

NOTES ON THE TURAN BIOSPHERE RESERVE HERPETOFAUNA,  
NORTHEASTERN IRAN

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## ABSTRACT

One species of amphibian, the green toad (*Bufo viridis oblongus*), and 20 species of reptiles, comprising the Afghan tortoise (*Agrionemys horsfieldi*), 4 agamid lizards (*Agama agilis*, *A. n. nupta* (?), *Phrynocephalus mystaceus galli*, *Ph. scutellatus*), 4 gekkonid lizards (*Agamura persica*, *Cyrtodactylus caspius*, *Teratoscincus bedriagai*, *T. scincus*), 4 lacertid lizards (*Eremias fasciata* (?), *E. persica*, *E. v. velox*, *Meislina guttulata watsonana*), 1 varanid lizard (*Varanus griseus caspius*), 1 boiid snake (*Eryx tataricus*), 4 colubrid snakes (*Coluber karelini*, *C. rhodorhachis ladacensis*, *Psammophis lineolatus*, *Spalerosophis diadema schiraziana*), and a single viperid snake (*Pseudocerastes p. persicus*), are documented from the Turan Biosphere Reserve. Collecting data, ecological information, measurements, and relevant observations are given for those forms within the Reserve, and a tentative zoogeographic analysis of the Turan herpetofauna is attempted.

## Introduction

The Turan Biosphere Reserve, formerly the Turan Protected Area, which included a wildlife refuge, is administered by the Iran Department of the Environment and covers more than  $1.8 \times 10^6$  hectares on the northeastern margin of the central Iranian desert (Spooner, 1977). Politically, the Reserve lies in Semnan Province, but it is very near the boundary of Khorasan. The approximate location and general area of the Turan Biosphere Reserve are shown on Map 1.

Firouz (1974) described the topography of the region as mountains, foothills, and plains, with desert, semi-desert, and steppe vegetation. He listed representative gamebirds (4 species) and medium to large mammals (14 species) for the region. Harrington (*in* Spooner, 1977) listed 65 species of mammals comprising 21 families in 7 orders within Turan. Unpublished data compiled by the Department of the Environment indicate that 164 species of birds may be encountered in the Turan Biosphere Reserve. Reehinger (1977) provided an annotated checklist of 375 plant species for the area. According to Spooner (1977), both "flora and mammalian fauna generally show great affinity to the Kara Kum in Soviet Turkmenistan to the north."

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Until recently, the amphibians and reptiles of the Turan Biosphere Reserve remained relatively unknown. Data gleaned from Anderson (1966; *in* Fisher, 1968; 1974), Eiselt and Schmidtler (1975), Latifi (1975), Latifi et al. (1966), Tuck (1971), and incidental specimens in the collections of the Iran National Museum of Natural History (Muze-ye Mellīye Tarikh-e Tabī'i) (MMTT), formed the basis for a preliminary analysis of the Turan herpetofauna circulated by Tuck (unpublished, 1976). Lately, intensive investigations undertaken by the author, as well as collections and observations made by researchers associated with the Turan Programme (Spooner, 1977), have made it possible to compile the material presented in this paper.

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#### Species Accounts

Class : AMPHIBIA  
 Order : SALIENTIA  
 Family : Bufonidae  
 Genus : *Bufo* Laurenti 1768

*Bufo viridis oblongus* Nikolsky 1896.

Turan Biosphere Reserve Material: (9) MMTT 1852, Tejur village, ca. 1100 m, collected 17 July 1977 by R. G. Tuck, Jr. (original no. RGT 3205); MMTT 1988, Baghestan village, 1275 m, collected 16 July 1977 by R. G. Tuck, Jr., and R. Bhadresa (original no. RGT 3202); MMTT 1989 - 1992, Baghestan village, 1275 m, collected 17 July 1977 by R. G. Tuck, Jr. (original nos. RGT 3206 - 3209); MMTT 2083, Kariz village, collected 11 October 1977 by R. Bhadresa (original no. RB-1); MMTT 2084, Nahar village, collected 12 October 1977 by R. Bhadresa (original no. RB-2); MMTT 2085, Delbar village, collected 13 October 1977 by R. Bhadresa (original no. RB-3).

Measurements: Meristic data for these specimens are given in Table 1.

Remarks: The local name for the green toad is "vasagh."

MMTT 1852 was collected during the mid-afternoon in an overgrown irrigation channel in which it was concealed beneath vegetation; the air temperature above the vegetation level registered 35°C. MMTT 1988 was taken at night in the courtyard of the village school; it was parasitized

by 3 leeches, one each on the upper foreleg, groin, and thigh. MMTT 1989 - 1992 were collected at night from the edge of a small pond behind the village school. Both MMTT 2083 and 2085 were collected in the evening, while MMTT 2084 was taken about 1200 hrs.

Class : REPTILIA  
 Order : TESTUDINES  
 Family : Testudinidae  
 Genus : *Agrionemys* Khozatsky & Mlynarski 1966

*Agrionemys horsfieldi* (Gray 1844)

Turan Biosphere Reserve Material: (1) MMTT 1901, 3 km southeast of Delbar village, collected in late January 1977 by R. Bhadresa.

Measurements: This specimen is represented only by its shell, for which the following data are recorded --

carapace length 177 mm  
 carapace width 146 mm  
 plastron length 161 mm  
 plastron width 132 mm  
 shell height 97 mm

The cervical scute in this individual is very small, practically non-existent. There are 11 marginal scutes on either side; the two 12th scutes are fused into a single supra-caudal. The specimen has 5 vertebral scutes, and there are 4 pleural scutes on each side.

Remarks: Figure 1 depicts two live Afghan tortoises observed by B. O'Regan in the vicinity of Ahmadabad on 17 April 1977.

Order : SQUAMATA  
 Suborder: LACERTILIA  
 Family : Agamidae  
 Genus : *Agama* Daudin 1802

*Agama agilis* Oliver 1807

Turan Biosphere Reserve Material: (19) MMTT 1208, 16 km south of 'Abbasabad, 800 - 870 m, collected 11 June 1975 by S. C. Anderson (original no. A 639); MMTT 1226, 34 km south of 'Abbasabad on dirt road, 870 m, collected 11 June 1975 by S.C. Anderson (original no. A650); MMTT 1771-1772, Delbar village, collected 28 July 1976 by R. E. Brown; MMTT 1782, 7.5 km east of Delbar village, 1100 m, collected 5 August 1976 by R. E. Brown (original no. REB 100); MMTT 1849 - 1850, 1 km north of Baghestan village, collected 24 April 1977 by R. Bhadresa; MMTT 1902, Baghestan village, collected 1 May 1977 by M. Martin; MMTT 1996 - 1997, near Posht-e-Aseman village, 1260 m, collected 15 July 1977 by R. G. Tuck, Jr. (original nos. RGT 3184 - 3185); MMTT 2001, Baba Kuh abandoned village, 1160 m, collected 15 July 1977 by R.G. Tuck, Jr., and R. Bhadresa (original no. RGT 3195); MMTT 2002, Baba Kuh abandoned village, 1160 m, collected

16 July 1977 by R.G. Tuck, Jr. (original no. RGT 3196); MMTT 2015 - 2016, Delbar village, 1205 m, collected 18 July 1977 by R. Bhadresa (original nos. RGT 3219 - 3220); MMTT 2017 - 2019, Delbar village, 1205 m, collected 19 July 1977 by R. G. Tuck, Jr. (original nos. RGT 3233 - 3234); MMTT 2037, between Khanekhodi village and Delbar village, 1185 m, collected 20 July 1977 by R. G. Tuck, Jr. (original no. RGT 3248); MMTT 2046, vicinity of Baghestan village, collected 27 July 1977 by M. Martin.

