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AN HERPETOLOGICAL INTERLUDE IN EX-SOVIET CENTRAL ASIA (Part 2)

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TURKMENISTAN

A flight (23 May) with Kazakhstan Airlines - devolved Aeroflot - covered the distance from Almaty to Ashgabat in 3 hours, and followed a westerly line along the northern flanks of the snow-capped Kyrgyz range. Turning south-west, the flight continued over dry brown country making up the Kyzyl-Kum Desert, and then after crossing the Amu-Darya (Oxus) River on over the Kara-Kum Desert. The Institute of Zoology, Turkmen Academy of Sciences, Ashgabat, was visited 23-30 May 1994 (address: Azady Street, 59, 744000 Ashgabat; tel. and fax nos: (+7 3632) 25.37.91). The Director was Prof. Tanriberdi Tokgaev (orthopterist). Herpetologists met were Dr Sakhat Shammakov, Dr Chary Ataev and Prof. Anver Rustamov, Academician (ornithologist/herpetologist); Mrs Makhry Garagulova acted as interpreter. Sakhat Shammakov is co-organizer with Dr T.J. Papenfuss (University of California, Berkeley, USA) of the 2nd International Asian Herpetological Meeting being held at Ashgabat in August 1995. The Ministry of Nature Exploration & Protection of Turkmenistan (address: 102, Kemine Street, 744000 Ashgabat; tel.: (+7 3632) 29.60.24/29.63.13; fax: (+7 3632) 29.65.12) was also visited on 24 May. Met were Dr Geldiev O. Kurbanovich (Deputy Chairman, State Inspection Committee for Nature of Turkmenistan) and Dr Vladimir A. Glazovsky (Head, State Committee for Animals & Protection of Turkmenistan).

COLLABORATIVE RESEARCH PROJECT PROPOSALS

Pesticide residue analyses are carried out by the Ministry of Nature Exploration & Protection, Ashgabat. During a visit to the Ministry to discuss the effects of pesticides on wildlife a project associated with the problem of the rising level of the Caspian Sea, resulting in flooding of Ogurchinskiy Island and the Krasnovodsky Reserve, was also discussed.

HERPETOLOGY IN TURKMENISTAN

The first publication on Turkmen amphibians and reptiles was by Boettger (1888). Bogdanov's (1962) work was much later. Shammakov (1981) covered the reptiles of lowland Turkmenistan, and Ataev (1985) the mountains, and through collaborative studies most recently, the biogeography (Shammakov, Ataev & Rustamov, 1993). Works on *Agrionemys horsfieldi* in Turkmenistan which I had seen previously included Korotkov (1967); Panov & Galichenko (1980); Makeev, Bozhanskiy & Khomustenko (1982), and Makeev, Bozhanskiy & Frolov (1986).

Publications received: The following herpetological works were received at the Institute: Ataev (1993), Bogdanov (1962) and Shammakov (1981).

RED DATA BOOK HERPETOFAUNA

Ataev, Rustamov & Shammakov (1985) had contributed a reptile section for the Turkmen Red Data Book.

HERPETOFAUNA RECORDED

Several groups of traditionally dressed Turkmen school girls posing for photographs in front of the statue of Lenin (whose pedestal is clad in a ceramic version of traditional elephant-foot Bukhara-patterned Turkmen rugs) were passed while walking through the tree-shaded Park of his name in the centre of Ashgabat (24 May). There was fast flowing water in small concrete-lined irrigation channels among the trunks at the side of the path. A few *Rana ridibunda* survived there, and one was seen to jump into the water and be carried away with the stream.

Two days later (26 May), a site visit to the Central Kopet-Dagh range was made by road from Ashgabat. Leaving the town and passing great blocks of newly constructed flats, the road proceeded south through hills towards Iran. At about 10 km before the border, the Institute Serpentry was visited. Unfortunately the superintendent was not there at the time, since he could not be contacted by telephone and warned of the impending arrival of our party. The heavy Russian military vehicle, formerly used in East Germany (one of those distributed after unification to Tajikistan, Turkmenistan and Uzbekistan), continued to the Iranian border and then turned east on an uneven dirt track. The area had been irrigated and cultivated by local people for many years, but was forbidden to scientists and foreigners until perestroika four years before. I was probably the first westerner to have visited the area for some 80 years, although the border with Iran, and Afghanistan, featured prominently during the times of the Great Game (e.g. Hopkirk, 1990). A silently sinister reminder that restrictions had indeed only recently been lifted was provided by look-out towers, now unmanned, over the unvegetated, wired-off and mined strip constituting the former Iron Curtain. Any potential dissidents in earlier days attempting to cross into Ayatollah Khomeini's Iran would have been rapidly apprehended. Only in recent months has the road continued south across the border towards Shirvan in Iran.

