

The Snakes of the Arabian Peninsula and Socotra

BY

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(With a map)

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INTRODUCTION

In the years 1948-1961, the senior author, while working in Saudi Arabia and the Aden Protectorate, took what interest duties permitted in the local snakes. A number of specimens were left in fairly representative collections in the Biological Department of Aden College and in the two Health Services Training Centres, situated one in Makhzan Hospital in the Western Aden Protectorate (now the Federation of the Arab Emirates of the South) and the other in Mukalla Hospital in the Qu'aiti State of the Eastern Aden Protectorate. A number were also sent to the British Museum, where a more systematic examination was possible. The data resulting are recorded in this paper. Many specimens were too mutilated for complete scale counts to be made.

While consulting the literature it seemed useful to review that relating to distribution and the vernacular names of those snakes occurring in the Arabian Peninsula as a whole, taking the 30th Parallel as an approximate but convenient northern limit, and including Sinai. The seas surrounding the Peninsula are included for the sea snakes. The main interest of the paper relates however to the additional records from Western Saudi Arabia, the Yaman, and Aden Territory including the island of Socotra.

The collection of specimens was made largely through the staff of various health services in rural areas and as a result a considerable amount of information was obtained about vernacular names and folk belief and practice relating to snakes and snake-poisoning. Apart from

clear-cut local applications of the names of snakes, this traditional material will be dealt with elsewhere.

Unless otherwise stated, colour when mentioned refers to that of specimens preserved in alcohol or formalin or both. An unhappily large number of specimens are necessarily shown from 'Aden Protectorate' because the labels giving more precisely the localities in which they were collected were lost or mutilated in repeated packings.

Physiographically, the Arabian Peninsula shows much uniformity, that of a desert of rock and sand, scarred in larger and smaller areas with volcanic residues in the shape of extinct craters and fields of lava. The rocky features occur both as small hills and in major systems, the latter most notably in the mountains of the Yaman with peaks rising to 12,000 feet, which offer a marked contrast in vegetation and humidity with most of the Peninsula. In central Arabia the arid Jabal Tawaik system is a dominant feature. Parallel with the southern coast the mountains continue the Yaman system through the Hadhramaut complex to reach the relatively fertile Jabal Qara and the hills of Oman.

Apart from much of the Yaman, Jabal Qara, isolated areas of cultivation and oases, the Peninsula is characteristically arid, a large part of the south-east constituting the desert known as the Rub-al-Khali, i.e. the 'Empty Quarter'. Where oases and cultivation exist, they are watered naturally by springs or floods, or with man's intervention by means of wells, dams, and the bunding of storm water.

Rainfall is largely sporadic and localized, and may be scanty, or so temporarily violent that large watercourses, wadis, may be heavily flooded and damage to life, cultivation, and property may result. The winter is cool and at the higher altitudes the temperature may approach freezing point. The summer is relatively hot everywhere, in most places exceeding at times 100°F.

Humidity is high on the coasts which are complexes of rock and sand; reefs of rock and coral are common and lagoons, marsh, and estuarine conditions occur in places where the main watercourses discharge their occasional or perennial floods into the sea.

Urbanization does not seem to have had much effect on reptilian ecology so far, for there are few really large towns or seaports apart from Jiddah, Mecca, and Aden and even in these, snakes such as *Coluber rhodorhachis*, *Spalerosophis*, *Malpolon*, and even *Cerastes* and *Echis* are encountered.

SYSTEMATIC LIST

BOIDAE

1. *Eryx colubrinus* (Linnaeus)
2. *Eryx jaculus* (Linnaeus)
3. *Eryx jayakari* Boulenger

COLUBRIDAE¹

4. *Boaedon arabicus* Parker
5. **Brachyophis revoili* Mocquard
6. *Coluber elegantissimus* (Günther)
7. *Coluber gemonensis* (Laurenti)
8. *Coluber karelinii* Brandt
9. *Coluber nummifer* Reuss
10. *Coluber rhodorhachis* (Jan)
11. *Coluber rogersi* Anderson
12. *Coluber socotrae* (Günther)
13. *Coluber thomasi* Parker
14. *Coluber variabilis* (Boulenger)
15. *Coluber ventromaculatus* Gray
16. *Coronella somalica* Scortecci
17. *Dasypeltis scabra* (Linnaeus)
18. **Ditytophis vivax* Günther
19. *Eirenis arabica* Haas
20. *Eirenis coronella* (Schlegel)
21. **Lycophidion capense* (Smith)
22. *Lytorhynchus diadema* (Duméril & Bibron)
23. *Lytorhynchus sinai* Schmidt & Marx
24. **Malpolon moilensis* (Reuss)
25. **Malpolon monspessulana* (Hermann)
26. *Natrix dubbiosii* Scortecci
27. *Philothamnus semivariegatus* Smith
28. **Psammophis punctulatus* Duméril & Bibron
29. **Psammophis schokari* (Forskål)
30. *Rhynchocalamus arabicus* Schmidt
31. *Rhynchocalamus melanocephalus* (Jan)
32. *Spalerosophis diadema cliffordi* (Schlegel)
33. **Telescopus dhara* (Forskål)
34. **Telescopus hoogstraali* Schmidt & Marx

ELAPIDAE

35. *Naja haje arabica* Scortecci
36. *Walterinnesia aegyptia* Lataste

HYDROPHIDAE

37. *Astrotia stokesii* (Gray)
38. *Enhydrina schistosa* (Daudin)
39. *Hydrophis cyanocinctus* Daudin
40. *Hydrophis fasciatus fasciatus* (Schneider)
41. *Hydrophis lapemoides* (Gray)

The Opisthogypha are marked with an asterisk.

42. *Hydrophis mamillaris* (Daudin)
43. *Hydrophis ornatus ornatus* (Gray)
44. *Hydrophis spiralis spiralis* (Shaw)
45. *Lapemis curtus* (Shaw)
46. *Microcephalophis cantoris* (Günther)
47. *Microcephalophis gracilis* (Shaw)
48. *Pelamis platurus* (Linnaeus)
49. *Praescutata viperina* (Schmidt)

LEPTOTYPHLOPIDAE

50. *Leptotyphlops burii* (Boulenger)
51. *Leptotyphlops filiformis* (Boulenger)
52. *Leptotyphlops macrorhynchus* (Jan)
53. *Leptotyphlops macrura* (Boulenger)
54. *Leptotyphlops nursii* (Anderson)
55. *Leptotyphlops phillipsi* Barbour

TYPHLOPIDAE

56. *Typhlops braminus* (Daudin)
57. *Typhlops socotranus* Boulenger
58. *Typhlops vermicularis* (Daudin)

VIPERIDAE

59. *Atractaspis microlepidota andersoni* Boulenger
60. *Atractaspis engaddensis* Haas
61. *Bitis arietans* (Merrem)
62. *Cerastes cerastes* (Linnaeus)
63. *Echis carinata pyramidum* (Geoffroy St. Hilaire)
64. *Echis colorata* Günther
65. *Pseudocerastes fieldi* Schmidt
66. *Pseudocerastes persicus* (Duméril & Bibron)
67. *Vipera lebetina* (Linnaeus)

MATERIAL AND LITERATURE

A large proportion of the historic material contributing to this review is in the British Museum (Natural History) having been collected by travellers such as Burton from Midian, Blunt from the Hadhramaut, and Thomas and Philby from southern and western Arabia, or by officials and other workers in the country such as Jayakar, Yerbury, Nurse, and Percival, from Muscat and Aden.

American Museums (Chicago and Harvard) have received material from sources mostly in the northern and eastern areas and Italian workers, notably Scortecci, have collected and recorded material from the Yaman.

Major organized expeditions have been: that of the British Museum to south-west Arabia in 1937-1938 and the five to Socotra, of Balfour in 1879-1880, Schweinfurth in 1881, that of the British and Liverpool Museums in 1898, Steindachner's visit to the island in 1899, and the Oxford University Expedition of 1956. Of recent years the Desert Locust Survey have sent specimens to the British Museum from various parts of the Peninsula.

In the years 1948-1961 the senior author collected some 205 specimens, or records of snakes seen dead or alive but not collected, in Saudi Arabia or Aden Territory, apart from a few sent to him from the Yaman and Muscat. Acknowledgements to most contributors from the field are made below.

The literature covering the snake fauna of the Peninsula starts formally with Forskål (1775, *P. schokari*), but the first comprehensive compilation was that of Anderson (1896) an indispensable work of reference and general enlightenment. The catalogues of Boulenger (1893, 1894, and 1896) on the collections in the British Museum (Natural History) provide a yet broader basis for a starting point for any work on Arabian, as indeed on all snakes.

Notable later contributions have been those of Barbour (1914) and Schmidt (1933, 1939, 1953) on the Peninsula in general, Scortecci (1932) and Scott (1947) on the Yaman, Parker (1930, 1931, 1932, 1933, 1938, 1941, and 1949) on south-west Arabia and Socotra on new species and from a critical taxonomic standpoint, Haas (1943, 1957, and 1961), Haas & Battersby (1959), Schmidt & Marx (1956) on the northern and eastern snakes, Günther (1881), Forbes (1903), Boulenger (1903), and Steindachner (1903) on Socotran forms, and Smith (1926, 1943), and Volsøe (1939) on the sea snakes.

The writings of Abdullah Mansur (1911), Doughty (1921 ed.), Philby (1939), Thomas (1932), Scott (1947), Dickson (1949), and Thesiger (1959), with on-the-spot knowledge of Arabia contain facts of interest from the field.

TAXONOMIC AND FIELD DATA

The snakes discussed in this paper are those recorded in the literature as coming from the Arabian Peninsula, those preserved in the British Museum, which have been collected in the area under discussion but not previously reported, and a further 205 collected by the senior author. Of these last 29 are from Saudi Arabia, and 176 from Aden Territory. Of the 205, 99 are now in the British Museum.

