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A Checklist of the Amphibians and Reptiles of Afghanistan*
Exploring Herpetodiversity using Biodiversity Archives

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The composition and distribution of the vertebrate fauna of Afghanistan remain poorly documented and in recent decades little new data have become available due to a series of wars and the resulting unstable security conditions. As Afghanistan returns to some semblance of normalcy, baseline faunistic data will be particularly important for establishing national conservation priorities as well as for placing Afghan taxa into their broader phylogenetic and zoogeographic contexts. We here provide an updated checklist of the herpetofauna of Afghanistan based in part upon biodiversity archives of specimen records from several museum and private collections as well as literature references and field research. The herpetofauna of Afghanistan consists of 118 species and subspecies belonging to 58 genera and 21 families. Seven species are endemic to the country, whereas 18 taxa have to be deleted from previous lists of the Afghan herpetofauna. Afghanistan’s primary zoogeographic relationship to the Palearctic Region is reaffirmed but with secondary influence from the Oriental Region. Immediately following the checklist, two sections provide information about species probably occurring in Afghanistan and previously mentioned species that are now recognized as absent.

KEYWORDS: Amphibia, Reptilia, Checklist, Central Asia, Southwest Asia, Afghanistan.

Afghanistan is, without doubt, one of the most challenging countries in the world in which to collect faunistic data. Yet such data are critical for scientific research regarding not only nature conservation but especially zoogeography and, therefore, also systematics. Following the zoogeographic definitions of Kreft and Jetz (2010), the country lies at the border between three important large-scale zoogeographic regions: the Oriental, African s.l., and Palaeartic. It is the aim of this study to present a revised checklist of the amphibians and reptiles, including distributions of the respective species, for further herpetogeographical research and conservation in this country. After four decades of more or less continuous war, field research in the country is now possible, but remains difficult. Therefore, we used “biodiversity archives”, i.e., museum and private collections as well as literature resources, to compile a comprehensive checklist of species known from...
Afghanistan. This underlines the importance of museum collections as data resources for politically unstable areas and demonstrates that systematic and biogeographic research can progress, even if field work is not possible.

**Physiography.**—Afghanistan has an area of about 652,090 km² (National Geographic Society 2011) and it is, therefore, slightly larger than France. It lies roughly between latitudes 30°25′ and 38°31′N and longitudes 60°45′ and 72°00′E, but a finger-like projection, the Wakhan Corridor, extends northeast to 74°51′E. Afghanistan is bordered to the north by Turkmenistan, Uzbekistan and Tajikistan, to the east and south by Pakistan, to the west by Iran, and at the far east of the Wakhan Corridor by China (Fig. 1).

Geographically, the lower elevational parts of Afghanistan, together with Balochistan in Pakistan, constitute the easternmost extension of the Iranian Plateau. This geological unit rises between the Indus River Valley in the east, the Tigris River Valley in the west, and the Amu Darya (Oxus River) in the north, and is bordered by the Zagros Mountains of southwestern Iran and by the Gulf of Oman and Arabian Sea to the south and southeast, respectively. The Caucasus Mountains are the northwestern-most extension of this plateau. The mountains of Western and Central Afghanistan, e.g., Paropamisus and the Hindu Kush, link the plateau with the Pamir and the Himalayas. Northern Afghanistan, north of the Hindu Kush and south of the Amu Darya, is an extension of the Central Asian steppe. Afghanistan can, therefore, be generally characterized by three major topographical regions: (1) the Central Hindu Kush range with its outliers the Paropamisus and Koh-i-Baba; (2) the barren and rugged foothills of these ranges; and (3) the lower steppes and deserts.

The highest elevations are in the Wakhan Corridor (between 6000 and 7500 m), with the highest mountains between the west end of the Wakhan and the beginning Hindu Kush. Here, Mount Noshak (7485 m) and the nearby Pakistani Tirich Mir (7708 m) are the highest peaks and the Hindu Kush range declines to the Salang Pass (3627 m) north of Kabul and disappears between 1000 and 500 m in the northwest and the low plains and deserts in the southwest. The Hindu Kush continues to western (Paropamisus Mountain Range) and Central Afghanistan (Koh-i-Baba), with peaks as high as 5090 m. Approximately 27% of the country lies above 2,500 m elevation (UNEP 2003).

Major rivers of southern and southwestern Afghanistan (e.g., the Helmand, Khash, Farah and Harud Rivers) have no outlet to the sea and flow into a desert depression of a former lake bed known as Sistan at the Afghan-Iranian border area. The largest rivers of northwestern Afghanistan (Murghab, Hari Rud) end in the sands of the Kara Kum desert in Turkmenistan. An exception is the Amu Darya (Oxus River) system in northern and northwestern Afghanistan. It originates in the Wakhan region, receiving as tributaries the Kunduz and Kokcha Rivers, and finally flows into the Aral Sea. The Kabul River of eastern Afghanistan, and its tributaries, the Alingar and Kunar Rivers, drain through a geologically complicated mountain range (Safed Koh) in Nuristan and finally empty into the Indus in Pakistan.

**Climate.**—Afghanistan has a semi-arid to arid continental climate, characterized by hot summers and cold winters with large daily and seasonal temperature fluctuations. The magnitude of these characteristics is influenced by four main factors (Hassinger 1968): (1) High plateaus in eastern Afghanistan and the high mountains of the Hindu Kush and Wakhan that have permanent snow and ice; (2) Indian monsoons, which extend to about 30 km west of Kabul; (3) desiccating winds, e.g., the ‘hot and dry wind of 120 days’, which blow between May and September from Herat across the Sistan Basin; and (4) the Kara Kum, Jalalabad, and Sistan Basins with sporadic rainfall (up to 250 mm per year), mean January temperature just above freezing and a mean July temperature above 32°C. Moreover, riparian vegetation and oases have an influence on microclimate such that in the height of summer they can have ambient temperatures three degrees cooler than those in the surrounding deserts or steppes.
Stenz (1946) recorded a mean temperature at Kabul (1790 m, 13–year record) of 11.5°C with a mean minimum of 3.8°C and a mean maximum of 19.6°C. Within these 13 years the absolute limits of variation were between −25.8°C and 37.7°C, resulting in a range of 63.5°C. Generally, the coldest temperatures in Afghanistan are found in the Wakhan region (−17.2°C mean temperature for the coldest month) (Stenz 1946). North and South Afghanistan are equally hot, with 33°C at Girishk (South Afghanistan) and 32°C at Termiz (Uzbekistan near the northern Afghan border) as mean temperatures for the hottest month (July) (Hassinger 1968).

Precipitation is markedly seasonal with almost none during summer and mainly snow during the winter and early spring. Snow is also the source of most of Afghan surface water (UNeP 2008). However, precipitation is also influenced by elevation with the highest at Salang (3,366 m a.s.l.) and the lowest at Farah (700 m a.s.l.) (UNeP 2008).

Vegetation.— Most of the Afghan fauna and flora is of Eurasian origin, whereas Pakistan is dominated by species of the Indo-Malayan Realm (UNeP 2008). Some of these elements have dispersed to Afghanistan and even the lower Kabul Valley is considered to be part of the Indo-Malayan “Indus-Ganges Monsoon Forest” Province (UNeP 2008). Twelve eco-regions of four biomes are present in the country and five of these regions are considered as critically endangered (Olson et al. 2001, Fund 2012, Wagner 2014a, b). The Afghan flora has been affected by people and their livestock for thousands of years and there is virtually no part of the country, apart from high alpine areas, that has not suffered anthropogenic impacts (UNeP 2008). Freitag (1971) suggested that under natural conditions Afghanistan would be dominated by oak woodlands. Today, the largest expanses of dense vegetation are the forests along the Kunar-Nuristan border, whereas in other parts of the country dense vegetation is limited to watercourses and cropland. Moderately
dense vegetation can be found in the central and northern Hindu Kush, whereas the rest of the country is sparsely vegetated (UNeP 2008). The eastern part of the country has monsoon-influeneced forests, whereas extensive deserts can be found in southwestern areas.

**History of Afghan Herpetology.**—Research on the Afghan herpetofauna began with Boulenger (in Aitchison 1889) and Alcock and Finn’s (1897) “Afghan Boundary Commission” publication and several other works of this time. A second period of intensive research started with Smith (1940) who was followed by Knut Lindberg from Sweden who traveled several times (1947, 1957–60, 1962) to Afghanistan and collected material that was later partly published in a series of papers with the title “Contribution à l’étude de la faune d’Afghanistan” (see, e.g., Pisarski 1967, Wettstein 1960). At the same time, Alan Leviton (1959) reported on a reptile collection from Chah-i-Angir (Dasht-i-Margo Desert) made by John Gasparetti in 1950, and this was followed by several additional field studies until 1970. Prior to these works, references to Afghan amphibians and reptiles were to be found in a number of more general publications (e.g., Günther 1864, Boulenger 1890, 1921, Smith 1945, Terent’ev and Chernov 1949) and a few expedition reports (e.g., Murray 1892). For a complete bibliography see Leviton and Anderson (2010, 2012, 2013) and Appendix 2 herein.

In addition to his 1950 collection, John Gasparetti made two further collections during the spring and autumn of 1961 in areas north of Kandahar and south of Kabul; both are mentioned by Leviton and Anderson (1961, 1963). In the years that followed, several important expeditions, namely the Richard and Erica Clark Expeditions and the Street Expedition, collected a large number of amphibian and reptile specimens in Afghanistan. The first of these, the Clark Expedition in July and August 1964, obtained 236 specimens representing 26 species, which included two new species, *Eremias aria* Anderson and Leviton, 1967 and *Phrynocephalus clarkorum* Anderson and Leviton, 1967, and four new country records (Clark et al. 1969). The second was the Street Expedition of 1965 with a focus on mammals, but which also collected 247 amphibians and reptiles. This collection comprised 43 species and included seven new country records and two new taxa, *Agama badakhshana* Anderson and Leviton, 1969 and *Agama nuristanica* Anderson and Leviton, 1969. In 1968, Richard and Erica Clark made a second collection in Afghanistan but only published the report 22 years later (Clark 1990). The materials of these expeditions are mainly housed at the California Academy of Sciences and the Field Museum of Natural History (see Material and Methods for details).

Others also made contributions to the Afghan herpetofauna but based on smaller field excursions (see, for example, reports by Wettstein 1960, Mertens 1966, Brück 1968). At about the same time as the second Clark Expedition, Bohumil Král also collected in Afghanistan and published three new country records (Král 1969).

As an outgrowth of these collecting efforts, somewhat over 100 species of amphibians and reptiles were documented in the first herpetofaunal checklist of Afghanistan (Leviton and Anderson 1970). Additionally, Clas Naumann, former director of the Zoologisches Forschungsmuseum Koenig in Bonn, was professor in the Faculty of Science at the University of Kabul from 1970 to 1972, during which time he conducted several field surveys and established a university-based zoological museum. The herpetological specimens collected by him were identified by herpetologists at the Museum Koenig and subsequently shared equally between the museums in Bonn and Kabul. The Kabul Museum was destroyed during the Taliban regime but some remaining lists still document the material accessioned there, here published for the first time.

Since 1970 only a few publications referring to the Afghan herpetofauna have been published. These include solitary published first records, e.g., *Bungarus sindanus* Boulenger, 1897 (Kuch 2004), as well as publications based on expeditions before 1970 (e.g., Clark 1990) and summariz-
ing works like the checklist published by Sayer and van der Zon (1981). But additional new taxa have been described from Afghanistan since 1970 (e.g., Böhme and Szczerek 1991, Nilson 1983). More recently, Theodore Papenfuss from the University of California at Berkeley (USA) and Research Associate at the California Academy of Sciences, and, independently, the first author of this publication (PW) were able to obtain material from western (Herat), northeastern (Kunduz, Faizabad), and southern Afghanistan. Most recently, Sindaco and Jeremčenko (2008) and Sindaco et al. (2013) provided distribution maps of western Palearctic reptile species that summarize records from Afghanistan, whereas Das (2014) presented a checklist of the amphibians of the country.

Despite the efforts recorded above, it must be noted that for Afghanistan most of the species are still known from very few specimens and localities and, moreover, large parts of the country, e.g., the central mountain massif stretching from Herat to Kabul, are virtually unexplored.

**MATERIAL AND METHODS**

In the checklist that follows, species accounts herein include (a) the citation of the first description, (b) details on primary type material if available and secondary type material if relevant, (c) synonyms, if important for a possible reconsideration of Afghan specimens, (d) Afghan localities (including the province name if necessary) referring to a specific specimen, a photograph or a traceable citation, and (e) remarks, if required, including vague Afghan localities, those with imprecise identification or those referring to topics other than those noted above. The orthography of Afghan locality names is variable and such names are, if used without quotes, herein provided in English translation.

References to places that are in international dispute are placed in the jurisdictions in effect as of the time of the publication. Province names are given if more than one town with the same name can be found within Afghanistan. Specimens from the BMNH collection often cannot be linked to a literature citation as Boulenger and other authors most often did not provide collection numbers.

CHECKLIST OF THE AMPHIBIANS AND REPTILES OF AFGHANISTAN

Amphibia: Anura
Family Bufonidae

Following their phylogenetic results within the genus *Bufo*, Frost et al. (2006) included the complex of the green toads in their new genus *Pseudepidalea*, which is the sister genus to *Epidalea*. Later, Dubois and Bour (2010) regarded *Bufotes* Rafinesque, 1815, as the oldest available name for this group, but placed it as a subgenus of *Bufo*, which is inconsistent with our current understanding of the Bufonidae. However, *Bufotes* is often used at the generic level, although its status is still under discussion. We here retain a more inclusive genus *Bufo*, incorporating several genetic lineages recognized by Frost et al. (2006) within a larger monophyletic genus.

*Bufo viridis* Laurenti, 1768:27, 111, pl. I, fig. 1 - complex

1768 *Bufo viridis* Laurenti, Specimen Medicum, Exhibens Synopsin Reptilium Emendatum cum Experimentis Circa Venena et Antidotae Reptilium Austriacorum. Joan. Thomae. nob. de Trattner, Vienne, Austria. (8) + 214 + (3) pp., 5 pls. [thesis version]; (2) + 214 + (1) pp., 5 pls. [published version].

TYPE (S).— Including a specimen illustrated on pl. 1, fig. 1 of Laurenti’s original publication from “inter fissuras, seu cavernas murorum obscuras Vienneas,” Austria.

LOCALITIES.— “Bamian” (BMNH 1938.2.4.3; Smith 1940:383); “Doab” (BMNH 1938.2.4.2; Smith 1940: 383); “Pagham” (BMNH 1940.3.1.10–13; Smith 1940: 383); “Tirphul, Afghanistan” (ZSI 13114–13122; Sclater 1892:26 as “*Bufo viridis*”).

REMARKS.— Four species of the green toad complex are known to occur in Afghanistan (see below and Das [2014]). However, some historical records cannot be assigned with surety to those species and are here treated as incertae sedis within the *Bufo viridis* complex. Boulenger (1889:105) mentioned two specimens as “*Bufo viridis*” from “Bala-morghab” [= Balal Murghab, Badghis], several specimens of the same taxon from “Tirphul”, “Karez-badak”, “Kishmaru”, “Puza-gish [NW Kilki]” and several tadpoles “from streams of Mt. Do-Shakh [North of Kilki]”, which should be, at least partly, present in the BMNH collection. Uéno and Nakamura (1966) also noted a specimen of “*Bufo viridis*” from “Ishkashim, Wakhan, N. Afghanistan” and seven specimens of the same taxon from “Kabul”. Specimens of the complex from Afghanistan are shown in Fig. 2.
**Bufo oblongus oblongus** Nikolskii, 1896:372


**LECTOTYPE.**—ZISP 1952.1 (designated by Stöck et al. 2001), from “Persia oriental” according to the original description, but subsequently given more precisely as Ssaman-Shahi mountains in eastern Iran (Nikolskii 1897). Later restricted by reference to the collection itinerary to the city of Birjand (about 32°55′N, 59°10′E) by Stöck et al. (2001).

**LOCALITIES.**—40 km S of Herat (CAS 120517–26, CAS 120656–75, CAS 120963–72); Juwain (CAS 120529–31, CAS 120680); Kara Bagh (CAS 90795); SE of Zehak (along the Iran-Afghanistan border, Agricultural College) (1450 ft.) (MVZ 243504–05) [see pl. 1, fig. 1 for distribution].

**REMARKS.**—Stöck et al. (2001) recorded the species only for Iran, but mentioned that an occurrence in western Afghanistan is possible.

**Bufo pseudoraddei baturae** Stöck, Schmid, Steinlein, and Grosse, 1999:221


**HOLOTYPE.**—ZSM 103/1998, from “a plain above the right bank of the Hunza River near the mouth of the Shimsal River, north of the village of Pasu, 2700 m a.s.l., Karakoram, Pakistan.”

**LOCALITIES.**—Baraki Barak [Logar Prov.] (USNM 194958–62); Culangor [Logar Prov.] (USNM 194595–97); Feyzabad (ZFMK 95001–02); 20 mi. from Jalalabad [towards Kabul] (CAS 147443); Kabul (CAS 92325–28, CAS 120705, CAS 151241, ZFMK 14458–59, ZFMK 15695); Kabul Seh Carte (CAS 151214–15); 10 mi E Kabul (CM 49535–44); 70 km S Kabul (CAS 49535–44).
120534, CAS 120681); Marshy area along Logar River, 7–8 mi from Kabul (CAS 92337); Mukur (halfway btwn Kabul and Kandabar) (CAS 90779–93); Paghman [34°36′N, 68°56′E] (CAS 115911–12, CAS 151235–39); ca. 4 km above Paghman (7950 ft.) (MVZ 237418–237420) [see pl. 1, fig. 2 for distribution].

**Remarks.**—Stöck et al. (2001) recognized this subspecies only for Pakistan, but mentioned that an occurrence in Afghanistan is possible. Hemmer et al. (1978) mentioned three specimens as “Bufo viridis” from Kabul collected by Seufer. However, one of the specimens (ZFMK 14457) is actually a snake (Spalerosophis diadema).

**Bufo turanensis** Hemmer, Schmidtler and Böhme, 1978:378


**Holotype.**—MTKD D 11195, from “Duschanbe (Stadtrand), Tadshikische SSR/UdSSR” [Dushanbe (outskirts), Tajikistan, about 38°38′N, 68°51′E].

**Localities.**—12 mi e Eskhsam Wakhān (Ishkamish [36°43′N, 71°34′E]) (CAS 115909); 19 km E Ishkamish (FMNH 161091); Kunduz (ZFMK 8541–43, ZFMK 95003); Maimana [35°54′N, 64°43′E] (CAS 115910, FMNH 161065–68, FMNH 161071, FMNH 161171); Mazār-i-Sharīf (FMNH 161110); 12 km NW Samangan (CAS 120704); 24 km E Taliqān (CAS 120973) [see pl. 1, fig. 3 for distribution].

**Remarks.**—None.

**Bufo zugmayeri** Eiselt and Schmidtler, 1973:206


**Holotype.**—ZSM 211/11–2, from “Pishin (P), Pakistan” [about 30°35′N, 67°00′E, Balochistan, Pakistan].

**Localities.**—Ghazni (CAS 91603–09); 15 km N Ghazni (CAS 120532–33, CAS 120678–79, CAS 120702–03); Kandahar [31°36′N, 65°47′E] (CAS 115913–14); 35 km NW Lashkargah (CAS 120527–528, CAS 120676–77); Sharīsāfā, 60 km NE of Kandahar (CAS 90761); Foot of hills 10 km NW of Sharīsāfā (CAS 90778) [see pl. 1, fig. 4 for distribution].

**Remarks.**—Although details of the distribution of this species are as yet unknown, Stöck et al. (2001) suggested that the northern limit of its distribution reaches the *B. pseudoraddei* populations in eastern Afghanistan and western Pakistan. This species is not mentioned in the checklist by Das (2014).

**Duttaphrynus stomaticus** (Lütken, 1864:305)


**Syntypes.**—ZMUC R 131136–37, from “ostindiske” [= East Indies], incorrectly restricted to “Assam”, India, by Boulenger (1891).

**Synonyms.**—*Bufo andersonii* Boulenger, 1883 from “Ajmere [Ajmer, Rajasthan, India]” by lectotype (BMNH 83.11.26.105) designation (Balletto et al. 1985). *Bufo andersonii* Murray, 1884 from “Sind (Tatta [= ponds] and Joongshai)”, Pakistan (types in the Karachi Museum, but presumed lost).
**Locality**.— Jalalabad (Spinlar Hotel) (1950 ft.) (MVZ 236862, 237421–29); 30 km W Jalalabad (CAS 120535–37); 20 km SW Jalalabad (CAS 120535); Jalalabad [34°26′N, 70°25′E] (CAS 115908, FMNH 161040); Kandahar (FMNH 161266); Khost [Paktia Prov.] (CAS 96172, ZFMK 8668); Paghman [34°36′N, 68°56′E] (CAS 115904–07, FMNH 161038–42, FMNH 161044–46, FMNH 161048–50); 16 km S Qala-i-Kang [30°58′N, 61°54′E] (CAS 115902–03, FMNH 161037) [see pl. 1, fig. 5 for distribution].