Measurements: Meristic data for these specimens are given in Table 2.

Remarks: MMTT 1996 - 1997 were collected between 0830 and 0930 hrs, by which time the air temperature had reached 32°C. MMTT 2001 was taken just after sunset. MMTT 2002 was collected at 0900 hrs; air temperature 29°C, lizard body temperature 35°C. Both MMTT 2001 and MMTT 2002 were active on a sand and gravel dry river plain running through a major dune field. MMTT 2037 was one of several examples of this species observed living on sand dunes near the village of Qala Bala, between Khanekhodi and Delbar villages; at the time of capture, 1935 hrs, the temperature of both the air and the surface of the sand was 35°C, while the body temperature of the lizard registered 36°C. All 7 adult females from the Turan Biosphere Reserve contained either ovarian or oviducal eggs; counts, measurements, and dates of collection of these specimens are given in Table 3. Seven live individuals from Delbar village, collected 18 - 19 July 1977 by R. Bhadresa and R. G. Tuck, Jr. (original nos. RGT 3221 - 3224, RGT 3235 - 3237), were presented to W. P. Hall, III, University of Melbourne, for karyological analysis.

*Agama cf. A. nupta nupta* de Filippi 1843

Turan Biosphere Reserve Material: (0)

Remarks: An individual believed to belong to this species was first observed in the Turan Biosphere Reserve by the author at Tejur village on 17 July 1977. The lone male evaded all attempts at capture, retreating deep into crevices within the vertical rock surface it inhabited above a spring. This particular large-scaled rock agama was seen several times between 1300 hrs and 1700 hrs; during the interval the air temperature was recorded as 35°C. On 29 August 1977 Mr. Bhadresa returned to Tejur and photographed the same lizard (Figure 2).

On 19 July 1977 the author observed droppings apparently produced by examples of this species on a rocky cliff 10 km (by road) north of Delbar village at an altitude of 1275 m. No actual agamas were seen, however, even though the site was examined from 1840 hrs, 19 July, until 1015 hrs, 20 July. A series of air temperature readings were made at intervals and may indicate that the visit did not overlap the lizards' normal activity periods --

19 July  
 1850 hrs, 37°C, breezy  
 2015 hrs, 33°C, windy  
 2110 hrs, 30°C, "

20 July

0620 hrs, 25°C

0650 hrs, 25°C

0800 hrs, 25°C (shade), 30°C (sun)

0900 hrs, 30°C

0930 hrs, 32°C

1000 hrs, 33°C

Anderson (1966:87) questioned previous reports of *A. nupta* in "extreme northeastern Iran," and cautions (*in litt.*, 2 November 1977) that this Turan sighting may really represent *Agama caucasica* (Eichwald 1831). The individual pictured here, however, closely resembles specimens of *A. nupta* preserved in the collections of the Iran National Museum of Natural History (MMTT) with regard to pattern and visible scalation, but clearly seems to differ from all *A. caucasica* at hand in these respects. Nevertheless, the matter must remain moot until verifiable material has been obtained and deposited into an accessible collection.

Genus : *Phrynocephalus* Kaup 1825

*Phrynocephalus mystaceus galli* Krassowsky 1932

Turan Biosphere Reserve Material: (4) MMTT 1848, below Kariz road, collected 11 April 1977 by M. Martin; MMTT 1903 - 1904, Tochah village, collected 18 May 1977 by M. Martin; MMTT 2003, vicinity of Baba Kuh abandoned village, ca. 1160 m, collected 16 July 1977 by R. Bhadresa and R. Dennell (original no. RGT 3199).

Measurements: Meristic data for these specimens are given in Table 4.

Remarks: The local name for the fringe-mouth toad-head agama is "kalepas-rigi."

All of these specimens were collected on sand dunes. A fifth example, collected by the author on an extensive dune area near Tochah village, 18 July 1977 (original no. RGT 3210), was presented alive to W. P. Hall, IIIrd, for karyological analysis. This individual ran into a burrow when pursued. It was caught at 1315 hrs and had a recorded body temperature of 37°C. At the time of capture other environmental data were noted as follow --

temperature of burrow 37°C

temperature of sand surface 52°C

temperature of air above sand surface 33°C

temperature of sand at depth of 160 - 200 mm 33°C

Specimens of *Phrynocephalus mystaceus galli* from the Turan Biosphere Reserve appear to differ markedly in a number of features from a series collected in Khorasan Province, 35 km north of Gonabad on the road to Torbat-e-Heydarieh, 850 m, on 9 June 1975, by S. C. Anderson and R. B. McCullers (original nos. A 602 - 606). The clear and sharply defined throat patterns seen in these latter examples, now catalogued as MMTT 1193 - 1197, do not appear in the Turan material. Meristic data for this series are summarized in Table 5 and may be compared with those of the previous group.

*Phrynocephalus scutellatus* (Olivier 1807)

Turan Biosphere Reserve Material: (30) MMTT 1203 - 1207, 16 km south of 'Abbasabad, 800 - 870 m, collected 11 June 1975 by S.C. Anderson (original nos. A 643 - 647); MMTT 1214 - 1224, salt flat 5 km west of Kahak on road to Shahrud, 800 m, collected 10 June 1975 by S. C. Anderson and R. B. McCullers (original nos. A 623 - 633); MMTT 1773, Delbar village, 1300 m, collected 29 July 1976 by R. E. Brown (original no. REB 60); MMTT 1795, 80 km south of Delbar village, collected 24 February 1977 (preserved 14 March 1977) by A. DeVos; MMTT 1995, Chohok spring, 1025 m, collected 17 July 1977 by R. G. Tuck, Jr. (original no. RGT 3204); MMTT 2020 - 2023, Delbar village, 1205 m, collected 18 July 1977 by R. Bhadresa (original nos. RGT 3211 - 3214); MMTT 2028 - 2033, Delbar village 1205 m, collected 19 July 1977 by R. G. Tuck, Jr. (original nos. RGT 3239 - 3244); MMTT 2038, between Khanekhodi village and Delbar village, 1185 m, collected 20 July 1977 by R.G. Tuck, Jr. (original no. RGT 3247).

Measurements: Meristic data for these specimens are given in Table 6.