The commonest snakes of the area are *Coluber rhodorhachis* and *Spalerosophis diadema cliffordi*. The commonest poisonous snakes are

Cerastes cerastes and the *Echis* vipers, *E. carinata* being commoner than *E. colorata*.

Some species have peripheral distribution only ; in the north such are *Eryx jaculus*, *Eryx colubrinus*, *Coluber elegantissimus*, *Coluber rogersi*, *Coluber nummifer*, *Coluber ventromaculatus*, *Eirenis arabica*, *Eirenis coronella*, *Lytorhynchus sinai*, *Malpolon monspessulana*, *Rhynchocalamus melanocephalus*, *Telescopus hoogstraali*, *Leptotyphlops macrorhynchus*, *Typhlops vermicularis*, *Atractaspis engaddensis*, and *Pseudocerastes fieldii*, and in the north-east bordering the Persian Gulf are *Coluber karelinii* and *Walterinnesia aegyptia*. The Yaman has a record for *Vipera lebetina*, an extrusion well south of its characteristic range. In the west and south, species with more typically African distribution are *Dasypletis scabra*, *Lycophidion capense*, *Philothamnus semivariegatus*, *Psammophis punctulatus* (a doubtful record), and *Bitis arietans*. So far as present records go, peculiar to the south are *Rhynchocalamus arabicus*, *Coluber thomasi*, *Leptotyphlops burii*, *Leptotyphlops nursii*, and *Atractaspis microlepidota andersoni*.

The snakes of Socotra are restrictedly endemic with the exception of *Echis colorata*, represented by a single record with some doubt cast on the locality of origin.

There are certain Arabic names for snakes occurring in many or all Arab countries, found for the most part in standard Arabic dictionaries. They thus deserve to be considered in some degree as 'classical'. They may apply to snakes in general, in the sense of 'serpent', or to categories of snakes that have obtrusive attributes such as horns, or are notably small or large, or are vipers, or dangerously poisonous, or move very quickly, or burrow in the earth, or are thought to do so.

In the general sense of 'serpent' are used *hanash*, *tha'aban*, and *haiya* and, in the Hejaz and the Hasa area, *dab*. Of small snakes, *um shibr* = 'of a span' is used. Spotted snakes are commonly called *raqta* = 'spotted'. Swift-moving whippy forms with no other outstanding character are called *zarrag* = 'the lanced' or 'the projected', or some variant of the same word. Snakes with burrowing habits are called *daffan* = 'burier' or some variant. In Abu Dhabi in the Trucial States *ghul* = 'demon' is commonly used in addition to *haiya* and *hanash*, though it seems specially to apply to the cobra.

The word *afa* = 'viper' has many variants and from Libya (where *liffa* or *laffa* would seem to represent *al afa*) to Delhi and, especially in Arabia, relates to the common, well-known and feared *Echis* and *Cerastes* vipers. These last two groups of snakes, which produce a rustling noise by rubbing their scales together while coiling about, have also a number of colloquial mimetic names inspired by this noise, and involving the sounds *f* or *sh*. Keimer (1945) has discussed at length

the relationship of the sound *f* to the Egyptian hieroglyph in the form of the *Cerastes* vipers, horned or unhorned. Also the word *afa* would appear to equate with the Hebrew *epheh*='serpent'.

Parker (1931) has recorded from Dhufar several Shahari names for snakes collected by Bertram Thomas; one of these *shaltum*, it appears, is possibly used of snakes in general. At Habarut on the Mahra mainland the senior author collected the word *araraidh*, which appeared to be used of a snake in a general sense but may be a corruption in form and an application of the Arabic *al araidh*='the broad one', that is the cobra, for in Libya *abu araidha* is used of *Naja haje*. On Socotra, for 'snake' in general in the Socotri tongue *shudhim* was said to be used.

The data given below unless otherwise stated refer to material from within the Peninsula only, with a slight element of margin as regards the northern species.

BOIDAE

Eryx colubrinus (Linnaeus)

Eryx thebaicus, Scortecchi, 1932, p. 40, (Yaman, 1).

The species is marginal being common in Egypt and the northern Sudan.

Scale count. The scale range given by Boulenger (1893 p. 122) for non-Arabian specimens is Sc. 47-53, V. 171-197, C. 19-28, A. 1. Scortecchi gives Sc. 55 at mid-body.

Eryx jaculus (Linnaeus)

Eryx jaculus Duméril & Bibron, 1844, p. 463, (Arabia, +); Anderson, 1896, pp. 70, 86, 90, (*in litt.*).

Scale count. The scale range in Boulenger (1893, p. 125) for Greece to Afghanistan is Sc. 40-50, V. 165-200, C. 15-34, A. 1.

Eryx jayakari Boulenger

Eryx jayakari Boulenger, 1888, p. 508, (Muscat, 1); idem, 1893, p. 129, (*in litt.*); Anderson, 1896, pp. 82, 88, (*in litt.*); Parker, 1931, p. 514, (Jahashi, Rub-al-Khali, 1); idem, 1931 (a), p. 228, (*in litt.*); idem, 1932, p. 341, (*in litt.*); idem, 1938, p. 481, (Southern Hejaz, +); Haas, 1957, p. 79, [Abqaiq, Dhahran, Al Alat (oilfields); Sharja, 15]; idem, 1961, p. 19 (Abqaiq, Al Hasa, 2).

Records. The senior author collected specimens from Jiddah, Little Aden, Nuqub in the Baihan area and Al Hazar and Shaq al Maatif near Thamud.

Scale count. The scale count for the Arabian examples of this species that have been recorded in the literature and taken from specimens in the British Museum are Sc. 37-51, V. 158-184, C. 16-22, A. 1.

Coloration. The specimen taken in Little Aden was very much darker than the specimens from Baihan and Thamud,

Vernacular names. Parker (1931a) records the name *difen* from the Rub-al-Khali. This recalls the word *dafn*, 'burier', of the Aden Protectorate, which though more usually applied to the *Echis* snakes, may also be applied to *Eryx jayakari*. In Baihan the snake was called *badan* and *badhan*, suggestive of the Hebrew *pethen* = 'snake' in general, and it is of interest that there was formerly a Jewish community in Baihan.

Habitat. All the specimens were taken from sand.

Remarks. Two specimens that were handled made no attempt to bite.

COLUBRIDAE

There have been 31 species and subspecies of the Family recorded from the Peninsula, including 9 of the Opisthoglypha, the back-fanged division. Certain snakes of this division are relatively large, have striking markings and are frequently encountered, and since they possess fangs capable of inoculating venom and producing appreciable, albeit not lethal, reactions they tend to attract specifically applicable folk names.

Boaedon arabicus Parker

Boaedon arabicus Parker, 1930, p. 594 (Al Kubar in Haushabi area, 5); Scortecci 1932, p. 41 (Sana in Yaman, 5).

Boaedon lineatus arabicus Parker, 1941, p. 4 (Jabal Harir, 1); idem, 1949, p. 51 (*in litt.*); Schmidt, 1953, p. 260 (Yaman, 1).

Records. The senior author's collection included one specimen from either the Yaman or the Western Aden Protectorate.

Scale count. The scale count range of the Arabian specimens from the literature and of the specimens in the British Museum is Sc. 27-33, V. 220-250, C. 47-62, A. 1. The specimen collected by the senior author had a higher number, 35, of mid-body dorsal scales.

***Brachyophis revoili** Mocquard

Brachyophis revoili, Scortecci, 1932, p. 46 (Sana, Yaman, 1).

Brachyophis revoili revoili, Parker, 1949, p. 81, (*in litt.* and discussion).

Scale count. The scale count given by Scortecci for his Yaman specimen is V. 106, C. 13.

Coluber elegantissimus (Günther)

Zamenis elegantissimus Günther, 1878, p. 977 (Muwaylah in Midian, 1); Hart, 1891, p. 209 (Akabah, 1); Boulenger, 1893, p. 402 (*in litt.*); Anderson, 1896, pp. 82, 88, (*in litt.*).

Coluber elegantissimus, Parker, 1949, p. 45, (affinity with *socotrae* and *florulentus*).

Scale count. The scale count given by Boulenger (1893, p. 402) is Sc. 19, V. 197-200, C. 79-83, A. 2.

Coluber gemonensis (Laurenti)

Zamenis atrovirus, Shaw, Hart, 1891, p. 209, (Wadi Nasb in Sinai, 1).

Coluber viridiflavus var. *carbonaria* Bonaparte, 1839.

Scale count. Boulenger (1893, p. 396) gives the scale count as Sc. 17-19, V. 171-250, C. 87-130, A. 2.

Coloration. The specimen recorded by Hart was of the black *carbonarius* variety.

Coluber karelinii Brandt

Zamenis karelinii, Bedriaga, 1879, p. 44, (Ras Masandam, +); Anderson, 1896, pp. 82, 86, 90, (*in litt.*); Boulenger, 1893, p. 401, (*in litt.*).

Scale count. The count given by Boulenger for specimens from Persia and Afghanistan is Sc. 19, V. 193-212, C. 85-110, A. 1.

Coluber nummifer Reuss

Zamenis nummifer, Barbour, 1914, p. 88, (Fairan in Sinai, 1).

Scale count. Boulenger (1893, p. 407) gives the count as Sc. 23-25, V. 197-216, C. 79-101, A. 1 or 2.

Coluber rhodorhachis (Jan)

Zamenis ventromaculatus, Gray, part, Günther, 1858, p. 106 (Muscat, +); Boulenger, 1887, p. 407, (Muscat, +).

Zamenis florulentus, Parenti & Picaquia, 1886, p. 68 (Aden, +).

Zamenis ladacensis, Boettger, 1892, p. 62 (Aden).

Zamenis rhodorhachis Jan, 1864, p. 356 (all localities Persian); Günther, 1878, p. 977 (Midian); Boulenger, 1891, p. 632, (*in litt.*); idem, 1893, p. 398, (*in litt.*); Anderson, 1895, p. 635, (Aden, 4); idem, 1896, pp. 51, 82, 86, 89, 116, (*in litt.* and Hadhramaut, 4); idem, 1898, p. 252, (*in litt.*); idem, 1901, p. 137 (Abyan, 1); Barbour, 1914, p. 88, (Fairan in Sinai, 1).