**Remarks**.— For comments about the Karachi Museum see next species account.

**Family Dicroglossidae**

*Chrysopaa sternosignata* (Murray, 1885:120)


**Syntypes**.— Unknown number in the “Kurrachee Municipal Museum” (presumably the Karachi Museum), most likely now lost. BMNH 1947.2.1.21–22 from “Mullee [= Malir] near Kurrachee [= Karachi (Sind)]; Zandra and Quetta [Baluchistan], in South Afghanistan”; all localities actually in Pakistan.

**Locality**.— Arbarp [10 mi. W Kabul, 7000 ft.] (according to Smith [1940:383], probably BMNH 1940.3.1.6–9); Baraki Barak [Logar Prov.] (USNM 194964–65, USNM 194967–70); Culangor [Logar Prov.] (USNM 194591–94); vicinities of Kabul (ZFMK 18981); Kabul Seh Carte (CAS 151216–19); Kandahar (FMNH 161279); Kargha stream, nr Kabul (CAS 133828); Marshy area along Logar River, 7–8 mi from Kabul (CAS 92330–36); Khost (CAS 96171); Kurdkabul Dam (CAS 151223–26); Paghman [34°36′N, 68°56′E] (CAS 115917–18, FMNH 161121, FMNH 161224); ca. 4 km above Paghman (7950 ft.) (MVZ 237438); Sinjui (MNHN 1985.3000) [Fig. 3; see pl. 1, fig. 6 for distribution].

**Remarks**.— At the time of the description, Murray was librarian and curator of the Kurrachee Municipal Library and Museum (Adler 2012). Therefore, he most probably deposited type specimens in this collection. However, he was also in good contact with Albert Günther and donated specimens, including the syntypes, to the British Museum. Moreover, material collected by Murray as well as material from the “Karachi Museum” were sent to the Indian Museum in Calcutta (Sclater 1891, 1892).
Euphlyctis cyanophlyctis (Schneider, 1799:137)

1799 Rana cyanophlyctis Schneider, Historiae Amphibiorum naturalis et literarariae. Fasciculus Primus continens Ranas, Calamitas, Bufones, Salamandras et Hydros in genera et species descriptos notisque suis distinctos. Vol 1. Friederici Frommanni, Jena. xiii + (1) + 264 + (2) pp., pls. 1–2.

SYNTYPES.— ZMB 3197–98 (fide Peters [1863]), from “India orientali” (probably from Tranquebar [Tharangambadi, Nagapattinam District, Tamil Nadu, India] fide Bauer 1998).

SYNONYMS.— Rana cyanophlyctis var. seistanica Nikolskii, 1899 from “Neizar in Seistano” [Neizar, Kerman, Iran] (Holotype: ZISP 2503). Euphlyctis cyanophlyctis microspinulata Khan, 1997 from “side pool of a stream on the southwest of Khuzdar (southeast Kalat Division, Balochistan, Pakistan; lat. 27°53′N, long. 66°36′E),” (Holotype: BMNH 1990.8; see remarks).

LOCALITIES.— 48 km W Dilaram (FMNH 161982); Geresk Basic Health Center (CAS 133827); Helmand River, Chah-i-Angir (CAS 133827); Jalalabad (CAS 103776–77, ZFMK 7937–40); 10 mi W of Jalalabad [34°30′N, 70°22′E] (CAS 96179–88); 20 km SW Jalalabad (CAS 120515); 20 mi from Jalalabad [towards Kabul] (CAS 147438–42); ca. 25 km SE (by air) Jalalabad (2020 ft.) (MVZ 236870–75, MVZ 237434–35); 45–15 km W of Jalalabad (CAS 120505–14); Khost (CAS 96168–70); Lashkargah (CAS 120682, CAS 147434–36); Oarya-e-Matun, vic. of Khost [Paktia Prov., 1160 m] (ZMK 2731) [see pl. 1, fig. 7 for distribution].

REMARKS.— Clark (1990) mentioned specimens from Lashkargah that were collected from irrigation channels and in steep-sided pools. A specimen with the number “1990.8” does not now and never existed at the BMNH (pers. comm. F. Tillak). Therefore, the type specimen was never inventoried in the BMNH and is probably still in a private collection or lost.

Hoplobatrachus tigerinus (Daudin, 1803:64)


HOLOTYPE.— Animal figured on pl. 20 of the description (now presumly lost), from “Bengale” [India].

LOCALITIES.— Khost, close to Khyber Pass [Paktia Prov., 1200 m] (ZFMK 15984) [see pl. 1, fig. 8 for distribution].

Figure 4: Hoplobatrachus tigerinus from Afghanistan. Photo by W. Böhme.
Remarks.— In Afghanistan, this species is known from a single record (Fig. 4) (Kullmann 1970) and has so far not been found again.

Family Ranidae

Pelophylax terentievi (Mezhzherin, 1992:150)


Holotype.— ZIK 25441, from “Tadzhikistan, Komsomolobadskij r-n, smt Obi-Garm” [Obigarm, Roghun District, Tajikistan]. In the original description (Mehzhzerin 1992) ZIK 25441 is given as holotype, but according to Pisanets (2001) this specimen is now “Amph A3” of the NNHM NASU.

Localities.— Baghlan (USNM 194986); Bokan (MZLU L957/3078); Doshi, 2700ft (Smith 1940, probably BMNH 1938.2.4.1); Hari Rud, under Malan Bridge, nr Herat (CAS 133829–30); Herat area [34°20′N, 62°10′E] (CAS 115915, FMNH 161114–15); ca. 25 km SE (by air) Jalalabad (2020 ft.) (MVZ 236876); 24 km E Khanabad (CAS 120699); Khenjan (CAS 120516, CAS 120683–98, CAS 120979–81); Kunduz, 400 m. (ZFMK 8535–40); Pagham (FMNH 161055); 24 km E Taliqan (CAS 120982–86); 65 km NE Taliqan (CAS 120700–01); Zebak, 64 mi by rd E Faizabad (CAS 115916, FMNH 161124–25) [see pl. 2, fig. 1 for distribution].

Remarks.— Although Afghan specimens (Fig. 5) were previously recognized as Rana ridibunda and more recently as Pelophylax ridibundus, we believe that they should be referred to the species above. Previously, Pelophylax terentievi was recognized only from southern Tajikistan and northwestern Xinjiang in China, thus this is the first mention of this taxon for Afghanistan. Uéno and Nakamura (1966) mentioned one additional specimen from Khanabad, N. Afghanistan, but without providing a reference or voucher specimen. Clark (1990) mentioned this species (as R. ridibunda) as very abundant at Khenjan where specimens occurred in streams, ponds and irrigation ditches.
Amphibia: Caudata
Family Hynobiidae

Afghanodon mustersi (Smith, 1940:382)


Holotype.— BMNH 1946.9.6.59 (formerly BMNH 1940.3.1.1), from “mountain streams of the Paghman Range, above Paghman [= 17 mi. W Kabul], at between 9000 and 10,000 feet altitude,” Afghanistan. Paratypes.— BMNH 1946.9.6.60–63 (formerly 1940.3.1.2–5), same locality as the holotype.

Localities.— Darrahe Pain Stream, 3 mi N Paghman (9000 ft.) (MVZ 232869); 20 km NW of Kabul, Paghman, Pain tributary of Paghman stream (USNM 216262–63); 20 km NW of Kabul, “dans cuvette d’un torrent à Paghman” (MNHN 1981.2081); Paghman (ZFMK 8515–34, 7933–34); Paghman, 1800 m. (ZFMK 5375); Paghman Mts. (KU 194380–83, MCZ A–99124–26, MNHN 1988.7183–85); Paghman, Paghman stream (CAS 151240); 3 mi N Paghman in Darrahe Pain Stream (CAS 149128–9); Paghman, Paghman Stream, Darrehe Cape tributary (CAS 146996–97); Paghman, Paghman Stream, Darrehe Pain tributary (CAS 146985–95, CAS 147044–67, CAS 147084–108, CAS 152088); Paghman, Paghman Stream, Darrehe Raste tributary (CAS 147032–43, CAS 147068–83); ca. 4 km above Paghman (7950 ft.) (MVZ 236802–25); 4 km from Paghman (ZISP 6838.1–3); Pengachon, ca Kabul (KU 194385, KU 194387); Salang pass, 2700 m. (KU 194384, ZFMK 13343); Sanglakh, 60–80 km W of Kabul (MNHN 1987.478, MNHN 1987.652, MNHN 1993.827) [see pl. 2, fig. 2 for distribution].

Remarks.— This species (Fig. 6) is endemic to Afghanistan where it is known from three tributaries of the Pagham Stream drainage (appr. 4 km above the town of Paghman) 2,440–3,750 m elevation. The stream, which is fed by melting glaciers and is about 4 km long, provides the sole known habitat for this species.

Conservation.— Afghanodon mustersi is impacted by irrigated cultivation, overgrazing and physical disturbance by livestock and pedestrians (Stuart et al. 2008). Moreover, there is a potential for damming the stream as a watersource for Kabul, that would likely have a strong negative impact on this salamander. As it is endemic to Afghanistan and does not occur within protected areas, it should be considered a high priority in conservation management of Afghanistan.

Figure 6: Afghanodon mustersi from the Paghman Range. Photo by W. Böhme.
**Reptilia: Squamata**  
**Family Agamidae**

*Calotes versicolor farooqi* Auffenberg and Rehmann, 1995:27


**Holotype.**—FMNH 79470, adult male from “rocky hillside Shargal, 20 km S of Balakot Man-shera Dist., Northwest Frontier Province (lat. 34.3°N, long. 73.4°E), Pakistan.”

**Localities.**—Alikhel [2200 m, Prov. Paktia] (ZFMK 8631); Jalalabad (MMB 28465–66); 30 km SW Jalalabad (CAS 120557, CAS 120720); 40 km SW Jalalabad (CAS 120721–22); 45 km W Jalalabad (CAS 120558); Btwn Kabul and Sarobi, nr rd, 30 mi E of Kabul [34°33′N, 69°35′E, Prov. Kabul] (CAS 96257); Nimla [1000 m, Prov. Nangerhar] (ZFMK 8630) [see pl. 2, fig. 3 for distribution].

**Remarks.**—This taxon was described by Auffenberg and Rehmann (1993) as *Calotes versicolor nigrigularis* but the authors overlooked *Calotes nigrigularis* Ota and Hikida, 1991 and, therefore, their name is a junior primary homonym. Somewhat later, the same authors introduced *Calotes versicolor farooqi* as a new name for the previous taxon (Auffenberg and Rehmann 1995). Clark et al. (1969) and Clark (1990) collected several individuals on stone walls near streams, on earth banks, bamboo thickets and amongst vegetation. The BMNH collection holds a number of specimens labeled as “*Calotes emma*, BMNH 1946.8.11.26 [type]”, “*Calotes jerdoni*, BMNH 1860.3.19.1021”, “*Calotes maria*, BMNH 1860.3.19.1020, BMNH 1946.8.11.24 [type]” and “*Calotes versicolor*, BMNH XXIV.29.k, BMNH XXIV.29.t, BMNH 1860.3.19.1022” from “Afghanistan” most of which have not been examined but likely could represent this taxon.

*Laudakia* Gray, 1845 — **sensu lato**

The genus *Laudakia* was recently subdivided into three genera (*Stellagama, Paralaudakia, and Laudakia*) by Baig et al. (2012). Although Pyron et al. (2013) used *Laudakia* in the more inclusive sense, we here follow the more integrative concept by Baig et al. (2012) because of the strong differences in morphology, anatomy, dentition, and cranial anatomy among the three monophyletic lineages within the laudakian agamas.

*Laudakia agrorensis* (Stoliczka, 1872:128)


**Syntypes.**—ZISP 4206, from “Sussel Pass, at the entrance into the Agror Valley, 6000 feet, Hazara district, N.W. Punjab”; NMW 16754 and BMNH [not located, probably BMNH 1880.11.10.] from the same locality.

**Localities.**—Jalalabad (FMNH 161161); Lindai-Sin Valley [1700 m, Prov. Nuristan] (ZFMK 8637); Nuristan (ZFMK 8633–35); Petsch-Tal [1600 m, Prov. Nuristan] (ZFMK 8638); Petsch-Valley, Zunsail [1400 m, Prov. Nuristan] (ZFMK 8636) [see pl. 2, fig. 4 for distribution].

*Laudakia melanura melanura* Blyth, 1854:738

**TYPE(S).**—Not located (see remarks), from “Kashmir”.

**SYNONYMS.**—*Stellio liratus* Blanford, 1874 from “Gedrosia, Baluchistan” interpreted as “Saman, Dasht Province, Baluchistan” by Smith (1935).

**LOCALITIES.**—Ali Khel, southern side of Safed-Koh [Paktia Prov., 2200 m] (ZFMK 8627); Darunta near Jalalabad [Nangahar Prov., 650 m] (ZFMK 8544) [see pl. 2, fig. 5 for distribution].

**REMARKS.**—Sindaco and Jeremčenko (2008) recognized this taxon only from the border area between Pakistan and Afghanistan; ZFMK specimens provide the first record of *L. melanura* from Afghanistan. Blyth (1868:32) himself recognized his *L. melanura* as synonym of *L. tuberculata* and mentioned a juvenile female from “Simla” from the collection of the Asiatic Society of Bengal that had been donated by W. Theobald. Even though Simla is quite distant from Kashmir, this specimen could be a type specimen, as we now know that the species has a relatively extensive distribution.

**Laudakia nupta nupta** (De Filippi, 1843:407)


**HOLOTYPE.**—Not located [Milan], from “Persepolis,” Iran.

**SYNONYMS.**—*Stellio carinatus* Duméril, 1851 from “Aucher-Eloy, Perse.”

**LOCALITIES.**—Biaman (on rd to Saigon), along Kunduz River (CAS 147444–52); 40 km NW Delaram (CAS 120736); 65 km NW Delaram (CAS 120734–35); 48 km W Dilaram (FMNH 161077); 20 km E Farah (CAS 120732–33); 55 km W Girishk (CAS 120556, CAS 120731); Jalalabad area (Brück 1968); 30 km SW Jalalabad (CAS 120730); Nimla [Nangarhar Prov., 1000 m] (ZFMK 8628); 2 km SE Jalalabad (MMB 28467); 8 km ESE Jalalabad (MMB 28470); 45 km W Jalalabad (CAS 120554–55); Kabul (ZMUC R-36210); 67 km E (by Jalalabad Rd.) of Kabul at Puli Churkhi suburb (MVZ R-236883); Kaikay (ZMUC R-36189); Kandahar (CAS 115936–38, FMNH 161257–58, FMNH 161260, FMNH 161262–63, ZFMK 2682, ZFMK 7924); ca. 15 km SSW Kandahar (by Panjua Rd.) (MVZ 237456); 107 km ENE (by Kabul Rd.) of Kandahar at junction of Quetta Rd. and Kabul Rd. (MVZ 237457); Kouh-Bachtou near Farah [MZLU L958/3240]; 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19–21′N, 70°10–15′E] (CAS 96196–97, CAS 96210); 4 km S [by air] Pagham (ZMUC 236884–85); Pirzada (ZMUC R-36190); Somarkhel [banks of Kabul River], about 15 km E Jalalabad (MMB 28478–69) [see pl. 2, fig. 6 for distribution].

**REMARKS.**—The holotype was present in the Milan collection at the time of Jan’s catalogue (Jan 1857) but it now seems to be lost and was not mentioned by Scali (2010).

**Laudakia nuristanica** (Anderson and Leviton, 1969:39)


**HOLOTYPE.**—FMNH 161136, adult male from “Kamdesh, eastern Afghanistan [1342 meters elevation]”.

**LOCALITIES.**—Kamdesh [35°25′N, 71°26′E] (FMNH 161136, CAS 115939); Lindai-Sin Valley [Nuristan Prov., 2200 m] (ZFMK 8624–25); Nuristan (ZFMK 8618–23) [see pl. 2, fig. 7 for distribution].
**Laudakia tuberculata** (Gray, 1827:218)


**Holotype.**—BMNH 1946.8.28.17 (formerly BMNH 60.3.19.1377) from “India,” probably incorrectly restricted to “Bengal” by Smith (1935). Although not explicitly stated, the description appears to be based on a single specimen and Gray (1845) noted only a single specimen from Hardwicke in the BMNH collection.

**Synonyms.**—*Stellio indicus* Blyth, 1853 from “Mirzapore [= Uttar Pradesh, northern India] and Wuzerabad [= in North-West Frontier Province, northern Pakistan]”; *Barycephalus sykesii* Günther, 1860 from “Simla, Himalaya”.

**Localities.**—Afghanistan [without detailed locality] (ZFMK 8615, ZMB 12477) [see pl. 2, fig. 8 for distribution].

**Remarks.**—Brück (1968) provided a record of *L. tuberculata* (referenced in Sindaco and Jeremčenko [2008]) from “dem Gebiete um Djelalabad” [= vicinity of Jalalabad], so maybe the specimens mentioned herein also originate from this area. However, as this is not a precise locality it is not mapped here.

**Paralaudakia badakhshana** (Anderson and Leviton, 1969:33)


**Holotype.**—FMNH 161108, from ”Mazar-i-Sharif, northern Afghanistan, 36°34′N, 67°05′E, 457 m elevation.”

**Localities.**—Dashit-e-Nawar (ZFMK 13315–16); Pass to Dashit-e-Nawar [Ghazui Prov., 3000 m] (ZFMK 8608–12); 64 mi by rd E Faizabad (CAS 115924); Farakhlum near Garandewal [Prov. Wardak, 2500 m] (ZFMK 54796); southern side of Kotal-e-Sha-tu, vic. Pandjao [Bamian Prov., 2500 m] (ZMK 2828); Kotal-e-Unai: [Prov. Wardak, 2800 m] (ZFMK 54795); Mazar-i-Sharif (FMNH 161108); Paghman [34°36′N, 68°56′E] (CAS 115925, FMNH 161175); Paghman stream (CAS 147423); 4 km S [by air] Pagham (MVZ 237442–48); Pari Kham near Darwāz [Prov. Badaksha, 2700 m] (ZFMK 8552); Salang Pass [Kabul Prov., 3000 m] (ZFMK 5377–81); Salang Pass, N of, road to Pulikumri [= Pol-e Khomri, Prov. Baghlan] (USNM 194973–76); Wakhan near Sarhad [Prov. Badakshan, 2900–3100 m] (ZFMK 52029–51, ZFMK 52056); Shipun (ZFMK 8550–51); Wakhan, Zemestani Baharak [Prov. Badakshan, 3300 m] (ZFMK 52052–55) [see pl. 3, fig. 1 for distribution].

**Remarks.**—There is an additional series of specimens from unknown localities in Afghanistan in the FMNH (161132, 161172). Baig (1992), Sindaco and Jeremčenko (2008), and Baig et al. (2012) only provide two confirmed records and expressed doubt about the type locality of Mazar-i-Sharif.

**Paralaudakia caucasia** (Eichwald, 1831:187)


**Type(s).**—Not located, from “Hab. in Caucaso, prope Tiflisium [= Tbilisi, Georgia], Bacuam [= Baku, Azerbaijan].”
SYNONYMS.— *Lacerta muricata* Pallas, 1814 “1827” from “in deserto Magno”; *Stellio persicus* Anderson, 1872 from “Teheran” (holotype ZISP 4830); *Agama reticulata* Nikolskii, 1912 from “Tschubek, Ost-Buchara”.

