taeniolata*, Bouleng., Ann. S. Afr. Mus., v, 1910, p. 474.

Head small, considerably broader than deep,  $1\frac{1}{2}$  to  $1\frac{2}{3}$  times as long broad, its length 4 to  $4\frac{2}{3}$  times in length to vent; snout obtuse. Pileus 2 to  $2\frac{1}{4}$  times as long as broad. Body feebly depressed. Hind limb reaching the elbow, the axil, or the shoulder; foot considerably longer than the head; digits slender, feebly compressed. Tail flattened and widened at the base in males, nearly 2 to  $2\frac{3}{4}$  times as long as head and body.

Nasals forming a short suture behind the rostral; frontonasal broader than long, broader than the internarial space; praefrontals forming a short suture; frontal as long as or a little longer than its distance from the end of the snout,  $1\frac{1}{2}$  to 2 times as long as broad, narrower, behind, than the supraoculars; frontoparietals much shorter than the frontal or than their distance from the posterior border of the pileus; parietals  $1\frac{1}{2}$  to  $1\frac{3}{4}$  times as long as broad, outer border sometimes emarginate for the accommodation of the anterior upper temporal; interparietal narrow,  $2\frac{1}{2}$  to 4 times as long as broad; occipital very short, sometimes broader than the interparietal. Four supraoculars, first and fourth small, and sometimes divided into two, first extensively in contact with the frontal; 7 or 8 superciliaries; 2 to 7 small scales between the supraoculars and the superciliaries. Two superposed postnasals, rarely one \*; anterior loreal  $\frac{1}{2}$  to  $\frac{3}{4}$  times as long as second; 4 upper labials anterior to the subocular, which is a little narrower beneath than above; an elongate anterior upper temporal, often in contact with the fourth supraocular †, followed by 1 or 2 smaller shields; temple covered with small hexagonal or granular scales, which are about as large as the dorsals or smaller; tympanic shield roundish, often small or absent.

Parietal foramen usually absent. Pterygoid teeth present.

Gular scales small, juxtaposed, increasing in size and imbricate

\* Types of *L. taeniolata*. Also in a young from Clanwilliam which, in its markings, agrees with the typical *L. tessellata*.

† Not in contact in five specimens: one of the types of *L. taeniolata*, two of the types of *L. livida*, male from Deelfontein, and female from Little Namaqualand.

towards the collar, 25 to 33 in a straight longitudinal series; no gular fold. Collar even-edged, composed of 8 to 13 plates.

Scales on body roundish or oval-hexagonal, smooth, 40 to 60 across the middle of the body, 2 and 3 on the side corresponding to a ventral plate. Ventral plates in 6 or 8 longitudinal series, those of the second series from the median line the broadest, and 25 to 34 transverse series. Praeanal region covered with several irregular shields, or with two large shields one in front of the other.

A series of 6 or 7 transversely enlarged plates on the lower surface of the fore limb. Scales on upper surface of tibia smaller than dorsals. 11 to 16 femoral pores on each side. 25 to 31 lamellar scales under the fourth toe.

Caudal scales forming whorls of nearly equal length, upper rather narrow, the median pair often broader, rather strongly keeled, truncate or very obtusely pointed behind, with more or less distinct sensory pits.

As in the preceding species, the markings differ very strikingly according to individuals, and some at least of the different patterns, on which species have been founded, perhaps indicate local forms or varieties. I here enumerate those with which I am acquainted, beginning with the most primitive:

A. (*L. taeniolata*, Smith).—Eight white streaks on the back and sides, sometimes nine on the nape and anterior part of back, separated by black streaks; the outer dorsal light streak extending to the fourth supraocular, the upper lateral, originating just above the ear, sometimes broken up into spots. Posterior part of back and tail brown above, the latter inclined to red near the extremity and with a blackish lateral streak. Lower parts white.—“Grassy districts of Cape Colony,” Smith; Little Namaqualand; Pine Town, Natal (South African Museum). (Pl. VII, fig. 6.)

