NOTES ON THE REPTILES AND AMPHIBIANS COLLECTED AND DESCRIBED FROM SOUTH AFRICA BY ANDREW SMITH

BY V. FITZSIMONS, M.Sc.

With Plate X

ANDREW SMITH (afterwards Sir Andrew Smith) was born in England in 1797 and came out to the Cape in 1821 as medical surgeon to the military garrison stationed there. He remained in the Cape for about 16 years, during the first five of which he was stationed in the Eastern Districts, after which he was transferred to Capetown and appointed honorary curator of the museum founded there by Lord Charles Somerset in 1826. During the following years he devoted much of his time to the study of the local fauna, and in the course of his journeying through the country made extensive collections. Although his main energies were devoted to the birds and mammals, his collections of other forms of life, including reptiles and amphibians, were nevertheless considerable.

In 1831, accompanied by the botanist Drege, he made a long trip eastwards through Kaffirland and Natal to Zululand, penetrating as far north as Delagoa Bay. Again, in 1834 he was entrusted with the management of an expedition into the interior of South Africa. This expedition was assembled at Graaff-Reinet and proceeded thence to Philippolis, from which place he journeyed eastwards into Basutoland and the headwaters of the Orange River. Returning again to Philippolis, he set out for Kuruman, proceeding north-west to the Vaal River and thence along the latter to the Harts River, from which he struck directly west to Kuruman. From Kuruman his route lay northwards to the Molopo River, thence to the Marico River in the Zeerust District and along the Limpopo River, where he eventually reached his farthermost point north near the Tropic of Capricorn, i.e. 23′ 28″ latitude. In his official report[1] on this expedition he states that three barrels of snakes, lizards, amphibians and tortoises were brought back and refers to collecting snakes of the genera *Bucephalus*, *Chrysopelea* and *Python*, also crocodiles and a new species of box tortoise of the genus *Sternothaerus*, provisionally designated *Sternothaerus africanus*, with shell sometimes measuring 2 ft. in length.

Shortly after his return from the above expedition, Smith returned to England and, during the years 1838 to 1849 compiled his *Illustrations of the Zoology of South Africa*, which was issued in 29 parts and contained the majority of his descriptions of South African reptiles and amphibians.

[1] *Report of the Expedition for exploring Central Africa from the Cape of Good Hope, June 23rd*, 1834 (Capetown, 1836).

During a visit to Great Britain in 1935, the opportunity was taken of looking into the exact whereabouts of what is now left of Smith's reptile and amphibian material. From enquiries made it was ascertained that the major part of this material eventually came to the British Museum of Natural History in the years 1858 and 1865. Much of it no doubt went first to the Army Medical College Museum at Fort Pitt, Chatham, and from there to Nettley, where it was broken up, the British Museum taking over what it desired and the remainder, which was badly preserved, perishing. A good part of his collection, comprising over 1800 specimens, was presented to the Royal Scottish Museum, Edinburgh, in 1859; of these, however, the majority are from the West Indies, West Africa and the East, while only a comparative minority are from South Africa. A certain number of specimens were given by Smith to the Earl of Derby, who later presented most of them to the British Museum. It is also known that specimens were given to Dumeril and Bibron, by whom they were described,[1] and these may now be in the Paris Museum.

In view of the above it is not surprising that much of Smith's material should have become badly mixed or lost, and it was thus decided to make a critical examination of the material now available to determine in how far it may be regarded as typical. In this work I was granted full access to all of Smith's material in the British Museum of Natural History, and assisted in every way by Mr H. W. Parker, Assistant Keeper of Reptiles and Amphibians. Through the latter I was enabled to accompany him to the Royal Scottish Museum, Edinburgh, where Dr Stephen, the Keeper of Zoology, put his entire Smith collection at our disposal. To these two gentlemen I tender my grateful thanks, as without their kind co-operation the investigation could not have been undertaken.

It is apparent that in many of his original descriptions, Smith had more than one specimen before him, and although at a later date these species were figured, there is no guarantee that he actually figured one of his original specimens. Some of the actual specimens figured by him in his *Illustrations* are now in the British and Royal Scottish Museums, and in spite of the doubts expressed above, I feel that it would be quite legitimate to regard these as types, in the absence of any proof to the contrary. In other cases the evidence available points often to composite descriptions and even composite figures, and in such the definite localizing of the type is impossible.

A complete list of the new species described by Smith, together with notes and comments appertaining thereto, is given below. The abbreviation B.M. stands for British Museum Natural History, and R.S.M. for Royal Scottish Museum.

Chersinella verroxi

Testudo verroxi Smith, 1839, *Ill. Zool. S. Afr. Rept.* pl. VIII.

There is in the R.S.M. a stuffed specimen, which agrees well with Smith's description and figures, and is definitely the actual specimen used by him. The specimen in question now has missing two costals on the left side and three on the right, first and last vertebrals, and also marginals 4–7 on the right side.