Coluber rhodorhachis, Parker, 1931, p. 514 (Qara Mts. and Dhufar, 9); idem, 1931 (a), p. 228, (*in litt.*); idem, 1938, p. 481 (Southern Hejaz); idem, 1949, p. 30, (taxonomy discussed); Schmidt, 1939, p. 73 (Aden, 1); idem, 1941, p. 165 (Wadi Sirra & Jiddah, 4); idem, 1953, p. 260 (Hodaida & Sana, 2); Schmidt & Marx, 1956, p. 29 (Wadi al Shaikh in Sirai, 3); Scortecci, 1932, p. 39 (Yaman, 5).

Records. Further records based on specimens collected by the senior author are Jiddah, Buraiman, Abha, Jol Bahawa, Bir Ali, Mukalla, Dis, Khirba, and Hazar. The positions of these localities are shown on the map.

Scale count. The scale count for the Arabian examples of this species that have been recorded in the literature and taken from specimens in the British Museum are Sc. 19, V. 210-260, C. 119-148, A. 2. The specimens from the senior author's collection fall within this range.

Coloration. The colour in these snakes seen alive was grey, with darker markings, becoming darker in alcohol. A vertebral stripe was present in some specimens. Boulenger (1893, p. 399) reports that in Persian specimens the stripe is pink or red, but in the Arabian specimens in life the stripe is drab.

Vernacular names. Parker (1931a, p. 229) records the Shahari names for this snake in the Qara Mountains and Dhufar as *difen*, *ojem*, and *shaltum*. In Aden Territory this species is known as *al aghbar*, *al aghbari*, and *al ghabr*, all meaning 'the grey snake', and also commonly as *tarrad* or 'chaser' and *zarraq*='lancer' or 'projector'. These last two names, however, are used for any slender, fast-moving snake.

Habitat. Specimens were found in a garden, a mosque tank, and on a sandy sea-shore. It is the commonest snake found near human habitation in Aden Territory, both in built-up areas and in the open country, and is often found in houses. Five specimens fell out of the roofing of a room following anti-mosquito spraying with BHC.

Diet. Schmidt & Marx (1956, p. 29) recorded a skink in the stomach contents of a male specimen. Another specimen, taken from a house in Jiddah, contained a bird.

Temperament. One specimen picked up on an early June morning on a sand-and-gravel track near Mukalla bit vigorously when it was handled. When it was released at some distance from a land-rover, it returned twice to the car, climbing under the bonnet and later on to the rear axle. Two other specimens also bit when handled. There was no reaction to the bites.

Coluber rogersi Anderson

Coluber rogersi, Schmidt & Marx, 1956, p. 29 (Wadi Lathlali in Sinai, 1).

Scale count. The count was Sc. 19, V. damaged, C. 104. Boulenger (1896, p. 623) gives a scale range for Egyptian specimens of Sc. 19, V. 197-201, C. 95-105, A. 2.

Coluber socotrae (Günther)

Zamenis socotrae Günther, 1881, p. 463 (Socotra, 3); Boulenger, 1893, p. 408, (*in litt.*); idem, 1903, p. 89 (Hadibu, 1).

Zamenis socotrae, Steindachner, 1903, p. 14 [Tamarida (= Hadibu), Ras Shoab, Kallar siye, Hakari Islet, Samhah Island in Brothers Group, +].

Coluber socotrae, Parker, 1949, p. 42 and 44 (*in litt.*).

Records. In addition to the localities recorded in the literature, there are two specimens in the British Museum, one collected at Hanefu, the other labelled simply 'Socotra'. The senior author's collection includes three specimens from the island, two collected in the hills near Hadibu and one from Hasu between Qathb and Qallansiya (=Kallansiye above).

Scale count. Parker (1949, p. 41) gives the scale count Sc. 23, V. 219-227, C. 113-124, A. 2. The senior author collected a specimen with a caudal count of 133; the other counts were within the range given above.

Coloration. Boulenger (1903, p. 90) gives a description of the colour as 'head olive above; body with olive sometimes black-edged transverse bands, separated by narrower salmon-red interspaces; belly yellowish or pale olive.' A young specimen collected by the senior author was seen

alive. The colour was canary yellow, barred dorsally with bright cobalt blue. On preservation it faded to grey, barred with black.

Vernacular names. The Socotri name *bikaili* was applied specifically to the young specimen described above. The word *shudhim* was also used, but this clearly meant 'snake' in a general sense.

Coluber thomasi Parker

Coluber thomasi Parker, 1931, p. 514 (Qara Mountains and Dhufar, 1); idem, 1931a, p. 228, (*in litt.*).

Records. The senior author's collection contained a young specimen from the Aden Protectorate, the precise locality being unrecorded.

Scale count. The type specimen has the scale count Sc. 15, V. 158, C. 80, A. 2. The specimen collected by the senior author differed only in the caudal count, which was 81.

Coloration. In preservation, the young specimen is creamy-white, with black dorsal markings. A prominent row of large spots in the midline of the ventral surface of the tail was a ready guide to identification.

Coluber variabilis (Boulenger)

Zamenis variabilis Boulenger, 1905, p. 178 (Al Kubar in Haushabi State, 10).

Coluber variabilis, Scortecci, 1932, p. 43 (Sana in Yaman, 1); Parker, 1941, p. 4 (Jabal Harir, 1).

Records. The senior author's collection contained a specimen from Wadi Shadhan in the Hejaz, collected by Mr. G. Popov of the Desert Locust Survey.

Scale count. The scale count for the other Arabian specimens of this species is Sc. 17, V. 155-175, C. 80, A. 2. The specimen from Wadi Shadhan was outside this range having Sc. 19, V. 187, C. 82, A. 2.

Coluber ventromaculatus Gray

Coluber ventromaculatus, Hart, 1912, p. 209 (Wadi Zalagah, Sinai, 1); Schmidt, 1939, p. 74 (Al Jubail, north of Bahrain, 1); Dickson, 1949, p. 471 (Kuwait, 1); Haas, 1957, p. 79 (Qara Mountains and Dhahran, 5); idem, 1961, p. 20 (Abqaiq and Al Hasa, 4).

Scale count. The range was Sc. 19, V. 203-214, C. 91-119, A. 2.

Coronella somalica Scortecci

Coronella somalica Scortecci, 1932, p. 46, (Yaman, 1).

Scale count. The scale count was Sc. 21, V. 209, C. 80, A. 2.

Dasypeltis scabra (Linnaeus)

Dasypeltis scaber, Parker, 1949, p. 67 (Al Kubar in Haushabi State, +).

Dasypeltis scabra, Gans, 1959, p. 78, (*in litt.*).

Records. The senior author saw a preserved specimen at the Little Aden oil refinery in 1951, which had been taken locally. The markings suggestive of *Echis carinata* though faint, were defined.

Scale count. The recorded counts are Sc. 23, V. 235-244, C. 61-64.

Remarks. Corkill (1956) and Gans (1961) have noted the mimicry of *Echis carinata* by *Dasypeltis scabra* in shape, colour, and behaviour.

**Dityopphis vivax* Günther

Dityopphis vivax Günther, 1881, p. 463 (Socotra, 1); Boulenger, 1896, p. 46, (*in litt.*); idem, 1903, p. 90 (Hadibu, Adho Dimellus, Jena-Agahan, Homhil, 8); Steindachner, 1903, p. 14 (Shoab, Wadi Felink, +); Parker, 1949, p. 89, (*in litt.* and discussion).

Records. In addition to the specimens recorded in the literature there are six specimens in the British Museum from Hadibu and Kishn including three collected by the 1956 Oxford University Expedition to Socotra.

Scale count. The recorded counts are Sc. 21-23, V. 142-154, C. 37-44, A. 1.

Coloration. The colour is recorded by Boulenger (1903, p. 91) as reddish or sandy grey with or without spots.

Remarks. The colouring of the snake, in conjunction with its short tail, keeled scales, single subcaudals, and vertical pupil gives a superficial appearance very similar to the mainland viper *Echis colorata*. Günther (see below) recorded the latter snake from Socotra, but no specimen has been collected from there since. Nor has any other species been recorded which is non-endemic. The accuracy of the collecting data of Günther's specimen has been questioned in the light of these points. The present Socotri Health Assistant on the island was trained at Mukalla on the mainland and was familiar with the *Echis* vipers, which are fairly common near Mukalla. He insisted that the *dhuffa* (the mainland name for both *Echis* species) occurred on Socotra, where it was known as *diatib*.

It would appear that the two genera may be easily confused by the less well-informed, and the statement made in the PERIPLUS OF THE ERYTHREAN SEA (c. 100 A.D.) and quoted by Boulenger (1903, p. 91), that there are a great many vipers on Socotra, is possibly also evidence of easy confusion. Further collecting on the island would decide whether or not *Echis colorata* occurs there.

Eirenis arabica Haas

Eirenis arabica Haas, 1961, p. 20 (Abqaiq, 1).

Scale count. The scale count was Sc. 15, V. 147, C. 52, A. 1.

Eirenis coronella (Schlegel)

Eirenis coronella, Barbour, 1914, p. 89 (Petra, 3, St. Catherine in Sinai, 2); Schmidt & Marx, 1956, p. 30 (St. Catherine's Monastery and Al Raba, 2).

Scale count. The scale count was Sc. 15, V. 140-158, C. 39-62, A. 2.

***Lycophidion capense** (Smith)

Lycophidion capense, Scortecchi, 1932, p. 43 (Sana, Yaman, 1); Parker, 1949, p. 54, (*in litt.*).

Scale count. The scale count was Sc. 25, V. 162, C. 35.