LOCALITIES.— Ajar Valley (RMNH 25954–58); Bamiyan 8000 ft. (Smith 1940: 384; probably BMNH 1938.2.4.7–9); Bamiyan, NW of Kabul MCZ R-97297–98); 1–8 km East of Bamiyan Hotel, Bamiyan (MVZ R-97302–05); road N of Band-e-Amir [ca 35°05′N, 67°47′E] (CAS 243989); Baraki Barak [Logar Prov.] (USNM 194605); 1/2 hr E (by car) Chacharan on Shina River (CAS 147407); 40 mi S Characharan (CAS 147465); Chinkiloh (Boulenger 1889: 96); Chudjomborak [Maidan Prov., 2500 m] (ZFMK 20983); NE Dashi-Doab (on road to Kundus) n. of Kabul (MCZ R-97300); Doab 5000 ft. (Smith 1940: 384; probably BMNH 1938.2.4.4–6); Kharzar ou Tang-Djangal Baz (MZLU L957/3052); Khwadja Ghar (ZFMK 8546); Pass to Dasht-e-Nawar [Ghazni Prov., 2700–3000 m] (ZFMK 8600, ZFMK 8607); Gardez (ZMUC R-36136); 40 km S of Herat (CAS 120747–49); Kundus R. NE Dashi-Doab N of Kabul (MVZ R-97300); 15 km N Ghazni (CAS 120551–53); 20 mi N of Ghazni [33°40′N, 68°30′E] (CAS 98969); NW of Kabul (MVZ R-97297–98); 80 km S Kabul (CAS 120750); Kharzar (LC, Wetsstein 1960); 1 mi N Kurdkabul Dam (CAS 151227); 4 mi from Kurdkabul Dam towards Buthak (CAS 151229); Masjed-Tchoubi (MZLU L959/3051); Meiden Khula, about 30 mi ENE Gardez [33°40′N, 69°50′E] (CAS 96246–47); Narai (NW of) [31°31′N, 70°04′E] (CAS 96248–49); Obeh [= Owbi, Herat Prov.] (ZMUC R-36137–44, 36187–88); Paghman (CAS 151231–34, FMNH 161058–62, FMNH 161174, FMNH 161176, FMNH 161209–12, FMNH 161214–15, FMNH 161219, ZFMK 5382–83); Paghman [34°36′N, 68°56′E] (CAS 115926–31); above Pagham (Smith 1940: 384; probably BMNH 1940.3.1.18); nr Paghman River, 10 km SW of Kabul (CAS 92329, CAS 92338); Paghman, 15 mi W of Kabul [34°36′N, 68°56′E] (CAS 96251–52); Paghman, Darrehe Cape (CAS 147424); Paghman, Kohe Katasang (CAS 147421–22); Pari Kham (ZFMK 8547); Pini Share Valley, 150 mi NE of Kabul [Kapisa Prov.] (USNM
194981–85); Pul-e-Khumeri [1300 m] (CAS 120324, 120738–41, ZFMK 8588); Rabatak (ZFMK 8548); Shibar Pass (RMNH 25962); 20 km W. of Shibar Pass, road from Bamiyan to Kabul (MCZ R-97301); Southern side of Safed-Koh [Prov. Paktia, Ali Khel, 2100 m] (ZFMK 8626); Toward Ghazni, a few km from village of Shash Gao (CAS 91590–98); 20 km W. of Shibar Pass, road from Bamiyan to Kabul (MVZ R-97301); 24 km E Taliqan (CAS 120745–46); Tang-e-Tashaurghan, Khuin [Samangan Prov., 700 m] (ZFMK 8601–03); 10 km W of Tashkurgan (CAS 120742–44); Urgun (ZFMK 8549) [see pl. 3, fig. 2 for distribution].

**Remarks.**—Sindaco and Jeremčenko (2008) recognized *P. caucasia* (Fig. 7) only from northwestern and northeastern Afghanistan whereas our records show that this species is widespread at higher elevation across the country. Wagner and Dittmann (2014) mentioned that dried individuals of *Paralaudakia caucasia* were sold in a Chinese market in Kabul as medicine (Fig. 8), and have a use similar to that of *Gekko gecko* in East and Southeast Asia.

![Figure 8: Dried individuals of Paralaudakia caucasia sold as medicine in a Chinese market in Kabul. Photo by A. Dittmann.](image)
Paralaudakia erythrogaster (Nikolskii, 1896:370)


SYNTYPES.— ZISP 8759 and 8760, from “Persia orientali.”
SYNONYMS.— Stellio erythrogastra var. pallida Nikolskii, 1897 from “prope urbem Mesched”.
Agama caucasia mucronata Guibe, 1957 from “Langarak, 60 km E of Meched, on road to Sarakhs [Iran]”; Stellio erythrogaster nurgeldievi Tuniyev, Atayev, and Shammakov, 1991 from “eastern Kopet-Dagh, Turkmenistan.”

LOCALITIES.— Khost [Paktia Prov., 1200 m] (ZFMK 8632); Maimana [Maimana Prov., 850 m] (CAS 115933, FMNH 161195, ZFMK 8614); Murghat Prov. [without detailed locality] (ZFMK 8613); vic. of Paghman [34°36′N, 68°56′E] (CAS 115932, FMNH 161187, FMNH 161189–90) [see pl. 3, fig. 3 for distribution].

REMARKS.— Sindaco and Jeremčenko (2008) also recognized this species from northwestern Afghanistan but without mentioning the source of their data.

Paralaudakia himalayana (Steindachner, 1867:22, plate 1, fig.8)


SYNTYPES.— NMW 16752: 1–12, NMW 16753: 1–2, from “Lei [= Leh]” and “Kargil,” Ladakh Prov., Kashmir. According to Grillitsch et al. (1996), a skull (NMW 578) from the same area and collector could also be part of the syntype series.

LOCALITIES.— Ajdaha, vic. of Bamyan (MNHN 1948.330–37); Btw. Bamian and Panjao (CAS 147454–64); 12 mi E Eskshham Wakhan (Ishkamish, Ishkamish = 36°43′N, 71°34′E] (CAS 115934–35); Khandout, 148 km E of Ichkachin, Vakhan (MZLU L960/3045); 2 km NW Panjao (CAS 147453); Shipun (ZFMK 8550–51) [see pl. 3, fig. 4 for distribution].

REMARKS.— Sindaco and Jeremčenko (2008) only provide records from northern and northeastern Afghanistan.

Paralaudakia lehmanni (Nikolskii, 1896:XIV)


SYNTYPES.— ZISP 2367, from “Oalyk-tau” [= Oalyk mountain, Samarqand province, Uzbekistan]; ZISP 8664, from “Nuratau montains, Zerbent” [= Zerbent River, Nuratau mountains, Jizzakh province, Uzbekistan]; ZISP 8665, from “Nuratau mountains, Temur-Kauk well,” Jizzakh province, Uzbekistan; ZISP 8666.1, 8666.2, 8689.1, 8689.2, from “Southern Kyzylkum, Kum-Kuduk well,” southern part of Kyzylkum desert, Uzbekistan; NMW 23485 from “Baba-tau” (donated by the St. Petersberg Museum fide Tiedemann and Häupl [1980]).
SYNONYMS.— Agama borstschewskyi Elpatjewsky and Sabanejew, 1907 from “area of Buchara [= Buxoro]”, Uzbekistan.

LOCALITIES.— Badakshan (BMNH 1968.1301); Darrah-e-Andarab, vic. of Bani [Baghlou Prov., 2100 m] (ZFMK 9063, ZMK 2754); Faizabad (BMNH 1968.1302, ZFMK 96708–715, 97203–208, 97992; see also Fig. 9); Mazari-Sharif (FMNH 161109); 50 km E Taliqan (CAS 120737); 50 km NE Taliqan (CAS 120325) [see pl. 3, fig. 5 for distribution].
REMARKS.— Sindaco and Jeremčenko (2008) only provide records from northern and northeastern Afghanistan, however, the records from Darrah-e-Andarab are here confirmed by us.

*Paralaudakia microlepis* (Blanford, 1874:453)


**Syntypes.**— BMNH 1946.8.28.74–77 “in montibus Persiae meridionalis” [invalidly restricted to Kushkizard, north of Shiraz by Boulenger 1885].

**Localities.**— 21 km N of Ghazni [by Kabul Rd.] (MVZ 237452–54); 50 km N Hirat (RMNH 25966); Murghab (ZFMK 8599, 8604); 6 km E Nawar Pass (RMNH 25959–61); Noburtscha, on road to Dascht-i-Nawar [Prov. Ghazni, 2400 m] (ZFMK 8605–06); Paghman, nr. Kabul (ZFMK 8598); 75 km E Shindand (RMNH 25965); 40 km S Tarin Kot (RMNH 25953) [see pl. 3, fig. 6 for distribution].

REMARKS.— Sindaco and Jeremčenko (2008) mention records only from central and eastern Afghanistan whereas our specimens confirm its occurrence in western parts of the country as well.

*Phrynocephalus clarkorum* Anderson and Leviton, 1967:228, fig. 1


**Holotype.**— CAS 97989 (female), from “20 miles southeast of Kandahar, Afghanistan, 31°20′N, 65°50′E.”

**Localities.**— 10 km NE of Darweshan (CAS 120211–16); 56 km S and 10 km E of Darweshan (CAS 120217–24); btw. Nushki (Pakistan) and Helmand (BMNH 1946.8.28.22, BMNH 1946.8.28.25); 20 mi SE Kandahar [31°20′N, 65°50′E] (CAS 97989, CAS 103787); 40 km SE of Kandahar (CAS 120225–38); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud [river]), ca. 40 km SSE Kandahar (by road to Quetta) [3350 ft.] (MVZ 236886–88) [see pl. 3, fig. 7 for distribution].
**Remarks.**—This species is endemic to firm sand pockets and dune margins of southern Afghanistan. Clark (1990) also reported it as occurring in sympathy with its close relative, *P. ornatus*.

**Phrynocephalus euptilopus Alcock and Finn, 1897:556, pl. XII**


**Syntypes.**—BMNH 1946.8.28.39, ZSI 14070, ZSI 14072; MCZ R-7227 [ex ZSI 14074], from “near Darband, elevation 3000 feet” northern Balochistan.

**Localities.**—56 km S and 10 km E of Darweshan (CAS 120205–07) [see pl. 3, fig. 8 for distribution].

**Remarks.**—This species occurs exclusively in deep dune areas (Clark 1990). Sindaco and Jeremčenko (2008) provide a record from the Pakistani side of the border, which corresponds to the type locality Darband in northern Balochistan.

**Phrynocephalus interscapularis sogdianus Chernov, 1948:135**


**Holotype.**—ZISP 16887, from “Tajikistan, vicinity of the Pjandzh village” [translated from Russian].

**Localities.**—Ag Chah (SNM 21–34); Andkhoy (CAS 120107–10); Anhoy, 25 km E of (USNM 194972); 20–32 km S of Andkhoy (CAS 120095–106); btw. Aqtchah and Andkhoi (MNHN 1948.169–70); Imam Sahib, nr. Amu-Darya [Kundus Prov.] (ZFMK 8691–93); Dasht-e Leila, nr. Seberghan [Djauz-Djan Prov., 390 m] (ZFMK 20976–79, ZMK 2613); 20 km E of Mazar-i-Sharif (CAS 120061–78); 30 km NW of Sheberghan (CAS 120079–94); Ozil Qala, nr. Amu-Darya [Kundus Prov., 400 m] (ZFMK 8581–82) [see pl. 4, fig. 1 for distribution].

**Remarks.**—Clark (1990) mentioned this lizard from non-sandy areas, hiding among clumps of coarse grasses.

**Phrynocephalus luteoguttatus Boulenger, 1887:497**

1887 *Phrynocephalus luteoguttatus* Boulenger, Catalogue of the Lizards in the British Museum (Natural History) Vol. III. Lacertidae, Gerrhosauridae, Scincidae, Anelytropsidae, Dibamidae, Chamaeleontidae. Trustees of the British Museum (Natural History), London, United Kingdom. xii + 575 pp., pls. I–XL.

**Syntypes.**—BMNH 1946.8.28.44–49, BMNH 1946.8.28.36–38, and ZISP 7363 [ex BMNH specimen], from “between Nushki and Helmand.”

**Localities.**—12 km SE (by air) of Daruishan (Rigestan Sand Dunes) (2350 ft.) (MVZ 236904–10); 10 km NE of Darweshan (CAS 120008–25); 35 km S of Darweshan (CAS 120001–07); 56 km S and 10 E of Darweshan (CAS 120026–48); 20 mi SE Kandahar [31°20′N, 65°50′E] (CAS 97980, CAS 103786); 48 km SE of Kandahar (CAS 120049–60); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud [river]), ca. 40 km SSE Kandahar (by road to Quetta) [3350 ft.] (MVZ 236889–903) [see pl. 4, fig. 2 for distribution].

**Remarks.**—Clark (1990) mentioned the species as abundant in the sand desert margins of Darweshan and Kandahar. Sindaco and Jeremčenko (2008) provide an additional record from the
Sistan area, but this is in error because of wrong coordinates (Sindaco, pers. comm. Nov. 2013), whereas the original records refer to Helmand Province (Boulenger 1889).

**Phrynocephalus maculatus maculatus** Anderson, 1872:389


**Holotype.**— ZISP 4825, from “Awada, Shiraz, Persia.”

**Synonyms.**— *Phrynocephalus spiniventris* Nikolskii, 1896 from “Persia oriental.”

**Localities.**— 1/2 hr S Dareweshan (CAS 147437); 10 km NE of Darweshan (CAS 120209); 56 km S and 10 km E of Darweshan (CAS 120208); Dasht-e-Margo, 70 km NE of Zarandj [Nimruz Prov.] (ZMK 2601); estuary of the Farah-ruds River (ZMUC R-36133); estuary of the Farah-ruds River (ZMUC R-36134); 40 mi W Lashkaragah [Dasht-i-Margo] (CAS 147420) [see pl. 4, fig. 3 for distribution].

**Remarks.**— Boulenger (1889:97) mentioned several specimens of “*Phrynocephalus maculatus*” and figured one (pl. 9, fig. 3) from the “great gravel plains between Nushki and the Helmand” that is probably a member of the series BMNH 1886.9.21.59–61.

**Phrynocephalus mystaceus galli** Krassowsky, 1932:225


**Lectotype.**— ZMMU Re–6413, from “Aus Repeteka andetrifit” [= vicinity of Repetek station, approximately 38°35′N, 63°11′E, Lebapsky Region, Turkmenistan] designated by Semenov and Shenbrot (1990)

**Localities.**— Ag Chah [Mazar-i-Sharif Prov.] (SNM 35–40); 32–50 km S Andkhoy (CAS 120723–28); 50 km S of Andkhoy (CAS 120140); btw. Aqtchah and Andkhoi (MNHN 1948.168); 20 km E of Mazar-i-Sharif (CAS 120141, CAS 120729); 30 km NW of Sheberghan (CAS 120139) [see pl. 4, fig. 4 for distribution].

**Remarks.**— Clark (1990) mentioned this species as abundant in northern Afghan deserts.

**Phrynocephalus ornatus ornatus** Boulenger, 1887:496

1887 *Phrynocephalus ornatus* Boulenger, Catalogue of the Lizards in the British Museum (Natural History) Vol. III. Lacertidae, Gerrhosauridae, Scincidae, Anelytropsidae, Dibamidae, Chamaeleontidae. Trustees of the British Museum (Natural History), London,United Kingdom. xii + 575 pp., pls. I–XL.

**Lectotype.**— BMNH 1946.8.28.20, from “between Nuski and Helmand” designated by Anderson and Leviton (1967).

**Localities.**— 12 km SE (by air) of Daruishan (Rigestan Sand Dunes) (2350 ft.) (MVZ 236913); 10 km N of Darweshan (CAS 120175–80); 32 km S of Darweshan (CAS 120165–74); 50 km S of Darweshan (CAS 120194–95); 56 km S and 10 km E of Darweshan (CAS 120196–203); Dibaram, 60km Seranj (ZFMK 7930–32); 35 km S of Farah (CAS 120181–91); 18 km E of Girishk (CAS 120142–46); 20 mi E of Girishk [31°43′ N, 64°45′ E] (CAS 103788–90, CAS 97974–73); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84650–53, CAS 84660–62); 45 km N of Juwain (CAS 120192–93); Kandahar (BMNH 1964.1137–43); 65 km W (by Herat Rd.) of Kandahar (3320 ft.) (MVZ 236914–26); 30–75 km S of Lashkargah (CAS 120147–64); 50 km S of Lashkargah (CAS 120204); ca. 50 km SSW (by air) of Lashkar Gar (edge of Dasht-e-Margo on W side of Helmund River) (2320 ft.) (MVZ 236912); between
Nushki and Helmand (ZISP 7362, paralectotype); Yaktchal (= Yakhchal) (MZLU L958/3241) [see pl. 4, fig. 5 for distribution].

**Remarks.**—Clark (1990) mentioned this species as very abundant and could not identify any ecological difference between this species and its close relative *P. clarkorum*. Both species occur mainly on firm sandy terrain. *Phrynocephalus ornatus* seems to be less sand dependent than *P. clarkorum* and was also recognized from local sandy tracts. Golubev (1998) only mentioned the typical subspecies from Afghanistan but suggested the presence of *P. ornatus vindumi* in western parts of the country (see list below). Boulenger (1889:97) mentioned several specimens of "*Phrynocephalus ornatus*" from “between Nushki and the Helmand” (12 specimens) and “along the Helmand” (two specimens), the latter could refer to BMNH 1886.12.12.3–4.

**Phrynocephalus raddei** Boettger, 1888:262


**Lectotype.**—SMF 10247 from “Perewalnaja an der transcaspischen Bahn [= Perevalnaja railroad station, southwestern Turkmenistan]” designated by Mertens (1967).

**Synonyms.**—*Phrynocephalus raddei* var. biklewitschi Nikolskii, 1915 from “Kelifa”; *Phrynocephalus raddei* var. zardunyi Nikolskii, 1915 from “Kelifa”; *Phrynocephalus raddei* var. boettgeri Bedriaga in Nikolskii, 1905 from “Schirabad.”

**Localities.**—Ag Chah [Mazar-i-Sharif Prov.] (SNM 41–53); 10 km SE of Andkhoy (CAS 120133–38); 20 km E of Mazar-i-Sharif (CAS 120116–22); 30 km NW of Sheberghan (CAS 120123–28); between Sheberghan and Andkhoy (CAS 120129–32); 10 km W of Tashkurgan (CAS 120111–15) [see pl. 4, fig. 6 for distribution].

**Remarks.**—The Afghan specimens mentioned here were previously identified as *P. raddei boettgeri* von Bedriaga, 1906 or *P. reticulatus boettgeri*. But recently, Barabanov and Ananjeva (2007) treated *P. raddei boettgeri* as a synonym of *P. raddei*. Clark (1990) mentioned this species as typical inhabitant of firm to loess clay in non-sandy steppe regions in northern Afghanistan.

**Phrynocephalus scutellatus** (Olivier, 1807:196 [octavo ed.], 110 [quarto ed.], pl. 42, fig. 1 [Atlas])


**Holotype.**—MNHN 6947, from “au pied de la montagne (nommée Sophia ou Sophissar, en vue d’Isphahan) [= Mt. Sophia, near Esfahan, Esfahan Province, Iran].”

**Synonyms.**—*Phrynocephalus tickellii* Gray, 1845 from “Afghanistan.” *Phrynocephalus olivieri* var. *brevipes* Nikolskii, 1906 from “Naim-abad [Damysan] in Chorosano occidentale; Descht-i-Kewir; Dshandak in Kuchistano occidentale”. *Phrynocephalus olivieri* var. *carinipes* Nikolskii, 1906 from “Pudschk-Kupa; Dschandak in Kuchistan occidentalii”.

**Localities.**—Btw. “Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1” (MZUF 24006–12); btw. Ghazni and Mukur [32°53’N, 67°48’E] (CAS 97992); 35 mi downstream from
Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84654–59, CAS 84663–68); btw. Ghazni and Dasht-e-Nawar (ZFMK 41341); 20 mi SE of Kandahar [31°23′N, 65°53′E] (CAS 97978–79); 32 km N of Kandahar (CAS 120210); 35 mi NW Kandahar, on desert plain just east of Helmand River (CM 49545–47); N edge of village of Kara Bagh (CAS 97992, CAS 90794, CAS 90796–7); Seistan [Faizabad Prov.] (ZMUC R-36207) [see pl. 4, fig. 7 for distribution].

**Remarks.**—Boulenger (1889:96) mentioned 22 specimens of “Phrynocephalus olivieri” from “Nushki to Helmand” and six from “Helmand.” Bauer and Adler (2003) provided bibliographic details for Olivier’s “Voyage.” The quarto and octavo versions of the work were apparently published simultaneously and a single version of the “Atlas” complemented both text editions.

**Trapelus agilis agilis** (Olivier, 1804:394 [octavo ed.], 1804:428 [quarto ed.], pl. 29, fig. 2 [Atlas])


**Syntypes.**—MNHN 5708 (2 ex), from “neighborhood of Baghdad [translated from French],” Iraq.

**Synonyms.**—*Agama isolepis* Boulenger, 1885 from “between Bamurp and Magas, Iran”. *Agama kirmanensis* Nikolskii, 1899 from “Kurin, Kerman Province, Iran”. *Agama kirmanensis* var. *brevicauda* Nikolskii, 1907 from “Kochrud, Irak-Adschemi, Iran.”