[1] *Erpétologie Générale du Histoire Naturelle complète des Reptiles*, Paris, 1834–54.

Pelusios sinuatus

Plate X

Sternothaerus sinuatus Smith, 1838, *Ill. Zool. S. Afr. Rept.* pl. I.

No specimens in the B.M. In the R.S.M. there are two specimens, neither of which agree with the figures on pl. I, which illustrate a shell very much more depressed. The larger of the two specimens mentioned, which is stuffed, agrees so well however with the dimensions given, that there appears to be little doubt that it is the actual one used by Smith for this purpose. The following descriptive notes were made from this specimen: Shell well raised, sides obliquely sloping and slightly rounded; third and fourth vertebrals with median protuberances, that on the third very low and shallow and extending only over posterior half of shield, that on the fourth more pronounced and reaching greatest height over posterior third of shield; second vertebral feebly rounded, but with no actual protuberance. Outer border of pectorals distinctly longer than that of the humerals. Intergular 45 mm. long and 26 mm. broad, with a wide posterior angle of approximately 60 degrees. Margin of shell between fore- and hindlimbs rounded; sides of carapace set almost at right angles to plastron. Posterior edge of shell feebly sinuate and subdentate, not reverted. Anals with apices slightly incurved, slightly longer than broad. Interorbital breadth subequal to length of suture between head shields. Marginal 8 in good contact with abdominal shield. Yellowish brown above, becoming darker on the sides; below, dirty yellowish in the middle, passing to reddish brown round the edges.

Dimensions: Carapace length 350 mm., breadth 234 mm., height 134 mm. Plastron length 335 mm., breadth 148 mm. Length of hinged portion 104 mm.

1st vertebral: length 63 mm. Anterior breadth 73 mm. Posterior 33 mm.
2nd vertebral: length 62 mm. Greatest breadth 51 mm.
3rd vertebral: length 73 mm. Greatest breadth 56 mm.
4th vertebral: length 69 mm. Greatest breadth 52 mm.
5th vertebral: length 82 mm. Anterior breadth 26 mm. Posterior 88 mm.
Head length 70 mm., breadth 58 mm. (approximate).

Three views of the type are shown on Pl. X. These were kindly taken for me by Dr Stephen, Keeper of Zoology at the Royal Scottish Museum.

Typhlops verticalis

Onychocephalus verticalis Smith, 1846, *Ill. Zool. S. Afr. Rept.* pl. LIV, fig. A and figs. 17–20.

There is a single adult specimen in the B.M. regarded as the type; it agrees exactly in the dimensions, but not with figures of head (top and side view), the preocular being broader and more rounded than portrayed. It would appear that Smith had more than one specimen available, the dimensions being taken from a different specimen to that figured.

Typhlops bibronii

Onychocephalus bibronii Smith, 1846, *Ill. Zool. S. Afr. Rept.* pl. LI, fig. 2 and pl. LIV, figs. 5–8.

A single half-grown specimen in the B.M., regarded as one of the types, agrees well with Smith's description and figures, but measures a little over 12 in. from snout to vent instead of 11 in. 8 lines as stated by Smith.

Boodon guttatus

Lycodon guttatus Smith, 1843, *Ill. Zool. S. Afr. Rept.* pl. XXIII.

There is a single specimen of Smith's in the B.M., presented by the Army Medical College in 1908. It measures only 287 mm. from snout to vent and is obviously not the specimen described by Smith.

Lycophidion capense

Lycodon capensis Smith, 1831, *S. Afr. Quart. J.* No. 5, p. 18.

No specimen in the B.M. There is one specimen in the R.S.M., which is much faded and considerably smaller than that described by Smith.

Simocephalus capensis

Heterolepis capensis Smith, 1847, *Ill. Zool. S. Afr. Rept.* pl. LV.

No specimens were found.

Chlorophis natalensis

Dendrophis (*Philothamnus*) *natalensis* Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXIV, figs. 2, 2*a*, *b*.

No specimens in the B.M. A single specimen was found in the R.S.M., which, cannot, however, be compared with that described by Smith, as it is considerably larger and has peculiar fused temporals not represented in Smith's figure.

Philothamnus semivariegatus

Dendrophis (*Philothamnus*) *semivariegata* Smith, 1847, *Ill. Zool. S. Afr. Rept.* pls. LIX, LX and LXIV, figs. 1, 1*a*, *b*.

No specimens in the B.M. In the R.S.M. there are three specimens labelled from "Bushman Flat". The largest of these, which has skull and viscera removed, agrees exactly with dimensions and in subcaudal scale count, but has 215 ventrals instead of 207 as stated by Smith. In spite of this discrepancy, it is highly probable that this is the actual specimen described by Smith. A second specimen, a juvenile labelled *P. nigrofasciatus*, is very similar to that figured on pl. LX.

Prosymna sundevallii

Temnorhynchus sundevallii Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 17.