Remarks: Twenty-three (77%) of these specimens are juveniles measuring between 18.5 and 31.1 mm ( $\bar{x}$  = 24.7 mm, SD = 3.2 mm) and were collected between 10 June and 19 July. Reproductive data taken from the 3 adult females are as follows --

MMTT 1203 (11 June), 11 ovarian eggs, 5 on the left and 4 on the right, the largest measuring 0.3 mm;

MMTT 1795 (24 February), 15 oviducal eggs, 8 on the left and 7 on the right, the largest measuring 4.5 mm;

MMTT 2020 (18 July), 11 ovarian eggs, 6 on the left and 5 on the right, the largest measuring 0.3 mm.

MMTT 1995 was collected on a gravel substrate at 1030 hrs; the air temperature was 33°C, while the surface temperatures recorded in the open and in the shade of a tamerisk bush were 40°C and 34°C, respectively. MMTT 2038 was captured on sand dunes at about 1845 hrs; the temperature above the sand was recorded as 40°C, while temperatures of the sand surface and 150 mm beneath the surface registered 45°C and 38°C, respectively.

Seven living examples of *Phrynocephalus scutellatus* from Delbar village, collected 18 July 1977 by R. Bhadresa (original nos. RGT 3225-3231), were presented to W. P. Hall, IIIrd, for karyological analysis.

Family : Gekkonidae

Genus: : *Agamura* Blanford 1874

*Agamura persica* (Dumeril 1856)

Turan Biosphere Reserve Material: (1) MMTT 2087, Harp village, 4 km east of the pass through the Kuh-e-Majred, collected 14 October 1977 by R. Bhadresa (original no. RB-5).

Measurements: The following counts and measurements (in mm) were taken from this specimen, which is a male --

snout/vent length 63.9

tail 58

number of scales around body 117

number of upper labials 15 + completely divided rostral

number of lower labials 10

number of lamellae under fourth toe 21

Remarks: This individual was collected at 1145 hrs.

Genus : *Cyrtodactylus* Gray 1827

*Cyrtodactylus caspius* (Eichwald 1831)

Turan Biosphere Reserve Material: (6) MMTT 1775, Delbar village, 1300 m, collected 12 July 1976 by R. E. Brown (original no. REB 64); MMTT 1993, Baghestan village, 1275 m, collected 16 July 1977 by R.G. Tuck, Jr., and R. Bhadresa (original no. RGT 3203); MMTT 2004 - 2005, Baba Kuh abandoned village, 1160 m, collected 16 July 1977 by R.G. Tuck, Jr. (original nos. RGT 3197 - 3198); MMTT 2024, Delbar village, 1205 m, collected 19 July 1977 by R.G. Tuck, Jr., (original no. RGT 3245); MMTT 2086, Delbar village, collected 13 October 1977 by R. Bhadresa (original no. RB-4).

Measurements: Meristic data for these specimens are given in Table 7.

Remarks: All of these individuals were collected from the vertical surfaces of walls. MMTT 1993 was taken at night from the mud-brick wall of a fortress. Both MMTT 2004 and 2005 were taken from the interior mud-brick walls of a vacant building within an abandoned village between 0915 and 0945 hrs; other individuals were seen, but not collected. The air temperature within the room was 28° - 29°C, while the body temperature of MMTT 2005 registered 29°C. MMTT 2024 was asleep on the exterior wall of a cement building when it was captured at 1600 hrs; the air temperature was recorded as 35°C, while the lizard body temperature registered 34°C. MMTT 2086 was taken from the wall of a building during the afternoon hours.

MMTT 2005 contains 10 ovarian eggs, 6 on the left and 4 on the right, the largest measuring 1.2 mm in diameter. Preservation of the internal organs of MMTT 2086 is too poor to assess reproductive data.

Four of the 6 examples from Turan possess regenerated tails. Eight other specimens of *Cyrtodactylus caspius* in the collections of the Iran National Museum of Natural History (MMTT) comprise an adult female and 7 juveniles (MMTT 507 - 514) collected in Shahrud city, Semnan Province, on 23 April 1974 by M. Thireau and R. Khazai (original nos. RGT 2869 - 2873, RGT 2904 - 2906). While one juvenile, MMTT 508, lost its tail during capture, it is possible to combine data taken from the remaining 7 specimens with those from the Turan Biosphere Reserve samples to produce the tail-loss and regeneration information given in Table 8. Only one example (17%) of the 6 juveniles, which measure between 24.2 and 34.8 mm snout/vent length ( $\bar{x}$  = 30.4 mm, SD = 3.9 mm), had lost its tail prior to collection; while 5 (71%) of the 7 adults, which measure between 45.7 and 60.7 mm snout/vent length ( $\bar{x}$  = 54.6 mm, SD = 6.0 mm), had lost and regenerated their tails previous to capture.

Genus : *Teratoscincus* Strauch 1863

*Teratoscincus bedriagai* Nikolsky 1899

Turan Biosphere Reserve Material: (2) MMTT 2039 - 2040, between Khanehkhodi village and Delbar village, 1185 m, collected 20 July 1977 by R. G. Tuck, Jr. (original nos. RGT 3249 - 3250).

Measurements: Meristic data for these specimens are given in Table 9.

Remarks: Both examples were captured at 2100 hrs. They were stationed on the surface of a sand dune; surface temperature was 34 C, while the air temperature registered 30 C. MMTT 2039 contains 9 ovarian eggs, 4 on the left, 5 on the right, the largest measuring 1.6 mm in diameter.

*Teratoscincus scincus* (Schlegel 1858)

Turan Biosphere Reserve Material: (9) MMTT 2006 - 2014, vicinity of Baba Kuh abandoned village, 1160 m, collected 15 July 1977 by R.G. Tuck, Jr., and R. Bhadresa (original nos. RGT 3186 - 3194).

Measurements: Meristic data for these specimens are given in Table 10.

Remarks: All of these plate-tailed geckos were collected after dark. They were resting either on the clay surface of an abandoned field, or, more frequently, on the sand surface of the extensive dune formation that encroached upon the dry bed and gravel flood-plain of the Hojjaj River. Smaller individuals seemed to predominate in the former situation, larger ones in the latter. All examples seen were collected, and there appears to be an appreciable size difference between the sexes in this sample: the 4 males range between 68.6 and 73.0 mm snout/vent length ( $\bar{x}$  = 70.9 mm, SD = 1.9 mm), and the 5 females range between 75.4 and 96.3 mm snout/vent length ( $\bar{x}$  = 89.4 mm, SD = 8.4 mm). All of the females contain ovarian eggs; counts and measurements are presented in Table 11.

On 16 July 1977 the collection sites on the dune field were revisited and the following temperature data were recorded --

<u>Time</u>	<u>Air</u>	<u>Surface</u>	<u>Shallow Depth</u>	<u>160 - 200 mm Depth</u>
0630 hrs	19°C	---	---	---
0700 hrs	---	20°C	22°C	35.5°C
0715 hrs	---	25°C	23°C	30°C
0740 hrs	24.5°C	25°C	25°C	33°C
1000 hrs	32°C	44°C	31°C	30°C

Lizard activity was not observed until 0900 hrs.