Lytorhynchus diadema (Duméril & Bibron)

Lytorhynchus diadema, Boulenger, 1887, p. 407 (Muscat, 1); idem, 1893, p. 415, (*in litt.*); Maatschie, 1893, p. 19 (Aden, +); Anderson, 1896, pp. 82, 89, (*in litt.*); idem, 1898, p. 272, (*in litt.*); Schmidt & Marx, 1956, p. 30 (Al Raba, 1).

Lytorhynchus diadema arabicus, Haas, 1957, p. 80 (Abqaiq, Dhahran, Moraiwa Post, 9); idem, 1961, p. 21 (Abqaiq in Al Hasa, 1).

Records. The present collection contained one specimen from Gahma in Saudi Arabia, collected by Mr. G. Popov of the Desert Locust Survey.

Scale count. The scale count range for the Arabian specimens is Sc. 19, V. 161-182, C. 35-43, A. 2.

Lytorhynchus sinai Schmidt & Marx

Lytorhynchus sinai Schmidt & Marx, 1956, p. 30 (Wadi Fairan in Sinai, 1).

Scale count. The scale count was Sc. 17, V. 184, C. 94, A. 2.

***Malpolon moilensis** (Reuss)

Coluber moilensis Reuss, 1834, p. 142 (Moilah in Midian, 1).

Coelopeltis moilensis, Anderson, 1895, p. 656 (Aden, 1); idem, 1896, pp. 52 and 82, 89, (*in litt.* plus Hadhramaut, 2); idem, 1898, p. 293 (*in litt.*); idem, 1901, p. 137 (Abyan, 1); Boulenger, 1896, p. 144 (Aden, Hadhramaut and Muscat, 3).

Malpolon moilensis, Parker, 1931, p. 514 (Wadi Hauf in Rub-al-Khali, +); idem, 1931a, p. 228, (*in litt.*); idem, 1938, p. 481 (Jiddah, 1); Haas, 1957, p. 47 (Abqaiq, Dhahran, 9); Haas & Battersby, 1959, p. 202 (Bir Asakir, Jol, Jabrin, 5).

Records. There are 13 specimens recorded by the senior author from Jiddah, Little Aden, Mukalla, and Bir Asakir.

Scale count. The recorded scale range for the Arabian specimen is Sc. 17, V. 139-176, C. 53-73, A. 2.

Vernacular names. Parker (1931a, p. 228) records the name *zaraq* from the Rub-al-Khali. There are a number of names in the Aden Protectorate that have been applied to this, as also other snakes; they are *hanash*, *haiya*, *tarrad*='chaser,' and *raqta*='spotted'. The name *zarrag*='lancer' or 'projector' might also be expected in this area. A dead one, seen at Bir Asakir, was called *hanfish* by the garrison (see *Naja haje arabica* below).

Habitat. All the specimens were taken in sandy places, two on tracks.

Remarks. The senior author was told that the *hanfish* blew out its throat. This suggests that the species was confused with a cobra although Boulenger (1920, p. 399) writes of a report of a specimen in Iraq

dilating its neck, and Angel & Lhote (1938, p. 367) state that in the French Sahara the species erects, and dilates its neck like *Naja*.

***Malpolon monspessulana** (Hermann)

Ceolopeltis monspessulana, Hart, 1891, p. 209 (Jabal Hartah in Sinai, +); Werner, 1893, p. 389 (Sinai, 1); Anderson, 1896, pp. 82, 91, (*in litt.*).

Scale count. Counts recorded are Sc. 17, V. 176, C. 112, A. 2.

Natrix dubbiosii Scortecci

Natrix dubbiosii Scortecci, 1932, p. 40 (Yaman, 1).

Scale count. The scale count was Sc. 19, V. 167, C. 61, A. 2.

Philothamnus semivariiegatus Smith

Philothamnus semivariiegatus, Scortecci, 1932, p. 45 (Sana, Yaman, 1); Parker, 1949, p. 58, (*in litt.*).

Scale count. The scale count was Sc. 15, V. 176, C. 94.

***Psammophis punctulatus** Duméril & Bibron

Psammophis punctulatus Duméril & Bibron, 1854, p. 897 (Arabia, 1); Parker, 1949, p. 68, (*in litt.*, validity of the record from Arabia questioned).

***Psammophis schokari** (Forskål)

Coluber schokari Forskål, 1775, p. 14 (Yaman, +).

Coluber lacrymans, Reuss, 1834, p. 34 (Arabia, +).

Psammophis lacrymans, Boulenger, 1895, p. 538, (*in litt.*); Anderson, 1895, p. 635 (Haithalmin and Shaikh Uthman in Aden area, 2).

Psammophis schokari, Anderson, 1896, pp. 83, 87, 89, (*in litt.* plus Hadhramaut, 1); idem, 1898, p. 299, (*in litt.*); idem, 1901, p. 137 (Abyan, 1); Boulenger, 1896, p. 158, (*in litt.*); Barbour, 1914, p. 89 (Petra, Fairan, and Akaba, +); Parker, 1931, p. 514 (Fuzul, Qara Mountains and Dhufar, 3); idem, 1931 (a), p. 228, (*in litt.*); idem, 1933, p. 397, (Qatarat in Rub-al-Khali, 1); idem, 1941, p. 5 (Jabal Harir, 1); idem, 1949, p. 70 (discussion of status and relationship of *P. sibilans* and *P. schokari*); Scortecci, 1932, p. 46 (Yaman, 1); Schmidt, 1939, p. 86, (Aden, 1); idem, 1953, p. 260 (Hodaida Ma'abar area and Ta'izz in Yaman, 4); Schmidt & Marx, 1956, p. 36 (Wadi Fairan in Sinai, 1); Haas, 1957, p. 47 (Qatif, Dhahran, Hail, Qara Mountains, 4); Haas & Battersby, 1959, p. 202 (Jol, 1).

Records. In addition to the localities given above, the senior author collected specimens from Buraiman, Sana, Kamaran Island, Jaar, Makhzan, Bir Ali, Mukalla, Tarim, and Dhufar.

Scale count. The scale count of the Arabian examples that have been recorded in the literature are Sc. 17, V. 170-196, C. 109-152. Those taken from the specimens in the senior author's collection fell within the above range.

Coloration. In all specimens a light brown, black-bordered line extends from the rostral, through the pre-ocular and post-ocular shields to the neck. In one form this line continues down the side of the snake to the end of the tail, a narrow white line separating it from the broad, grey-

brown, black-edged dorsal stripe. The ventrals are white. In the other form the line fades at the neck, the dorsum being darker than the venter.

Vernacular names. The specific name *schokari*, given to the snake in the Yaman by Forskål was derived from *shigari*, 'of the tree'. This was heard by the senior author in Kamaran Island, applied by the police to a specimen killed in a tree. They said the name was used in the Yaman of the same snake. Parker (1931a, p. 228) records that in the Qara Mountains or Dhufar, the Shahari name for the snake is *ishor* and *inshor*. In the Aden Protectorate the unstriped form would be called *zarraq*, *tarrad*, or *al ahmar*='the red one'. Several names have been applied to the striped form, *ba sharak*='with grooves', *mukhatat*='line', *ba sharatain*='with two stripes', and *abu khatain*='of two lines'; the last is also used of the snake in the Trucial States. Because of the suggestion of palm fibre, *zaf*, it is also called in the Protectorate *zaf*, *zafi*, and *zaffan*='palm fibre' 'of the palm fibre' and 'palm-fibred' respectively.

Habitat. Specimens were taken in a house, on a sandy beach, under a tree near a building, and from a tree adjoining a well.

Rhynchocalamus arabicus Schmidt

Rhynchocalamus arabicus Schmidt, 1933, p. 9 (Aden, 1); idem, 1939, p. 49, (presumed *in litt.*).

Scale count. The scale count was Sc. 15, V. 240, C. 81, A. 2. The last 5 subcaudals were entire.

Rhynchocalamus melanocephalus (Jan)

Oligodon melanocephalus, Hart, 1891, p. 209 (Wadi Arabah, 1); Boulenger, 1894, p. 246, (*in litt.*); Anderson, 1896, pp. 82, 87, 90, (*in litt.*); idem, 1898, p. 277, (*in litt.*).

Rhynchocalamus melanocephalus, Barbour, 1914, p. 89 (Petra, 1).

Scale count. The scale count in Boulenger (*loc. cit.*) for Hart's Sinai specimen was Sc. 15, V. 229, C. 59, A. 2.

Spalerosophis diadema cliffordi (Schlegel)

Zamenis cliffordi, Günther, 1878, p. 978 (Tihamat, Midian, 1).

Zamenis diadema, Boulenger, 1887, p. 20 (Muscat area, 3); idem, 1893, p. 412, (*in litt.*); Hart, 1891, p. 209 (Mount Hor in Midian); Anderson, 1896, pp. 82, 86, 90, (*in litt.*, plus Hadhramaut, 2); idem, 1898, p. 269, (*in litt.*).

Spalerosophis diadema, Parker, 1931, p. 514 (Salalah, 1); idem, 1931a, p. 228, (*in litt.*); idem, 1938, p. 481 (S. Hajaz, 1); idem, 1941, p. 4 (Sana, 1); Schmidt, 1941, p. 165 (Hulaifa in Najd, and Jiddah, 2); Schmidt & Marx, 1956, p. 33 (St. Catherine's Monastery and Fairan Oasis in Sinai, 2); Marx, 1959, p. 350 (*in litt.* and adoption of trinomials).

Records. Examples of this species were collected by the senior author from Buraiman, Abha, Shaik Uthman, Kod, Makhzan, and Jaar in the Abyan region, Baihan, Ahwar, Jol Bahawa, Mukalla, Dis, and Shihr.

Scale count. The scale counts for the Arabian specimens were Sc. 25-29, V. 211-240, C. 65-80, and the specimens in the senior author's collection have scale counts within the ranges given.

Coloration. The dorsal surface in life may be green, grey, or brown varying with the locality and with darker heavily defined circular or rhombic blotches themselves with paler edging. The ventral surface is white or straw-coloured.