No specimens in the B.M. There is a single specimen in the R.S.M., which is in a bad state of preservation, but checks up well in regard to scale counts and dimensions, and is doubtless the actual specimen described by Smith.

Tarbophis semiannulatus

Telescopus semiannulatus Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXII.

No specimens were found.

Amplorhinus multimaculatus

Smith, 1847, *Ill. Zool. S. Afr. Rept.* pl. LVII.

There are three specimens in the B.M. regarded as types. The largest of these measures only 15 in. from snout to vent instead of 19 in. as given by

Smith. Also the ventral scale counts of the three specimens range from 141 to 146, which is much lower than Smith's 164 to 170. Incidentally the ventral scale count, as given by Smith, is much too high for this species.

Rhamphiophis multimaculatus

Coronella multimaculata Smith, 1847, *Ill. Zool. S. Afr. Rept.* pl. LXI.

No specimens were found.

Dispholidus typus

Bucephalus typus Smith, 1829, *Zool. J.* IV, p. 441.
Bucephalus jardinii, belli et gutturalis Smith, *ibid.* p. 442.
Bucephalus viridis Smith, 1838, *Ill. Zool. S. Afr. Rept.* pl. III.
Bucephalus capensis Smith, 1841, *ibid.* pls. X–XIII.

There is a single specimen, labelled *B. capensis*, in the B.M., which was received from the Army Medical College in 1908. This specimen measures about 4 ft. in total length, and does not agree with any of the specimens mentioned in the *Illustrations*.

A single specimen in the R.S.M. agrees exactly with Smith's figure of *B. capensis* var. A (pl. XI) and also with the dimensions, etc., of second male mentioned in the text. It may be noted here that in the figure of the head of *B. viridis* (pl. III), the prominent square-cut rostral is not altogether suggestive of *Dispholidus*.

Calamelaps concolor

Choristodon concolor Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 18.

No specimens in the B.M. There is a single specimen in the R.S.M. which was examined by Boulenger in 1909,[1] who then recognized it as the type. It differs, however, in one major respect in having the dorsals in 17 rows instead of 13 as stated by Smith; this discrepancy, as suggested by Boulenger, may be due to a printer's error. Another point of difference is to be found in the number of ventrals, which number 140 and not 134 as given by Smith.

Aparallactus capensis

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 16.
Elapomorphus capensis Smith, *ibid.* p. 16.

There are two specimens in the B.M., neither of which are comparable to the specimens described by Smith. In one case the scale counts show considerable difference while in the other the same condition prevails in addition to a difference in size.

Aspidelaps scutatus

Cyrtophis scutatus Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 22.

There is a single specimen in the B.M., regarded as one of the types. This specimen agrees with Smith's dimensions, but has dorsals in 21 rows instead of 19 and ventrals 123 instead of 135.

Elapsoidea sundevallii

Elaps sundevallii Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXVI.

No specimens were found.

[1] See letter in R.S.M.'s copy of Boulenger's *Cat. Snakes*, III, 246.

Homorelaps dorsalis

Elaps dorsalis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 21.

No specimens were found.

Dendraspis angusticeps

Naia angusticeps Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXX.

No specimens in the B.M. There is a single specimen, labelled from the "Cape of Good Hope", in the R.S.M.; this has the body and tail skinned out and removed, but agrees well with the dimensions and scale counts of the brown specimen mentioned by Smith towards the end of text to pl. LXX.

Bitis caudalis

Vipera caudalis Smith, 1839, *Ill. Zool. S. Afr. Rept.* pl. VII.
Vipera ocellata (non Latr.) Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, 92.

No specimens were found.

Bitis inornata

Echidna inornata Smith, 1838, *Ill. Zool. S. Afr. Rept.* pl. IV.
Vipera (*Echnida*) *atropoides* Smith, 1846, *ibid.* pl. LIII.

There are two specimens in the B.M.; the one regarded as the type of Smith's *Echidna inornata* agrees well in every way with his description and figures, and is definitely the actual specimen used by him. The other, claimed to be the type of his *Vipera atropoides*, agrees closely in every respect with Smith's description, except that it has 20 subcaudals instead of 15 as stated.

Atractaspis bibronii

Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXI (*A. inornatus* in text).

A single specimen, a female, in the B.M. is regarded as one of the types, and was found to agree exactly with dimensions and scale counts as given by Smith; also it had been dissected to expose the poison glands exactly as figured by Smith in fig. *d*. The head shields, however, were found not to be quite in accord with his figures, and suggest again the use of more than one specimen.

Ptenopus garrulus

Stenodactylus garrulus Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 6.

There are seven specimens in the B.M. regarded as the types. They are for the most part much faded and immature, only one specimen with head and body 49 mm. and tail 33 mm. approaching anywhere near Smith's dimensions of 1 in. 9 lines (45 mm.) and 1 in. 6 lines (38 mm.) respectively.

Lygodactylus capensis

Hemidactylus capensis, Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXV, fig. 3.

No specimens were found and all have presumably been lost.

Homopholis wahlbergii

Gecko wahlbergii Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXV, fig. 1.