Family : Lacertidae

Genus : *Eremias* Fitzinger in Wiegmann 1834

*Eremias* cf. *E. fasciata* Blanford 1874

Turan Biosphere Reserve Material: (2) MMTT 1229 - 1230, 42 km south-east of 'Abbasabad (by road), 920 m, collected 11 June 1975 by S. C. Anderson and R. B. McCullers (original nos. A 656 - 657).

Measurements: Meristic data for these specimens are given in Table 12.

Remarks: MMTT 1230 contains 6 ovarian eggs, 3 on either side, the largest measuring 1.0 mm in diameter. Anderson (*in litt.*, 2 November 1977) notes that the identification of these two examples is by no means positive and they may represent an undescribed form. I. S. Darevsky (per. comm.) concurs.

*Eremias persica* Blanford 1874

Turan Biosphere Reserve Material: (12) MMTT 1201 - 1202, 16 km south of 'Abbasabad, 800 - 870 m, collected 11 June 1975 by S. C. Anderson (original nos. A 641 - 642); MMTT 1776, 2.5 km northeast of Delbar village, 1400 m, collected 13 July 1976 by R.E. Brown (original no. REB 67); MMTT 1778, 7.5 km east of Delbar village, 1200 m, collected 5 August 1976 by R.E. Brown (original no. REB 97); MMTT 1781, 7.5 km east of Delbar village, 1100 m, collected 5 August 1976 by R. E. Brown (original no. REB 99); MMTT 1791, 3.5 km east of Delbar village, collected 5 August 1976 by R.E. Brown (caught by, and removed from stomach of *Coluber karelini*, MMTT 1785: see below); MMTT 1905, Tochah, collected 30 May 1977 by M. Martin; MMTT 1998 - 2000, near Posht-e-Aseman village, 1260 m, collected 15 July 1977 by R.G. Tuck, Jr. (original nos. RGT 3181 - 3183); MMTT 2025 - 2026, Delbar village, 1205 m, collected 18 July 1977 by R. Bhadresa (original nos. RGT 3216 - 3217).

Measurements: Meristic data for these specimens are given in Table 13.

Remarks: The local name for the Persian steppe lacerta is "aroosmar."

The pursuit, capture, and swallowing of MMTT 1791 by a spotted desert racer, *Coluber karelini* (MMTT 1785), was witnessed by the collector. MMTT 1998 - 2000 were collected between 0830 and 0915 hrs; they regurgitated isopods after capture. The tails of MMTT 1778 and MMTT 1998 are 41% and 60% regenerated, respectively, while that of MMTT 2025 has healed and only begun regrowth. Reproductive data taken from specimens of Turan female *E. persica* are presented in Table 14.

*Eremias velox velox* (Pallas 1771)

Turan Biosphere Reserve Material: (2) MMTT 1228, 34 km south of 'Abbasabad, on dirt road, 870 m, collected 11 June 1975 by S.C. Anderson (original no. A 653); MMTT 1231, 42 km southeast of 'Abbasabad, by road, 920 m, collected 11 June 1975 by S. C. Anderson and R. B. McCullers (original no. A 569).

Measurements: Meristic data for these specimens are given in Table 15.

Remarks: MMTT 1228 was parasitized by a small tick in the axillary region.

Genus : *Mesalina* Gray 1845

*Mesalina guttulata watsonana* (Stoliczka 1872)

Turan Biosphere Reserve Material: (4) MMTT 1779, 11 km north of Delbar village, 1350 m, collected 2 August 1976 by R. E. Brown (original no.

REB 96); MMTT 1851, between the villages of Kariz, Shahbaz, and Baghestan, collected 19 March 1977 by M. Martin; MMTT 1994, vicinity of Ab-e-Raghn spring, 1530 m, collected 16 July 1977 by R. G. Tuck, Jr., and B. Spooner (original no. RGT 3200); MMTT 2027, Delbar village, 1205 m, collected 18 July 1977 by R. Bhadresa (original no. RGT 3218).

Measurements: Meristic data for these specimens are given in Table 16.

Remarks: The local name for the long-tailed desert lacerta is "malus."

MMTT 1851 was collected at 1200 hrs and contains 18 ovarian eggs, 10 on the left and 8 on the right, the largest measuring 1.2 mm in diameter. MMTT 1994 was collected at 1800 hrs; the air temperature was 30° C. MMTT 2027 was found to be heavily parasitized by invertebrate cysts, which filled the entire abdominal cavity.

The scant number of specimens listed here should not be taken as indicative of the size and extent of the population of *M. guttulata watsonana* within the Turan Biosphere Reserve, for individuals are adept at evading capture, and many already captured quickly escaped before being securely bagged.

In using the generic designation *Mesalina* Gray 1845, Shcherbak (1974) has distinguished the long-tailed desert lacerta and its relatives from the other steppe lacertas (genus *Eremias* Fitzinger in Wiegmann 1834) inhabiting Iran, and it is his allocation that is followed here.

Family : Varanidae

Genus : *Varanus* Merrem 1820

Subgenus: *Psammosaurus* Fitzinger 1826

*Varanus (Psammosaurus) griseus caspius* (Eichwald 1841)

Turan Biosphere Reserve Material: (0)

Remarks: Although no Turan specimens have been deposited into the collections of the Iran National Museum of Natural History (MMTT), the transcaspian desert monitor is reliably reported as fairly common and widespread within the region (R. Bhadresa, pers. comm.; B. O'Regan, pers. comm.; B. Spooner, pers. comm.). Mr. O'Regan has kindly provided a transparency he made of an example of the transcaspian monitor on 18 April 1977, 10 km south of 'Abbasabad on the road to Dastjerd (Figure 3). Mr. Bhadresa recorded an encounter with a desert monitor in *Zygophyllum* habitat, 10 km southwest of Tejur, at 1230 hrs, on 28 April 1977.

Suborder: SERPENTES

Family : Boiidae

Genus : *Eryx* Daudin 1803

*Eryx tataricus* (Lichtenstein 1823)

Turan Biosphere Reserve Material: (2) MMTT 2047, Baghestan village threshing ground, collected 20 July 1977 by M. Martin; MMTT 2048, Baghestan village, collected 1 August 1977 by M. Martin.

Measurements: Meristic data for these specimens are given in Table 17.

Family : Colubridae

Genus : *Coluber* Linnaeus 1758

*Coluber karelini* Brandt 1838

Turan Biosphere Reserve Material: (2) MMTT 1785, 3.5 km east of Delbar village, 1200 m, collected 5 August 1976 by R. E. Brown (original no. REB 97); MMTT 1847, between the villages of Baghestan and Shahbaz, collected 19 March 1977 by M. Martin.

Measurements: Meristic data for these specimens are given in Table 18.

Remarks: The local name for the spotted desert racer is "sek-mar."

MMTT 1785 was observed to pursue, capture, and swallow a Persian steppe lacerta, *Eremias persica* (MMTT 1791: see above).

*Coluber rhodorhachis ladacensis* (J. Anderson 1871)

Turan Biosphere Reserve Material: (1) MMTT 1906, Baghestan village fortress, collected 25 May 1977 by M. Martin.

Measurements: Meristic data for this specimen are given in Table 19.