**Localities.**—Ab-i-Istada (ZFMK 5376); 20 km SE Andkhoy (CAS 120272); 50 km S of Andkhoy (CAS 120269–71); 25 km SW of Aqcha (CAS 120263–66); Aqtscha [Djauz-Djan Prov., 500 m] (ZFMK 8590–91); btw. Aqtscha and Anakhoi (MNHN 1948.165–66); Bala Murghab, Herat province (Brück 1968); Bala Murghab, confluence of Darya-i-Murghab and Darya-i-Chapchel Rivers (MMB 28471, 2 ex.); Baqrabad (ZMUC R-36146–48, 36157); btw. “Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1” (MZUF 24030–36); btw. Chuagat and Dukot (?) (ZFMK8594–97); Dahlah (MZLU L958/3239); 10 km NE of Darweshan (CAS 120280–81); 35 km S of Darweshan (CAS 120552); 56 km S and 10 km E of Darweshan (CAS 120281); Faisabad (ZMUC R-36160–61, 36133, 36204–05); Faisabad, Koft af indjodle (ZMUC R-36149); 20 mi E of Farah [32°20′N, 62°15′E] (CAS 96271); 30 km S Farah (CAS 120245); Farah-ruds Udlot (ZMUC R-36145, 36158–59); Ghazni (Smith 1940: 384; probably BMNH 1940.3.1.19–24); 30 km S Ghazni (CAS 120276–77); 20 mi E of Girishk [31°43′N, 64°54′E] (CAS 97972, CAS 97975, FMNH 161117–19); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84640–47); 50 km E of Girishk (CAS 120240–41); Herat (ZISP 7361); Helmand (BMNH 86.9.21.18–19, BMNH 86.9.21.23–25); 30–70 km E of Herat (CAS 120246–50); Herat town (ZFMK 92804–06); Herat area [34°20′N, 62°10′E] (CAS 115919); Herat to Islam Qala [34°22′N, 62°10′E to 34°47′N, 61°05′E] (CAS 98117–18); 20 km SE Islam Qala (CAS 120239); Egnen af Kabul (ZMUC R-36208–09); Kandahar (ZMUC R-36206); 20 mi SE Kandahar [31°23′N, 65°53′E] (CAS 97990); 40 km SE of Kandahar (CAS 120242–43); Jawzan, Seberghan, Dasht-e-Leila [390 m] (ZFMK 20980); 12 km S Lashkargah (CAS 120244); Maimaneh (MNHN 1948.164); Paghman vic [34°36′N, 68°56′E] (CAS 115921, FMNH 161191–92); Pirzada (ZMUC R-36306); 24–50 km S Qalat (CAS 120278–79); Seistan [Faizabad Prov.] (ZMUC R-36133, ZMUC R-36161, ZMUC R-36150–55, ZMUC R-36204–05);
Seistan [Baqrabad Prov.] (ZMUC R-36145–48); Shalisafa, 60 km NE of Kandahar (CAS 90762–75); 30 km NW of Sheberghan (CAS 120267–68); Slam Quala (MNHG 1591.20); Spin Buldak, 102 km SSE Kandahar (by Quetta Rd.) (MVZ 236939); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud [river]), ca. 40 km SSE Kandahar (by road to Quetta) (MVZ 236940); Seistan [Faisabad Prov.] (ZMUC R-36133); 10 km SSE Takhteh Pol (by Quetta Rd.) (MVZ 236933–37); nr Tarnak River, 75 km NE of Kandahar (CAS 90777); nr Tarnak River, 90 km NE of Kandahar (CAS 90765–66); Uden Merke (ZMUC R-36156); Zebak, 102.4 km on road E Faizabad (FMNH 161133) [see pl. 5, fig. 2 for distribution].

REMARKS.— Boulenger (1889:96) mentioned this species as “Agama isolepis” from “Nushki to Helmand” (five specimens), from “Helmand” (five specimens) and “north of Herat” (nine specimens).

Bauer and Adler (2003) provided bibliographic details for Olivier’s “Voyage”. The quarto and octavo versions of the work were apparently published simultaneously and a single version of the “Atlas” complemented both text editions.

This is probably the most ubiquitous agamid lizard in Afghanistan (Fig. 10) and most typically is an inhabitant of semi-desert plains with some vegetation. Clark (1990) mentioned it as tolerating extremely high temperatures and being active during the hottest part of the day with ground surface temperatures higher than 60°C. Trapelus agilis was previously reported as occurring throughout the entire country, except for the Kabul Valley River system (Clark 1990). However, many of these records may actually refer to T. sanguinolentus inasmuch as Rastegar-Pouyani (2005) differentiated two subspecies, T. a. agilis and T. a. sanguinolentus, as present in Afghanistan. However, as do many other authors, we consider the latter taxon as a full species (see below).
Trapelus megahonyx Günther, 1864:159, pl. XIV, fig. C


Holotype.— BMNH 1946.8.11.34, from “Eastern Afghanistan”.

Synonyms.— Agama ruderata baluchiana Smith, 1935 from “Quetta District, Baluchistan”.

Localities.— Baraki Barak (USNM 194979); Char-e-Kar nr. Kabul (CAS 96234–44, ZFMK 13317–19); Feyzabad (see Fig. 11); Ghazni, Qa-la-Baqaul [2300 m] (ZFMK 54797–800); 31 km N Ghazni (by Kabul Rd.) (8100 ft.) (MVZ 236947–48, 23650–51); vic. of Jalalabad (Brück 1968); vic. Jalalabad in direction to Somarkhel (MMB 28473); Kabul (ZFMK 54801, ZFMK 15694); Kabul, Chairkana [1740 m] (ZFMK 20982); Kabul, Koh-el-Tschel Zetun (ZFMK 20981); Kabul, Logar Valley, 10 km S of Kabul [2000 m] (ZFMK 54802); 70–80 km S Kabul (CAS 120547–50); 71 km SSW Kabul (by Kandahar Rd.) (6230 ft.) (MVZ 236949, 236952); Kapua, Dargh-e-Nedjrab near Nedjrab [2000 m] (ZFMK 54803); Karisimia (ZFMK 7926–29); Kotal-e-Khair-Khana (ZFMK 8589); Orozgan (MZLU L960/3046); 50 km S Qalat (CAS 120551); Qala Nau, just N of Ghazni [“33°35′N, 68°28′E’’] (CAS 97991) [see pl. 5, fig. 3 for distribution].

Remarks.— Specimens of this species were previously reported from Afghanistan as T. ruderata or T. ruderata baluchiana by e.g., Brück (1968), Král (1969), Clark and Clark (1969) and Levi-ton and Anderson (1970). Clark (1990) noted that it prefers barren habitats. Smith (1940) men tioned “Agama ruderata” from “Ghazni 7000 ft.” that probably refers to BMNH 1934.3.1.14– 17. Two numbers (ZFMK 8684–90) can be found in the collection catalogue of the Museum Koenig referring to T. megahonyx from Afghanistan and collected by Clas Naumann. As the labels are still unused and available in the catalogue, it seems that they had been reserved for a dona-
tion from the Zoological Museum in Kabul, but were never accessioned in the collection in Bonn.

*Trapelus sanguinolentus sanguinolentus* (Pallas, 1827:23)


**TYPE**.— Most probably lost; from the hilly country Kum-Ankatar at the Terek River in Caucasus [= Terek River Valley]; translated from Latin.

**SYNONYMS**.— *Agama aralensis* Lichtenstein, 1823 from “in dem ganzen Strich östlich vom Aralsee (= East of the Aral Sea),” Kazakhstan.

**LOCALITIES**.— Agtsha [Djanz-Djan Prov., 500 m] (ZFMK 8590–91); 64 mi by rd. E Faizabad (CAS 115920, FMNH 161133); 25 km E Khanabad (CAS 120275); Khulm, Mazar-i-Sharif [700 m] (ZFMK 14320); Maimana [Maimana Prov.] (CAS 115922–23, FMNH 161197–99, FMNH 161201, ZFMK 8592–93); Mazar-e-Sharif (ZFMK 15693); 20 km E of Mazar-i-Sharif (CAS 120255–57, CAS 120274); 45 km W Mazar-i-Sharif (CAS 120258–60); 50 km W Mazar-i-Sharif (CAS 120273); 65–75 km W of Mazar-i-Sharif (CAS 120261–62); Pol Khomri (MNHN 1948.167); 25 km NW Pul-i-Khunri (CAS 120251); Qizil Qala [Kunduz Prov., 400 m] (ZFMK 8587); 10 km W of Tashkurgan (CAS 120252–54) [see pl. 5, fig. 4 for distribution].

**REMARKS**.— Boulenger (1889:96) mentioned one specimen of “*Agama sanguinolenta*” from “old Gulran” which probably refers to BMNH 1889.9.21.26.

Pallas, who was born in Berlin, Germany, sold most parts of his collection in 1795 to the Russian Academy of Sciences before he moved to the Crimea area, but some years later, in 1831, Johann Friedrich von Brandt (director of the zoological department at the time) was not able to trace this part of the Pallas collection and his specimens were not mentioned in publications of e.g., Eichwald, Strauch or Nikolskii. In 1810, when Pallas moved back to Berlin, he left parts of his collection in Crimea whereas other parts were donated to the Zoological Museum in Berlin. Therefore, only a few specimens of his collections, and especially very few of the type specimens, appear to have survived, and this has resulted in a cluster of taxonomic problems with respect to many of the species he described.

The date of the work by Pallas has been contentious. The title page of the work indicates that the work was printed 1811–1813, but it is widely held that publication was not until 1831. This latter date is almost certainly incorrect as J.E. Gray cited details from the “*Zoographia Rosso-Asiatica*” in a work that went to press in October 1830 (Gray 1831). The date used here, 1827, is that suggested by Stresemann (1951).

**Family Anguidae**

*Pseudopus apodus apodus* (Pallas, 1775:435, pl. 9, fig. 1)


**HOLOTYP**.— Most probably lost [but imaged in Pallas (1775)], type locality not given in original description, but according to Wermuth (1969) from “habitat in conuallibus herbidis deserti Naryn [= Naryn steppe] et ad Sarpam Kumam, Terekum fluuios”, probably based on Pallas (1776).

**LOCALITIES**.— Bala-Murglab (Boulenger 1889: 98, probably BMNH 1886.9.21.74–75); On road
to Bala-Murglab [Maimana Prov., 850 m] (ZFMK 8629); Doshi 2700 ft., N of Hindu Kush and Dana Ghon 2400 ft. (Smith 1940, probably BMNH 1938.2.4.10 and BMNH 1938.2.4.11); Gulran (Boulenger 1889:98, probably BMNH 1886.9.21.72); near Laman, SE of Qalah (MNHN 1948.175); Zebak, 102.4 km on road E Faizabad (FMNH 161121–22) [see pl. 5, fig. 5 for distribution].

**Family Eublepharidae**

? *Eublepharis afghanicus* Börner, 1976:10


**Holotype.**—FMNH 161142, from “Jalabad [sic, = Jalalabad], Afghanistan”; Paratype.—AMNH 57594).

**Synonyms.**—*Eublepharis gracilis* Börner, 1974 (see Remarks) from an unknown locality [*nomen dubium*].

**Localities.**—Char-e-Kar [35°05′N, 69°10′E] (CAS 96245); Rig-Revan (cave) near Golbahar, 65 km N of Kabul (LC, Wettstein 1960); Jalalabad (FMNH 161142, MMB 28451–53); vic. of Jalalabad (Brück 1968); Kandahar (MZLU L959/3050); Khoast (CAS 133826); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′N, 70°10′–15′E] (CAS 96212) [see pl. 5, fig. 6 for distribution].

**Remarks.**—Afghan populations were described by Börner (1976) as “*Eublepharis afghanicus*” (see Fig. 12), which has subsequently often been recognized as a synonym or subspecies of *E. macularius* (e.g., Grismer in Estes and Pregill 1988). This taxon now seems to be distinct from *E. macularis*, but it must be clarified if the description was published according to the criteria of Article 8 of the International Code of Zoological Nomenclature (ICZN 1999). The diagnostic characters of *Eublepharis afghanicus* (*fide* Börner 1976) are: transversally enlarged lamellae under the toes tuberculated; first postmental always in contact with the first labial; body

![Figure 12: “Eublepharis afghanicus” from an unknown locality. Photo by H. Seufer.](image-url)
pattern consists of transverse bands (in juveniles and adults) and spots (in subadults and adults); no sacral band; body pattern bands tend to a pentagonal, rhombic, or triangular shape (tip always pointed toward the tail) in adults, and to a rectangular shape in juveniles; body pattern bands never tend to converge; spots on occiput subcircular and/or confluent. In these characters it is similar to *Eublepharis fuscus* Börner (1981), which may also not be validly published under Article 8 of the code (ICZN 1999).

Two years before the description of *E. afghanicus*, Börner (1974) described *Eublepharis gracilis*, referring to a single female specimen from an unknown locality (obtained from pet trade) living at the Cologne Zoo. In a subsequent publication (Börner 1976), Börner mentioned, without any information about further material, the range of *E. gracilis* as “inner or coastal [sic] Afghanistan”. From the description, the only striking difference between the taxa, *afghanicus* and *gracilis*, is the lack of “body pattern bands” in the latter species. But as the holotype is most probably lost and no typical locality is given, this taxon needs a revision to clarify its status. Meanwhile, we recognize it as a nomen dubium and a likely synonym of *E. afghanicus*.

**Family Gekkonidae**

*Agamura persica* (Duméril, 1856:481)


**SYNHTYPES.**— MNHN 6761 (two specimens), from “la Perse” [= Iran].

**SYNONYMS.**— *Agamura cruralis* Blanford, 1874 from “Bahi Kalat and Askan, Baluchistan”. The syntypes of *A. cruralis* are (fide Das et al. [1998]): ZSI 3487 from Ras Malan, Baluchistan; ZSI 3501 from Mand, Baluchistan; ZSI 6811 from Askan, near Bampush, Baluchistan; ZSI 6812 from Zamoran, Nihing R., Baluchistan. The original description gives the type locality as “Gedrosia [= Balochistan]”, restricted to “Bahu Kalat and Askan, Baluchistan” [= Balochistan Province, north-western Pakistan] by Smith (1935:61). According to Constable (1949), an additional syntype is in the MCZ; however, this specimen (MCZ R-7136) is a syntype of *Agamura cruralis*, which is today a synonym of *A. persica*.

**LOCALITIES.**— Cha-i-Angir (CAS 84690–91); between “Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1” (MZUF 24005); 50 km W Girishk (CAS 120282); Hassan Guilan (Djilan) [Hassan Gilan, between Delaram and Gereshk] (MZLU L957/3791); Helmand (ZISP 7360); north of Herat (Boulenger 1889: 95); Pagham (FMNH 161053–54) [see pl. 5, fig. 7 for distribution].

**REMARKS.**— Boulenger (1889:95) additionally mentioned several specimens of “*Agamura persica*” from “along the Helmand” (three specimens) and from “between the Hamun and Khusan” (four specimens).

*Altiphylax levitoni* (Golubev and Szczerbak, 1979:309, fig. 1)


**HOLOTYPE.**— CAS 120283, from “Afghanistan: Kabul 6000 ft. elevation” [translated from Russian and according to the museum label].
LOCALITIES.— Baraki Barak [Logar Prov.] (USNM 194601–4); Kabul (CAS 91613–14, 96214–17, 120283, 121035–44); Kabul Seh Carte (CAS 151212–13); Kabul, Cartehseh (CAS 151192); Kart-e-Tshahar [Kabul Prov., 1800 m] (ZFMK 8679–83); Oukak, Valle de Boum (MZLU L962/3731); nr. Paghman river, 10 km SW of Kabul (CAS 92339) [see pl. 5, fig. 8 for distribution].

REMARKS.— This species is only known from Afghanistan (Fig. 13). Specimens previously recognized as *Alsophylax pipiens* from Afghanistan are now considered as this species. We follow the proposed transfer of *A. levitoni*, type species of *Asiocolotes*, to *Altiphylax* (see Sindaco and Jeremčenko [2008] and Bauer et al. [2013]).

**Bunopus tuberculatus** Blanford, 1874:454


LECTOTYPE.— BMNH 1946.8.22.84, from “Baluchistan”, SW Iran (lectotype designated by Szczerskak and Golubev 1986). Paralectotypes.— Das et al. (1998) referred to several “syn-types”, which have to be recognized as paralectotypes: ZSI 3428, 3429, 3431, all from “Baluchistan [= Balochistan Province, north-western Pakistan]”; ZSI 3432 from “Bahukelat, Baluchistan”; ZSI 3434 from “Nigau, Nurmashu, S.E. Persia”; ZSI 3436 from “Bampur, Baluchistan”; ZSI 3437 from “Persian Gulf”; ZSI 3458, 5271 from “Bahu Kalat, Baluchistan”; ZSI 3459 from “Isfandak, Baluchistan”; ZSI 5273–77 from “Pishin, Baluchistan”; ZSI 5278 from “Mand, Baluchistan”; ZSI 5279–80 from “Pishin, Baluchistan”. The original description gave the type locality as “Gedrosia Persiaque [in Baluchistan, north-western Pakistan]”. According to Constable (1949) another paralectotype is in the MCZ, however, no type of this species was traceable in this collection.


LOCALITIES.— Baqrabad, Seistan (ZMUC R-34125–26); 10 km NE of Darweshan (CAS 120284); 56 km S and 10 km E of Darweshan (CAS 120286–87, CAS 121067); 35 km S of Farah (CAS...
120285); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84690–92); Herat town (ZFMK 161248); Kash-Rud Valley near Lashi, Dasht-i-Margo [Nimruz Prov.]; Ghaomi-Faringi, approx. 20 mi S Mukur [32°38′N, 67°30′E] (CAS 96277); Lashkargah (CAS 151211); Pirzada (ZMUC R-34129–30); Uruzgan [Oruzgan], Kandahar (ZFMK 94893–94) [see pl. 6, fig. 1 for distribution].

**Remark**.—Boulenger (1889: 95) additionally mentions one specimen of “*Alsophylax tuberculatus*” from “down the Helmand between Hadj-ali and the Hamun,” which probably refers to BMNH 1889.21.9.

**Crossobamon eversmanni eversmanni** (Wiegmann, 1834:19)


**Holotype.**—ZMB 435, from “Agetema, Zentral-Asien” [= Agytme, Uzbekistan].

**Synonyms.**—Crossobamon atropunctatus Lichtenstein and von Martens, 1856 from “Tartarei”.

**Localities.**—20 km S of Andkhoy (CAS 120297–301); 30 km NW of Sheberghan (CAS 120288–96, CAS 121070) [see pl. 6, fig. 2 for distribution].

**Remark.**.—Clark (1990) suggested that this species is an obligate sand dweller.

**Crossobamon eversmanni lumsdeni** (Boulenger, 1887:479)

1887 *Stenodactylus lumsdeni* Boulenger, Catalogue of the Lizards in the British Museum (Natural History) Vol. III. Lacertidae, Gerrhosauridae, Scincidae, Anelytropsidae, Dibamidae, Chamaeleontidae. Trustees of the British Museum (Natural History), London, United Kingdom. xii + 575 pp., pls. I–XL.

**Holotype.**—BMNH 86.9.21.8 [1946.8.23.51], from Afghanistan-Baluchistan frontier “between Nushki and Helmand”, N Balochistan. The type specimen is additionally figured in Boulenger (1889, pl. IX, fig. 1).

**Synonym.**—Stenodactylus maynardi Smith 1933 (syntype ZSI 13944) from “Baluchistan near the Afghanistan frontier”; syntype (most probably BMNH 1946.8.23.36) from the same locality.

**Localities.**—In Afghanistan only known from the two above mentioned imprecise localities. However, Aitchison (1889:95) explicitly mentions “in Northern Baluchistan” and therefore the type specimens were most probably collected in an area which is today Pakistan.

**Remark.**.—The status of *Stenodactylus lumsdeni* Boulenger is still under discussion. Szczerekb and Golubev (1986, 1996) regarded it as closely related to *Crossobamon eversmanni*, whereas Anderson (1999), who examined the name bearing type, recognized it as conspecific with *B. tuberculatus*. Later, Bauer et al. (2013) again followed Szczerekb and Golubev (1986, 1996). Leviton and Anderson (1970) and also Szczerekb and Golubev (1986, 1996) recognized *C. eversmanni* from northern Afghanistan (see above). However, Leviton and Anderson (1970) additionally mentioned *C. lumsdenii* and *C. maynardi* as distinct species from other localities in the country, whereas Szczerekb and Golubev (1996) recognized *C. lumsdenii* as a subspecies of *C. eversmanni* and *C. maynardi* as synonym of *C. lumsdenii*. As we follow Szczerekb and Golubev (1986, 1996) in their taxonomic concept, we summarize all localities known as *C. lumsdenii* and *C. maynardi* together under the specific subspecies *lumsdenii* of *C. eversmanni*.

**Cyrtopodion scabrum** (von Heyden, 1827:15, pl. 4, fig. 2)

LECTOTYPE.—SMF 8180, from “aus der Gegend von Tor [= vicinity of Tor], an steinigen Orten [= in rocky areas]”, designated by Mertens (1967).

SYNONYM.—Gymnodactylus brevipes Blanford, 1874 (holotype ZSI 3465) from “Gedrosia (Baluchistán) [in north-western Pakistan]”. Synonymized with Cyrtopodion kachhensis (Stoliczka, 1872) by Szczerek and Golubev (1986), who nonetheless mentioned that the holotype is intermediate between C. kachhensis and C. scabrum.