There is a single male specimen in the B.M. regarded as the type. This, however, is not the specimen figured nor of which dimensions are given by

Smith. It is considerably larger, with head and body 96 mm. and tail (reproduced) 75 mm. as opposed to 2 in. 8 lines (68 mm.) and 1 in. 10 lines (47 mm.) respectively. Smith gives the type locality as "Kafferland", stating that the type specimen was collected by Wahlberg. As the latter was never in the area now known as Kaffirland, the specimen probably came from Natal, where Wahlberg is known to have travelled.

Pachydactylus bibronii

Smith, 1846, *Ill. Zool. S. Afr. Rept.* pl. L, fig. 1.

There are nine specimens in the B.M. regarded as the types. These consist of five adult and semi-adult, one half-grown and three very young specimens. One of the adult specimens agrees well with the figure and approaches very closely Smith's dimensions, and is quite probably the type.

Pachydactylus capensis

Smith, 1846, *Ill. Zool. S. Afr. Rept.* pl. L, fig. 2.

There are nine specimens, three semi-adult and six young, in the B.M. regarded as the types. Of these one correlates well with Smith's dimensions and figure.

Pachydactylus formosus

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 4.
Pachydactylus mentomarginatus Smith, *ibid.* p. 5.

There are two specimens of Smith's *P. formosus* in the B.M., one of which is regarded as the type. This specimen, though much faded, corresponds to the dimensions given, and may well be the type. Two young specimens in the B.M., regarded as the types of Smith's *P. mentomarginatus*, were found on careful examination to be inseparable from *formosus*.

Pachydactylus mariequensis

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 3.

There are four specimens in the B.M. regarded as the types. Of these the largest (with reproduced tail) agrees with the dimensions given, but, as the colour is badly faded, further comparison is not possible. Two of the other specimens, however, in a better state, compare well with the colour description.

Pachydactylus rugosus

Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXV, fig. 2.

A single specimen in the B.M., regarded as the type, compares well with Smith's figure, but has head and body 56 mm. as compared with $2\frac{1}{2}$ in. (69 mm.) as given by Smith.

Agama atricollis

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 14.

There are three specimens in the B.M. regarded as the types. The largest of these, a male, with head and body 140 mm. and tail 192 mm., does not quite approach Smith's dimensions of 6 in. (153 mm.) and 8 in. (204 mm.) respectively.

Zonurus capensis

Cordylus (*Hemicordylus*) *capensis* Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, 32 and 1843, *Ill. Zool. S. Afr. Rept.* pl. XXVII, fig. 2 and pl. XXX, figs. 6, 6*a*, *b*.

A single specimen in the B.M., presented by the Army Medical College in 1908, agrees exactly with the figures and dimensions as given by Smith in his *Illustrations* (1843). In his original description (1838), however, Smith gives total length $7\frac{1}{2}$ in. as compared with $9\frac{3}{4}$ in. subsequently, thus clearly indicating the use of different specimens.

Zonurus giganteus

Cordylus giganteus Smith, 1844, *Ill. Zool. S. Afr. Rept.* pls. XXXV and XXXVI.

There are two specimens, an adult male and a juvenile, in the B.M. regarded as the types. The adult specimen is clearly that figured by Smith on pl. XXXVI, as careful comparison of the scaling shows; likewise there is no doubt that it is also that portrayed on pl. XXXV. The dimensions, however, show a discrepancy with head and body 191 mm. and tail 160 mm. compared to Smith's 8 in. (204 mm.) and 7 in. (179 mm.) respectively.

Zonurus polyzonus

Cordylus polyzonus Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, 31 and 1843, *Ill. Zool. S. Afr. Rept.* pl. XXVIII, fig. 1 and pl. XXX, figs. 7, 7*a*, *b*.

There are four specimens, two males, a female and a half-grown, in the B.M. regarded as the types. Of these, three fall well within the limits of total length 8–10 in. as given by Smith, and one of these is undoubtedly the specimen figured in detail in the *Illustrations*.

Pseudocordylus microlepidotus fasciatus

Cordylus (*Pseudocordylus*) *fasciatus* Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, 32 and 1843, *Ill. Zool. S. Afr. Rept.* pl. XXVII, fig. 1 and pl. XXX, figs. 5, 5*a*, *b*.

No specimens were found.

Pseudocordylus microlepidotus subviridis

Cordylus (*Pseudocordylus*) *subviridis* Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 33.

No specimens were found.

Platysaurus capensis

Smith, 1844, *Ill. Zool. S. Afr. Rept.* pl. XL.

A single female specimen in the B.M. regarded as the type is obviously that figured by Smith, as careful comparison of the scaling clearly shows. It is also in exact agreement with his dimensions.

Platysaurus guttatus

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 8.

A single male specimen in the B.M. regarded as the type agrees accurately with Smith's description and dimensions.

Monopeltis capensis

Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXVII.

