

10. THE POISONOUS SNAKES OF IRAN

M. LATIFI*, A. R. HOGE** and M. ELIAZAN*

* *Department of Herpetology and Antivenin of Razi Institut, Iran*

** *Department of Herpetology of Instituto Butantan, Brazil*

During the years 1960-1965 identification of more than 10 000 snakes was made in Razi Institute. This work deals with the poisonous snakes (including OPISTHOGLYPHA) captured in various localities of Iran.

Included are 17 species and subspecies with a distribution map containing localities of the examined material; also a graph showing the number of snakes collected during a period of five years. Zoological exploration of Iran is far from complete and much taxonomic work is to be done.

OPISTHOGLYPHA

Boiga trigonata melanocephala (Annandale): Sag-mar

Head very distinct from neck, one praecocular nearly extending to the upper surface of the head; two postoculars (sometimes 2+1); scales smooth, more or less oblique with apical pits, in 21 rows, vertebral row enlarged narrowing laterally, 8 upper labials, third, fourth and fifth entering the eye, eleven lower labials; temporals 2+2 or 2+3. Ventrals 216-229 in males, and 232 to 236 in females, subcaudals 74-88 in males and 78 to 96 in females. Yellowish olive or pale brown, with a white black-edged zigzag band along the back, or with a dorsal series of white, black-edged spots, head blackish, belly white, with or without a series of small brown spots along each side.

Total length: 1120 mm., *tail*: 170.

Localities: Kerman, Balouchestan and Sistan.

Malpolon monspessulanus insignitus (Geoffroy Saint Hilaire): Yelé-mar

Head long, angular, 8 upper labials, fourth and fifth entering the eye, 10 or 11 lower labials, two loreals, frontal very narrow, one large praecocular, reaching the frontal, temporals 2+3. Dorsal scales in 17 rows, ventrals 169-183, subcaudals 63-93 in females. Brown, olive, green, gray or bluish gray, with dark lightbrown edged spots.

Sometimes scales with blackish and whitish spots. Belly white or yellowish, punctuated with black and marked with large yellowish spots.

Total length: 1360 mm., *tail*: 290.

Localities: Azerbaijan, Central State, Kermanshahan and Khuzistan.

Malpolon moilensis (Reuss): Yelé-mar

Head long and thin, with angular conthus, 10 or 11 lower labials, 8 or 9 upper labials, the fourth and fifth entering the eye. Frontal as broad as the supraocular, one loreal as long as deep or deeper than long. One praeocular not reaching the frontal, three postoculars, temporals 2+2 or 2+3. Dorsal scales in 17 rows, ventrals 173-178 in females. Subcaudals 53-58 in females. Brown, yellow or sandy gray, spotted darker, two oblique brown or blackish bars on each side of the head behind the angle of the mouth. Belly white or yellowish.

Total length: 1020 mm., *tail*: 120.

Locality: Khuzistan.

Psammophis schokari (Forskal)

Rostral broader than deep, visible from above, neck defined, internasals much shorter than the praefrontals, the fang is followed by an interspace, one praeocular and two postoculars, nine upper labials, fifth and sixth (rarely fourth and fifth) entering the eye, 10 or 11 lower labials, temporals 2+2 or 3 (rarely 1+2). Dorsal scales in 17 rows, anal divided, ventrals 177-189 in females, subcaudals 85-125 in females. Yellowish, grayish, pale olive or reddish above, a dark streak on each side of the head, passing through the eye, a white spotted line between two brownish lines from occipital until the end of the tail, the center of the supraocular white, surrounded by brownish color, two dark lines on each side of the body. Belly usually white, yellowish, with dark spots.

Total length: 1090 mm., *tail*: 360.

Localities: Khorasan, Khuzistan and Kerman.

Psammophis lineolatus (Brandt): Tier-mar

Snout moderately prominent, grooved above and outsides. Rostral broader than deep, just visible from above, internasal much shorter than the praefrontal. The fangs not separated from other teeth by an interspace. One praeocular and two postoculars. Nine upper labials; fourth, fifth and sixth entering the eye, 10 or 11 lower labials. Temporals 2+2 or 2+3. Dorsal scales in 17 rows, ventrals 178-195, subcaudals 76-97 in females. Anal divided. Yellowish or pale gray above, with four olive black-edged stripes, the median pair extending until the top of the head, the outer pair to the nostrils, passing through the eye; a dark median streak from the interorbital region to the occipit. Belly white, dotted with gray or olive, and with one or two dark lines on each side.