Vernacular names. As *Spalerosophis diadema* is a relatively large and common snake with prominent markings, it attracts especially applicable names, and is probably the snake most commonly called throughout the Arab world, *al raqta*='the spotted'. Parker (1931a, p. 228) records the Shahari name from the Qara Mountains and Dhufar as *fe'e de'e*. In Abha it was called *bu bilsain*='of the lentils', and in the Hajr Province in the Qu'aiti State, *al musabih*='the rosaried'. *Rabudh*='spotted' is also used in the Aden Protectorate.

Habitat. Specimens were taken in a brick store and from the gardens of houses. One was found in a lucerne patch near a water channel.

Remarks. A half-grown specimen was sent in from Baihan with a report that it had bitten a man who developed, among other symptoms, a transient haematuria. In view of its identity as a known harmless species it was suggested that there must be some mistake and further inquiries were made. It then transpired that the snake was brought in later than the case itself, after interest in the type of snake responsible for the bite was shown by the doctor. It seems most probable that the relatives then sought for a spotted snake in the neighbourhood of the accident and in good faith brought in the first such that was found. They had killed a *Spalerosophis*, whereas the actual biter was almost certainly an *Echis* or a *Cerastes*, both of which occur in the area, most probably an *Echis carinata*, since haemorrhage is characteristic of poisoning by this species.

**Telescopus dhara* (Forskål)

Tarbophis dhara Forskål, 1775, p. 14 (Yaman, 1); Anderson, 1896, pp. 62, 87, 89 (Medina, 1).

Dispsas obtusa, Boulenger, 1887, p. 407 (Muscat, 2).

Tarbophis guentheri, Anderson, 1895, p. 656 (Lahaj, 2); idem, 1896, pp. 52, 87, 88 (Hadhramaut, 2); idem, 1898, p. 287, (*in litt.*); idem, 1901, p. 137 (Abyan, 1); Boulenger, 1896, p. 52, (*in litt.*); Scortecci, 1932, p. 39 (Yaman, +); Parker, 1933, p. 398 (Hajaz, 1); idem, 1938, p. 481 (S. Hajaz, 1); idem, 1941, p. 4 (Jabal Jihaf, 1); idem, 1949, p. 87, (taxonomy discussed); Schmidt, 1939, p. 85 (Aden, 1).

Tarbophis obtusus, Anderson, 1898, p. 286, (*in litt.*).

Tarbophis dhara guentheri, Haas & Battersby, 1959, p. 202 (Saiun, 1).

Records. The specimens collected by the senior author were from Buraiman near Jiddah, Aden Town, Mukalla, Harshiyat and near-by Dis, Shihr, and Dis al Sharquiya.

Scale count. The scale counts recorded for the Arabian specimens

are Sc. 19-23, V. 226-274, C. 53-82, A. variable. The specimens in the senior author's collection had scale counts within this range.

Vernacular names. The snake is not conspicuous, and is not likely to attract folk interest. The names applied to it in the Aden Territory would be those meaning snake in the general sense, that is *haiya*, *hanash*, *tarrad*, *zarrag*, and perhaps *al ahmar*=' the red ' as red and brown are not always differentiated colloquially.

Habitat. The snake is frequently found in buildings. Specimens have been found in a hole in a wall, in house gardens, in a heap of building debris, and from a drainage pool adjoining a mosque.

Diet. This snake and the species related to it have been noted as predators on small birds in Egypt by Anderson (1898, p. 284), and in the Sudan by Corkill (1935, p. 19). In Arabia, two of Anderson's specimens, found in a hole in a wall (1895, p. 656) had birds in the stomach contents. Of the present collection one was taken from a bird's nest in a school, and one from a garden had an escaped budgerigar in its belly. These snakes are frequently found in buildings which commonly harbour sparrows.

**Telescopus hoogstraali* Schmidt & Marx

Telescopus hoogstraali Schmidt & Marx, 1956, p. 33 (Wadi al Shaikh in Sinai, 2).

Scale count. The scale counts were Sc. 19, V. 214-216, C. 51-59, A. 2.

ELAPIDAE

The family is represented in the Peninsula by two genera, *Naja* and *Walterinnesia*. For the former there has been specifically established by Scortecci (1932, p. 47) *Naja haje arabica*, and it seems probable that this will be valid for all *Naja* in the Peninsula though there are various colour forms. All specimens of *Naja* seen by the senior author have had two suboculars, a characteristic of *Naja haje*.

Dickson (1949, p. 470) writes of two types of ' cobra ' in Kuwait and the Northern Hasa. He killed two at Araifjan which had hoods and were 42 inches and 48 inches long. Confusion with *Malpolon moilensis* is conceivable if it should prove that the latter in this area erects a hood, but the lengths are rather extreme. The local name is given as *hanish*. These are probably *Naja haje arabica*. He also writes of a black cobra, known as *ham* and *iyah*. This is probably *Walterinnesia aegyptia* which has been shown by Marx (1953, p. 189) to be synonymous with *Naja morgani* of farther north and north-east in SW. Asia. On a recent visit by the senior author to Abu Dhabi in the Trucial States, a snake, ' *haiya um al ghul* '=' demon snake ', was described as ' large, brown, a killer, and as inflating its throat '. A cobra was certainly the inspiration.

Naja haje arabica Scortecci

Naja haje, Anderson, 1898, p. 316 (Madina, 1).

Naja haje arabica Scortecci, 1932, p. 47, (Sana, +); Parker, 1931, p. 514 (Qara Mountains and Dhufar, +); idem, 1931 (a), p. 228, (*in litt.*); idem, 1938, p. 481 (Najran, 1); idem, 1941, p. 5 (Jabal Jihaf, 2); Haas, 1957, p. 81 (Jabal Qara, 1).

Records. The present collection contained specimens, from Abha in the Asir, Sana in the Yaman, Abyan, Musaimir (Haushabi), Mukairas, Wadi Duan, Khoraiiba, and Dis in the Aden Protectorate and Khirba Wadi Urf, and Manawara in the Mukalla area.

Scale count. Anderson's female specimen from Madina (1898, p. 316) had counts of Sc. 21-23, V. 213, C. 54 approximating more to the Egyptian form of *N. haje* than to the records for *N. haje arabica* the published range for which is Sc. 19-21, V. 210-226, C. 62-80. Three of the author's present collection examined in the British Museum were within these latter limits.

Coloration. Several colour varieties were seen. The commonest was pinkish brown with darker head and tail, and variable dark blotching on the venter. In some the head and tail were black, and in some the dorsal scales were edged with black. There were also specimens of a uniform yellowish brown, darker on the dorsal surface. Some had a white tip to the tail.

Vernacular-names. Parker records the Shahari names from Jabal Qara as *haut* and *defen*, and *ojem* for the young. A much travelled British executive from the gold mine in Mahad in Saudi Arabia informed the senior author that cobras were generally called *thi'aban* and were well known in Taif, Mahad, Rimah, Najd, the Yaman, and Kuwait. In the senior author's collection, the specimen from Abha was called *jozari* = 'spring'. In the Aden Protectorate specimens were called *harsh* = 'gnawer' and *ham*. These names, however, are there given to any large snake. *Harsh al shams* = 'harsh of the sun', *maharaqi al tarafain* = 'of the two burnt extremities' and its variants, *maharaqi al asud* = 'the black *maharaqi*' and lazily *maharaqi* and *tarafain*, are all names applied specifically to the cobra. Another name believed to apply specially to the cobra is *qura* = 'bald'. The name *hanfish* is given to a snake that 'blows out its throat' and was applied to *Malpolon moilensis* (see above), but the cobra seems a more likely inspiration.

In the Trucial States it seems that *um al ghul* would apply to the Arabian cobra (see above). *Arathaid dharafu* is a Mahri name collected in Habarut and was said to be used of the cobra. A Marra tribesman inspecting a preserved specimen in the senior author's office said it was the snake that inflated its throat and was called in Marra, *yam*.

Habitat. Specimens mentioned above were collected in a ruined building in Abha, in a tin-smith's shop where another specimen had been killed three months before, in the dark in hilly country, and at night

near a water-pump. One of a pair was killed in a palm garden near running water, one was found dead in a watercourse after flooding, and another was killed in, or adjoining, a well from which a stock of anti-malarial larvivorous fish had disappeared (see below). No specimens were taken in extreme desert conditions, all came from places near water or potential sources of water.

Diet. Although the local inhabitants blamed the cobra for the loss of the larvivorous fish mentioned above, an investigation of the stomach contents did not reveal any fish.

Remarks. Two lots of pairs were taken. No acceptable history of a bite by a cobra was encountered by the senior author in thirteen years of travel in the Peninsula. The non-black cobras described by Dickson (see above) from the Hasa were probably *N. haje arabica*.

Walterinnesia aegyptia Lataste

Walterinnesia aegyptia, Haas, 1957, p. 81 (Abqaiq, Dhahran, 3); Marx, 1953, p. 189 (believes it to be synonymous with *Naja morgani* Mocquard).

Scale count. The scale counts for the species, throughout its geographic range, are given by Marx (loc. cit.) as Sc. 21-23, V. 180-197, C. 40-53, A. 2. From 1 to 13 of the subcaudal scales are divided.

Vernacular names. The black cobras in the Hasa of which Dickson writes (see above) are very probably this species. They are known locally as *iyah*.

HYDROPHIDAE

No detailed records have been found for the presence of sea snakes in the Red Sea but Smith (1943, p. 477) writes that *Pelamis platurus* has been recorded from there and the senior author in 1949, while fishing in a creek at night at Khor Asfan, just north of Jiddah, saw a snake a few feet away swimming towards the boat. The accompanying fisherman said they were common and were attracted by lights such as that of the hurricane lamp which was being used to lure fish. Sea snakes are fairly common off the Aden Territory southern coast but the only one identified was a *P. platurus* picked up by the senior author, on the Khormaksar beach, near Aden. Sea snakes in the Aden Territory coast are commonly called *hanash al bahr* = 'snake of the sea'.