There are two adult specimens in the B.M. regarded as the types. Of these the larger is definitely that figured, although the dimensions are not quite in agreement, being snout to vent 221 mm. and tail 13 mm., compared with 9 in. (229 mm.) and 5 lines (11 mm.) respectively, as given by Smith.

Nucras intertexta

Lacerta intertexta Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 93.

A single female specimen in the B.M. regarded as the type compares well with the descriptions of both Smith and Dumeril and Bibron, and is claimed to be the type by Boulenger.[1] Actually the specimen in question measures only $7\frac{1}{2}$ in. in total length as compared with 9–10 in. as given by Smith.

Nucras tessellata

Lacerta tessellata Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 92.
Lacerta elegans Smith, *ibid.* p. 92.
L. livida Smith, *ibid.* p. 92.
L. taeniolata Smith, *ibid.* p. 93.

There are two specimens, an adult male and a juvenile, in the B.M., of which the former with a reproduced tail is regarded as the type. This specimen, however, has 13–15 femoral pores and a total length of 197·5 mm., as compared with 12–14 femoral pores and a total length of 14 in. (357 mm.) as given by Smith.

There are two female specimens of Smith's *L. elegans* in the B.M. regarded as the types. The larger of these measures only 10 in. in total length, whiie Smith gives 12–15 in. in his original description.

Of Smith's *L. livida*, there are three specimens, two males and one female, in the B.M. regarded as the types. The largest of these, the female, measures only $9\frac{1}{2}$ in. compared with Smith's 12 in.

There are two specimens of Smith's *L. taeniolata* in the B.M. regarded as the types, of which one is an adult female and the other half-grown. The former measures $7\frac{1}{2}$ in. in total length instead of 9 in. as stated by Smith.

Ichnotropis capensis

Algyra capensis Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 94.
Tropidosaura dumerilii Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 7.

No specimens of Smith's *Algyra capensis* were found. There is a single male specimen of *Tropidosaura dumerilii* in the B.M., which is in very bad condition and thus not suitable for accurate comparison with Smith's description, although a slight discrepancy in dimensions was noted.

Eremias capensis

Lacerta capensis Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 93.
Eremias capensis Smith, 1845, *Ill. Zool. S. Afr. Rept.* pl. XLV, fig. 2 and pl. XLVIII, figs. 7, 7*a*.
Eremias laticeps Smith, 1845, *ibid.* pl. XLVI, fig. 1 and pl. XLVIII, figs. 3, 3*a*.

There are two specimens in the B.M., the larger of which agrees well with the description and figures of *E. capensis* given by Smith in his *Illustrations*,

[1] 1920, *Mon. Lacert.* I, 17 footnote.

but does not compare at all with the original colour description (1838), which corresponds more to a male specimen presented in 1845 by the Earl of Derby, and first described as *E. burchelli*. This specimen was believed by Boulenger[1] to be recognizable as the actual specimen described by Smith in 1838 under *Lacerta capensis*; Smith, however, gives 9 plates in the collar, ventrals in 14 longitudinal rows and total length about 8 in., whereas the specimen in question actually has 10 plates in collar, ventrals in 16 longitudinal rows and total length about $5\frac{3}{4}$ in.; these differences would appear to be enough to preclude Boulenger's assumption. There is a single male specimen of Smith's *E. laticeps* in the B.M., which compares well with his description and dimensions and especially so in the detail of the head shields as shown in pl. XLVIII, fig. 3, if due allowance is made for the reversal of the lithograph.

Eremias lugubris

Lacerta lugubris Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 93.
Eremias lugubris Smith, 1845, *Ill. Zool. S. Afr. Rept.* pl. XLVI, fig. 2 and pl. XLVIII, figs. 5, 5*a*.

There are in the B.M. a series of nine specimens, one adult female and eight half-grown and juvenile specimens, which are regarded as the types. There is, however, nothing in Smith's original description to check this claim. The adult female, measuring 48 mm. from snout to vent and tail 101·5 mm., compares well with the specimen figured in the *Illustrations* (pl. XLVIII, fig. 5) and may well be regarded as identical.

Eremias undata

Lacerta undata Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 93.
Eremias undata (part) Smith, 1845, *Ill. Zool. S. Afr. Rept.* pl. XLIV, fig. 1 and pl. XLVIII, figs. 11 and 11*a*.

There is in the B.M. a single male specimen presented by the Earl of Derby in 1845, which, according to Boulenger,[2] is probably one of the types given away by Smith previous to the publication of his *Illustrations*. This specimen, however, with 11 scales in the collar and 12–13 femoral pores, does not agree with Smith's description of 13 scales in collar and 9–12 femoral pores.

Scaptira ctenodactyla

Lacerta ctenodactyla Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 93.
Acanthodactylus capensis Smith, 1844, *Ill. Zool. S. Afr. Rept.* pl. XXXIX.