Although preserved, the head has been completely severed from the body, so that the snout/vent length figures given must be considered to be only approximate.

Genus : *Psammophis* Fitzinger 1826

*Psammophis lineolatus* (Brandt 1836)

Turan Biosphere Reserve Material: (2) MMTT 1783, north of Zamanabad, collected 16 August 1976 by R.E. Brown (original no. REB 108); MMTT 2034, Delbar village, 1205 m, collected 20 July 1977 by R. Bhadresa (original no. RGT 3246).

Measurements: Meristic data for these specimens are given in Table 20.

Genus : *Spalerosophis* Jan in de Filippi 1865

*Spalerosophis diadema schiraziana* (Jan in de Filippi 1865)

Turan Biosphere Reserve Material: (4) MMTT 1774, Delbar village, collected 29 June 1976 by R. E. Brown (original no. REB 62); MMTT 1908, on the Salehabad - Talkhab road near encroaching sand dunes, 1200 m, collected 11 July 1977 by M. Martin (original no. RGT 3179); MMTT 1987, Baghestan village fortress, collected 25 May 1977 by M. Martin; MMTT 2035, Delbar village, 1205 m, collected 21 July 1977 by R. G. Tuck, Jr. (original no. RGT 3251).

Measurements: Meristic data for these specimens are given in Table 21.

Remarks: MMTT 1980 was swallowing a rodent at the time it was struck by a vehicle; the prey, badly crushed, according to the collector, was not saved.

Family : Viperidae

Genus : *Pseudocerastes* Boulenger 1896

*Pseudocerastes persicus persicus* (Dumeril, Bibron, and Dumeril 1854)

Turan Biosphere Reserve Material: (3) MMTT 1780, 7.5 km east of Delbar village, collected 5 August 1976 by R. E. Brown (original no. REB 96); MMTT 2036, Delbar village, 1205 m, collected 18 July 1977 by R. Bhadresa (original no. RGT 3232); MMTT 2041, Annabu, 3 km northwest of Delbar village, collected 27 July 1977 by R. Bhadresa.

Measurements: Meristic data for these specimens are given in Table 22.

Remarks: In addition to these collected specimens, Mr. R. Bhadresa observed a live Persian horned viper 9 km south of Ahmadabad at 1530 hrs on 13 October 1977.

### Conclusion

The 21 species of Amphibia and Reptilia listed in this paper undoubtedly do not represent the total herpetofaunal complement of the Turan Biosphere Reserve. Nevertheless, judging from the tortoise and lizard forms collected or observed within the area, it is possible to calculate the probable zoogeographic relationships represented by the sample at hand, based upon Anderson's (1968) designations and equating Spooner's (1977) Kara Kum element with "Aralo-Caspian." The following tabulation results from considering the 14 testudinate and lacertilian examples known to occur in the Turan Biosphere Reserve --

Aralo-Caspian Faunal Class	14.3% (2 species)
Iranian/Aralo-Caspian Faunal Class	7.1% (1 species)
Iranian Faunal Class	57.1% (8 species)
Iranian/Saharo-Sindian Faunal Class	21.4% (3 species)

While no study comparable to Anderson's work exists for the snakes, distributions of the 6 serpent species so far documented from the Reserve, as given by Bannikov et al. (1971), provide the following picture --

Aralo-Caspian Faunal Class	50% (3 species)
Iranian Faunal Class	50% (3 species)

It would seem that the ophidiofauna of the Reserve may show considerable affinity to that of the Kara Kum, Soviet Turkmenistan, in the sense of Spooner (1977).

By combining the faunal class assignments for all 21 species noted and including the green toad, *Bufo viridis oblongus*, as a member of the Iranian faunal class, the following tentative tabulation results --

Aralo-Caspian Faunal Class	23.8% (5 species)
Iranian/Aralo-Caspian Faunal Class	4.8% (1 species)
Iranian Faunal Class	57.1% (12 species)
Iranian/Saharo-Sindian Faunal Class	14.3% (3 species)

Pending further collecting and study, it may be concluded that the known Turan Biosphere Reserve herpetofauna, as in the cases of the floral and mammalian components, shows an appreciable relationship to that which may be regarded as characteristic of the Kara Kum to the north. It is too early, however, to apply precise terminology concerning the extent of the zoogeographic situation.

A thorough, wider ranging investigation of the amphibian and reptile fauna of the Reserve would provide the materials and data required to settle this question.

Note: Political boundaries and Iranian Governmental agencies cited in this paper refer to pre-revolutionary Iran and may no longer exist, nor conform to terminology employed by the current Islamic Republic of Iran.

Table 1. Measurements (in mm) for Specimens of *Bufo viridis oblongus* Collected in the Turan Biosphere Reserve.

MMT Number	Sex	Snout/Vent Length	Snout/Tympanum Distance	Snout/Eye Distance	Width of Rostrum	Width of Eye	Width of Tympanum	Length of Thigh	Length of Tibia	Length of First Digit	Length of Internal Metatarsal	Length of Paratoid
1852	♂	72.1	19.8	11.8	9.4	7.2	2.2	26.5	28.6	4.4	3.0	12.0
1988	♀	48.0	12.2	5.5	6.7	5.1	2.1	20.0	18.6	2.8	2.0	7.5
1989	♂	58.7	15.0	7.0	7.2	6.0	1.8	25.2	23.3	2.9	2.8	11.9
1990	♀	56.4	14.6	7.2	7.3	5.4	2.1	24.6	21.5	3.4	2.1	10.7
1991	♀	59.9	14.8	6.1	7.3	5.6	1.8	23.0	23.2	3.7	3.2	12.1
1992	♀	52.3	14.2	6.9	6.5	4.8	1.7	20.3	19.5	3.6	2.5	9.0
2083	♀	66.6	15.9	8.0	8.2	5.3	1.5	25.4	24.9	3.7	3.0	13.2
2084	♂	46.2	11.4	6.5	5.9	3.8	1.0	15.3	16.8	3.1	2.7	9.3
2085	♀	71.8	17.4	7.5	9.9	6.5	2.2	23.0	25.7	4.3	4.2	13.0

Table 2. Counts and Measurements (in mm) of Specimens of *Agama agilis*. Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows Around Body	Number of Upper Labials	Number of Lower Labials	Number of Rows of Callose Pre-anal Scales	Number of Lamellae Under Fourth Toe
1208	♀	82.5	132	73	19	15	1 (faint)	23
1226	♂	72.7	104	69	19	18	2	27
1771	♂	98.1	122	68	20	19	3	25
1772	♀	89.4	135	65	15	16	-	26
1782	juv.	30.0	54	-	19	17	-	28
1849	♀	78.3	119	63	18	16	-	26
1850	♂	67.0	109	72	17	17	2	25
1902	♀	70.6	114	68	17	18	-	26
1996	♀	90.2	126	68	17	18	-	23
1997	♀	88.3	116	68	16	16	1 (faint)	26
2001	♂	82.5	134	68	15	17	2	22
2002	♂	93.5	151	73	19	18	2	26
2015	juv.	40.7	71	66	14	16	-	26
2016	juv.	33.0	58	72	16	20	-	28
2017	♂	83.2	123	64	19	19	2	27
2018	♂	83.4	129	69	20	18	2	26
2019	juv.	42.0	73	72	18	17	-	26
2037	♀	69.3	95	74	18	18	1 (faint)	24
2046	♂	74.9	126	65	19	18	2	28

Table 3. Reproductive Data for Female Specimens of *Agama agilis* Collected in the Turan Biosphere Reserve.