In compiling the following records of sea snakes in the seas surrounding the Peninsula, Bombay has been taken as the southern coastal limit.

Astrotia stokesii (Gray)

Astrotia stokesii, Smith, 1926, p. 115 (Makran Coast and Karachi, 10), idem, 1943, p. 471, (in litt. +).

Scale count. The range of scale counts¹ recorded is Sc. 37-47, 47-59, V. 226-286.

¹ The first two ranges relate to neck and widest part of body respectively.

Enhydrina schistosa (Daudin)

Enhydrina valakadien, Boulenger, 1896, p. 303 (Muscat and Karachi, 4).

Enhydrina schistosa, Smith, 1926, p. 39 (Muscat and Karachi, 6) presumably including the foregoing; idem, 1943, p. 449, (*in litt.* +); Corkill, 1932, p. 25, (Persian Gulf, 4); Volsøe, 1939, p. 9, (Gulf of Oman, 3).

Scale count. The range of scale counts recorded is Sc. 40-55, 49-66, V. 239-322.

Hydrophis cyanocinctus Daudin

Hydrophis cyanocinctus, Boulenger, 1896, p. 295 (Persian Gulf, Bushire, Khor Abdulla, Karachi, Muscat, Bombay, 8); Smith, 1926, p. 57, (including the foregoing, +); idem, 1943, p. 454 (*in litt.* +); Volsøe, 1939, p. 9 (Iranian Gulf, 7); Schmidt, 1939, p. 87 (Bahrain, 2); Haas, 1957, p. 82 (Al Khobar in Dhahran area, 10); idem, 1961, p. 21 (Dhahran area, 1).

Scale count. The range of scale counts recorded is Sc. 27-40, 37-47, V. 281-390.

Hydrophis fasciatus fasciatus (Schneider)

Hydrophis fasciatus, Smith, 1926, p. 95, quoting Wall (1921, p. 344) (Karachi, +).
Hydrophis fasciatus fasciatus, Smith, 1943, p. 465, (*in litt.*).

Scale count. The range of scale counts recorded is Sc. 28-33, 47-58, V. 414-514.

Hydrophis lapemoides (Gray)

Distira lapemoides, Boulenger, 1896, p. 298 (Gwadar in Baluchistan, 1).

Hydrophis lapemoides, Smith, 1926, p. 88 (Persian Gulf, Jask, Makran Coast, 4); idem, 1943, p. 461, (*in litt.* +); Volsøe, 1939, p. 9 (Iranian Gulf and Gulf of Oman, 8).

Scale count. The range of scale counts recorded is Sc. 29-35, 43-51, V. 314-372.

Hydrophis mamillaris (Daudin)

Hydrophis mamillaris, Smith, 1926, p. 89, (Karachi and Bombay, 10); idem, 1943, p. 462, (*in litt.* +).

Scale count. The range of scale counts recorded is Sc. 25-29, 35-43, V. 302-390.

Hydrophis ornatus ornatus (Gray)

Hydrophis ornatus, Smith, 1926, p. 83 (Muscat and Bombay, 2); Volsøe, 1939, p. 9 (Shatt-al-Arab, 1).

Hydrophis ornatus ornatus, Smith, 1943, p. 460 (Persian Gulf, +).

Scale count. The range of recorded scale counts is Sc. 28-45, 33-55, V. 209-312.

Hydrophis spiralis spiralis (Shaw).

Hydrophis spiralis, Smith, 1926, p. 50 (Persian Gulf, Gangestum, Karachi, Muscat, 2); idem, 1943, p. 453, (*in litt.* +); Volsøe, 1939, p. 9 (Persian Gulf and Gulf of Oman, 4); Haas, 1961, p. 21 (Dhahran, 1).

Scale count. The range of scale counts recorded is Sc. 25-31, 33-38, V. 295-362.

Lapemis curtus (Shaw)

Lapemis curtus, Smith, 1926, p. 113 (Muscat, 1); idem, 1943, p. 470, (*in litt.* +); Volsøe, 1939, p. 9 (Persian Gulf, Straits of Hormuz and Gulf of Oman, 12).

Scale count. The range of recorded scale counts is Sc. 28-35, 33-43, V. 154-194.

Microcephalophis cantoris (Günther)

Microcephalophis cantoris, Smith, 1943, p. 475, (Karachi).

Scale count. The range of scale counts was Sc. 21-25, 41-48, V. 404, 468.

Microcephalophis gracilis (Shaw)

Hydrophis gracilis, Boulenger, 1896, p. 280 (Jask, 1).

Microcephalophis gracilis, Smith, 1926, p. 123 (Persian Gulf, Gulf of Oman, Makran Coast, Karachi, 6); idem, 1943, p. 472, (*in litt.* +); Corkill, 1932, p. 51 (Shatt-al-Arab, 1); Volsøe, 1939, p. 9, (Persian Gulf, 9).

Scale count. The range of scale counts recorded is Sc. 17-23, 29-43, V. 220-287.

Pelamis platurus (Linnaeus)

Hydrus platurus, Boulenger, 1896, p. 208 (Karachi, 1).

Pelamis platurus, Smith, 1926, p. 119 (Indian Seas, East African Coast, Bombay, 1); idem, 1943, p. 477, (*in litt.* plus 'Red Sea').

Scale count. The range of scale counts is Sc. 49-67, V. 264-406.

Remarks. The senior author picked up a dead specimen on Khor-maksar beach, Aden, in the early morning on a falling tide in 1956. It had a black dorsum and yellow venter.

Praescutata viperina (Schmidt)

Hydrophis jayakari, Boulenger, 1887, p. 408 (Muscat, 1).

Distira viperina, Boulenger, 1896, p. 299 (Bombay, 1).

Thallasophina viperina, Smith, 1926, p. 35 (Persian Gulf, 1); Volsøe, 1939, p. 9 (Gulf of Oman, 8).

Praescutata viperina, Smith, 1943, p. 448 (Persian Gulf, etc.).

Scale count. The scale range was, Sc. 27-43, 37-50, V. 226-274.

LEPTOTYPHLOPIDAE

These snakes are not commonly encountered in Arabia and of the species recorded, two are apparently restricted to Socotra. Like the

family Typhlopidae, they are insignificant snakes and both forms would be spoken of as *dud* = 'worm'.

Leptotyphlops spp.

Two specimens were collected by the Oxford University Expedition to Socotra in 1956 (Adho Dimellus and Kischen, 2).

Leptotyphlops burii (Boulenger)

Glauconia burii Boulenger, 1905, p. 178 (Al Kubar in Haushabi State, 1).

The species rests on one specimen only considered by Boulenger (loc. cit.) to be near *G. nursii*.

Measurements. The length/diameter ratio was 52, and the total/tail ratio 15 $\frac{3}{8}$.

Leptotyphlops filiformis (Boulenger)

Glauconia filiformis Boulenger, 1899, p. 7 (Socotra, Dahamis, Jena-Agahan and Homhil, 4); idem, 1903, p. 88, (*in litt.*); Steindachner, 1903, p. 13 (Hakari in Socotra +).

Leptotyphlops filiformis, Parker, 1949, p. 20, (*in litt.*).

Measurements. The length/diameter ratio was 100-140.

Remarks. Records of the species are from Socotra only.

Leptotyphlops macrorhynchus (Jan)

Records. The species is new for Arabia, the previous range being Iraq, Iran, and Egypt. The present collection contained a single specimen from Aden Protectorate.

Measurements. The length/diameter ratio was 105.

Leptotyphlops macrura (Boulenger)

Glauconia longicauda (non Peters), Boulenger, 1899, p. 7 (Dahamis, Jena-Agahan, Homhil, Socotra, 8).

Glauconia macrura Boulenger, 1903, p. 89, (*in litt.*).

Leptotyphlops macrura, Parker, 1949, p. 20, (*in litt.*).

Records. Records of the species are from Socotra only. They were taken at altitudes of 350-2500 ft.

Measurements. The length/diameter ratio was 40-48 and the total/tail ratio 5-7.

Leptotyphlops nursii (Anderson)

Glauconia nursii Anderson, 1896, p. 64 (Aden, 2); Boulenger, 1896, p. 591, (*in litt.*)

Leptotyphlops yemenicus, Scortecchi, 1933, p. 165 (Yaman, 1).

Leptotyphlops nursii, Parker, 1938, p. 481 (Najran, 2); Schmidt, 1953, p. 259 (Taizz, 5).

Records. The present collection contains three specimens from Mecca and the Aden Protectorate.

Measurements. The length/diameter ratio recorded is 50-51, the total/tail ratio 10-11 $\frac{1}{2}$.

Habitat. The Taizz specimens were taken from a rubbish heap in the town. The Mecca specimen was collected in a house garden after dark.

Leptotyphlops phillipsi Barbour

Leptotyphlops phillipsi Barbour, 1914, pp. 87-88 (Petra in Sinai, 13).

Measurements. The length/diameter ratio was 86, the total/tail ratio $12\frac{1}{2}$. The nostril does not reach the level of the eyes as in *L. macrorhynchus* and the second post-ocular labial is much larger than in the latter.

TYPHLOPIDAE

The snakes of this family like those of the Leptotyphlopidae would be simply called what they resemble, that is *dud*='worm'.

Typhlops braminus (Daudin)

Typhlops braminus, Boulenger, 1893, p. 16 (Muscat, 1).

Measurements. The counts were Sc. 20 and the length/diameter ratio 35-55. The length is given as 175 mm.

Typhlops socotranus Boulenger

Typhlops sp., Günther, 1881, p. 462 (Socotra, 2).

Typhlops socotranus Boulenger, 1889, p. 362, (*in litt.*); idem, 1893, p. 21, (*in litt.*); idem, 1903, p. 88, (*in litt.* +, Dahamis, 1); Parker, 1949, p. 26 (*in litt.* and taxonomy).

Typhlops sokotranus, Steindachner, 1903, p. 13 (Socotra, +).

Records. Records are from Socotra only.