Total length: 830 mm., *tail*: 200.

Locality: Khorasan.

Telescopus fallax iberus (Eichwald): Afyi-sousan

Head distinct from neck, rostral broader than deep, nasal semidivided, vertically pupil, loreal entering the eye below the praeocular, which is in contact with the frontal, 8 or 9 upper labials, third, fourth and fifth entering the eye.

Ten or eleven lower labials, (rarely 12), one praeocular, two postoculars (sometimes 2+1), scales smooth, oblique in 19 or 21 rows, ventrals 204-228 in males, 187-227 in females, subcaudals 61-67 in males, 50-64 in females; subcaudals in two rows. Anal single or divided, usually entire. Dark gray, with belly almost uniformly black, pinkish brown, belly blotches black and white. 32-40 black bars on the body, a lateral series of smaller spots alternating with dorsals, lower part speckled whitish, spotted with dark brown.

Total length: 650 mm., *tail*: 120.

Localities: Azerbaijan, Central State, Kerman-Shahan and Khorasan.

Telescopus tessellatus tessellatus (Wall): Afyi-sousan

8 or 9 upper labials; third, fourth and fifth entering the eye, 10 or 11 lower labials, the scales are in 19 or 21 rows, ventrals 215 to 261 in males, 211 to 244 in females, subcaudals 64 to 81 in males, 53 to 71 in females, anal entire or divided. It is possible, that some of the specimens here referred to as *tesselatus* are *T. martini* Schmidt, but more specimens are needed to solve the question.

HYDROPHIINAE

Hydrophis cyanocinctus (Peters): Mar-mahi

Head moderate, body elongated. Rostral slightly broader than deep; frontal much longer than broad. One praeocular and two postoculars; seven upper labials, ten lower labials, scales 41 round the middle of the body and 31 at the neck. Two specimens were examined from CHAHBOHAR (Persian Gulf), ventrals in one male: 410, and in one female: 365. Greenish olive above, with dark olive or black crossbars or annuli, broader on the back, black annuli complete and connected by a black band along the belly.

Total length: 1120 mm., *tail*: 100.

Locality: Persian Gulf.

ELAPIDAE

Naja naja oxiana (Eichwald): Kafché-mar

Eye moderate, internasal as long as or shorter than praefrontal, one praeocular, 3 or 2+1 (rarely two) postoculars, temporals 2+3 or 2+4 (2+5 or 2+6). Seven upper labials; third and fourth entering the eye, eight lower labials. Dorsal scales smooth in 21 rows. Ventrals 194 to 204 in males, 196 to 206 in females, subcaudals 57 to 69 in males, 51 to 64 in females, subcaudals all in two rows. Anal entire. Yellowish to dark brown or pale brown or gray to blackish, no marking on the hood, one or more dark crossbands on the anterior part of the belly; the young with dark rings.

Total length: 1710 mm., *tail*: 350.

Localities: Khorasan (Meshed), Gorgan.

Walterinnesia aegyptia (Lataste): Cobra

Head distinct from the neck, one praecocular resting on the third labial, one subocular, two postoculars, temporals 2+3, seven upper labials, third and fourth entering the eye; nine lower labials, scales smooth anteriorly, feebly keeled on the posterior part of the body, strongly so on the tail, 23 rows across the body, subcaudal single anteriorly, divided posteriorly. Ventrals 188 to 198 in females, subcaudals 42+1 to 47+1 in females. Characters differentiating *Walterinnesia* from *Naja* are as follows:

- 1 — Anal plate divided in *Walterinnesia*, entire in *Naja*.
- 2 — Posterior dorsal scales of body and tail distinctly keeled in *Walterinnesia*, smooth in *Naja*.
- 3 — Subcaudals divided and entire in *Walterinnesia*, all divided in *Naja*.

Upper surface dark brown, blackish, entire under surface dark brownish, black.

Total length: 990 mm., *tail*: 115.

Localities: Khuzistan and Fars.