MMTT Number	Date of Collection	Number of Oviducal Eggs (Left / Right)	Diameter of Largest Egg (mm)	Number of Ovarian Eggs (Left / Right)	Diameter of Largest Egg (mm)
1208	11 June	-- / --	--	9 / 10	1.5
1772	28 July	5 / 4	17.0	-- / --	--
1849	24 Apr.	4 / 4	9.1	-- / --	--
1902	1 May	4 / 3*	4.7	-- / --	--
1996	15 July	-- / --	--	11 / 8	1.1
1997	15 July	-- / --	--	10 / 8	1.5
2037	20 July	-- / --	--	7 / 0	0.8

\*13 very small (1.1 mm) eggs, 8 left and 5 right, appeared to be undergoing resorption.

Table 4. Counts and Measurements (in mm) of Specimens of *Phrynocephalus mystaceus galli* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows Around Body	Number of Upper Labials to Edge of Mouth Fringe.	Number of Lower Labials to Edge of Mouth Fringe	Number of Lamellae Under Fourth Toe
1848	juv.	46.0	51	126	14	10	30
1903	juv.	55.5	71	123	18	10	31
1904	juv.	51.5	60	120	15	9	31
2003	♂	98.4	113	116	17	11	30

Table 5. Counts and Measurements (in mm) of Specimens of *Phrynocephalus mystaceus galli* Collected in Khorasan Province.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows Around Body	Number of Upper Labials to Edge of Mouth Fringe	Number of Lower Labials to Edge of Mouth Fringe	Number of Lamellae Under Fourth Toe
1193	♀	73.5	65	120	12	7	31
1194	♂	65.3	71	133	14	8	32
1195	♀	73.7	80	128	12	9	29
1196	♂	55.6	57	128	12	9	30
1197	♀	54.6	55	127	13	7	26

Figure 1. Two examples of the Afghan tortoise, *Agrionemys horsfieldi*, photographed near Ahmadabad on 17 April 1977. (Photo courtesy of B. O'Regan)

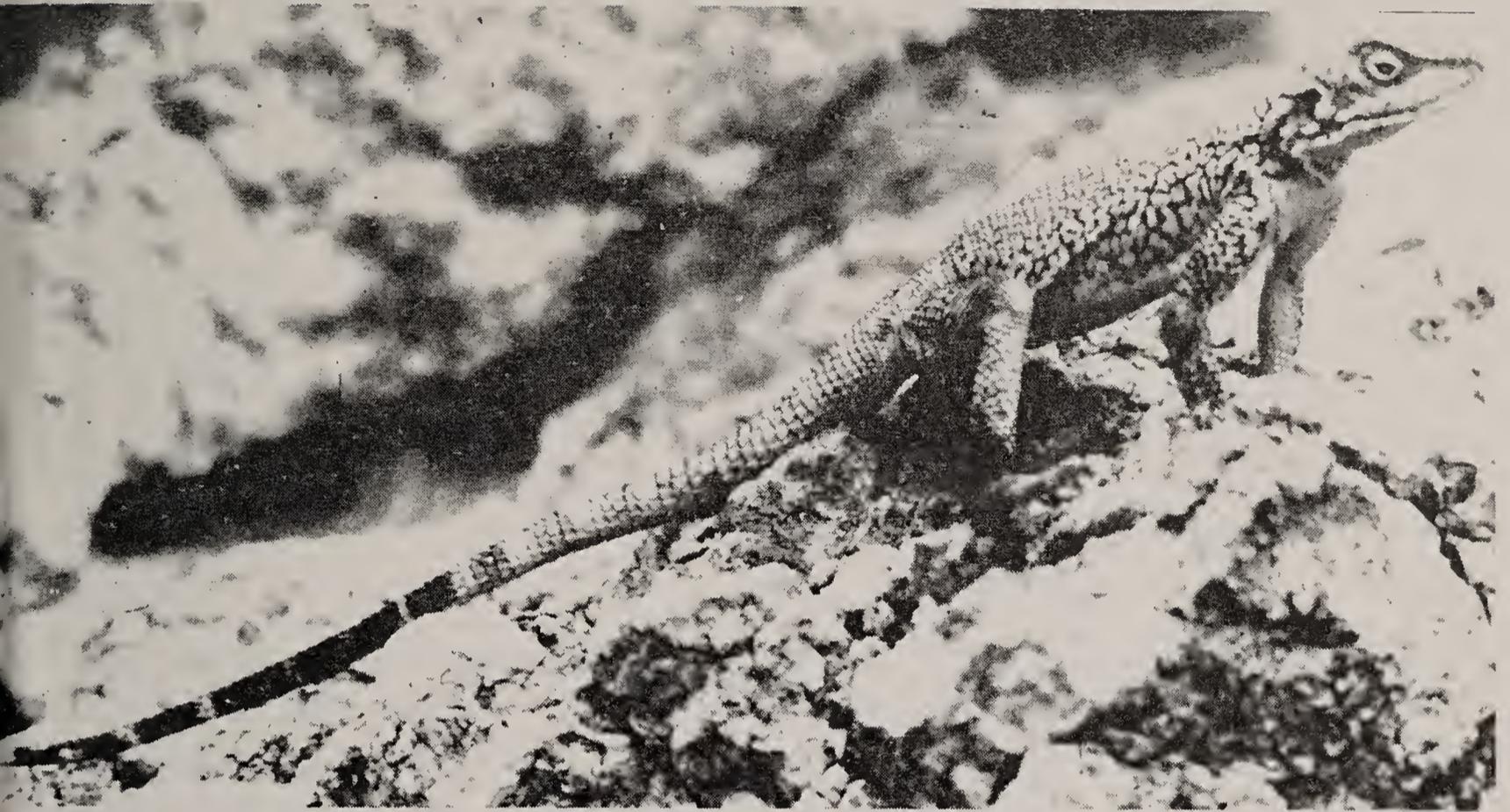


Figure 2. A male large-scaled rock agama, tentatively identified as *Agama nupta nupta*, photographed at Tejur village on 29 August 1977. (Photo courtesy of R. Bhadresa)



Figure 3. A transcaspian desert monitor, *Varanus griseus caspius*, photographed south of 'Abbasabad on 18 April 1977. (Photo courtesy of B. O'Regan).