LOCALITIES.—Band-e-Kadjak, Kadjaki [Kandahar Prov., 1050 m] (ZMK 2737); Bost, vic. Lashkargah [Helmand Prov., 1000 m] (ZMK 2744–5); Dilaram (ZMUC r-34127); Jalalabad [34°26′N, 70°25′E] (CAS 115948); Kandahar [31°36′N, 65°47′E] (CAS 115946–47, FMNH 161226, FMNH 161249, FMNH 161251); Kandahar, 3 km SE (by Quetta Rd.) at junction with Kabul Rd. (3500 ft.) (MVZ 236959–64, 23672–74); Sharisafa, 60 km NE of Kandahar (CAS 90767); Khost, 1200 m (ZFMK 8669–70) [see pl. 6, fig. 3 for distribution].

REMARKS.—Sindaco and Jeremčenko (2008) also mapped a record from northwestern Afghanistan.

Cyrtopodion watsoni (Murray, 1892:68)


TYPE(S).—Not located, from “Quetta”, Pakistan.


LOCALITIES.—Dar-e-Nur, vic. Shewrak [Nangarhar Prov., 1200 m] (ZMK 2583); Khost [32°21′N, 69°57′E, Paktia Prov.] (CAS 121045–53, CAS 96174–78, ZFMK 8669–71); Jalalabad (CAS 115948, FMNH 161165–66, FMNH 161168); Jalalabad, University ground (AFG 01–07, MMB 28456–57) [see pl. 6, fig. 4 for distribution].

REMARKS.—The species is known only from Afghanistan and Pakistan. Brück (1968) mentioned “Gymnodactylus kachensis kachensis” Stolitzcka, 1872” from “dem Gebiete um Djelalabad [vic. of Jalalabad]” referring to a specimen of the Jakeš collection. Inasmuch as Cyrtopodion watsoni was recognized as subspecies of “Gymnodactylus kachensis [sic]” at this time and as no other specimens of C. kachensis are known from Afghanistan, and as it is not possible to verify the identification because the whereabouts of the Jakeš collection is unknown, we refer this record to C. watsoni. However, there is also specimen catalogued as C. kachensis in the BMNH collection (BMNH 1887.6.17.1) that seems to be referable to C. watsoni.

Hemidactylus cf. brookii Gray, 1845:153


LECTOTYPE.—BMNH 1947.3.6.47 (formerly BM RR 1934.9.1.49 [.21.a]), from “Borneo”; designated by Mahony (2011).

LOCALITIES.—Kabul (ZFMK 8694–5) [Fig. 14; see pl. 6, fig. 5 for distribution].

REMARKS.—This species is not mentioned for Afghanistan by Sindaco and Jeremčenko (2008). The identity and distribution of true H. brookii remains problematic. Gray’s types were from “Australia” and “Borneo.” The Australian locality has been dismissed as an error and Bornean populations have only recently been rediscovered (Das and Jensen 2006; Das and Sukumaran 2007), but it has been argued that the current population represents a different species than the type specimen (Kathriner et al. 2014). Current Bornean populations are conspecific with a
H. brookii type gecko that occurs in India and in scattered localities from Myanmar eastwards to the Lesser Sundas (Bauer et al. 2010) which has most recently been identified as H. murrayi (Lajmi et al. 2016). Mahony (2011) resurrected several species occurring in South Asia from the synonymy of H. brookii, including Hemidactylus gleadow. Most of the currently recognized members of the H. brookii complex appear to have broad distributions within India and adjacent countries and it is likely that all or most have been established in parts of their ranges by human agency. Purely on the basis of proximity, H. kushmorensis most closely approaches Afghanistan, with populations in Kashmir, India (Lajmi et al. 2016) and presumably in adjacent northern Pakistan, although not in the Federally Administered Tribal Areas immediately adjacent to Afghanistan (Masroor 2012). However, this is still a gap of approximately 250 km and, as the Kabul specimens are likely representative of an introduced population (it seems inconceivable that such anthropophilic geckos would have been missed by earlier workers were they present in the capital), the source population could be at any distance away. Additional morphological data as well as DNA samples will be needed to determine if the material from Kabul can be assigned to one of the currently recognized Pakistani or Indian taxa, or if it represents a so far undescribed species of the complex.

Hemidactylus flaviviridis Rüppell, 1835:18, pl. 6, fig. 2


Lectotype.— SMF 8772 from, “Insel [= island] Massaua, Abyssinien [= Eritrea]”.

Synonyms.— Hemidactylus coctaei Duméril and Bibron, 1836 from “Bombay and Bengal”. Boltalia sublevis Gray, 1842 from “India”. Hemidactylus bengaliensis Anderson, 1871 from “Bengal, India”.

Localities.— Jalalabad (AFG 09–10, CAS 115949–55, FMNH 161143, FMNH 161145–47, FMNH 161149, FMNH 161151–52, FMNH 161154, FMNH 161156, FMNH 161159–60, MMB 28463–64, ZFMK 8580); Jalalabad (Spinlar Hotel) (1950 ft.) (MVZ 236972–74); Jalalabad,
bridge across Kabul River (MMB 28461); on road to Thor Khama, 8 km ESE of Jalalabad (MMB 28462) [Fig. 15; see pl. 6, fig. 6 for distribution].

Remarks.––Sindaco and Jeremčenko (2008) also recognized this species from the Kabul area but it needs to be confirmed.

Mediodactylus aff. spinicaudus (Strauch, 1887:58, pl. 1, figs. 15–16)


Holotype.—ZISP 4047 from, “Schahrud”, Iran.

Localities.––Dasht-e-Nawar (ZFMK 13323, see Fig. 16 for distribution).

Remarks.––The specimen was identified as “Cyrtopodion spinicauda” by M. Golubev and would represent a first record of the species in Afghanistan. However the locality is far away from the known range of the species in Iran and Turkmenistan and a more detailed study of the specimen is in need to clarify its status.
**Tenuidactylus caspius** (Eichwald, 1831:181)


**Lectotype.**— ZISP 3182, from “Baku” on the Caspian Sea in Azerbaijan.

**Synonyms.**— *Gymnodactylus caspius insularis* Akhmedov and Szczerbak, 1978 from “Island of Vulf, Caspian Sea” [translation from Russian].

**Localities.**— Ag Chah settlement [Mazar-i-Sharif Prov.] (SNM 01–05); 25 km SW of Aqcha (CAS 120327–29, CAS 121068); Bala-Murghab [Herat Prov.] (MMB 28454–55); mountains near Cia-i-Dudi [= Kuh-e Chah Dudi] (MZUF 24144); Herat to Islam Qala (CAS 97976); Mazar-i-Sharif (FMNH 161092–96, FMNH 161099–100, FMNH 161102–03, FMNH 161106–07); Pagham (FMNH 161063); 10 km W of Tashkurgan (CAS 120326); Tchachméh Cher, 17 km N of Pol-Khormri (NMW 15878); cave near Vaqiéh, 10 km from Sar-i-Pul (MZLU L957/3792); Zebak, 64 mi by rd E Faizabad (CAS 115945, FMNH 161130) [see pl. 6, fig. 7 for distribution].

**Remarks.**— Recently recognized as member of the genus *Tenuidactylus* by Bauer et al. (2013). Sindaco and Jeremenko (2008) also recognize this species from “Neizar” on the Iran side of Sistan.

**Tenuidactylus turcemenicus** (Szczerbak, 1978:41, figs. 1–2)


**Holotype.**— ZIK Re No. 10, from Agashly near Kushka, Badghyz, Turkmenistan [translated from Russian].

**Localities.**— Bala Murgab, Herat province (Brück 1968); 24 km E Khanabad (CAS 120318–21, CAS 121069); Kouh-Akhour near Farah (NMW 15879); Kunduz, 400–500 m (ZFMK 8579, 95004–14; ZMK 2758); btw. Kunduz and Tashkurgan [Kunduz Prov., 400 m] (ZFMK 8577); Mazar-i-Sharif [36°43′N, 67°05′E] (CAS 115940–44); Seistan [Faizabad Prov.] (ZMUC R-34128); Shiberghan [Djauz-Djan Prov., 500 m] (ZFMK 8578); 60 km NE Taliqan (CAS 120317) [Fig. 17; see pl. 6, fig. 8 for distribution].

**Remarks.**— Recently recognized as member of the genus *Tenuidactylus* by Bauer et al. (2013). For comments on *Tenuidactylus fedtschenkoi* see list of doubtful or absent species at the end of this checklist (p. 524).

**Tenuidactylus voraginosus** (Leviton and Anderson, 1984:270, figs.1A–E)


**Holotype.**— CAS 120322, from “55 km W Girishk,” Afghanistan. **Paratypes.**— CAS 120323 from “32km north of Kandahar”, CAS 97995 from “40 mi west of Chirishk; FMNH 161255–56 from “Kandahar”, FMNH 161076 from “30 mi west of Dilaram”.

**Localities.**— Chamchir ghar (Pandjvai), 25 km SO of Kandahar (MZLU L958/3791); Cave Khadjah [Kouh-Siah Pochtéh, Naouzan Guerechk] (MZLU L958/3792); 40 mi W of Ghirishk
R E M A R K S.—This species is endemic to Afghanistan and was recently recognized as member of the genus *Tenuidactylus* by Bauer et al. (2013).

**Family Sphaerodactylidae**

*Teratoscincus bedriagai* Nikolskii, 1900:146


**Lectotype.**—ZISP 9157, from “Chadschi-du-i Tschaghi,” eastern Iran.

**Localities.**—35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84689); Kandahar [31°36′N, 65°47′E] (CAS 115957, FMNH 161252, FMNH 161254); 16 km S Qala-i-Kang [30°58′N, 61°54′E] (CAS 115956, FMNH 161032, FMNH 161034); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud), ca. 40 km SSE Kandahar (by road to Quetta) (3350 ft.) (MVZ 236991–98); 10 km SSE Takhteh Pol (by Quetta Rd.) (3440 ft.) (MVZ 236999–7027) [see pl. 7, fig. 2 for distribution].

*Teratoscincus keyserlingii* Strauch, 1863:col. 480


**Lectotype.**—ZISP 2396, from “Ser-i-Tschah,” eastern Iran.

**Localities.**—Cia-i-Lagun (MZUF 24152); 10 km NE of Darweshan (CAS 120309–10); Delaram, Farah Rod [river] (MZUF 24143); 48 km W Dilaram [32°15′N, 62°50′E] (CAS 115960, FMNH 161079–81); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84648–49); 5 mi W Lashkargah, Dashti-margo Desert (CAS 151220–22); 10 mi W Lashkar-
gah, Daschtimargo (CAS 147416–19); 56 km S and 10 km E of Darweshan (CAS 120311–14); 16 km S Qala-i-Kang (CAS 115958–59, FMNH 161028–30) [see pl. 7, fig. 3 for distribution].

**Remarks.**—The correct assignment of this species in Afghanistan is complicated. Several authors mention the Afghan taxon as *T. keyserlingii* (e.g., Szczerbak and Golubev 1986, Sindaco and Jeremčenko 2008), a taxon first recognized as a subspecies of *T. scincus* and later as distinct species by Macey et al. (2005). However, Clark (1990) specifically mentioned the (at the time) nominate subspecies *T. scincus scincus* from Andkhoy (*q.v.*). Therefore, the correct status of this complex should be investigated. Alcock and Finn (1897) mentioned that Afghans believe that this species is poisonous.

*Teratoscincus microlepis* Nikolskii, 1900:145


**Holotype.**—ZISP 9164, from “Duz-Ab in Kirmano orientali,” in eastern Iran.

**Localities.**—56 km S and 10 km E of Darweshan (CAS 120302–08); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud), ca. 40 km SSe Kandahar (by road to Quetta) (3350 ft.) (MVZ 237028–33) [see pl. 7, fig. 4 for distribution].

**Remarks.**—Sindaco and Jeremčenko (2008) did not mention this species for Afghanistan.

*Teratoscincus scincus* (Schlegel, 1858:16)


**Lectotype.**—RMNH 245 from the “zandige oevers der Ili-rivier [Ilo River], ten oosten van Turkestan.” [Ili River Valley of Xinjiang Uygur, China *fide* Zhao and Adler 1993].

**Localities.**—20 km S of Andkhoy (CAS 120315–16) [see pl. 7, fig. 5 for distribution].

**Remarks.**—*Teratoscincus scincus* was mentioned by Szczerbak and Golubev (1986) from Harirud River near Herat referencing the record in Boettger (1888). Clark (1990) specifically mentioned *T. scincus scincus* from Andkhoy, stating that none of his other recognized *Teratoscincus* taxa had been mentioned for Afghanistan by Szczerbak and Golubev (1986). However, in the English version of the latter publication the record from Herat (Szczerbak and Golubev 1996:36) is mentioned as “in error in original, source unknown–MG”. This could be due to a citation error, as it is not Boettger (1888) but Boulenger (1889:94) who mentioned and figured (pl. IV, fig. 1) “Teratoscincus scincus” from “Hari-rud river near Tirphul” that probably refers to the specimen BMNH 1886.9.21.7. Moreover, the other mentioned Afghan localities now refer to *Teratoscincus keyserlingii* (*q.v.*). We have examined the specimens from Andkhoy and they clearly are referable to *T. scincus*. Therefore, we recognize both former subspecies as distinct species in Afghanistan.

**Family Lacertidae**

*Acanthodactylus blanfordii* Boulenger, 1918:154


**Syntypes.**—BMNH 1946.9.3.54–55, from “Dash;” BMNH 1946.9.8.34, from “Mand;” BMNH 1946.9.8.33, from “Bam;” and BMNH 1946.9.8.43–44, from “Jask.”
LOCALITIES.— Chah-i-Angir, Dasht-i-Margo desert (CAS 84676, CAS 84678–79, CAS 84681–83); 10 km N of Darweshan (CAS 120364–66); 35 km S of Darweshan (CAS 120367–69); 56 km S and 10 km E of Darweshan (CAS 120371); Either [31°43′N, 64°45′E] or [31°23′N, 65°53′E] (CAS 97993); 10–18 km E of Girishk (CAS 120330–35); 20 mi E of Girishk [31°43′N, 64°45′E] (CAS 97970–71); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84676–83); 45 km N Juwain (CAS 120370); 20 mi SE Kandahar [31°23′N, 65°53′E] (CAS 97994, CAS 97977); 40 km SE of Kandahar (CAS 120336–57); 45–55 km S Lashkargah (CAS 120361–63); between Nushki and Helmand (BMNH 86.9.21.77–79) [see pl. 7, fig. 6 for distribution].

REMARKS.— Clark (1990) mentioned this species as commonly found on sandy pockets and fine drifted sand pits, but not in main dune areas or on stony terrain. Specimens were also collected on river sand banks and islets.

**Acanthodactylus cantoris cantoris** Günther, 1864:73


SYNTYPEs.— BMNH 1946.8.4.15–20, from “Ramnagar” [Ramnagar, Gujranwala District, Punjab, India], Punjab, India.

LOCALITIES.— Jalalabad (FMNH 161164); Jalalabad, confluence of Surkh-rod and Kabul River (ZFMK 20984–5); 8 km ESE Jalalabad, direction to Sarsahi (MMB 28482); Jalalabad to Nimla (CAS 120358–60); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′N, 70°10′–15′E] (CAS 96200–01, CAS 96206–09) [see pl. 7, fig. 7 for distribution].

REMARKS.— Boulenger (1889:99) mentioned six additional specimens from “Nushki to Helmand” and one specimen from “Helmand”. MMB 28482 was retrieved from the stomach of *Psamomphis lethii*.

**Eremias acutirostris** (Boulenger, 1887:114)

1887 *Scapteira acutirostris* Boulenger, Catalogue of the Lizards in the British Museum (Natural History) Vol. III. Lacertidae, Gerrhosauridae, Scincidae, Anelytropsidae, Dibamidae, Chamaeleontidae. Trustees of the British Museum (Natural History), London, United Kingdom. xii + 575 pp., pls. I–XL.

HOLOTYPE.— BMNH 86.9.21.88 [now BMNH 1946.8.7.46] from “between Nushki and Helmand, Afghan-Baluch border region”, described in details and figured in Boulenger (1889:100, pl. IX, fig. 4 and 4a–c).

SYNONYMS.— *Scapteira aporosceles* Alcock and Finn, 1897, (syntypes BMNH 1917.3.6.40–43) from “West of Robat I.” Das et al. (1998) mention additional syntypes: ZSI 14132, 14134, 14137, 14139–42, 14144–45, 14147–51, 14153 from the same locality. However, Lantz (1928: 127) only mentioned six male syntypes.

LOCALITIES.— 12 km SE (by air) of Daruishan (Rigestan Sand Dunes) (2350 ft.) (MVZ 237048); 10 km NE of Darweshan (CAS 120377–85); 35 km S of Darweshan (CAS 120375–76); 56 km S and 10 km E of Darweshan (CAS 120386–88); 40 km SE of Kandahar (CAS 120389–96); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud), ca. 40 km SSE Kandahar (by road to Quetta) (3350 ft.) (MVZ 237044–47) [see pl. 7, fig. 8 for distribution].
Eremias afghanistanica Böhme and Szczerbak, 1991:137


**Holotype.**—ZFMK 8854, from “Ost-Afghanistan [East Afghanistan], Prov. Ghazni, Dasht-e-Nawar, 3000 m N.N.”

**Localities.**—Dasht-e-Nawar [Ghanzni Prov.], 3000 m a.s.l. (ZFMK 8855); vic. of Kabul [Kabul Prov.], 2000 m a.s.l. (ZFMK 13320) [see pl. 8, fig. 1 for distribution].

**Remarks.**—This species is endemic to Afghanistan and so far only known from the two mentioned specimens.

Eremias aria Anderson and Leviton, 1967:1, fig. 1


**Holotype.**—CAS 96204, from “5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′ N, 70°10′–15′ E].”** Paratyp e.**—CAS 96205, same data as the holotype.

**Localities.**—30 km SW Jalalabad (CAS 120372–73, CAS 121065); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′N, 70°10′–15′E] (CAS 96204–05); Waziri (ZMK 2653) [see pl. 8, fig. 2 for distribution].

**Remarks.**—This species has been recently recognized as endemic to Afghanistan. According to Clark (1990), it inhabits rocks and boulders on stony grounds, hiding amongst the base of intermixed vegetation.

Eremias fasciata Blanford, 1874:32


**Lectotype.**—ZMB 9329 (designated by Szczerbak 1974), from “Karman” [= Kerman], Iran.

**Localities.**—56 km S and 10 km E of Darweshan (CAS 120397); 16 km NW Delaram (CAS 120400–04); 35 km downstream from Girishk, Dashti-Margo Area, Chah-i-Angir (CAS 84684–88); 64 km W Kandahar (CAS 120398–99); Pirzada (ZMUC R-4594); Urgun [Paktia Prov., 2500 m] (ZFMK 8553) [see pl. 8, fig. 3 for distribution].

**Remarks.**—Clark (1990) recognized E. fasciata as an inhabitant of isolated sandy pockets and wind-despersed sandy areas away from the main sand deserts. Paralectotypes are e.g.: BMNH 1946.8.7.57–59, BMNH 1946.8.7.34–35 from “Saidabad, southwest of Kerman.” Lantz (1928) mentioned one specimen from “Afghanistan”, while Boulenger (1889: 99) mentioned an additional specimen from “on the Helmand” that probably refers to BMNH 1886.9.21.87.

Eremias grammica (Lichtenstein, 1823:100)


SYNONYMS.— *Scapteira persica* Nikolskii, 1900 from “Tscharachs, Zirkuch, Iran”.

LOCALITIES.— Ag Chah (SNM 06–14, SNM 20); 20 km S of Andkhoy (CAS 120438–39); 20–50 km S of Andkhoy (CAS 120418–37); 20 km E of Mazar-i-Sharif (CAS 120405–16); 30 km NW of Sheberghan (CAS 120417) [see pl. 8, fig. 4 for distribution].

*Eremias intermedia* (Strauch, 1876:28)


LOCALITIES.— Ag Chah (SNM 15–19); 20 km S Andkhoy, W of river (CAS 120641–42); 20–50 km S Andkhoy, E of river (CAS 120636–40); 50 km S of Andkhoy (CAS 121062); 25 km SW of Aqcha (CAS 120629–31, CAS 121061); 20 km E of Mazar-i-Sharif (CAS 120621–27, CAS 121059–60); 65–75 km W of Mazar-i-Sharif (CAS 120628); 30 km NW of Sheberghan (CAS 120632–35) [see pl. 8, fig. 5 for distribution].

REMARKS.— Clark (1990) mentioned the species as sympatric with *E. grammica* and *E. lineolata* but preferring firm sandy soils and shunning loose sands and dunes. Sindaco and Jeremčenko (2008) also provide records from northwestern Afghanistan.

*Eremias lineolata* (Nikolskii, 1897:330, pl. XVIII, fig. 4)


LECTOTYPE.— ZISP 880, from between Feizabad and Nusi in eastern Iran [translated from Russian] (designated by Szczerbak 1974).