VIPERIDAE**Vipera ursinii** subsp: Afyi

Snout obtusely pointed, flat above, rostral as deep as broad, visible from above, in contact with two apical shields; supraocular well developed, separated from frontal by two shields. It is similar to *Vipera ursini* Renardi, but the body is more thick and the head is more distinct from the neck, nine or ten scales round the eye, five scales between the eyes, 9 upper labials. Dorsal scales in 21 rows, strongly keeled on the back. Ventrals 130 to 136 in males, 128 to 134 in females, subcaudals 22 to 33 in males, 26 to 36 in females. Anal entire. Yellowish or pale brown, reddish above, a vertebral series of more or less regular spots, transversely oval, some or all of which may be confluent and form an undulous or zigzag band, two or three longitudinal series of dark brown or black spots along the sides, the lower ones on the outer row of scales, an oblique dark stripe from the eye to the angle of the mouth. Ventrals and subcaudals with transverse series of small white spots; gray, checkered with black and white.

Total length: 420 mm., *tail*: 50.

Locality: Alborz mountains (Tehran).

A subspecies of *V. ursinii ebneri* was described from the Alborz Mountains. The validity of *ebneri* will be discussed in another paper.

Vipera lebetina obtusa (Dwigubsky): Korze-mar or Afyi

Snout rounded, rostral as deep as broad, reaching the upper surface of the snout and contact with two or three apical shields. Upper surface of head co-

vered with small subimbricate scales, which are all more or less distinctly keeled. 7 to 12 longitudinal series of scales between the eyes, supraocular narrow, usually broken up into two or more small shields, 12 to 19 scales around the eyes, two or three series of scales between the eye and the labials, upper labials 10 to 11, lower labials 12 to 14. Dorsal scales in 23 or 25 or 27 rows (usually 25 rows), strongly keeled. Ventrals 126 to 278 in males and 151 to 181 in females, subcaudals 35 to 53 in males and 39 to 51 in females. Anal entire. It seems that *V.l. schweizeri*, *turanica*, *mauritanica*, *deserti* and *euphratica* are nearly the same as *V.l. obtusa*. The very variable coloration and size depends upon the localities, climate and geographical conditions.

Gray, olive, or brown, with darker dorsal blotches and lateral spotting; usually grayish buff or pale brown above with dorsal series of darker spots which may stand in pairs, alternate or unite to form cross-bars and a lateral series of large dark spots or bars. A more or less distinct dark band on each side of the head, passing through the eye and then extending to the neck. Sometimes dark dots or spots on the head present; belly white, speckled (powdered) brown, with or without dark brown spots.

Total length: 1600 mm., *tail*: 200.

Localities: It is a common poisonous snake in Iran, nearly distributed in every part: Azerbaijan, Kordestan, Tehran, Lorestan, Kermanshahan, Khuzistan, Khorasan, Kerman, Balouchestan and Sistan.

Vipera xanthina subsp: *Afyi alborzi*

Head covered with feebly keeled scales; supraocular well developed, erectile, the free edge angular, separated from the eye by small scales. 13 or 14 (rarely 12) around the eye, two series of scales between the eye and labials, nine or ten (rarely eight) upper labials, 11 to 13 (usually 12) lower labials, 7 to 10 scales between the eyes. Dorsal scales in 23 rows strongly keeled; ventrals 162 to 171 in females, subcaudals 27 to 34 in females. Anal entire. Pale brown or grayish above, with dorsal series of somewhat lighter reddish roundish spots, which are dark-edged on the sides; these spots may be in pairs or alternative; two dark lines on the back of the head and a dark streak behind the eye, in some specimens pale brown or grayish above, with a dark brown, reddish vertebral line from the end of the head along the dorsal until the end of the tail; belly yellowish beneath, powdered with black, each shield with a transverse series of black and white spots.

Total length: 700 mm., *tail*: 35.

Locality: Alborz mountains (Tehran).

Vipera persica persica (Duméril, Bibron and Duméril): Mar-shakhadar

Snout very short and broadly rounded, supraocular "horns" above the eye present, 15 to 19 (usually 17 to 19) scales around the eye, three series of scales between the eye and labials, one series of scales between nasal and rostral,

12 to 13 (usually 12) scales between the eye. Dorsal scales 23 to 25 (usually 23) rows at mid-body, keels of lateral scales not serrated; ventrals 150 to 155, subcaudals 39 to 49. Anal entire.

Grayish or brownish or pale yellowish brown above, with four series of large dark spots, the two median sometimes confluent and forming transverse darker bars across the back; sides of the head darker brown, due to two very obscure oblique dark bars below the eye; ventral surface uniform pale straw color, sometimes whitish beneath, dotted, with dark and a lateral series of dark spots.