B. (*L. livida*, Smith).—Back with light and dark streaks as in the preceding, or pale buff behind with black vermiculations; sides black with numerous small white spots, which form irregular vertical bars on the temple and neck.—“Northern parts of Cape Colony,” Smith; Little Namaqualand; Deelfontein. (Pl. VII, figs. 7, 8.)

C. (*L. tessellata*, Smith; *T. ornata*, Gray).—Neck and anterior part of back black, with 3 or 4 white lines above and very regular white vertical bars on the sides; posterior part of body grey or pale buff, with more or less distinct black bars on the sides. Feet and tail coral-red or reddish, at least in the young.—“Eastern parts of Cape Colony,” Smith; Clanwilliam, Calvinia, Worcester, Klipfontein, in Cape Colony; Zambesi (Sir J. Kirk). (Pl. VII, figs. 9, 10.)

In the var. *pseudotessellata*, Bedr., from Mozambique, there are 5 white lines on the nape.

D. (*L. elegans*, Smith).—Pale reddish brown above and on the sides; two white, black-edged streaks on the neck.—“Little Namaqualand and the country towards the Orange River,” Smith; Smithfield, Orange River Colony.

In the following tabulation of specimens examined the same arrangement is adopted:

Measurements (in millimetres):

	♂			♀		
	1.	2.	3.	4.	5.	6.
From end of snout to vent . . . . .	70	65	47	74	80	62
” ” ” fore limb . . . . .	24	24	18	25	28	20
Head . . . . .	15	15	11	16	17	13
Width of head . . . . .	9	10	7	10	12	8
Depth of head . . . . .	7	7	5	7.5	9	6
Fore limb . . . . .	20	22	16	22	22	18
Hind limb . . . . .	34	37	27	39	40	29
Foot . . . . .	19	20	15	21	21	16
Tail . . . . .	—	—	125	—	—	120

1. Type of *L. tessellata*. 2, 4. Little Namaqualand. 3. Klipfontein. 5. Type of *L. livida*. 6. Type of *L. taeniolata*.

Particulars of Specimens Examined. (1).

	1.	2.	3.	4.	5.	6.	7.	8.	9.
<b>A.</b>									
♀ Type of <i>L. taeniolata</i> . . . . .	62	48	6	32	11	28	15-14	26	6-7
Yg. ” ” . . . . .	40	45	6	27	11	30	15-16	25	5
♀ Little Namaqualand . . . . .	57	52	8	29	10	29	13	28	4
<b>B.</b>									
♂ Type of <i>L. livida</i> . . . . .	54	46	6	25	8	29	13	27	4-3
” ” ” . . . . .	47	56	6	29	8	33	12-13	30	2
♀ ” ” . . . . .	80	47	8	30	11	33	11	28	5
♂ Deelfontein, Cape Colony . . . . .	72	48	8	27	11	31	13	26	4-3
<b>C.</b>									
♂ Type of <i>L. tessellata</i> . . . . .	70	47	6	31	9	31	15-13	27	7-6
” Little Namaqualand . . . . .	65	45	6	29	9	29	15	27	4
♀ ” ” . . . . .	74	42	6	31	12	30	15	27	5-4
♂ Guires, Little Namaqualand . . . . .	58	44	6	27	12	31	15	28	4
Yg. Clanwilliam, W. Cape Colony . . . . .	40	41	6	31	9	29	14-15	30	7-6
” ” ” . . . . .	40	40	6	31	9	32	14	26	5-4
♂ Klipfontein, E. Cape Colony . . . . .	47	45	6	30	11	38	15-16	27	6-4
Yg. Zambesi, type of <i>T. ornata</i> . . . . .	32	46	6	30	13	26	14	26	4
<b>D.</b>									
♀ Type of <i>L. elegans</i> . . . . .	80	45	8	33	8	?	16-14	31	?
” ” ” . . . . .	62	47	8	32	8	?	14-15	30	4
” Smithfield, O.R. Col. (S.A. Mus.) . . . . .	63	45	6	32	8	33	14	29	3

(1) Tabulated as in the preceding species.