Measurements. The length/diameter ratio was 37-50. The tail was as long as broad. There were 26-28 scales round the body. Boulenger gives the length as 200 mm.

Typhlops vermicularis (Daudin)

Typhlops vermicularis, Duméril & Bibron, 1844, p. 303 (Sinai, +); Anderson, 1896, p. 81, (*in litt.*).

Measurements. The length/diameter ratio is given as 40-52 and the total/tail ratio 62.

VIPERIDAE

Eight species of vipers are recorded from the Peninsula, of which three are relatively common, *Cerastes cerastes*, *Echis carinata*, and *Echis colorata*, the last two being the commonest cause of accident and death from snake bite. Though deaths do occur, the fatality rate is thought to be low. Peripheral rarities in the north are *Pseudocerastes fieldii*, *Pseudocerastes persicus*, and *Atractaspis engaddensis*. *Vipera lebetina*

recorded in the Yaman is a species that is normally found much further north and *Bitis arietans*, a typically African species, is recorded from the west and south, in hilly areas.

Certain of these snakes being fairly common and dangerously venomous, as might be expected, inspire the largest amount of folklore and the greatest number of folk names for snakes in the Peninsula.

In classical Arabic, viper is *afa*. Kopf (1960, p. 214) discusses the word and considers it fits particularly the *Echis* snakes and the horned viper (*Cerastes cerastes cerastes*). The word is discussed in relation to vipers in general above (p. 480). In the senior author's experience, from Libya to the Sudan and Aden, and through Arabia and Persia to Delhi, the word or its variants are applied more particularly to the *Echis* snakes, and seemingly are derived from the *f* sound, made by both the *Cerastes* and *Echis* when coiling about. At the same time, clear-cut difference in form, for example the presence of horns and excessive abundance, have not ruled out the use of many other colloquial names for certain vipers (see below), most notably, the *Cerastes* when horned, and the commoner, and thus more dominating, *E. carinata* of the two *Echis* species.

Atractaspis microlepidota andersoni Boulenger

Melanelaps mcphersoni, Wall, 1906, p. 27 ('Dhali' = Dhala?, N. of Aden +).

Atractaspis andersoni Boulenger, 1905, p. 178 (Al Kubar in Haushabi, 5); Parker, 1931, p. 514 (Aizet in Qara Mts. or Dhufar, 4); idem, 1931 a, p. 228, (*in litt.*); idem, 1949, p. 108 (discussion).

Atractaspis microlepidota andersoni, Laurent, 1950, p. 10 (revision of genus).

Records. In the present collection the specimens were collected from Kod in the Abyan area, one found preserved in a jar in Sheikh Uthman, and from unspecified localities in the western Protectorate. There is also a specimen in the British Museum, collected by Haythornwaite from Dhala.

Scale count. The range of scale counts is Sc. 23-25, V. 219-254, C. 27-33, A. 1. The specimens in the author's collection fell within this range. In two specimens from Kod, the tail terminates in a small white spike.

Vernacular names. Parker records the Shahari name as *disos*. The Kod specimens were referred to as *abu ashara daqiqa* = 'of ten minutes', presumably in relation to the interval between bite and death. This may have been brought to Kod by the Sudanese officials at the cotton ginnery, since both the name and the belief exist in the Sudan (Corkill 1935, p. 30) applied to *Atractaspis microlepidota*. The name *sul* was also used in both Kod and the Sudan and was heard later in Abu Dhabi in the Trucial States of a black snake said to be lethally poisonous.

Although only few specimens have been collected the snake is well known throughout the Aden Protectorate, where it is usually referred to as *al aswadi* or *al aswad* = 'the black one'. In Mukairas the word

jahas is used of it and in Mudia, *al munassi*='the forgotten'. This last name is connected with the belief that the symptoms do not develop until three days after the bite, when it has been (*sic*) forgotten. In the Wahidi State the delay was said to be twenty-five to forty days. In Mahra at Habarut the snake was called *arathaid harut*='snake black'.

Atractaspis engaddensis Haas

Atractaspis engaddensis, Schmidt & Marx, 1956, p. 36 (Fairan Oasis and Wadi, in Sinai, 2).

Scale count. Scale counts were Sc. 28-29, V. 275-282, C. 34-36, A.1.

Bitis arietans (Merrem)

Vipera arietans, Anderson, 1896, p. 55 (Hadhramaut, 1).

Bitis arietans, Boulenger, 1896, p. 494, (*in litt.*); Parker, 1931, p. 514 (Qara Mountains and Dhufar, in, Fazul and Sa'arin, 3); idem, 1931 a, p. 228, (*in litt.*); idem, 1941, p. 5 (Haz in Yaman, 1); Schmidt, 1953, p. 253 (Taizz, 2).

Records. The present collection contained two specimens, both from Sana in the Yaman.

Scale count. The recorded scale range for the Arabian specimens is Sc. 25-33, V. 126-138, C. 16-25, A. 1.

Vernacular names. Parker (1931a p. 228) records the Shahari name *dolalat* from the Qara Mountains and Dhufar. Scott (1947, p. 238) writes that in the Amiri highlands, the snake was called *haiya* and *hanash*, both general names for snakes. At Raidat Maarar in a Hadhramaut escarpment the senior author heard talk of a snake, 'a big killer in the hills' called *tarsha*='deaf one'. In the Sudan *Bitis arietans* shares the name *nawama*='sleeper' with *Python regius* because of their similar sluggish behaviour. In Iraq, *Vipera lebetina* is called the *haia tarsha*='deaf snake', and in Cyprus, *kufi*, which also means 'deaf', apparently because it seems sluggish. In parallel *B. arietans* may be the 'deaf snake' of the Hadhramaut escarpment, from which in any case it has already been recorded.

Remarks. The species is characteristically African, and does not appear to be common in Southern Arabia. It is found discontinuously in the hills of the Yaman, Hadhramaut, and the Qara Mountains.

Cerastes cerastes (Linnaeus)

Vipera cerastes, Strauch, 1862, p. 359 (Arabah in Midian).

Cerastes cornutus, Werner, 1893, p. 359 (Sinai, +); Anderson, 1896, p. 82, (*in litt.*); idem, 1901, p. 151 (Abyan 1); Boulenger, 1896, p. 503 (Arabia, Sinai, Timaht in Midian, and Hadhramaut, 4); Barbour, 1914, p. 91 (Sinai, +). Parker, 1931, p. 514, (*in litt.*).

Aspis cerastes, Parker, 1938, p. 481 (South Hadjaz, 3); Schmidt, 1939, p. 88 (Al Jubail, 1); idem, 1941, p. 165 (Junaitha, 1); Haas, 1961, p. 19 (Al Hasa, 3); Haas & Battersby, 1959, p. 202 (Jabrin, 1).

Cerastes cerastes, Haas, 1957, p. 82 (Dahran, Abqaiq, Shimal and Abu Shaiba in the oilfields, 23).

Records. Apart from the records mentioned above the species has been written of by various other authors. Doughty (1921, p. 313) writes of encountering it in his mid-nineteenth century travels in Midian, the Hejaz, and Najd. Thomas (1932, p. 59) writes of its being encountered in the Rub-al-Khali as 'inevitable'. Thesiger (1959, p. 108) writes of it as common in Atarit in the same desert. Dickson (1949, p. 470) writes of it in Kuwait and Hasa, Scott (1947, p. 25) says that it is plentiful in Shaik Uthman in Aden Territory. Philby (1939, p. 106) tells of encountering three one night at Shabwa in the Hadhramaut, and Abdullah Mansur (1911, p. 337) gives an account of them between Aden and Lahej.

The present collection numbers fourteen specimens of which five were horned. These came from Marrath Oasis in Saudi Arabia, Little Aden, Ahwar, Baihan, and the Thamud area on the edge of the Rub-al-Khali.

Scale count. The counts given in the literature for the Arabian specimens are Sc. 26-39, V. 139-166, C. 31-39.

Coloration. The ground colours in live specimens were yellowish, but preserved specimens ranged from yellow, through brown and pink, to grey. The specimen from Little Aden was much darker than the others.

Vernacular names. Doughty (1921, p. 313) gives the name of the species in north-west Arabia as *um janaib*, = 'sideways one'. Thomas collected the name of *kabsh* = 'ram' from the Rub-al-Khali, recorded by Parker (1931, p. 230, 1932, p. 344).

In Baihan, the snake was called *haiya* which, although frequently used of snakes in general, is most commonly applied to small, yellow, superficially similar forms, such as *Cerastes*, *Echis*, and *Eryx*. *Haiya biqurun* = 'horned *haiya*' is the usual term in conversation. The name *kabsh* was used by a Manhali from Thamud. Other names used of this species were *haiyat al qurun* = 'the *haiya* of the horns', *haiyat al jabal* = 'the *haiya* of the hills or wilderness', *abu qurain* = 'of two horns', and *um al qurun* = 'of the horns'. At Habarut on the Mahra mainland, the corruption of the Arabic name is *rabudh biskarun* = 'spotted one of the horns'. Because of its habit of occupying burrows or lying superficially buried, in sand, it shares the name *dafn* with *Echis* and *Eryx*. Specimens have also been labelled *bathan* (cf. Hebrew *pethen*) = 'serpent' and *hanash al argat* = 'the spotted *hanash*', which indicates some confusion with the last two genera.

Habitat. The snake is common throughout the sandy deserts of the Peninsula, and is also found in north Africa, Iraq and Iran.

Remarks. A boy was seen in Baihan playing fearlessly with large horned and unhorned specimens, and two small horned ones, one of which he teased until it bit a piece of rag.

Echis carinata pyramidum (Geoffroy St. Hilaire)

Echis carinatus, Günther, 1878, p. 977 (Midian, 1); Boulenger, 1887, p. 407 (Muscat, 7); idem, 1896, p. 506, (*in litt.*); Anderson, 1895, p. 635 (Lahej, 1); idem, 1896, p. 83 (Hadhramaut, 1); idem, 1898, p. 341, (*in litt.*); idem, 1901, p. 13 (Lahej, 1); Boettger, 1892, p. 63 (Aden, +); Parker, 1931, p. 514 (Zik in Qara Mountains or Dhufar, 1); idem, 1931a, p. 228, (*in litt.*); idem, 1949, p. 106, (discussion).