LOCALITIES.— 20–50 km S of Andkhoy (CAS 120441–52); 40–50 km S Andkhoy (CAS 120453–54); Aqtscha [Djauz-Djan Prov., 500 m] (ZFMK 8585); Bala Murghab (Brück 1968); 57–75 km W Mazar-i-Sharif (CAS 120440) [see pl. 8, fig. 6 for distribution].

REMARKS.— Clark (1990) reported this species as only associated with vegetation and never venturing far from cover.

*Eremias nigrocellata* Nikolskii, 1896:371


LECTOTYPE.— ZISP 8800, from “Sistan”, Iran [designated by Szczerbak 1974]. However, Lantz (1928) referred to five syntypes (ZISP 8798–8799) and ZISP 8800 is only mentioned by him, but not indicated as type. Therefore, the status of the specimen ZISP 8800 should be investigated.

LOCALITIES.— Amu-Darya, N of Kunduz (ZFMK 8696); Dasht, btw. Kunduz and Khulm [Kunduz prov., 500 m] (ZFMK 8654, ZMK 2755–56); Amu-Darya swamps, nr. Darquad, N of Djangi Quala [Takhar Prov., 400 m] (ZMK 2562); Pul-e-Khumri [Baghlan Prov., 1300 m] (ZFMK 8583); 10 km W of Tashkurgan (CAS 120455, CAS 120619–20); 15 km W Tashkurgan (CAS
121058); Zebak, 102.4 km on road E Faizabad (FMNH 161127–29) [see pl. 8, fig. 7 for distribution].

**Remarks.**—Clark (1990) mentioned *E. nigrocellata* as a rare species of open firm clay or loess ground with sparse vegetation. ZFMK 8696 was retrieved as a stomach content from *Eryx tataricus* (ZFMK 5385).

**Eremias persica** Blanford, 1875:31


**Lectotype.**—BMNH 1946.8.7.32, from “near Isfahan”, Iran (designated by Szczerbak 1974).

**Localities.**—Ab-e-Istada, vic. of Mugur [Ghazni Prov., 2000 m] (ZFMK 8655); Baqrabad (ZMUC R-4587); Char-e-Kar [35°05′N, 69°10′E] (CAS 96232–33); Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1 (MZUF 24037–44, 24045–46, 24048–49); 10 km N of Darweshan (CAS 120610, CAS 120974); Faizabad (ZMUC R-4589); expiration of Farah-ruds River (ZMUC R-4586); Ghaomi-Faringi, approx. 20 mi S Mukur [32°38′N, 67°30′E] (CAS 96275–76, CAS 97986); 10 km S Ghazni (CAS 120612–13); 15 km N Ghazni (CAS 120611); Btw. Ghazni and Mukur [32°53′N, 67°48′E] (CAS 97981); 15 km W Girishk (CAS 120976–77); 22 km S Girishk (CAS 120975); 35 mi downstream from Girishk, Dasht-i-Margo Aera, Chah-i-Angir (CAS 84677); Herat town (ZFMK 92808); vic. of Herat (MHNG 1590.16); 72 km S Herat (CAS 120616–18, CAS 120978); 10 km E Jalalabad, direction to Somarkhel (MMB 28481); 20 mi SE Kandahar [31°23′N, 65°53′E] (CAS 97988); 36–56 km N Kandahar (CAS 120606–09); 4 mi from Kurdkabul Dam towards Buthak (CAS 151228); Meiden Khula, about 30 mi ENE of Gardez [33°40. N, 69°50′E] (CAS 96255–56); Mokuk (CAS 133825); Murichaq [Herat Prov.] (MMB 28503); Pagham (FMNH 161064); 50 km N Qalat (CAS 120614–15); Sharisafa, 60 km NE of Kandahar (CAS 90772); 5 km (by air) of Takhteh Pol (Rigestan Sand Dunes at W side of Kadeney Rud), ca. 40 km SSE Kandahar (by road to Quetta) (3350 ft.) (MVZ 237049) [see pl. 8, fig. 8 for distribution].

**Remarks.**—Smith (1940: 384) mentioned additional specimens from “Ghazni 7000 ft.”, which probably refer to BMNH 1940.3.1.25–33, and “Arbarp 7000 ft.”, which probably refers to BMNH 1940.3.1.34. This is a widespread species (Fig. 18) in southern Afghanistan, occurring up to at least 2500 m a.s.l. on open ground, hiding in holes, rodent burrows or at the base of vegetation (Clark 1990).
Eremias regeli Nikolskii, 1905:479


Holotype.— ZISP 6115, from “Shirabad”, Uzbekistan.

Localities.— 30 km SW Jalalabad (CAS 120374); 45 km W Jalalabad (CAS 121066); 5–10 mi ENE Nimla, on old Kabul-Jalalabad rd, ca. 10 mi SW Balabagh (CAS 121034, CAS 96198, CAS 96202–03, CAS 96211) [see pl. 9, fig. 1 for distribution].

Remarks.— Sindaco and Jeremčenko (2008) also recognized this species from northern parts of the country.

Eremias scripta scripta (Strauch, 1867:col. 327)


Lectotype.— ZISP 3669, from “Aralo-Caspian desert” (designated by Szczerbak 1974).

Localities.— 10 km NE of Darweshan (CAS 120460–64); 35 km S of Darweshan (CAS 120456–59); 56 km S and 10 km E of Darweshan (CAS 120465–68); ca. 50 km SSW (by air) of Lashkar Gar, edge of Dasht-e Margo on W side of Helmund River (2320 ft.) (MVZ 237466); 40 km SE of Kandahar (CAS 120469–77); 81 km W (by Herat Rd.) of Kandahar (3200 ft.) (MVZ 237467).

Remarks.— Clark (1990) mentioned this species as an inhabitant of permanent sand hills and ridges, usually occurring close to vegetation (see Fig. 19 for the distribution).

Eremias velox velox (Pallas, 1771:407, 457)


Neotype.— ZISP 16233, from the northern coast of Lake Inder, Inder district, Atyrau province, Kazakhstan (designated by Szczerbak 1974) [translated from Russian].

Localities.— 24 km SE Aqcha (CAS 120605); 25 km SW of Aqcha (CAS 120603–04); Baraki Barak [Logar Prov.] (USNM 194598–600, USNM 194978); Dasht-e-Nawar [Ghazni Prov., 3000 m] (ZFMK 8584); Doab (MNHN 1948.178); Herat (ZMUC R-4596); 24 km E Khanabad (CAS 120653); Kunduz (ZFMK 97438–39); 65–75 km W of Mazar-i-Sharif (CAS 120596–602, CAS
121063–64); 30 km E Taliqan (CAS 120654); 10 km W of Tashkurgan (CAS 120643–52, CAS 121057); Tazi, 80 mi N Kandahar [32°23′N, 67°18′E] (CAS 97984) [see pl. 9, fig. 2 for distribution].

REMARKS.—Boulenger (1889:99) mentioned additional specimens from “Helmand, Toman-agha, Gulran”, which probably refers to a locality in Iran. Clark (1990) mentioned this as a species occurring on firm, but never sandy, ground with scrub and vegetation. Sindaco and Jeremčenko (2008) noted this species only from northern parts of the country and specimens from southern parts need to be confirmed.

Mesalina watsonana (Stoliczka, 1872:86)


SYNTYPES.—BMNH 1946.8.7.75, ZSI 4929, ZSI 5050, ZSI 5223–25, and NMW 23474.1–3, from “Panjáb Province”.

LOCALITIES.—Armalik (MZLU L962/3177); Bagram, nr. Tsharikar [Parvan Prov., 2500 m] (ZFMK 8659); Baqradz (ZMUC R-4588, 4590); Baraki Barak [Logar Prov.] (USNM 194963); Bozhholot, 21 km N of Ghazni (MZLU L960/3042); Cawkae dada, Ski Club Hill (CAS 147428–32); Chah-i-Angir, 35 mi downstream from Girishk, Dasht-i-Margo desert (CAS 84680); Char-e-Kar [35°05′N, 69°10′E] (CAS 96218–31); Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1 (MZUF 24047, 24072); Darreh-Darang (MZLU L962/3178); Djaibir Ansar (MZLU L962/3179); Djouz, Kouhgorough (MZLU L962/3175); vic. of Faizabad (ZMUC R-4591); Faizabad (ZMUC R-4592–93); Ghaomi-Faringi approx. 20 mi S Mukur [32°38′N, 67°30′E] (CAS 97985); 15 km N Ghazni (CAS 120576); 20 km W Ghazni (ZFMK 8656); 31 km N Ghazni (by Kabul rd.) (MVZ 237478–79); 30 km E Girishk (CAS 120563); Hadda (MZLU L958/3229); 30–70 km NE of Herat (CAS 120578–86); 130 km S Herat (CAS 120559–62); Jalalabad [34°26′N, 70°25′E] (CAS 115961, FMNH 161170); 3 km SSE Jalalabad (MMB 28476–79); 8 km ESE Jalalabad, direction to Sarsahi (MMB 28475); 10 mi W of Jalalabad [34°30′N, 70°22′E] (CAS 96240, 96189–94); 12 km ESE Jalalabad, direction to Sarsahi (MMB 28480); 25 km SW Jalalabad (CAS 120569–72); ca. 30 km SE (by air) Jalalabad (2950 ft.) (MVZ 237473–77); 35 km SW Jalalabad (CAS 120589); 35–45 km W Jalalabad (CAS 120565–68); Kabul (ZFMK 7923); Kabul to Lataband (CAS 120578–88); 30 km S Kabul (ZFKM 5387); 35 km S Kabul, on rd to Kandahar (CAS 91612); 80 km S Kabul (CAS 120590–92); Kandahar [31 36 N, 65 47 E] (CAS 115962–68, FMNH 161227, FMNH 161229, FMNH 161231, FMNH 161235–38, FMNH 161240–45, FMNH 161247); 20 mi SE Kandahar [31°23′N, 65°53′E] (CAS 97987); 32 km N Kandahar (CAS 120595); 40 km N Kandahar (CAS 120564, CAS 120575); 40 km NE of Kandahar, on Tarnak River (CAS 90757–60); 50 km NE of Kandahar, on Tarnak River (CAS 90758–60); 56 km N Kandahar (CAS 120573); 80 km W Kandahar (CAS 120574); Kharzar (Tang-Djangal Baz) (MZLU L957/3050); 30 mi W Khost [33°25′N, 69°22′E] (CAS 96173, CAS 96253); Kotal-e-Khair-Khana, vic. of Kabul [Kabul Prov., 2000 m] (ZFKM 8658); Kotal-Zarni (MZLU L962/3176); Mil-Karez, Pol-Mil (MZLU L958/3230); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′N, 70°10′–15′E] (CAS 96213); 4 km S (by air) Paghman (7650 ft.) (MVZ 237471); Paghman River, 10 km SW of Kabul (CAS 92340); Paghman, 15 mi W of Kabul [34°36′N, 68°56′E] (CAS 96254); Qala-e-Bagaul, 5 km W of Ghazni [Ghazni Prov., 2300 m] (ZFMK 8657); 10 mi N Qalat [32°10′N, 67°00′E] (CAS 97982–83); 24–50 km N Qalat (CAS 120593–94); Qalat-Ghilzai (MNHN 1948.174); 32 km NE of Quandhor (MZLU L960/3043); Sharisafā, 60 km NE of Kandahar
(CAS 90764, CAS 90768, CAS 90770–71, CAS 90776); Shash Gao, few km toward Ghazni (CAS 91599–602); 10 km SSE Takhteh Pol (by Quetta Rd.) (3440 ft.) (MVZ 237472); Terra Pass, N of Gardez [Paktia Prov., 2500 m] (ZFMK 8660–61); Urgun [Paktia Prov., 2500 m] (ZFMK 8554–55); Yakhan (MZLU L962/3180) [see pl. 9, fig. 3 for distribution].

**REMARKS.**—Boulenger (1889:99) mentioned two specimens as “*Eremias guttulata*” from “Helmand” and one specimen from “Tirphul” and “along the Helmand to the valley of the Hari-rud river”. The Afghan population of “*Eremias guttulata*” was later recognized as part of the subspecies *watsonana*, which today has species rank. Smith (1940:384) mentioned a specimen from “Arbarp” that may refer to BMNH 1940.3.1.35. A ubiquitous lizard inhabiting firm soils and hiding under stones, in holes or at the base of vegetation (Clark 1990).

**Ophisops jerdonii** Blyth, 1853:653


**HOLOTYPE.**—ZSI 2196, from “Mhow” [= Madhya Pradesh State, India].

**LOCALITIES.**—ca. 30 km SE (by air) Jalalabad (2950 ft.) (MVZ 237480–82); Jalalabad to Kaga (CAS 120479); Jalalabad to Nimla (CAS 120478, CAS 121056) [see pl. 9, fig. 4 for distribution].

**REMARKS.**—Clark (1990) mentioned the species as an inhabitant of broken terrain occurring amongst rocks and vegetation in Afghanistan.

**Family Scincidae**

**Ablepharus grayanus** (Stoliczka, 1872:74)


**SYNTYPES.**—NMW 10234, from “NE Katch” fide Tiedemann and Häupl (1980); ZSI 5403, from “Waggur district, in the North-eastern part of Kachh (in Gujarat State, western India)” fide Das et al. (1998).

**LOCALITIES.**—Loger Valley, 10 km S of Kabul [Kabul Prov., 2000 m] (ZFMK 8662) [see pl. 9, fig. 5 for distribution].

**Ablepharus lindbergi** Wettstein, 1960:61


**HOLOTYP.**—NMW 15877, from “Steppe einige km westl. v. Obêh [some km west of Obeh], östl. v. Hérat [east of Herat], W-Afghanistan.”

**LOCALITIES.**—Andarab [Baghlan Prov., 2500 m] (ZFMK 8586); Dasht-e-Nawur [Ghazni Prov., 3000 m] (ZMK 2655–57); 20km W of Ghazni [Ghazni Prov., 2500 m] (ZFMK 8665–67); Kotal, Zarni (MZLU L962/3170); Kotal-e-sh-tu [Maidan Prov., western Behsud, 2000 m] (ZFMK 8664); Masjd, Tohoubi (MZLU L959/3044); Masgidi-i-chovi [= Masjed-e Chubi], Campo 2 (MZUF 23923–38, 24132–42); Obêh, E of Hérat (MZLU L957/3777, NMW 15877); Oukak, valle de Boum (MZLU L962/3171); Pandjab, Decht Ghoudjour (MZLU L962/3172); Tshomay [Maidan Prov., western Behsud, 2000 m] (ZFMK 8663); Urgun [Paktia Prov.] (ZFMK 8556); Yabowlang [= Yakawlang] to Band-i Ahair [= Band-e Amir] pass (MZUF 24154–61) [see pl. 9, fig. 6 for distribution].
Remarks.—This taxon appears to be endemic to Afghanistan and can be differentiated from the closely related *A. bivittatus* by a higher number of scales around midbody (26 versus 22–24).

*Ablepharus pannonicus* (Lichtenstein, 1823:103)


**Syntypes.**—ZMB 1346 [two specimens], from “Bucharia” [= Bukhoro, Uzbekistan].

**Synonyms.**—*Blepharosteres agilis* Stoliczka, 1872 (syntypes ZSI 5407, NMW 16237) from “S. W. of Kálábad [in North-West Frontier Province, northern Pakistan]”.

**Localities.**—Ajdaha, near Bamiyan (MNHN 1948.171–73); Bamian (MZLU L957/3048); Espisevarz (MZLU L962/3167); 72 km S Herat (CAS 120480); 36 km S Kabul, on rd to Kandahar (CAS 91610–11); Masgid-i-ciovi [= Masjed-e Chubi], Campo 2 (MZUF 24153); Obeh (MZLU L957/3049); Orozgon (MZLU L960/3041); Oueb (= Obeh) (MZLU L962/3169); Pandjab, Decht Ghoudjour (MZLU L962/3168); 2 km NW Panjoa (CAS 147409–15); Quel eh Chaharak [= Hezaradjat?] (NMW 15883); Qual eh Nou (MZLU L957/3047); Urgun [Paktita Prov., 2500 m] (ZFMK 8557–8) [see pl. 9, fig. 7 for distribution].

Remarks.—Nearly two centuries of confusion have surrounded the application and authorship of this name. Bauer et al. (2003) summarized the issues involved in detail. Although sometimes attributed to Fitzinger (1824) or Fitzinger in Lichtenstein (1823) (e.g., Anderson 1999), it is clear that Lichtenstein, although using Fitzinger’s manuscript name (not published until the following year), based his description on material representing a different species than that intended by Fitzinger. Thus, although Fitzinger coined the specific epithet, Lichtenstein alone must be credited as the author of *Scincus pannonicus*.

Boulenger (1889: 100) mentioned one specimen as “*Ablepharus brandtii*” from “on the Helmand”.

*Asymblepharus himalayanus* (Günther, 1864:86, pl. X, fig. H)


**Syntypes.**—BMNH 1946.8.16.24, from “Kashmir” [two specimens]; BMNH 1946.6.17.62, from “Garhval” [two specimens]; BMNH 1946.8.19.71, from “Simla” [one specimen].

**Localities.**—Panjao, Koh-i-Baba [mountain range] (ZMUC R-47131–33); Pashki [Nuristan Prov.] (ZMUC R-47119–20); Puistagoli (ZMUC R-47119–20) [see pl. 9, fig. 8 for distribution].

*Eumeces blythianus* (Anderson, 1871:186)


**Holotype.**—ZSI 2384, from “Amritzur” [= Amritsar, Punjab State, India].

**Localities.**—Seberghan (ZFMK 41118) [see pl. 10, fig. 1 for distribution].

Remarks.—Sindaco and Jeremčenko (2008) did not mention this species from Afghanistan.
Eumeces schneiderii zarudnyi Nikolskii, 1900:399, pl. XX, lower left fig.

1900 Eumeces zarudnyi Nikolskii, Reptiles, amphibies et poissons, recueillis pendant le voyage de Mr. N. A. Zaroudny en 1898 dans la Perse. Annaire Musée Zoologique de l’Académie Impériale des Sciences de St.-Pétersbourg, 4:375–417, pl. XX.


Localities.— Feyzabad (see Fig. 20); Pirzada (ZMUC R-47130) [see pl. 10, fig. 2 for distribution].

Remarks.— Boulenger (1889:101) mentioned specimens “from the Helmand” (one specimen) and “at Shore-kategai in the Badghis” (one specimen), and one of these should correspond to BMNH 1886.9.21.91, but Boulenger did not give specific collection numbers. Leviton and Anderson (1970:191) mentioned Eumeces schneiderii from Helmand Basin and northern Afghanistan (north of the Hindu Kush at low elevations) whereas Sindaco and Jeremčenko (2008) did not mention this taxon from Afghanistan.

Eurylepis taeniolatus parthianicus (Szczerbak, 1990:38, figs. 1b–3b)


Holoype.— ZIK Re 18 no. 17660, from “northern slope of central Kopet Dag, Chuli, 25 km west of Ashkhabad, Turkmenistan” [translated from Russian].

Localities.— Bala Murghab (MMB 28483); Khost [Paktia Prov., 1200 m] (ZMK 2648); Pandjvai, nr. Kandahar (NMW 15882); Somarkhel, right bank of Kabul River (MMB 28484); Tajan River (Leviton and Anderson 1970) [see pl. 10, fig. 3 for distribution].

Remarks.— Szczerbak (1990) mentioned that he had already described the species in 1989, but the year of publication is, without doubt, 1990.
**Eutropis dissimilis** (Hallowell, 1857:78)


**Syntypes.**—ANSP 9537–38, from “Bengal”.

**Synonyms.**—*Mabuia hodgarti* Hora, 1927 (holotype ZSI 19801; paratypes in ZSP [one specimen] and ZSI 19803–05) from “Rawalpindi, Punjab [in northern Pakistan]”.

**Localities.**—Jalalabad (FMNH 161162); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19′–21′N, 70°10′–15′E] (CAS 96195) [see pl. 10, fig. 4 for distribution].

**Heremites septemtaeniata** (Reuss, 1834:47, pl. 3, fig. 1a–c)


**Lectotype.**—SMF 14141, from “Abyssinien, die Umgebung von Massua” [= vicinity of Massawa, Eritrea].

**Localities.**—Dar-e-Nur, vic. Shewa [Nangahar Prov., 1200 m] (ZFMK 9064, ZMK 2572) [see pl. 10, fig. 6 for distribution].

**Remarks.**—Sindaco and Jeremčenko (2008) provided an additional record from northwestern Afghanistan. The nominal genus *Heremites* was resurrected by Karin, et al. (2016) (q.v.).