No specimens of Smith's *Lacerta ctenodactyla* were found. There are, however, in the B.M. two specimens, an adult male and female, of his *Acanthodactylus capensis*, which are regarded as the types. These agree well with the figures on pl. XXXIX, though neither is as large as indicated. Further there are 22–24 ventrals in the longest transverse row and 29–30 femoral pores in the B.M. specimens, whereas Smith gives 28 ventrals and 28 femoral pores. Also the larger of the above specimens (female) has head and body 97 mm. and tail 170 mm., whilst the dimensions given by Smith are 4 in. 6 lines (114 mm.) and 6 in. (153 mm.) respectively. It may be noted that in his original description (1838) Smith gives abdominal plates in 18 longitudinal rows, femoral pores 29 or 30 and total length 6–8 in.

[1] 1921, *Mon. Lacert.* II, 305 footnote.
[2] 1921, *Mon. Lacert.* II, p. 286.

Gerrhosaurus typicus

Pleurotuchus typicus Smith, 1837 (August), *Mag. Zool. Bot.*, Edinburgh, 1, pt. 2, p. 143.

Gerrhosaurus typicus Smith, 1844, *Ill. Zool. S. Afr. Rept.* pl. XXXVIII, fig. 2 and pl. XLII, figs. 5–8.

There are two adult specimens in the B.M. regarded as the types. Of these the larger specimen agrees exactly with the dimensions as given by Smith in his original description (1837), viz. snout to vent 4 in. and tail 7½ in.; also, as determined by inner asymmetries in the head shields and the presence of 18 femoral pores, it is unquestionably the specimen figured in the *Illustrations*. Smith, however, in both his descriptions, gives 16 femoral pores, and in his *Illustrations* gives snout to vent 4½ in. and tail 6½ in.! It is somewhat singular that all the measurements given for *G. typicus* by Smith should be identical with those given for *G. bibronii* (plate XXXVIII, fig. 1).

Gerrhosaurus validus

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 9.

A single adult specimen in the B.M. agrees well with the description and dimensions given by Smith, and is undoubtedly the type.

Cordylosaurus subtessellatus

Gerrhosaurus subtessellatus Smith, 1844, *Ill. Zool. S. Afr. Rept.* pl. XLI, fig. 2 and pl. XLII, figs. 17–20.

A single adult specimen in the B.M. agrees well with Smith's description, dimensions and figures; in the latter case especially, the asymmetry of the lower surface of the head is most accurately reproduced and recognizable in pl. XLII, fig. 18, under the name *G. tessellatus*.

Lygosoma sundevallii

Eumeces (*Riopa*) *sundevallii* Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 11.

There is a single half-grown specimen in the B.M. regarded as the type. This specimen agrees well in length from snout to vent, but tail measures only 66 mm. instead of 2 in. 10 lines (73 mm.) as given by Smith.

Ablepharus wahlbergii

Cryptoblepharus wahlbergii Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 10.

There are two specimens in the B.M. regarded as types, neither of which agrees with the dimensions given by Smith. Apparently Smith had several specimens.

Scelotes bicolor

Lithophilus bicolor Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 13.

No specimens are known.

Scelotes capensis

Gongylus capensis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 10.

There are two specimens in the B.M., although Smith specifically states only possessing one. The larger of the above-mentioned specimens lacks the tail and measures 2 in. from snout to vent, just as stated in the original description, and would appear to be the type, although not claimed as such by Boulenger!

Scelotes inornatus

Lithophilus inornatus Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 12.

A single specimen in the B.M. regarded as the type agrees well with the original description even to the imperfect tail, and appears to be the actual specimen described by Smith.

Chamaeleon namaquensis

Smith, 1831, *S. Afr. Quart. J.* No. 5, p. 17.

There are two specimens, an adult female and a half-grown specimen, in the B.M. regarded as types; the adult female is now stuffed and measures approximately 8½ in. in total length, which is somewhat shorter than the length given by Smith, but this may well be due to shrinkage.

Lophosaura gutturalis

Chamaeleo gutturalis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 3.

No specimens were found.

Lophosaura taeniabroncha

Chamaeleo taeniabronchus Smith, 1831, *S. Afr. Quart. J.* No. 5, p. 17.

A single female specimen in the B.M. agrees well with Smith's description, and is no doubt the specimen actually described by him.

Bufo angusticeps

Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXIX, figs. 1, 1*a*.

There are four specimens in the B.M. regarded as typical of Smith's *B. angusticeps*. Of these there is only one specimen with a pale vertebral stripe as shown in Smith's figure; in other respects it shows only a general resemblance, not agreeing in detail with the colour markings. Also it is much smaller, being 42 mm. instead of 2 in. (51 mm.) from snout to vent as stated by Smith.

Bufo carens

Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXVIII, figs. 1, 1*a*.
Schismaderma lateralis Smith, 1849, *ibid.* App. p. 28.

There are six specimens in the B.M. regarded as being typical. One of these agrees well with Smith's figure, but measures only 76 mm. from snout to vent instead of 3 in. 3 lines (83·5 mm.).