I have examined in addition 19 specimens preserved in the South African Museum. Scales across the body 40 to 60; femoral pores 12 to 16. One specimen, from Little Namaqualand, with a single postnasal.

The habitat of *N. tessellata* is a wide one, extending from Great Namaqualand to the Karroo and Natal, and the species being also on record from Mozambique (Berlin Museum) and the Zambesi (Sir J. Kirk), it will probably be discovered in Southern Rhodesia.

The species of *Nucras* appear to be of very local occurrence, and much more collecting will have to be done before their distribution can be properly mapped out. It is hoped that this contribution to the knowledge of them may be an incentive to the collecting and study of further material.

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### EXPLANATION OF THE PLATES.

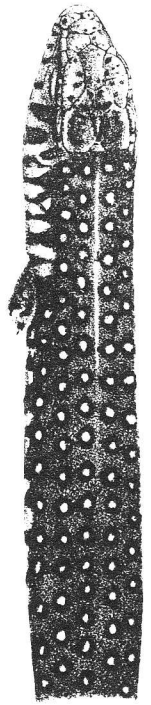
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#### PLATE VI.

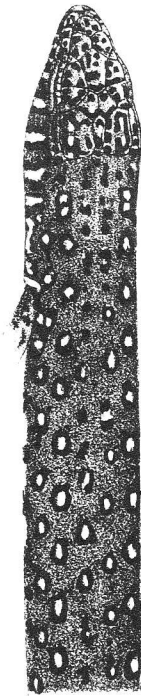
- Fig. 1. *Nucras delalandii*, young. East London.  $\frac{2}{1}$ .  
 2. " " ♂. Van Reenen, Natal.  $\frac{8}{7}$ .  
 3. " " ♂. Krugersdorp, Transvaal.  
 4. " " ♂. Barberton, Transvaal.  
 5. " " ♀. Krugersdorp, Transvaal.  
 6. " *intertexta*, ♀. Pietersburg, Transvaal.  $\frac{6}{5}$ .  
 7. " " young. Kokong, Bechuanaland.  $\frac{7}{4}$ .  
 8. " " ♀, type. Latakoo, near Kuruman.  
 9. " " var. *holubi*. ♀. De Kaap, Transvaal.  
 10. " " " " ♂. Lake Nyassa.

#### PLATE VII.

- Fig. 1. *Nucras intertexta*, var. *holubi*. ♀. Dongwenna, Mossamedes.  $\frac{5}{4}$ .  
 2. " " " " ♂. Burghersdorp, Cape Colony.  $\frac{2}{1}$ .  
 3. " " " " ♂. Barberton, Transvaal.  $\frac{9}{8}$ .  
 4. " " " " ♂. Umfolosi, Natal,  $\frac{11}{9}$ .  
 5. " " " " ♂. " "  $\frac{5}{6}$ .  
 6. " *tessellata*, young, type of *L. taeniolata*. Cape Colony.  $\frac{2}{1}$ .  
 7. " " ♂. Deelfontein, Cape Colony.  $\frac{11}{9}$ .  
 8. " " ♂, type of *L. livida*. Cape Colony.  $\frac{11}{8}$ .  
 9. " " ♂, type. Cape Colony.  $\frac{4}{3}$ .  
 10. " " young. S. Africa.  $\frac{2}{1}$ .