Total length: 850 mm., *tail*: 110.

Localities: Khorasan, Balouchestan and Sistan.

Echis carinatus pyramidum (Geoffroy Saint-Hilaire): Mar dzafari or kockmar

Snout very short, rounded, head covered with keeled scales, and very distinct from the neck, a narrow supraocular present, 10 to 12 upper labials; 11 to 13 lower labials; 15 to 19 scales around the eyes; usually two series (rarely three or one) scales between the eye and upper labials, 11 or 12 scales across from eye to eye. Dorsal scales 31 to 37 (usually 37) rows round the middle of the body, and 27 at the neck; ventrals 170 to 183, subcaudals 26 to 37 in a single row. Anal entire. Yellowish, grayish, brown or brownish gray with longitudinal series of whitish, dark-edged spots; enclosing a round dark brown lateral one, a cruciform shaped whitish mark present on the head. Belly uniform whitish, speckled with brown dots, or with small round black spots.

Total length: 660 mm., *tail*: 65.

Localities: Khorasan, Kerman, Fars, Khuzistan, Balouchistan and Sistan.

CROTALINAE

Agkistrodon halys caucasicus (Nikolsky): Afyi kafkazi

Snout obtusely pointed, slightly turned up at the end, rostral as deep as broad or broader than deep; a pair of internasals, and a pair of praefrontals; frontal as long as or little shorter than the parietal, upper praeocular separated from posterior nasal by a loreal; one praeocular, one subocular, two postoculars; loreal pit separated from labials; three large temporals, 7 or 8 (usually 8) upper labials, scales keeled in 23 rows; ventrals 149 to 166; subcaudals 31 to 56 pairs.

Yellowish, grayish, reddish or pale brown above, with darker spots forming transverse cross-bars; two lateral streaks on the back of the head; lips speckled with brown; lower parts whitish, more or less speckled with gray or brown.

Total length: 560 mm., *tail*: 70.

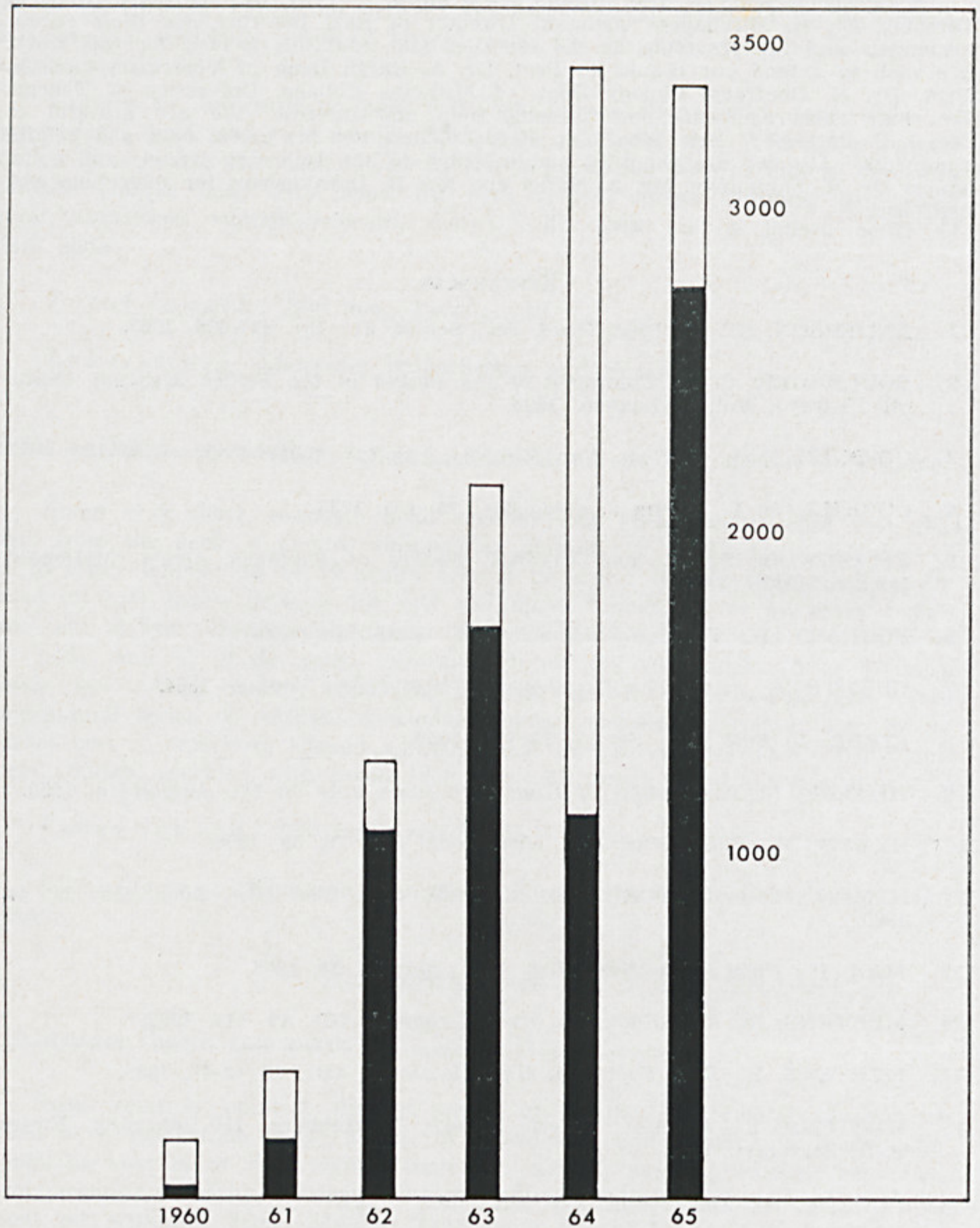
Locality: Alborz Mountain (Tehran).