Bufo gariepensis

Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXIX , figs. 2, 2*a*.

There are two specimens in the B.M. regarded as being typical. The larger of these agrees fairly well with Smith's figure, but measures only 30 mm. instead of 1 in. 6 lines (38 mm.).

Bufo vertebralis

Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXVIII, figs. 2, 2*a*.

There are six specimens in the B.M. regarded as typical of Smith's *B. vertebralis*. None of these agrees particularly well with his figures, while the largest measures but 1 in. 3 lines.

Rana grayii

Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXVIII, figs. 2, 2*a–c*.

There are eight specimens in the B.M. collected by Smith. Two of these may have been used by Smith, as the one agrees well with his figure but measures only 38 mm. from snout to vent instead of 1 in. 9 lines (45 mm.); while the other agrees exactly with Smith's dimensions but not with his figures.

Rana oxyrhynchus

Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXVII, figs. 2, 2*a–c*.

There are two female specimens in the B.M., one of which agrees well with both Smith's figures and dimensions, and is quite probably the actual specimen used by him, although not recognised as such by Boulenger.

Pyxicephalus natalensis

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 23.

There is a single female specimen in the B.M. from Natal, not in any way typical.

Arthroleptis wahlbergii

Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 24.

A single specimen in the B.M. in a bad state of preservation. This specimen agrees fairly well with Smith's colour description, but measures only 22 mm. from snout to vent instead of 1 in. (25·5 mm.).

Hylambates natalensis

Polypedates natalensis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 25.

A single specimen in the B.M. from Natal, regarded as the type, agrees well with Smith's description and appears to be the actual specimen used by him.

Hyperolius tuberilinguis

Rappia tuberilinguis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 26.

No specimens were found.

Phrynobatrachus natalensis

Stenorhynchus natalensis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 24.

A single specimen, a female, in the B.M. from Natal. This specimen is uniform brown above and slightly smaller than that described by Smith. Boulenger accepts as the type a female specimen presented by J. Ayres, Esq.; his reason for this I was unable to discover.

Phrynomerus bifasciatus

Brachymerus bifasciatus Smith, 1847, *Ill. Zool. S. Afr. Rept.* pl. LXIII.

There are five specimens in the B.M., comprising an adult male and female and three juveniles. The female agrees with the dimensions given, but differs from the upper figure on pl. LXIII, which appears to be that of a female, in having the lateral stripe broken on both sides. The male specimen is in complete agreement with the lower figure on pl. LXIII.

A LIST OF SPECIES DESCRIBED AS NEW BY ANDREW SMITH, AND NOW PLACED IN SYNONYMY

Delma fraseri Gray

Delma grayii Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXVI, fig. 2.

There is a single specimen of Smith's *D. grayii* in the B.M., which is that figured by him in his *Illustrations*. Smith states that the specimen in question was given to him "by an inhabitant of the Interior of S. Africa", but goes on to suggest that it may have come from Western Australia, as is now apparent.

Amphibolurus angulifer (Gray)

Agama caelaticeps Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXIV.

There are two female specimens in the B.M., of which one is undoubtedly that figured. This species, described by Smith from S. Africa towards the Tropic of Capricorn, actually only occurs in Australia and Tasmania, and as has happened in other cases was mistakenly thought to come from South Africa.

Tropidosaura montana (Gray)

Tropidosaura burchellii Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 7.

There are four specimens of Smith's *T. burchellii* in the B.M., labelled from the "Cape of Good Hope", of which three, i.e. two males and one female, are regarded as the types. The female specimen agrees with Smith's length of 1 in. 9 lines (45 mm.) from snout to vent, but has tail 94 mm. instead of 3 in. 6 lines (89·5 mm.). The fourth specimen is a badly-mutilated male.

Eremias lineo-ocellata pulchella Gray

Eremias annulifera Smith, 1845, *Ill. Zool. S. Afr. Rept.* pl. XLVII, fig. 1 and pl. LXVIII, figs. 14, 14*a*.
E. pulchra Smith, *ibid.* pl. LXVII, fig. 2 and pl. LXVIII, figs. 12, 12*a*, *b*.
E. formosa Smith, *ibid.* pl. XLVII, fig. 3 and pl. XLVIII, figs. 15, 15*a*.

Of Smith's *E. annulifera*, there is a single specimen in the B.M. regarded as the type. This specimen is slightly smaller and has more and larger markings than shown in the figure on pl. XLVII. Also there is present an azygous prefrontal, which is not described or shown in the detailed figures of head shields on pl. XLVIII.

There is a single specimen of Smith's *E. pulchra* in the B.M. regarded as the type. This agrees in dimensions and in the detailed figures of the head shields, even to the presence of an azygous granule separating the supranasals. There is, however, a small irregularity of the frontoparietals which is not figured.

A single specimen of Smith's *E. formosa* in the B.M., regarded as the type, agrees with dimensions and colour plate, while even the damaged portion of the head is accurately indicated by dotted lines in fig. 15 on pl. XLVIII.