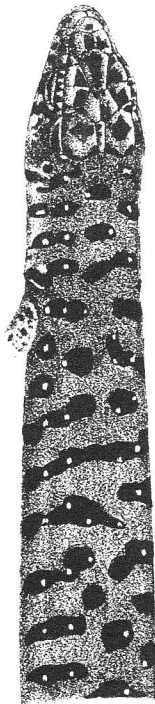
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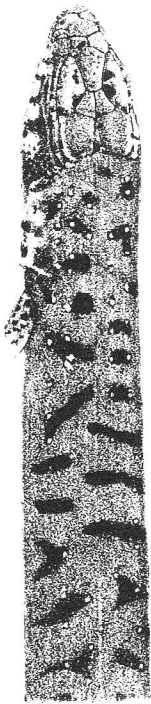
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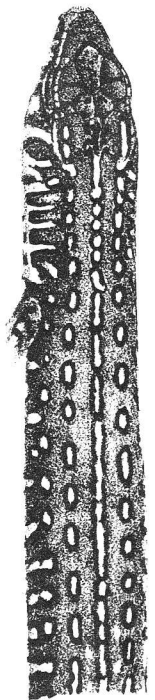


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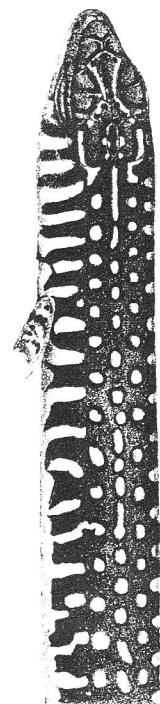


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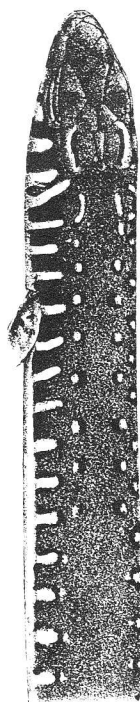
*Nucras intertexta.*



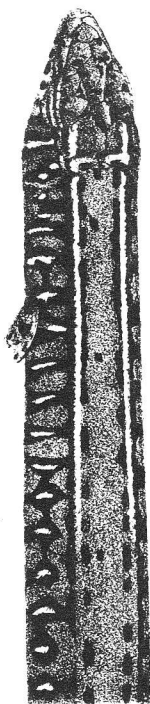
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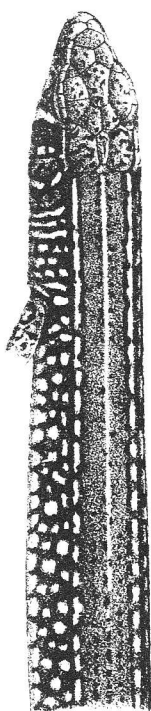
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8



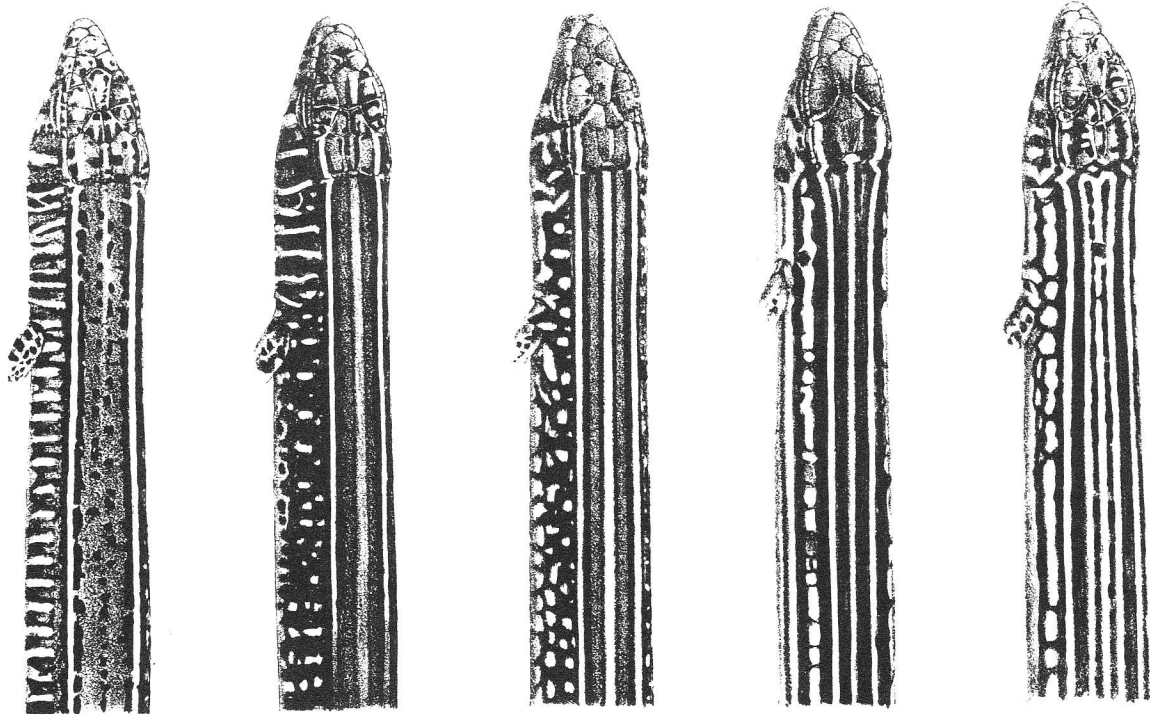
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10