Table 6. Counts and Measurements (in mm) of Specimens of *Phrynocephalus scutellatus* Collected in the Turan Biosphere Reserve

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scales Across Belly	Number of Upper Labials	Number of Lower Labials	Number of Lamellae Under Fourth Toe
1203	♀	44.3	55	42	13	12	25
1204	♂	41.1	52	39	13	13	24
1205	juv.	22.4	--	37	12	12	23
1206	juv.	22.1	29	37	15	12	25
1207	juv.	23.5	32	39	12	11	28
1214	♂	48.9	69	43	13	13	25
1215	juv.	24.1	34	44	12	13	27
1216	juv.	24.6	38	41	12	14	27
1217	juv.	21.6	37	38	14	11	25
1218	juv.	24.2	35	35	12	12	25
1219	juv.	26.6	40	37	15	15	24
1220	juv.	21.7	32.5	44	11	11	26
1221	juv.	20.7	31	39	11	11	23
1222	juv.	21.1	31	41	12	14	22
1223	juv.	24.7	39	43	14	11	26
1224	juv.	18.5	27	45	13	13	24
1773	♂	40.6	70	28	13	13	25
1795	♀	44.1	65	38	11	12	23
1995	juv.	26.4	39	43	14	13	27
2020	♀	45.2	64	42	13	12	24
2021	juv.	30.0	46.5	41	12	12	25
2022	juv.	25.0	39	45	12	11	27
2023	juv.	23.8	37	42	12	11	25
2028	juv.	31.1	45.5	40	12	13	24
2029	juv.	29.2	47	40	13	12	30

2030	juv.	26.2	38	35	14	11	26
2031	juv.	27.8	43	38	11	11	26
2032	juv.	28.7	44.5	44	13	13	26
2033	juv.	25.5	39	40	13	12	22
2038	♂	43.6	60	38	15	18	28

Table 7. Counts and Measurements (in mm) of Specimens of *Cyrtodactylus caspius* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scales Across Belly	Number of Upper Labials	Number of Lower Labials	Total Number of Femoral Pores	Number of Lamellae Under Fourth Toe
1775	♂	47.2	55*	29	10	9	25	25
1993	♂	60.7	65*	30	11	9	25	22
2004	♂	58.3	66*	29	12	8	27	24
2005	♀	45.7	52*	30	11	8	28 (faint)	22
2024	♂	54.0	74	28	10	8	29	23
2086	♀	59.2	79	34	12	8	0	23

\*regenerated

Table 8. Tail-Loss and Regeneration in Specimens of *Cyrtodactylus caspius* Collected in Seman Province, Iran.

MMTT Number	Sex	% Original Tail	% Tail Regenerated
507	♀	13	87
509	juv.	100	-
510	juv.	100	-
511	juv.	-	- healed
512	juv.	100	-
513	juv.	100	-
514	juv.	100	-
1775	♂	73	27
1993	♂	18	82
2004	♂	65	35
2005	♀	52	48
2024	♂	100	-
2086	♀	100	-

Table 9. Counts and Measurements (in mm) of Specimens of *Teratoscincus bedriagai* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scales Around Body	Number of Upper Labials	Number of Lower Labials
2039	♀	56.1	28	47	10	9
2040	♂	55.5	29	47	9	10

Table 10. Counts and Measurements (in mm) of Specimens of *Teratoscincus scincus* Collected in the Turan Biosphere Reserve

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scales Around Body	Number of Upper Labials	Number of Lower Labials
2006	♀	95.2	55	31	10	10
2007	♀	96.3	70	32	10	9
2008	♀	91.4	57	32	10	10
2009	♀	88.5	56	34	9	9
2010	♀	75.4	52	31	9	9
2011	♂	70.0	47	32	11	10
2012	♂	68.6	36	31	10	9
2013	♂	73.0	53	32	10	10
2014	♂	71.8	50	---*	11	9

\*skin torn

Table 11. Reproductive Data for Female Specimens of *Teratoscincus scincus* Collected in the Turan Biosphere Reserve\*

MMTT Number	Number of Ovarian Eggs (Left / Right)	Diameter of Largest Egg (mm)
2006	5 / 0	2.2
2007	7 / 3	3.0
2008	4 / 4	1.6
2009	5 / 5	2.2
2010	5 / 3	2.5

\*all collected night of 15 July 1977

Table 12. Counts and Measurements (in mm) of Specimens of *Eremias* (cf. *E. fasciata*) Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Gular Scales	Number of Dorsal Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Femoral Pores	Number of Lamellae Under Fourth Toe	Number of Ventrals, Lateral Series	Number of Ventrals, Transverse Series
1229	♂	60.6	113	28	53	10	7	16/17	28	18	32
1230	♀	43.1	74	29	49	9	8	15/16	28	18	34

Table 13. Counts and Measurements (in mm) of Specimens of *Eremias persica* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Gular Scales	Number of Dorsal Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Femoral Pores	Number of Lamellae Under Fourth Toe	Number of Ventrals, Lateral Series	Number of Ventrals, Transverse Series
1201	♀	83.6	122	31	62	11	8	21/19	24	16	31
1202	♀	67.2	118	31	61	10	8	21/21	25	16	31
1776	♂	87.5	154	40	66	10	9	22/22	25	17	28
1778	♀	80.7	96*	34	66	11	9	20/20	25	15	30
1781	juv.	37.2	76	31	57	10	7	19/17	21	18	29
1791	♀	80.0	118	33	67	10	8	22/19	23	15	30
1905	♂	81.9	164	33	62	9	8	22/23	26	16	30
1998	♀	78.6	109*	36	63	11	9	17/18	27	16	31
1999	♀	74.9	115	33	58	10	11	18/17	24	16	30
2000	♀	71.9	97	36	61	13	8	20/20	25	16	33
2025	♀	78.0	23**	36	59	10	8	19/19	26	15	28
2026	juv.	39.8	72	30	40	10	8	21/20	25	--	--

\*regenerated

\*\*healed

Table 14. Reproductive Data for Female Specimens of *Eremias persica* Collected in the Turan Biosphere Reserve.

MMTT Number	Date of Collection	Number of Oviducal Eggs (Left / Right)	Diameter of Largest Egg (mm)	Number of Ovarian Eggs (Left / Right)	Diameter of Largest Egg (mm)
1201	11 June	-- / --	--	12*/ 13*	3.9*
1202	11 June	-- / --	--	5 / 8	0.9
1778	5 Aug	-- / --	--	8 / 4	0.7
1791	5 Aug	-- / --	--	4 / 4	0.9
1998	15 July	-- / --	--	12 / 10	1.3
1999	15 July	2 / 2	13.7	5 / 9	1.6
2000	15 July	-- / --	--	** / **	**
2025	18 July	-- / --	--	** / **	**

\*8 of these ovarian eggs, 4 on either side, were yellow-orange in colour, the largest measured as given; the remainder were white in colour, the largest measured 1.3 mm in diameter.

\*\* both MMTT 2000 and 2025 contain numerous, indistinct, ovarian eggs on both sides.