The frog *Rana ridibunda* was again the amphibian species observed basking by the sides of irrigation channels. The whole area was much drier than in Kyrgyzstan or Kazakhstan, and the weather considerably warmer. At a site (ca. 700 m) 30 km S.E. of Ashgabat (2 km south of Manush) with full sunshine by 12.30 h (30°C), reptile species sighted in the company of Chary Ataev included the skink *Eumeces schneideri* (mature and immature specimens) and the agamid *Trapelus sanguinolenta*. A specimen of the last was caught by Sakhat Shammakov amongst herbaceous ground vegetation (BMNH.1994.153), the throat of the male had become dark blue in warm sunshine; individuals were observed on the ends of branches of low shrubs. Several adult and immature agamids, *Stellio caucasica*, were observed running across rock surfaces, and approximately three geckos, *Cyrtopodium caspius*, were exposed by levering off flakes of rock on outcrops. A tortoise *Agriemys horsfieldi* in refuge was unearthed by turning over a large rock. Makeev et al (1982) have investigated the population status of this and other reptile species in the Central Kopet-Dagh. Another frog *Rana ridibunda* was observed jumping from thick green vegetation into water at a point where an irrigation pipe opened out into a stream, the edge of which shaded by trees had from previous knowledge been selected by Sakhat Shammakov for luncheon *al fresco*.

The following day (May 27), the same heavy truck, after a diesel fill-up, rumbled along the tarmac road in a northerly direction from Ashgabat towards Tashauz. After crossing the Kara-Kum Canal, the road continued into the bush. At a site in the Kara-Kum Desert



Plate 3. A male *Trapelus sanguinolenta* resting in morning sunshine on a branch extending from the side of a shrub (33°C, 10.16 h, 27 May 1994) in the Kara-Kum Desert, 32 km N.W. of Ashgabat, Turkmenistan.



Plate 4. Adult *Eumeces schneideri* hand-held by Dr Chary Ataev (Institute of Zoology, Turkmen Academy of Sciences), caught on disturbed soil amongst annual grass vegetation (30°C, 12.32 h) in the Central Kopet-Dagh range by the border with Iran (26 May 1994), 30 km S.E. of Ashgabat, Turkmenistan.

32 km N.W. of Ashgabat, the habitat consisted of sand dunes with shrubs that towards the end of May were still green and in flower. The tracks of the monitor lizard *Varanus griseus* were observed in sand, and also those of *Agriornemys horsfieldi*. With full sunshine between 10.00 and 12.00 h (32-36°C), and in the company of Chary Ataev, two small lacertids *Eremias lineolata* slid over patches of sand to the shade of shrubs, individual male *Trapelus sanguinolenta* (two different individuals photographed) were perched at the end of branches of small trees and bushes swinging in the light breeze, and several small agamids *Phrynocephalus interscapularis* (one collected - BMNH 1994.152) scuttled across the hot sand, curling up the ends of their tails during pauses. Newly metamorphosed toads *Bufo viridis* were seen in and by a small irrigation channel traversing scrub and damp vegetated sand.

By midday, the air temperature had reached 36.5°C, and reptile activity had declined, but individual *Trapelus sanguinolenta* could still be seen in the distance on ends of branches, and little *Phrynocephalus interscapularis* continued to scamper across the sand in front of our feet as Chary Ataev and I trudged our way through shifting sand back to the truck. We were grateful to seek the shade of a canvas awning stretched out from the side of the vehicle, and numerous cups of green tea with our meal, brewed in a pottery jug on an open fire compensated for the loss of liquid. However, the midday temperature at this time of year was, when there were flowering shrubs and some green vegetation still left from Spring, relatively low. By the end of June, and during July and August, the midday temperature could exceed 50°C. There would then be no activity during daylight hours - only at night does the Kara-Kum Desert become alive herpetofaunally!

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Ed. note. Since correcting the proofs of this two-part article, Dr Leo Borkin (St Petersburg, Russia) has indicated that *Bufo viridis* in Central Asia occurs in two forms: the diploid, *B. viridis turanensis*, and tetraploid, *B. "danatensis"*. Toads recorded at Tashkent, Almaty and in Turkmenistan are tetraploid, while in water bodies of Bishkek, forms are either diploid, tetraploid or mixed depending on precise location. The dry-mounted *Bufo danatensis* in Bishkek's Zoological Museum could thus be of local origin and not from outside the former Soviet Union.