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REFERENCES

1. ANDERSON, ST. C., *Proc. Acad. Sci.*, Ser. 4, **31** (16), 417-498, 1963.
2. BOULENGER, G. A., *Catalogue of the snakes in the British Museum* (Natural History), Vol. 3, London, 1896.
3. CORKILL, N. L., *J. Bom. Nat. Hist. Soc.*, **35** (3), 1932.
4. CORKILL, N. L., *Indian J. med. Res.*, **20** (3), 1933.
5. FITZSIMONS, F. W., and VIVIAN, *Snakes of Southern Africa*, McDonald, London, 1962.
6. FORCART, L.; *Verh. Naturforsch. Ges. Basel*, **61**, 1950.
7. GUENTHER, A. C., *The Reptiles of British India*, London, 1864.
8. GUIBÊ, J., *Bull Mus.*, Ser. 2, **29** (2), 1959.
9. HHALAF, K. T., *Reptiles of Iraq, with some note on the Amphibian*, 1959.
10. HYMEN, M., *Field. Mus. Nat. Hist. Zool.*, Ser. 18, **39**, 1958.
11. HYMEN, M., and GEORGE, B. R., *Field. Mus. Nat. Hist. Zool.*, Ser. 21, **44**, 1965.
12. MAX, H., *Field. Mus. Nat. Hist. Zool.*, Ser. 16, **34**, 1953.
13. MERTENS, R., *Rev. Fact. Sci. Univ. Istambul*, (B), **17** (1), 1952.
14. MERTENS, R., *Rev. Fact. Sci. Univ. Istambul*, (B), **18** (3-4), 1953.
15. MERTENS, R., *Jb. Ver. Vaterl. Naturk, Württemberg*, III Jahrgang, Erstes Heft, Stuttgart, 1956.
16. POPE, C. H., *Amer. Mus. Nat. Hist.*, N.Y., 1935.
17. SCHMIDT, K. P., *Field. Mus. Nat. Hist. Zool.*, Ser. 7, **24**, 1939.
18. STEJNEGER, L., *Bull. U.S. Nat. Mus.*, **58**, 1907.
19. TERENCEV, P. V., and CHERNOV, C. A., *Reptiles and Amphibians from the USSR*, 1940.
20. WERNER, F., *Verh. zool. bot. Ges. Wien*, **67**, 1917.
21. WETTSTEIN, O., *S. Öst. Akad. Wiss. math-nat. Kl.*, Abt. I, **160**, 1951.