Echis carinata pyramidum, Constable, 1949, p. 156 (Snakes of Arabia referred to this sub-species).

Records. The senior author's collection included specimens taken from Buraiman, Lahej, Makhzan, Kod, Mukalla, Bagarain near Mukalla, Mola Matar, and Ghail Bawazir.

Scale count. The scale counts for the Arabian examples of this species are Sc. 27-32, V. 159-184, C. 27-48. A female specimen in the senior author's collection had a ventral count of 189 and mid-body scale count of 31. It was not possible to count the subcaudal scales, as the specimen was damaged.

Coloration. The dorsum may be grey or yellow to brownish or reddish with darker markings having paler edging, and with or without a paler marking suggestive of a broad arrow or bird's foot on the head. The effect of the paler markings is to suggest a wavy line down each flank. In a well-marked specimen the aptness of the name, 'carpet viper', is clear. The belly may be clear white or tinged yellow, or may be speckled black or brown. In some specimens markings may be insignificant.

Vernacular names. *Echis carinata* shares several folk names and folk attributes with *Echis colorata*, due to the great similarity between the two species. In Aden Territory, a common name applied to them both is *afa* with its variants, perhaps more frequently in the West. In the East *dhuffa* = 'cow-pat' is commoner, and refers to their appearance when coiled up and lying on the ground. The most commonly used name, however, is *dafn* = 'burier'. This last is widely applied to the *Echis* snakes and inspires a local jingle, one version of which is:

idha ladagak al dafn
jahiz al ganna wa al kafn.

[If you are bitten by the *dafn*
Prepare for Paradise and the shroud.]

The word *afa* has many variants, such as *fa*, *fai*, *fa'i*, *fau*, which may be regarded as partly mimetic in origin (see above, p. 480). Inspired by the rustle of the coils moving over one another, more definitely so are the names *fakhukh*, *fakhakk*, *fakhakha*, and *fashish*. These are more local in application, and together with the forms *um jahausha*, *majahausha*, (= *um jahausha*), and *warash* recall the mimetic colloquial names for *E. carinata* in the Sudan (Corkill 1935, p. 29), involving *f* and *sh* sounds.

In reference to the white wavy lines along the sides of the typical *E. carinata*, the classical name *dhu al tafitain* = 'of the two festoons',

was heard once in 13 years. When the markings present are clearly defined as spots, the names *raqta*, *rabudh*, and *hanash arqat* all meaning 'spotted' are used. In Jiddah specimens were called *um janaib* (a name used of *Cerastes* in Najd and Iraq), a Najdi giving the variant *um jannab*. A visiting Marra tribesman seeing a specimen in the office at Mukalla, said it was an *invaisha*. At Raidat Abdul Wadud, a local official said the *dhuffa* was also known as *jid al Saiban*—'the male ancestor of the Saiban'. The latter are a local tribe on the Hadhramaut escarpment. The name rather suggests a pre-Islamic cult vestige.

Habitat. The snake is usually found in rock, sand, gravel, and sparse xerophytic vegetation. Records of places in which specimens were taken include: near hospital buildings, near prison buildings, in a village, in a palace and other gardens, in cotton cultivation, and on a road in flooded ground.

Diet. A gerbille was found in the stomach of one of the specimens in the senior author's collection.

Remarks. In Ghail Bawazir, a small boy was seen handling the snake quite fearlessly. Two specimens responsible for non-fatal bites were brought in with patients, in Makhzan and Mukalla. The cases recovered but on the whole the lethality implied in the jingle (see above, p. 501), exaggerated though it is, is borne out by clinical experience. All serious cases of snake poisoning in the Territory for which there are acceptable records have had haemorrhagic symptoms characteristic of poisoning by this species. Occasional deaths undoubtedly occur.

***Echis colorata* Günther**

Echis coloratus Günther, 1878, p. 988 (Jebel Sharr in Midian, 1); idem, 1881, p. 463 (Socotra, 1); Boulenger, 1887, p. 408 (Muscat, +); idem, 1896, p. 507, (*in litt.*); idem, 1903, p. 91 (discussion on Socotran record); Anderson, 1896, p. 83 (Hadhramaut, 1); idem, 1898, p. 343, (*in litt.*); Barbour, 1914, p. 90 (Akaba, 1); Parker, 1938, p. 481 (Hajaz, 1); idem, 1949, p. 105 (discussion on Socotran record); Dickson, 1949, p. 470 (Kuwait area, 2); Schmidt & Marx, 1956, p. 36 (Fairan Oasis and Al Raba in Sinai, 3); Haas & Battersby, 1959, p. 202 (northern Hadhramaut, 1).

Records. The present additions number 10 specimens from 'Aden Territory', Little Aden, Jaar in the Abyan area, Jol Bahawa, and Fuwa, Khurba, and Riyan in the Mukalla area.

Scale count. The scale counts for the Arabian specimens were Sc. 31-35, V. 174-205, C. 44-54.

The two specimens in the senior author's collection that were not too mutilated to be accurately counted had scale counts within this range.

Vernacular names. This species is frequently confused with *E. carinata*, and it is not therefore surprising to find that apart from *dhu al tafiten* (inspired by a boldly marked *E. carinata*) the same names, already mentioned above, are used by the Arabs for both species.

As mentioned above the health assistant from Socotra, who was trained in Mukalla and who knew the snakes of both the island and the

mainland, insisted that the *dhuffa*, the word used on the mainland of both *Echis* species, occurred in Socotra, and was there known as *diatib*. *E. colorata* has, in fact, but possibly erroneously, been recorded from the island (see above). He could not remember any serious cases of snake bite on the island, however, and none at all that had suffered from haematuria, a characteristic of viperine poisoning. Every other species recorded from the island is endemic, and it is possible that the snake is confused with the viper-like *Dityophis vivax* (see above, p. 486). Unless another *Echis colorata* is found on the island, its occurrence there must remain doubtful.

Habitat. Of the specimens collected by the senior author, one came from under palm branches in a grass hut, one from water in a water-course, and one from a mud hut.

Remarks. One bit a boy who, although up and about the next day, was said five months later to be still troubled with a swollen foot limiting complete freedom of movement.

Pseudocerastes fieldi Schmidt

Pseudocerastes fieldi Schmidt, 1930, p. 227 (Bair Wells and Um Wa'al in Jordan 1); idem, 1939, p. 88, (*in litt.*); Flower, 1930, p. 224 (South of Hassanat in Sinai, presumed *fieldi*, 1); Haas, 1957, p. 82 (Sakara near Jauf, 1).

Pseudocerastes persicus (Duméril & Bibron)

Pseudocerastes persicus, Laurent, 1948, p. 9 (Lingah, Persian Gulf, 1).

Scale count. The scale count was Sc. 25, C. 44.

Vipera lebetina (Linnaeus)

Vipera lebetina, Scortecci, 1932, p. 39 (Sana in Yaman, 1).

Scale count. The scale count was Sc. 23-27, V. 147-180, C. 29-51, A. 1.

Records. This is the southernmost record for the species, and rather remote from the normal distribution some 15° further north.

ACKNOWLEDGEMENTS

Acknowledgements are gratefully made by the senior author to Dr. H. W. Parker, formerly of the British Museum, for identification of certain material over many years, and by both authors to Miss A. G. C. Grandison of the Museum's present staff for personal help, facilities, and access to comparative material related to the additions to the Museum's collection, which are dealt with in this paper.

For specimens, field notes or records of snake poisoning, it is a pleasure to express indebtedness to Dr. A. Affara, Aden B. P. Refinery Hospital, K. R. M. Anthony Esq., Maj. St. J. Armitage, Shaikh Hadi Bahayan, Z. R. Beydun Esq., Dr. A. Bittar, P. K. Booker Esq., Dr. K. P. Cruse,

Dr. H. Duhm, Dr. A. L. Fawdry, Mr. Gunn, Dr. E. T. Gonnet, Dr. Hayatt, Dr. A. S. Hassan, J. Hewitt Esq., Dr. E. Hoek, Dr. T. S. Japanwala, Dr. C. R. Jones, P. Kershaw Esq., Shaikh Mohammed Kharusi, Capt. F. Mansfield, J. McEwan Esq., Dr. G. D. Morris, H. St. J. Philby Esq., G. Popov Esq., Dr. K. V. Ranade, Group Capt. Rice, Dr. H. K. Robertson, Dr. B. R. S. Gupta, Dr. R. B. Smith, Lt. Col. I. E. Snell, A. C. Trott Esq., Mr. Wade, G. Wall Esq., Mrs. B. Watts, and D. Watts Esq.

Special thanks are due to the Arab staff of the Aden Protectorate Health Service, notably Abdul Hamid Abdul Qawi, Abdullah Audhali, Abu Bakr Awadh Abaad, Ahmad Muhammad Aidarus, Ali Said Shaabi, Awadh Nasir, Fadhl Said, Hassan Ahmad ba Abad, Mahfud al Amari, Muhammad Ahmad Mahairi, Muhammad Ba Ras, Muhammad Abdul Rabu, Muhammad Qasim Muflahi, Muhamad Salim Ali, Muhammad Salim Yafa'i, Muhammed Uthman, Nasir Farid, Salah Rubaiya Ghabri, Salim Ahmad Bajuban, Salim Ahmad Hassani, Salim Mahfud Haidar, Shaikh Ahmad Bawazir, and Thani bin Ali. Particular acknowledgement is made to Chief Health Inspector Sayyid Omar Khamur of the Qu'aiti State Service for much of the material collected, and to the senior author's clerical staff, Mr. Hussain Rugai, and Mr. Muhammad Ockba for translation of manuscripts, labels, and notes.

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