**Ophiomorus tridactylus** (Blyth, 1854:654)


**Syntypes.**—ZSI 2526–29, ZSI 2531–32 from “Afghanistan”.

**Localities.**—Baqrabad (ZMUC R-47115–17, 47121–28); Dama rud. (ZMUC R-47118); 10 km NE of Darweshan (CAS 120482–85); 35 km S of Darweshan (CAS 120481); 20 mi E of Girishk [31°43′N, 64°45′E] (CAS 97973); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84669–75); Pirzada (ZMUC R-47129); 5 km (by air) of Takhte Pol (Rigestan Sand Dunes at W side of Kadeney Rud), ca. 40 km SSE Kandahar (by road to Quetta) (3350) (MVZ 237068–71); 10 km SSE Takhteh Pol (by Quetta Rd.) (3440 ft.) (MVZ 237072–75) [see pl. 10, fig. 5 for distribution].

**Remarks.**—Boulenger (1889:101) mentioned one additional specimen from “at an old fort called Nadir Ali, between De-kamran and De-doda on the Helmand”, which most probably refers to BMNH 1886.9.21.92. This is a fossorial lizard of small sandy tracts rather than dune areas in Afghanistan (Clark 1990).

**Family Uromastycidae**

**Saara Gray, 1845**

According to available studies (e.g., Wilms et al. 2009, Pyron et al. 2013), the eastern species of the genus *Uromastyx* (*U. asmussi*, *U. hardwickii*, *U. Ioricata*) form a clade that is sister to the remaining species of the genus. Therefore, Wilms et al. (2009) revalidated the available genus name *Saara* for these three species. Pyron et al. (2013) and Sindaco et al. (2013) adopted a more conservative concept and recognized *Saara* as synonym of *Uromastyx*, but, because of the distinct morphology, we herein maintain the use of the name *Saara*. 
**Saara asmussi** (Strauch, 1863:col. 479)


**Holotype.**—ZISP 3029 (adult male), from “Seri-Tschah”, in eastern Iran.

**Localities.**—Mellem Farak, Saliana (ZMUC R-36228); Seistan, 50km E of Seranj (ZFMK 7925) [see pl. 4, fig. 8 for distribution].

**Remarks.**—Sindaco and Jeremičenko (2008) did not mention this species from Afghanistan, but it has subsequently been reported from there by Wilms et al. (2009).

**Saara hardwickii** (Gray, 1827:219)


**Holotype.**—BMNH 1946.8.14.44 (adult male), from “Plains of Kanouve [= Kanauj District, Uttar Pradesh], Hindustan, India”.

**Localities.**—10 km ESE Jalalabad in the direction to Sarshah (MMB 28474); 10 km ENE Jalalabad (AFG 12); nr. Jalalabad, on road to Nimla [Nangarhar Prov., 800 m] (ZFMK 8616–17) [see pl. 5, fig. 1 for distribution].

**Remarks.**—There are two additional specimens (FMNH 3932–33) from Afghanistan with no further locality data.

**Family Varanidae**

**Varanus bengalensis bengalensis** (Daudin, 1802:67)


**Lectotype.**—MNHN 2179, from “Bengale” designated by Guibé (1954).


**Localities.**—Darunta, at the banks of Kabul River, 20 km WNW Jalalabad (MMB 28487); Jalalabad [Nangahar Prov., 650 m] (ZFMK 8653); 18 km W (by Kabul Rd.) of Jalalabad (2020 ft.) (MVZ 237483); 19.2 km N Jalalabad (FMNH 161208); 20 km ESE Jalalabad (MMB 28485–86); 80 km E Jalalabad (MMB 28488); 30 mi E of Kabul, btwn Kabul and Sarobi [34°33’N, 69°35’E] (CAS 104378); 5–10 mi ENE of Nimla, on old Kabul-Jalalabad rd, and about 10 mi SW of Balabagh [34°19’–21’N, 70°10’–15’E] (CAS 96199) [see pl. 10, fig. 7 for distribution].

**Remarks.**—Clark (1990) mentioned that the species was always found near water but also ranged into drier terrain not far from rivers or streams and up to 2600 m a.s.l.

**Varanus griseus caspius** (Eichwald, 1831:190)

HOLOTYPE.— Not located (most probably lost), from “in littori orientali caspii maris [= coast of Caspian Sea], ad sinum balchanensem, in peninsula Dardsha [= Dardzha Peninsula, Turkmenistan]”.

LOCALITIES.— 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84641); between Herat and Islam Qala (Clark 1990, not collected); Murichaq area (J 01–03); Seistan [Faizabad Prov.] (ZMUC R-4228–29) [see pl. 10, fig. 8 for distribution].

REMARKS.— There are additional photographic records (Fig. 21) from Mazar-i-Sharif held in the ZFMK image library. Boulenger (1889: 99) provides a record from “valley of Hari-rud [river]”, this probably refers to the river valley near Herat.

**Eryx elegans** (Gray, 1849:107)


HOLOTYPE.— BMNH 43.7.21.70, from “Affghanistan [sic]”.

SYNONYM.— *Eryx jaculus czarewskii* Nikolskii, 1916 (syntypes ZISP 8462, 8463, 8473, 8489, 8711) from “Koppet-dag [Turkmenistan], Nachduin [Turkmenistan], Gululi-dag [Iran], Kircher [Turkmenistan] and Kopet-dag orient [Turkmenistan]”.

LOCALITIES.— Band-e-Amir [Bamyan Prov., 34°50′N, 67°11′E] (CAS 24990); Dasht-e-Nawar [Ghazni Prov., 3000 m] (ZFMK 8641); Masgidi-ciovì, Campo 2 (MZUF 24108–15); Pagham (FMNH 161178) [see pl. 11, fig. 1 for distribution].
**Eryx johnii persicus** Nikolskii, 1907:290, fig. 8


**Holotype.**— ZISP 10343, from “Aguljaschker” [Agulyashker, Khuzestan Province, Iran].

**Localities.**— Mundu, Hissar south of Kandahar (fide Murray 1892:79) [see pl. 11, fig. 2 for distribution].

**Remarks.**— The status of this taxon is still under debate. It was recognized as a subspecies of *E. johnii* by Stull (1935) and Smith (1943) but later as a synonym of *E. jaculus familiaris* by Stimson (1969) or of *E. jaculus* by McDiarmid et al. (1999). More recently, Sindaco et al. (2013) treated it as a synonym of *E. johnii*, referring to a comment by Rastegar-Pouyani et al. (2008, citing an unpublished manuscript) that “this name [persicus] is not available for a western subspecies of *Eryx johnii*, because it applies to a different species of *Eryx.*” Therefore, the exact status of this taxon is not sufficiently clarified and we recognize it here as subspecies of *E. johnii* pending further taxonomic research in this complex. We have not examined any material from Afghanistan and have included it herein based on earlier publications as noted above.

In his review of our manuscript, Dr. Steve C. Anderson (pers. com.) offered the following commentary: “The name *Eryx persicus* is not a valid name and should not be used here. The name was associated with *E. johnii* by Stull (1935), who never examined the specimen. Stimson (1969) accepted her identification, again without personal verification. At my request, Dr. Natalia Ananjeva of the Zoological Institute, St. Petersbourg, examined the type and found it to be in the *E. jaculus* group (*E. j. familiaris*) and not *E. johnii*. At present there are no recorded specimens of *E. johnii* from Iran. Should the Afghan population prove to be significantly distinguishable from the recognized population of *E. johnii*, it requires a new taxon name and description.”

We heartily agree with Dr. Anderson’s summation, which is also suggested in our first paragraph in this Remarks section.

**Eryx tataricus tataricus** (Lichtenstein in Eversmann, 1823:146)


**Lectotype.**— ZMB 1461, from “Nähe des Aralsees” [vicinity of Aral Sea] (designated by Bauer et al. [2002]).

**Localities.**— Amu-Darya, N of Kunduz (ZFMK 5384–85); 20 km S of Andkhoy (CAS 120491); 2 km N Bala Murhab (J 04, in litt. Brück 1968); vic. of Chacharan (CAS 147408); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84638); Herat town (ZFMK 92801); Karam-Kol (ZFMK 8640); Kunduz (ZFMK 95015); Maimana (FMNH 161205); Nemla, near Jalalabad (MMB 28489); Paghman vic. [34°36′N, 68°56′E] (CAS 115969); 30 km NW of Sheberghan (CAS 120490); Zebak, 102.4 km E Faizabad (FMNH 161123) [see pl. 11, fig. 3 for distribution].

**Remarks.**— Boulenger (1889:101) mentioned six specimens of “*Eryx jaculus*” from “Balamorhab” and an additional one from “Robat-i-turk”. Subsequently, two of the specimens (BMNH 1886.9.21.94–95) were reidentified as “*Eryx tataricus*”, whereas the additional four specimens were donated to the ZSI collection where they were mentioned by Sclater (1891:6)
as “Eryx jaculus” from “Bala Morghab, Herat” (ZSI 13141–13144). Clark (1990) observed the species as plentiful where it was collected. Sindaco et al. (2013) provide an additional record from Iran (Rud-e Hirmand), close to Afghanistan, so that it is likely that the species also occurs in southwestern parts of Afghanistan.

**Family Colubridae**

*Boiga trigonata melanocephala* (Annandale, 1904:209, pl. IX, fig. 4)


**Syntypes.**— ZSI 14814–15, from “Perso-Baluch frontier”.

**Localities.**— 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84637); Ker Dahar (MNHN 0.8724); Mehtarlam (ZFMK 14321) [see pl. 11, fig. 4 for distribution].

**Remarks.**— According to the original description, the syntype series consists of three specimens, but only two are present in the ZSI collection (Das et al. 1998).

*Eirenis aff. persicus* (Anderson, 1872:392, fig. 8)


**Holotype.**— ZSI 4828, from “Bushire, Persia” [Bushehr, Iran].

**Localities.**— Ken Dahar (MNHN 0.8723); Qual’éh Lakou (MZLU lxxx/6305) [see pl. 11, fig. 5 for distribution].

**Remarks.**— An unambiguous identification of these specimens is not possible pending a thorough review of *E. persicus*. Initial data suggest that the material from Afghanistan may be more closely related to specimens from Pakistan than to the nominate subspecies (unpublished data, P. Wagner). The specimen from Paris is catalogued as “Eirenis walteri” and is definitely misidentified, as this taxon is only known from Turkmenistan and northeastern Iran. However, at the time of writing, the specimen is on loan and not available to us. The MZLU specimen resembles specimens from Waziristan (Pakistan) for which the names *Contia angusticeps* Boulenger, 1894 and *Contia mcmahoni* Wall, 1911 could be available. Compared with other species of the genus, it might be that the two specimens known from Afghanistan refer to two different species and, therefore, a review of the species complex is needed. Meanwhile we recognize both of the specimens as “*Eirenis aff. persicus*”, but we are aware that they are not referable to this species *sensu stricto*. Leviton and Anderson (1970) mention the species because of its presence to the west, south and east of Afghanistan.

*Elaphe dione* (Pallas, 1773:717)


**Types(S).**— Not located (most probably lost), from “mountains near Irtin [= Irtysh River]” [translated from German], subsequently specified as “Gratscheffskoi outpost, near Semijarsk, upper Irtysh area, Semipalatinsk district, Kazakhstan” *fide* Helfenberger (2001).

**Localities.**— Kunduz, 6 ½ mi SE of, village of Bolla Quchi [Kundus Prov.] (USNM 166774–75) [see pl. 11, fig. 6 for distribution].
**Remarks.**—Dotsenko (2003: 31) mentioned an additional specimen (ZIK 1796/4433) from “Wüste Registan [= Registan desert], Umgebung von Kandahar [= vicinity of Kandahar], Prov. Kandahar, Afghanistan”.

*Hemorrhois ravergieri* (Ménétriés, 1832:69)


**Syntype.**—ZISP 1750, from “Georgien” fide Strauch (1873). According to the original description from “Géorgie [and], près de Bakou” [Georgia and near Baku (Azerbaijan)]; the syntype from “près de Bakou” is unlocated. In the original description, Ménétriés (1832:70) mentioned his new species from Georgia, but the only detailed description he gave is for the single specimen from “près de Bakou,” collected by Ménétriés himself. The only specimen in the ZISP from the Ménétriés collection that was collected by Ravergier is from Georgia (see Strauch 1873:274; Nikolskii 1905:239; Nikolskii 1916:103). Strauch (1873) gave the pholidosis for ZISP 1750 as “198 [ventralia] + 2 [= divided anal scale] + 81 [subcaudalia]” whereas the specimen from Baku has “195 [ventralia] + 75 [subcaudalia]” fide Ménétriés (1832).

**Figure 22:** *Hemorrhois ravergieri* from Feyzabad. Photo by F. Joisten.

**Localities.**—Feyzabad (see Fig. 22); N edge of village of Kara Bagh (CAS 90798); 30 km S of Kandahar (ZFMK 5386); Kotgai, nr. Safed-Koh [Paktia Prov., 2350 m] (ZFMK 8560); Kunduz (ZFMK 95016–19); Paghman (CAS 151230, FMNH 161177); Pashki [Nuristan Prov.] (60106–08); Stieve [Nuristan Prov.] (ZMUC R-60104); Wama [Nuristan Prov.] (ZMUC R-60105) [Fig. 22; see pl. 11, fig. 7 for distribution].

**Remarks.**—Boulenger (1889:102) mentioned three specimens from “Tirphul, Gulran, Chinkilok,” which most probably refer to BMNH 1886.9.21.97–99, but it is not possible to assign these specimens to their corresponding specific localities. Smith (1940:384) mentioned an additional specimen from “Bamian 8000 ft.,” that could refer to BMNH 1938.2.4.15. Schätti and Agasian (1985) mapped several localities in Afghanistan (without referencing specimens) and mentioned that ZFMK 5386 was collected from the craw of a snake eagle.
Lytorhynchus maynardi Alcock and Finn, 1897:562, pl. XIV


**Syntypes.**—BMNH 1946.1.14.79, from “near Robat I, 4500 ft [= south of Koh Malik-dokhand, by the River Malah Do Kund, Garmser District, Helmand Province, S Afghanistan, ca. 1350 m elevation].” ZSI 14223–25 from the same locality.

**Localities.**—10 km NE of Darweshan (CAS 120493); 56 km S and 10 km E of Darweshan (CAS 120494) [see pl. 11, fig. 8 for distribution].

**Remarks.**—Clark (1990) collected specimens after dark on sand dunes.

Lytorhynchus ridgewayi Boulenger, 1887:413


**Syntypes.**—BMNH 1946.1.14.77–78, from “Chin-Kilak, Afghanistan” [Chinkilok, Herat Province].

**Synonym.**—*Lytorhynchus gabrielis* Werner, 1938 from “Unter Ziarat, Belutschistan [nicht weit von der afghanischen Grenze entfernt]” [= Ziarat, Baluchistan (close to the Afghan border)] (holotype NMW 23440).

**Localities.**—35 km S of Darweshan (CAS 120495); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84639) [see pl. 12, fig. 1 for distribution].

**Remarks.**—The specimen collected by Clark (1990; CAS 120495) was found after sunset on gravel strewn alluvium. Sindaco et al. (2013) provide a record from Pakistan (Saindak) close to the Afghan border so that it is possible that the species also occurs in extreme southern parts of Afghanistan.

Natrix tessellata (Laurenti, 1768:87)

1768 *Coronella tessellata* Laurenti, Specimen Medicum, Exhibens Synopsin Reptilium Emedatum cum Experimentis Circa Venena et Antidota Reptilium Austriacorum. Joan. Thoma. nob. de Trattnern, Vien- nae, Austria. (8) + 214 + (3) pp., 5 pls. [thesis version]; (2) + 214 + (1) pp., 5 pls. [published version].

**Type(s).**—In the Turriano collection, not located, from “in Jadidia, vulgo Cars [= Kras, Slove- nia/Italy]”.

**Localities.**—Ag Chah [Mazar-i-Sharif Prov.] (SNM 58); Feyzabad (Fig. 23); Herat town (ZFMK 92803); Kunduz (95022–25); Maimana (FMNH 161204); Masgidi-ciovi, Campo 2 (MZUF 24053, 24057–63); Mazar-i-Sharif (FMNH 161112); Paghman [34°36′N, 68°56′E] (CAS 115972, FMNH 161180); Panjao, Koh-i-Baba (ZMUC R-60101); Sar-i-Chiasma, nr. Kabul (ZMUC R-60100) [see pl. 12, fig. 2 for distribution].

**Remarks.**—There are three additional specimens (BMNH 1938.2.4.12–14) from “Afghanistan”, that correspond with those specimens mentioned by Smith (1940:384) from “Dana Ghon 2400 ft.”

Oligodon arnensis (Shaw, 1802:526)


**Holotype.**—Specimen illustrated in Russell (1796, plate 38), from “the country of Arnee in the
East Indies” [= Arni, Tamil Nadu, India]. The specimen was incorrectly listed as the lectotype by Wallach et al. (2014) (see Bauer 2015).

**LOCALITIES.**—3 km SE Jalalabad (MMB 28497) [see pl. 12, fig. 3 for distribution].

**Oligodon taeniolatus taeniolatus** (Jerdon, 1853:528)


**TYPES(S).**—Not located (most probably lost), from “Madras” (=Chennai, Tamil Nadu State), India.

**LOCALITIES.**—Kars [Kandahar Prov.] (USNM 194971) [see pl. 12, fig. 4 for distribution].

**REMARKS.**—Brück (1968) provided a record from “dem Gebiete um Djelalabad” [= vicinity of Jalalabad] that is shown by Sindaco et al. (2013) as a second record from Afghanistan, but not confirmed here because the locality is too imprecise.

**Platyceps karelini karelini** (Brandt, 1838:col. 243)


**SYNTYPES.**—ZISP 1695–1700 from “sur la côte orientale de la mer Caspienne. [= coast of the Caspian Sea].

**LOCALITIES.**—Ag Chah [Mazar-i-Sharif Prov.] (SNM 54); Baqrabad (ZMUC R-6097); Bala Murghab, Herat province (Brück 1968); Chinkilok nr. Herat (ZSI 13107); btw. “Cia-i-Baloch [= Robat-i-Shah Baloch] and Cia-i-Lagun, camp 1” (MZUF 24027–29); mountains near Cia-i-Dudi [= Kuh-e Chah Dudi] (MZUF 24026); 35 mi downstream from Girishk, Dasht-i-Margo Area, Kandahar (MZLU L958/3224); Ker Dahar (MNHN 0.8722, MNHN 1999.8160); Kilki (BMNH 1886.9.21.103); 45 km W of Herat (CAS 120714); Herat to Islam Qala [34°22′N, 62°10′E to 34°47′N, 61°05′E] (CAS 103785); Mazar-i-Sharif (ZFMK 86743, 36°43′N, 67°07′E); 10 km W of Tashkurgan (CAS 120540); Tirphul (BMNH 1886.9.21.102) [see pl. 12, fig. 5 for distribution].
REMARKS.— Blanford (1876:415) mentioned one specimen (BMNH 1873.1.7.10) as “Zamenis Ladacensis” from “Kila-i-Fath, Sístán [= Qala-i Fateh, Qal‘eh-yé Fath, Afghanistan, ca. 30°34′N, 61°50′E]”. However, the specimen was later identified as hybrid between Platyceps k. karelini and Platyceps r. rhodorachis by Schätti et al. (2014). Sclater (1891:28) mentioned one specimen (ZSI 13107) as “Zamenis karelini” from “Chinkilok nr. Herat [ca. 34°31′N, 61°52′E]” collected by the “Afghan Boundary Commission (Aitchison1889). Boulenger (1889:102) mentioned four specimens from “Helmand, Tirphul, Chinkilok, Kilki” which have been identified by Schätti et al (2012) as: BMNH 1886.9.21.101 from “Helmand [ca. 30°17′N, 62°03′E]” [= a hybrid between Platyceps k. karelini and Platyceps sp.]; ZSI 13107 from “Chinkilok [ca.34°31′N, 61°52′E]” and donated to the ZSI from the BMNH [=? Platyceps k. karelini]; BMNH 1886.9.21.102 from “Tirphul [ca. 34°36′N, 61°16′E]” [= Platyceps k. karelini]; BMNH 1886.9.21.103 from “Kilki [ca. 34°00′N, 61°25′E]” [= Platyceps k. karelini]. Moreover, Boulenger (1889:102) mentioned one specimen (BMNH 1886.9.21.104) as “Zamenis rhodorachis” from “second Gulran encampment, Badghis”, that was identified as a hybrid between P. k. karelini and P. r. rhodorachis by Schätti et al. (2014). The same authors also recognized ZFMK 86743 from Mazar-i-Sharif as hybrid of the same two species. Clark (1990) mentioned this species as very common at Darweshan and Kandahar, but sporadic elsewhere. It occurs on non-sandy to sandy soils with both firm and loose sands.

**Platyceps mintonorum (Mertens, 1969:56)**


**Holotype.**— SMF 62942 from “Zangi-Nawar, 27 km südwestlich von Nushki [= 27km SW of Nushki], Distr. Chagai, West-Pakistan”.