THE POISONOUS SNAKES OF IRAN



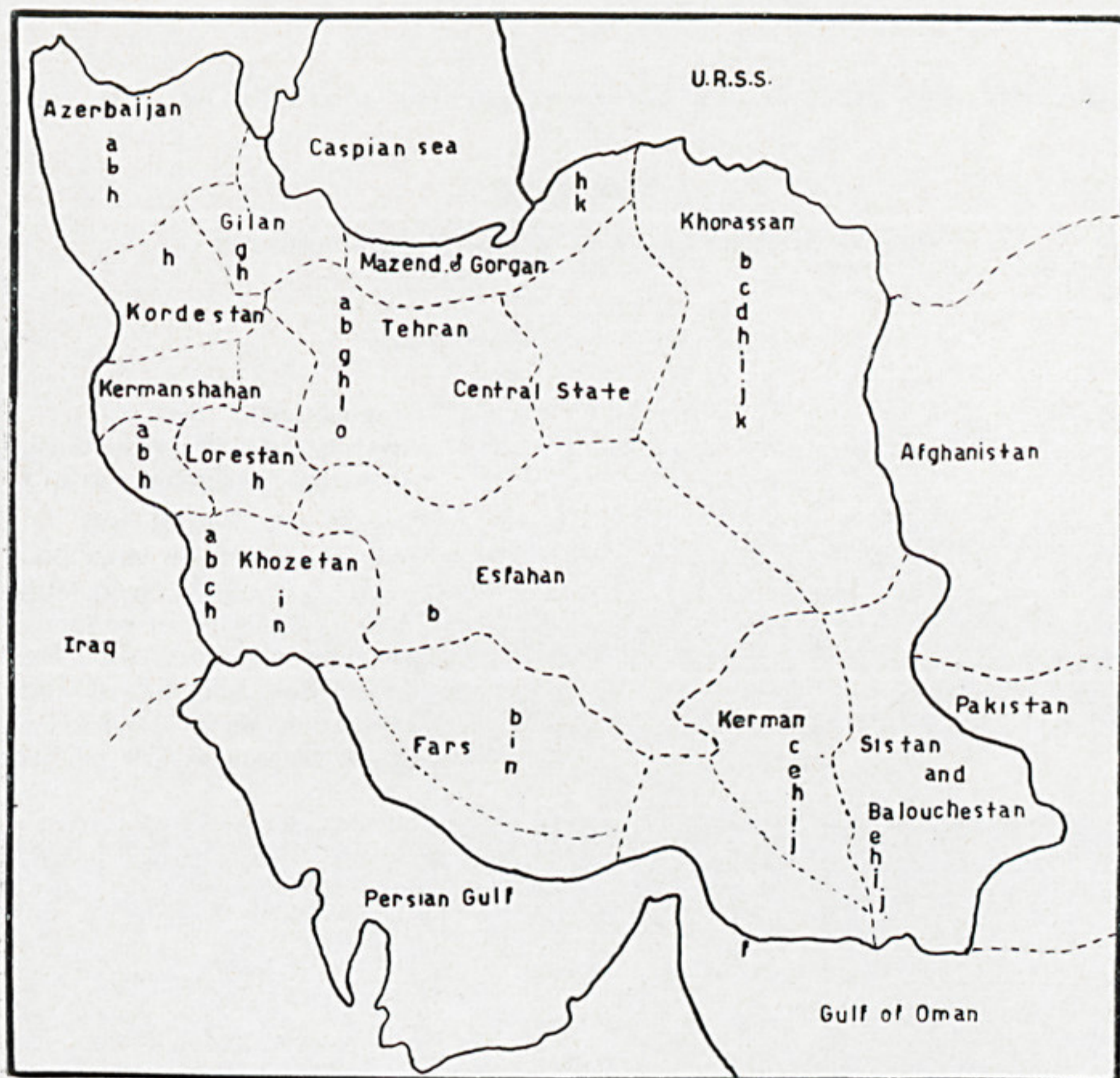
Graph showing the number of snakes collected (1960-1965)

Harmless snakes

Poisonous snakes

Each millim. 20 snakes

DISTRIBUTION OF POISONOUS SNAKES IN DIFFERENT STATES OF IRAN



a — *Malpolon*

b — *Telescopus fallax iberus*

c — *Telescopus tessellatus tessellatus*

d — *Psammophis schokari*

e — *Psammophis lineolatus*

f — *Boiga trigonata melanocephala*

g — *Hydrophis cyanocinctus*

h — *Vipera ursinii* subsp.

i — *Vipera lebetina obtusa*

j — *Echis carinatus pyramidum*

k — *Vipera persica persica*

l — *Naja naja oxiana*

m — *Vipera xanthina* subsp.

n — *Agkistrodon halys caucasicus*

o — *Walterinnesia aegyptia*