Gerrhosaurus flavigularis flavigularis Wiegmann

Gerrhosaurus bibroni Smith, 1844, *Ill. Zool. S. Afr. Rept.* pl. XXXVIII, fig. 1 and pl. XIII, figs. 9–12.

There are three adult specimens of Smith's *G. bibroni* in the B.M., labelled from "the sources of the Caledon River", and regarded as the types. Of these

the largest agrees well with the figures and is undoubtedly the actual specimen used by Smith. The dimensions also compare well, except in the length from nose to base of forelimb given by Smith as 11 lines, which is manifestly an error.

Mabuia striata (Peters)

Euprepes punctatissimus Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. XXXI, fig. 1.

E. sundevallii Smith, *ibid.* App. p. 11.

There are eight specimens of Smith's *E. punctatissimus* in the B.M. regarded as the types. Of these one adult agrees with the dimensions given, and from its conformity may well be the specimen figured on pl. XXXI, although, having lost many of its scales, it is now not directly comparable.

Of Smith's *E. sundevallii*, there is a single juvenile specimen in the B.M. regarded as the type. This measures 34 mm. from snout to vent and 55 mm. for tail as compared with 1 in. 8 lines (43 mm.) and 2 in. 4 lines (59 mm.) respectively by Smith.

Lygosoma praepeditum Boulenger

Pholeophilus capensis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 15.

There are two specimens of Smith's *P. capensis* in the B.M., regarded as the types, one of which agrees with his dimensions. As this species occurs only in Western Australia, its description as from Little Namaqualand by Smith is an obvious error, due to the confusing of specimens from different localities.

Python sebae (Gmelin)

Python natalensis Smith, 1833, *S. Afr. Quart. J.* N.S. p. 64, and 1840, *Ill. Zool. S. Afr. Rept.* pl. IX.

No specimens of Smith's *P. natalensis* in the B.M. are regarded as typical.

Typhlops braminus (Daudin)

Onychocephalus capensis Smith, 1846, *Ill. Zool. S. Afr. Rept.* pl. LI, fig. 3 and pl. LIV, figs. 9–16.

There are four specimens of Smith's *O. capensis* in the B.M. regarded as typical. These were described by Smith from the "Interior of S. Africa" and here again a confusion of localities has taken place as the species in question occurs only in Southern Asia and the Islands of the Indian Ocean.

Chlorophis irregularis (Leach)

Dendrophis (*Philothamnus*) *albovariata* Smith, 1848, *Ill. Zool. S. Afr. Rept.* pl. LXIV, figs. 3, 3*a*, *b* and pl. LXV.

No specimens of Smith's *D. albovariata* were found.

Dasypeltis scaber (Linnaeus)

Dasypeltis inornatus Smith, 1849, *Ill. Zool. S. Afr. Rept.* pl. LXXIII.

There is a single specimen of Smith's *D. inornatus* in the B.M. regarded as one of the types. It measures but 18 in. from snout to vent instead of 2 ft. as given by Smith.

Thelotornis kirtlandii (Hallowell)

Thelotornis capensis Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 19.

No specimens of Smith's *T. capensis* were found.

Naja nivea Boie

Naia gutturalis Smith, 1838, *Ann. Mag. Nat. Hist.* (2) II, p. 92.
N. nigra Smith, *ibid.* p. 92.
N. haje Smith, 1839, *Ill. Zool S. Afr. Rept.* pls. XVIII–XXI.

No specimens of Smith's *N. gutturalis* nor *N. nigra* were found.

Hyperolius marmoratus Rapp

Hyperolius verrucosus Smith, 1849, *Ill. Zool. S. Afr. Rept.* App. p. 26.

Smith's specimen of *H. verrucosus* appears to have been lost. From his description, however, it may possibly have been the same as *H. marmoratus pondoensis* FitzSimons.

Incertae sedis

Chrysopelea capensis Smith, Aug. 1836, *Mag. Zool. Bot.* I, p. 145.

This specimen described by Smith from "near the Mouth of the Orange River" appears to have been lost. If the specimen was actually a *Chrysopelea* and allied to *C. ornatus* Boie, then it certainly did not come from South Africa, as the members of this genus are all confined to South-east Asia. In all probability this is but another instance of confusion of localities, although, so far, it cannot from the description be assigned to any of the known species. Possibly for this reason Boulenger omits all mention of it in his *Catalogue of Snakes.*

The following is a list of Andrew Smith's various contributions on the Reptiles and Amphibians of South Africa:

1829. *Zoological Journal*, IV, pp. 141–3.
1831. *South African Quarterly Journal*, No. 5, pp. 17–18.
1833. *South African Quarterly Journal*, New Series, p. 64.
1836. *Magazine of Zoology and Botany*, I, pt. 2, pp. 141–5.
1838. *Annals and Magazine of Natural History* (2) II, pp. 31–3 and 92–4.
1838–49. *Illustrations of the Zoology of South Africa.*