*Nucras delalandii.*

*Nucras tessellata*



5

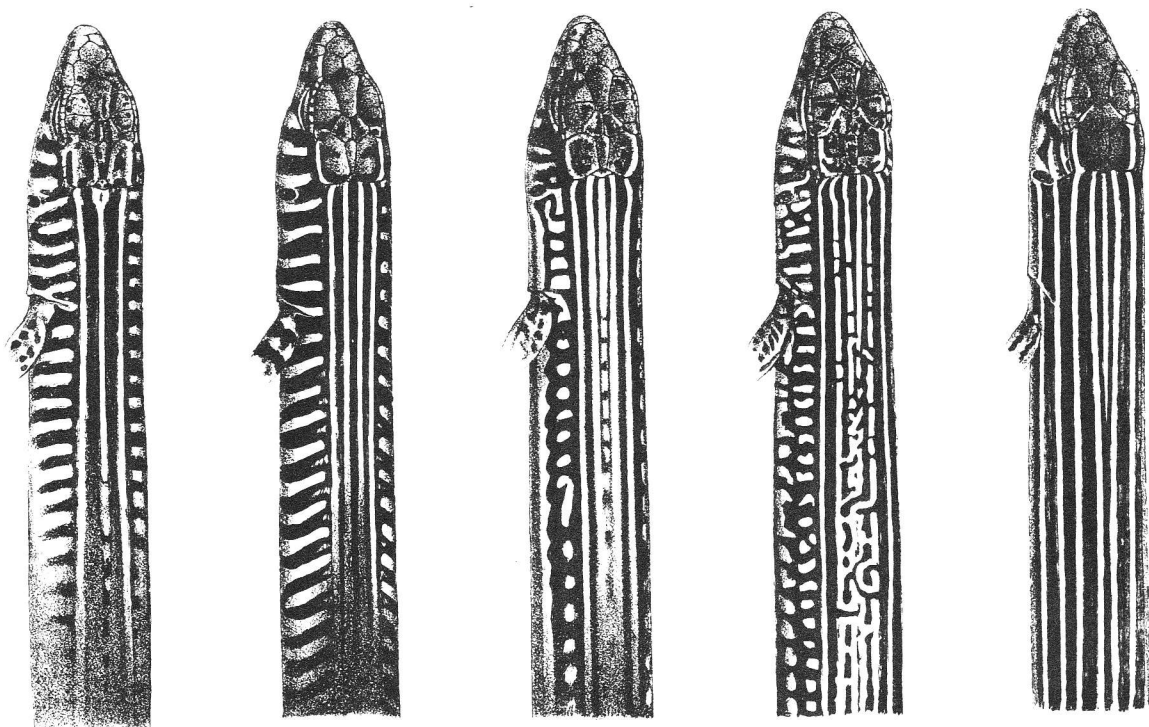
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1

*Nucras intertexta*



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