Table 15. Counts and Measurements (in mm) of Specimens of *Eremias velox* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Gular Scales	Number of Dorsal Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Femoral Pores	Number of Lamellae Under Fourth Toe	Number of Ventrals, Lateral Series	Number of Ventrals, Transverse Series
1228	♂	59.9	112	29	59	10	9	20/19	21	16	31
1231	♂	63.5	81*	35	66	10	9	21/20	26	16	31

\*broken

Table 16. Counts and Measurements (in mm) of Specimens of *Mesalina guttulata watsonana* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Gular Scales	Number of Dorsal Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Femoral Pores	Number of Lamellae Under Fourth Toe	Number of Ventrals, Lateral Series	Number of Ventrals, Transverse Series
1779	juv.	34.9	62	25	41	8	8	12/9+ (very faint)	21	10	28
1851	♀	47.0	81	26	41	9	8	11/12	22	11	30
1994	juv.	27.3	55.5	21	43	8	8	13/12	21	10	30
2027	♀	50.7	74	24	41	8	8	14/15	20	10	31

Table 17. Counts and Measurements (in mm) of Specimens of *Eryx tataricus* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes
2047	juv.	186	28	51	12	13	--*	single	30 pairs + 1
2048	o	345	46	49	11	15	185	single	29 pairs + 1

\*specimen badly damaged

Table 18. Counts and Measurements (in mm) of Specimens of *Coluber karelini* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes	Number of Temporal Scales
1785	♂	660	234	19	9	10	208	divided	103 pr. + 1	2+3+3/2+3+3
1874	♀	465	166	19	9	9	210	divided	102 pr. + 1	2+2+3/2+3+3

Table 19. Counts and Measurements (in mm) of the Specimen of *Coluber rhodorhachis ladacensis* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes	Number of Temporal Scales
1906	♀	745	219+*	19	9	9	214	divided	76 + prs.	2+3+3/2+2+3

\*tip of tail missing

Table 20. Counts and Measurements (in mm) of Specimens of *Psammophis lineolatus* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes	Number of Temporal Scales
1783	juv.	196	62	17	9	10	180	divided	91 pairs + 1	1+2+2/1+2+2
2034	♀	548	142	17	9	12	181	divided	65 pairs + 1	2+2+3/2+2+3

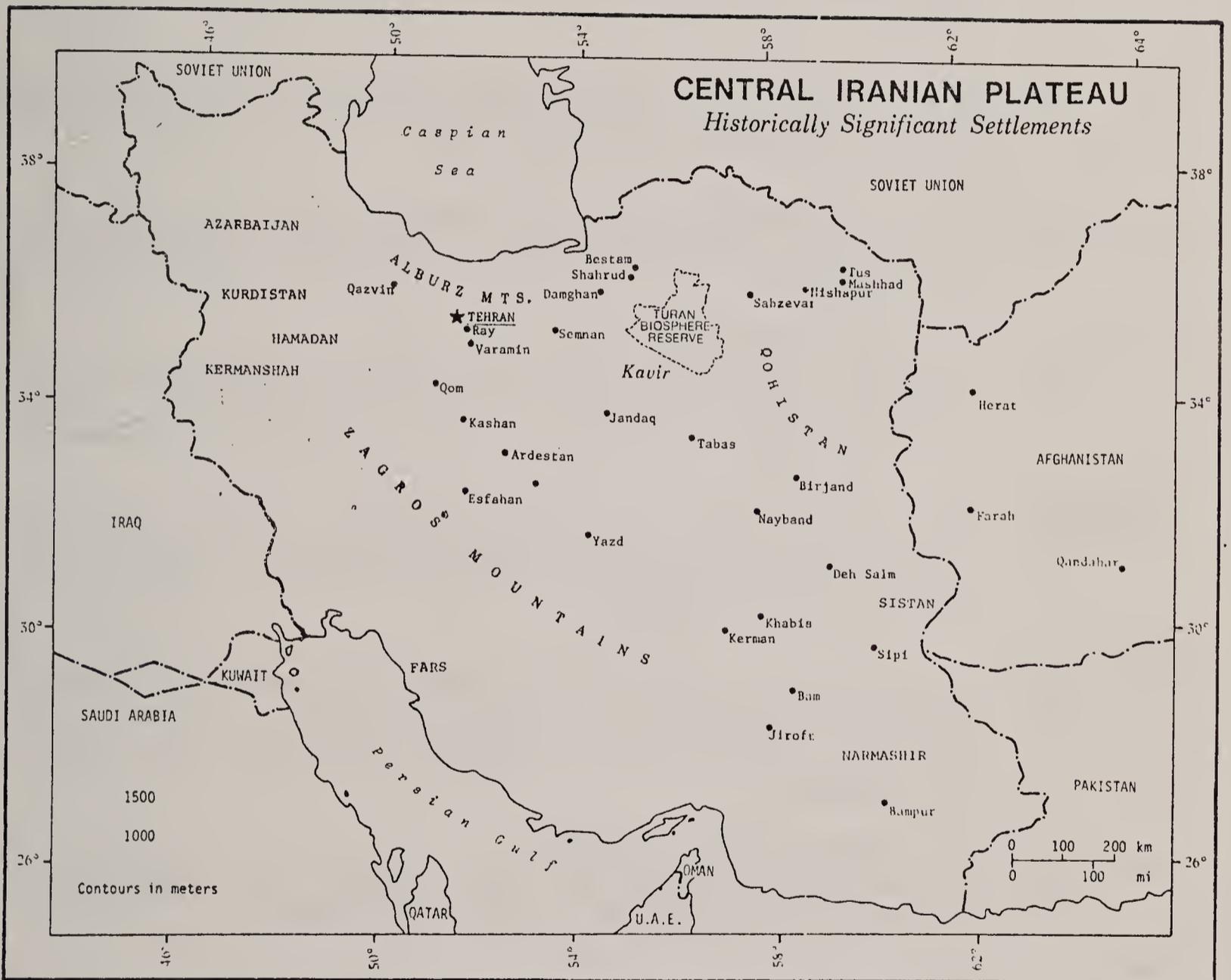
Table 21. Counts and Measurements (in mm) of Specimens of *Spalerosophis diademata schiraziana*: Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes	Number of Temporal Scales
1774	o	958	203	27	14	15	241	single	78 pairs + 1	4+5/5+6
1908	o	958	202	27	12	14	240	single	77 pairs + 1	3+3+4/5+5+4
1987	o	823	130+*	29	---**	---**	249	single	51+ pairs	---/---**
2035	o	920	166	27	12	12	233	single	61 pairs + 1	4+4+5/5+4+4

\*tail broken, distal portion missing  
 \*\*head badly crushed

Table 22. Counts and Measurements (in mm) of Specimens of *Pseudocerastes persicus persicus* Collected in the Turan Biosphere Reserve.

MMTT Number	Sex	Snout/Vent Length	Tail Length	Number of Scale Rows	Number of Upper Labials	Number of Lower Labials	Number of Ventral Scutes	Condition of Anal Plate	Number of Subcaudal Scutes
1780	♀	596	73	23	12	15	156	single	35 pairs + 1
2036	juv.	316	48	23	12	16	154	single	44 pairs + 1
2041	♀	730	81	23	13	15	153	single	36 pairs + 1



MAP 1

Map 1. The Central Iranian Plateau, showing historically significant settlements and the Turan Biosphere Reserve. (Map courtesy of Dr. Hasan Mohammadi, Deputy Director, Department of the Environment, Imperial Government of Iran, Tehran).

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