**Localities.**— Chah-i-Angir (CAS 84630–36), 10 km N of Darweshan (CAS 120541, CAS 120543), 10–20 km NE of Darweshan (CAS 120715), 40 km SE of Kandahar (CAS 120716–17).

**Remarks.**— See Fig. 24 for distribution.

**Platyceps rhodorachis (Jan in de Filippi, 1865:356)**

LECTOTYPE.— MSNG 30312 from “Persia, Schiraz”. For further information concerning the type material we refer to Schätti et al. (2014).

LOCALITIES.— Ag Chah (SNM 55–57); Bisut area [= Behsud] (MMB 28501–02); 35 mi downstream from Girishk, Dashti-Margo Area, Chah-i-Angir (CAS 84634–36); Dashti Nawar [Plain] (ZFMK 41340); Hadda (MZLU L958/3225–26); Herat town (ZFMK 92802, USNM 166773); 30 km SW of Jalalabad (CAS 120718); 40 km W of Jalalabad (CAS 120492); 10 km west of Jawand [“Kala-i-Chambar”] (SMF 67907); 15 km southwest of Kabul (CAS 92323); Kabul (ZFMK 8559, 8651, 8678; MMGU 2729a–b, NMW 34992); Kabul Carteseh (CAS 147425); Kabul Sharinau (CAS 147426); 15 km SW of Kabul on rd to Kandahar (CAS 92323); east of Kandahar (CAS 115970); Kandahar (CAS 115970, FMNH 161075, FMNH 171788, MZLU L960/3035–36, ZFMK 8645); Kunduz (ZFMK 84877, 95020; ZSM 22.1954.1–2); Lashkargah, Dashtimargo (CAS 147427); Masgid-i-ciovi [= Chobi] (MZUF 23939–42); Mazar-i-Sharif (ZFMK 86744); 5–10 mi ENE of Nimla and about 10 mi SW Balabagh, on old Kabul-Jalalabad rd [34°19′–21′N, 70°10′–15′E] (CAS 96250); Paghman vic. [34°36′N, 68°56′E] (CAS 115971 formerly FMNH 161185); Pesh Valley [Nuristan Prov.] (ZFMK 8643–44); Qualat (MZLU L958/3227); Such (BMNH 1968.1303) [see pl. 12, fig. 6 for distribution].

REMARKS.— Jan (1857) first mentioned the name rhodorachis but its use was as a nomen nudum as no characters were provided to separate it from other known species. However, just a few years later he gave a valid description (Jan in de Filippi 1865). The taxonomic status of this species is complex and still needs to be resolved. Král (1969) recognized two subspecies, P. r. rhodorhachis [sic] (SNM 57) and P. r. ladacensis (SNM 55–56) (both from Ag Chah) in Afghanistan. But P. r. ladacensis (Anderson, 1871), described from Ladakh a few years after the description of the nominate form, was treated as a synonym of P. rhodorhachis [sic] by Boulenger (1893). Later it was again recognized as subspecies (e.g., Terent’ev and Chernov 1949, Szczerbak 2003). According to Szczerbak (2003), the nominate subspecies occupies only southern Turkmenistan, whereas P. r. ladacensis occurs throughout rest of the distribution range. In as much as both taxa were recognized in southern Turkmenistan, Shammakov (1989) suggested they be accorded full species status. Recently, referring only to the count of ventral scales given in the first description, Perry (2012) also recognized P. ladacensis as a full species, ranging from Israel to India. Given the obvious uncertainties in recognizing species-level taxa within this species complex, we believe that a full, integrative revision is definitely needed. A first step was taken in the morphological review by Schätti et al. (2014) who recognized several potential hybrids between P. rhodorhachis [sic] and P. k. karelini (see herein the species account of the latter species).

ZFMK 8644 has bats (Nyctalus leisleri) in its stomach.

Ptyas mucosa nigriceps Terent’ev and Chernov, 1949:246


SYNTYPE.— ZISP 15698, from “Takhta-Bazar st., left bank of Murgab” [= Turkmenistan, Mary Province; translated from Russian].

LOCALITIES.— Baraki Barak, 10 km W of [Logar Prov.] (USNM 194606); Darulman, vic. of Kabul [Kabul prov., 1800 m] (ZFMK 8639); btw. Gornails and Bokan, NE of Bala Morhab (MNHN 1948.176); Herat area (FMNH 161113); Kabul (CAS 120544); 40 km SW of Kabul on rd to Kandahar, in Kabul River (CAS 92324); Kamdesh (FMNH 161135); Kamu (13325–26);
Spalerosophis diadema schirazianus (Jan in de Filippi, 1865:356)


SYNTYPES.— Originally three specimens housed in MSNM based on Jan (1863) from “Schiraz, Persia” [Shiraz, Fars Province, Iran], now lost (fide Schätti et al. [2010]).

LOCALITIES.— Anahoy Desert (USNM 194977); Jalalabad (MMB 28500); E Jalalabad (MMB 28499); Kabul 14457; (ZFMK Maimana (FMNH 161206); Nimla [Nangahar Prov., 1000 m] (ZFMK 8642); Pagham (FMNH 161057); Tirphul [= Tir Pul] (Boulenger 1889) [see pl. 12, ñig. 8 for distribution].

REMARKS.— Other spellings of the specific epithet, e.g., schirazana/-us, schirasiana/-us are incorrect subsequent spellings. Lantz (1918) additionally referred to a record from the “Tajan River area”, an imprecise locality not mapped here. Boulenger (1889:201; 1893:412) mentioned another specimen from “Nushki to Helmand” in the BMNH collection that most probably refers to the “eastern diadema” according to Schätti et al. (2010, see below). The taxonomic status of this taxon is under debate. Baig and Masroor (2008) placed it as a synonym of the nominate form, whereas Schätti et al. (2009) recognized it as subspecies. According to Schätti et al. (2010), the records from eastern Afghanistan (border area with Pakistan) do not represent the taxon Spalerosophis diadema schirazianus, but a form named by Schätti et al. (2010) “eastern diadema (modus operandi)”. This includes both specimens listed above from Jalalabad. The specimen mentioned by Günther (1864:253) and Boulenger (1893:413) from “Afghanistan” collected by “Dr. Griffith” was tentatively included in this form as well. This results in the following assemblage of taxa: (1) S. d. schirazianus Anahoy Desert; Kabul, Maimana; Pagham; and Tirphul, and (2) “eastern diadema” (fide Schätti et al. 2010), which is represented by the specimens from Jalalabad, Nimla, and Nushki to Helmand.

Telescopus rhinopoma (Blanford, 1874:34)


SYNTYPES.— BMNH 1946.1.5.10 and ZSI 3500, from “in Carmania” [Kerman, Iran], according to Blanford (1876) collected at Karmán at 5000 ft elevation. Blanford, in his original description (Blanford 1874), gave morphological characters, but later (Blanford 1876:421) he explicitly mentions two specimens with identical pholidosis and locality as given in the original description. Therefore, the type series includes two syntypes rather than the ZSI specimen, which has
been cited as the holotype by several authors (e.g., Sclater 1891:48; Das et al. 1998:148).

**SYNONYMS.**— *Dipsadomorphus Jollyi* Wall, 1914 from “Kacha Thana, Baluchistan” (holotype not located).

**LOCALITIES.**— Band-e-Kadjaki, Kadjaku [Kandahar Prov., 1050 m] (ZMK 2736) [see pl. 13, fig. 1 for distribution].

*Xenochrophis piscator* (Schneider, 1799:247)


**HOLOTYPE.**— Specimen illustrated in Russell [1796], pl. 33 from “Indiae orientalis.” Vogel and David (2012) identified this specimen as a dried skin, BMNH 1904.7.27.31, presumably from Patrick Russell’s collection. They also restricted the type locality to “the coastal areas of northern Andhra Pradesh State, eastern India” based on Russell’s chief area of residence and activity during his stay in India. However, according to Bauer (2015), BMNH 1904.7.27.31 was obtained by the museum about 100 years after Russell’s death, so the status of the specimen as holotype is still questionable.

**LOCALITIES.**— Darunta, 20 km WNW Jalalabad (MMB 28506–07); Jalalabad [Nangahar Prov., 650 m] (MMB 28504–05, ZFMK 8652); 40 km SW of Jalalabad (CAS 120542) [see pl. 13, fig. 2 for distribution].

**REMARKS.**— The specimen collected by Clark (1990; CAS 120542) was found amongst rocks along the edge of a stream.

**Family Elapidae**

*Bungarus sindanus* Boulenger, 1897:73, pl. 1


**SYNTYPES.**— BMNH 1946.1.18.54–55 from “Sukkur, Sind” and BMNH 946.1.19.16 from “Umarkot, Sind” [Sukkur and Umerkot, Sindh Prov., Pakistan].

**LOCALITIES.**— 20 km E Jalalabad (MMB 28492); Khost [Paktia Prov., 1200 m] (NMW 35010, ZFMK 8672) [see pl. 13, fig. 3 for distribution].

**REMARKS.**— Král (1969) recorded *B. caeruleus* from the Kabul River Valley of eastern Afghanistan, a record also mentioned by subsequent authors (e.g., Khan 1985), but this record is likely referable to *B. sindanus* (the questionably valid subspecies *B. sindanus razai* Khan, 1985, is now usually recognized as synonym, but it is still regarded as a distinct taxon by some authors). Kuch (2003) later published the first vouched record of *B. sindanus* from Khost, based on a juvenile specimen (NMW 35010).

*Naja oxiana* (Eichwald, 1831:171)


**HOLOTYPE.**— ZISP 8728, from “Oxus” [= Amu Darya River, Central Asia].
LOCALITIES.— Ashab Kahf (MZLU L957/3035); Jalalabad (FMNH 161138); vic. of Jalalabad (Brück 1968); Kabul, on road to Pagham [Kabul Prov., 2000 m] (ZFMK 8561); Khurd-Kabul [Kabul prov., 1900 m] (ZFMK 8646); Kunduz (ZFMK 95021); Logar Valley, 15 km S of Kabul [Kabul Prov., 2000 m] (ZMK 2742); Omegnen, nr. Kabul (ZMUC R-6523–24); Selsala-Koh-i-Bend-i-Kermak [Herat Prov.] (MMB 28498) [see pl. 13, fig. 4 for distribution].

REMARKS.— Boulenger (1889:103) mentioned two specimens from “Chinkilok” and one from “Kara-bagh [= Qarabagh]”, which probably refer to BMNH 1886.9.21.118–120.

Family Lamprophiidae

Psammophis leithii Günther, 1869:505


HOLOTYPE.— BMNH 1946.1.2.82 (formerly 1869.8.28.124), from “Sind.”

LOCALITIES.— Afghanistan [without detailed locality] (ZFMK 8650); 8 km ESE Jalalabad, direction to Sarsahi (MMB 28496) [see pl. 13, fig. 5 for distribution].

REMARKS.— Sclater (1891:50) mentioned one specimen (ZSI 11421) as “Psammophis leithii” from “Chaman, S. Afghanistan”, which was donated by “J.A. Murray”. While it was not possible to locate this place in Afghanistan, it seems most probable that it refers to Chaman, a locality just across the Afghanistan-Pakistan border in present-day Pakistan.

Psammophis lineolatus (Brandt, 1837:col. 243)


HOLOTYPE.— ZISP 2042, from “sur la côte orientale de la mer Caspienne [= coast of the Caspian sea], dans la Turcomanie et dans le nord de la Perse [= northern Iran], notamment dans les environs d’Astrabad [= Gorgan, Golestan province, Iran].”

LOCALITIES.— Ag Chah [Mazar-i-Sharif Prov.] (SNM 59–60); 45 km S Andkhoy (CAS 120496); Murichaq, N Bala Murghab [Herat Prov.] (MMB 28493); 8 km ESE Jalalabad, direction to Sarsahi (MM 28494); near Kunduz (MMB 28495); 65–75 km W of Mazar-i-Sharif (CAS 120539); vic. Pagham (FMNH 161184); 30 km SE Shindand (CAS 120497) [see pl. 13, fig. 6 for distribution].

REMARKS.— Sclater (1891:49 f.) mentioned one specimen (ZSI 13135) as “Taphrometopon lineolatum” from “Zindijan near Tirphul” and two others (ZSI 13136) from “near Tirphul”, collected by the “Afghan Boundary Commission (Aitchison 1889). These are, most probably, the specimens that are later mentioned by Boulenger (1889:103) and donated to the ZSI collection. Moreover, Boulenger (1889) refers to four specimens from “Tirphul” that are probably represented by BMNH 1886.9.21.115–117 and BMNH 1886.9.21.14 [sic; the correct number is 114]. Moreover, Boulenger (1896:152) also mentioned one specimen from “Helmand”. Clark (1990) collected specimens from amongst vegetation on firm clay or baked earth terrain.

Psammophis schokari (Forskål, 1775:14)

**Type(s).**—Not located, from “Yemen”.

**Localities.**—Baqrabad (ZMUC R-6349–51); 20 km N of Farah (MZUF 24174); 18 km E of Girishk (CAS 120498–99, CAS 120709); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84629); 45 km W Jalalabad (CAS 120500, CAS 120538); 40 km SE of Kandahar (CAS 120713); 71 km SSW Kabul (by Kandahar Rd.) (6230 ft.) (MVZ 237082); Ker Dahar (MNHN 0.8721); 32 km NW Lashkargah (CAS 120710–12, CAS 120987); Seistan [Faizabad Prov.] (ZMUC R-6352); Shawalikot, Wayan Village [Kandahar Prov.] (USNM 194980); SE of Zehak (along the Iran-Afghanistan border, Agricultural College) (1450 ft.) (MVZ 243503) [see pl. 13, fig. 7 for distribution].

**Remarks.**—Boulenger (1889:103) mentioned specimens as “Psammophis leithii” from “Helmand (2 spec.)” and “Hamun to Khusan [= Kohsan] (3 spec.)”. Most probably the two specimens from Helmand (?BMNH 1886.9.21.111–112) were subsequently re-identified as Psammophis schokari. However, BMNH 1882.3.20.1 is also catalogued as P. schokari and could represent one of the Helmand specimens (see Boulenger 1896:158). Moreover, Boulenger (1896:152) mentioned one specimen of P. lineolatus from “Helmand” collected by the “Afghan Boundary Comm.”, which could also refer to one of these specimens. Clark (1990) documented this species as very common and usually found near bushes and on man-made earth banks close to rodent holes. A record plotted by Sindaco et al. (2013) from northern Afghanistan is based on incorrect coordinates and should be considered invalid (Sindaco, pers. comm. Nov. 2013).

**Family Leptotyphlopidae**

*Myriopholis blanfordii* (Boulenger, 1890:243, fig. 72)


**Syntypes.**—BMNH 1946.1.16.85–89 (formerly BMNH 1869.8.28.58–61), from “Sind” [Sindh, Pakistan].

**Localities.**—Jalalabad to Nimla (CAS 120486–87); Laghman [Lagham Prov., 1000 m] (ZFMK 8673–77); Nimla (CAS 120488–89, CAS 121054–55) [see pl. 13, fig. 8 for distribution].

**Remarks.**—The specimens collected at Nimla were found under stones and rocks in dampish conditions (Clark 1990).

**Family Typhlopidae**

*Indotyphlops braminus* (Daudin, 1803:279)


**Holotype.**—Type specimen lost but imaged in Russell (1796, pl. 43) from “Vizagapatam [Visakhapatnam, Andhra Pradesh, India].”

**Localities.**—No specific locality known.

**Remarks.**—Sclater (1891:1) mentioned one specimen (ZSI 12896) as “Typhlops braminus” from “Afghanistan,” collected by the “Boundary Commission.”
Xerotyphlops vermicularis (Merrem, 1820:158)


**Type(s).**— Not located, from “Griechische Inseln, Asien/ in Archipelagi, Asia” [Greek islands and Asia], incorrectly restricted to “Griechische Inseln [= Greek islands]” by Mertens and Müller (1928).

**Synonyms.**— Typhlops persicus Blanford, 1874 from “in Persia meridionali”, is based on two syntypes (ZSI 6899 and BMNH 1946.1.11.87 [formerly BMNH 1874.11.25.17]). Blanford (1876) specified the type locality as “Hills, north-east of Darján, between Karmán and Shiráz” [Iran]. Sclater (1891) and Das et al. (1998) recognized ZSI 6899 as the holotype, but Blanford (1876) explicitly referred to two type specimens. Therefore, the taxon is based on two syntypes rather than on one holotype (see e.g., McDiarmid et al. 1999:124).

**Localities.**— Chinkilok, N of Herat (Boulenger 1889:101); Kishm (Keshem), near Dara-i-kur [Badakhshan Prov.] (USNM 163539); Kunduz (ZFMK 94241); Tala (MZLU L947/3197) [see pl. 14, fig. 1 for distribution].

**Remarks.**— Boulenger (1889:101) mentioned one specimen as “Typhlops persicus” from “camp at Chinkilok, north of Herat […] if not there, certainly between that and the Sang-khotal pass.”, that probably refers to BMNH 1886.9.21.93. Sindaco et al. (2013) provided additional records from northern Afghanistan.

**Family Viperidae**

Echis carinatus sochureki (Stemmler, 1969:118, figs. 1–4)


**Holotype.**— NHMB 17468 from “West-Pakistan, Ban Kushdil Khan bei Pishin, Rand eines Stauesees [bank of a barrier lake at Ban Kushdil near Pishin in western Pakistan].”

**Localities.**— Balk (ZMUC R-6840); Baqrabad (ZMUC R-6837); 35 mi downstream from Girishk, Dasht-i-Margo Area, Chah-i-Angir (CAS 84627–28); 20 km SE Islam Qala (CAS 120501); outskirts of Jalalabad (MMB 28490–91); Kandahar [Kandahar Prov.] (FMNH 161072–73, ZFMK 8647); Kaykay [Helmand Prov.] (ZMUC R-6839); 32 km NW of Lashkargah (CAS 120719); Seistan [Faizabad Prov.] (ZMUC R-6838); 10 km W of Tashkurgan (CAS 120502–03, CAS 120545–46); Tirphul (ZSI 13105); SE of Zehak (along the Iran-Afghanistan border, Agricultural College) (1450 ft.) (MVZ 243502) [see pl. 14, fig. 2 for distribution].

**Remarks.**— There is an additional specimen from Afghanistan without a detailed locality in the AMNH collection (AMNH R-70593). Boulenger (1889:104) additionally mentioned specimens as “Echis arenicola” from “Nushki to Helmand” and and “Chil-gaz”. The former BMNH specimen from “Tirphul” was subsequently donated to the ZSI collection (ZSI 13105) and mentioned by Sclater (1891:69) as “Echis carinata” from “Tirphul near Herat”, collected by the Afghan Boundary Commission (Aitchison1889). The other two specimens may be identical with BMNH 1886.9.21.123–124, but it is not possible to refer them to the specific locality.

Eristicophis macmahoni Alcock and Finn, 1897:564, pl. XV

**SYNTYPES.**— ZSI 14179–84, from “Amirchah, 3300 feet elevation;” “Zeh, 2500 feet elevation;” “Drana Koh;” and “Robat I., 4300 feet elevation.”

**LOCALITIES.**— 10 km NE of Darweshan (CAS 120504); 40 km W of Kandahar (MZUF 24165) [see pl. 14, fig. 3 for distribution].

**REMARKS.**— Clark (1990) mentioned two specimens from Darweshan, but only one is catalogued in the CAS collection. The whereabouts of the other specimen is unknown. One of the two specimens was found in the morning on sand surface, the other one dead on firmer dune margins, thus suggesting that the latter one may not have been collected.

**Gloydius halys boehmei** (Nilson, 1983:479, fig. 1)


**HOLOTYPE.**— ZFMK 8648 from “Andarab valley, province of Baghlan, at 2500 m altitude, east Afghanistan”. The paratype is ZFMK 8649 (= ZMK 2637), with the same locality as the holotype.

**LOCALITIES.**— Andarab Valley [Baghlan Prov., 2500 m] (ZFMK 8648–49) [see pl. 14, fig. 4 for distribution].

**REMARKS.**— Leviton and Anderson (1970) mentioned this species (as *Agkistrodon halys*) from a single record of the Universitetets Zoologiske Museum, Copenhagen from the Sauzak Pass near Herat. This specimen was later identified by Nilson (1983) as “Gloydius intermedius caucasicus” (see below). However, the same author also described a subspecies of *Gloydius halys* from Afghanistan and, therefore, this species is indeed part of the Afghan herpetofauna. The paratype specimen ZFMK 8649 was later (1972) donated to the Zoological Museum in Kabul (ZMK) and is now lost.

**Gloydius halys caucasicus** (Nikolskii, 1916:274)


**LECTOTYPE.**— MNKNU 14942, from “Dzhi vill., Arussk. Obshch., Lenkoran uezd [Dzhi village, Lenkoran district, Azerbaijan]” (designated by Vedmederya et al. [2009])

**LOCALITIES.**— Sauzak Pass, nr. Herat (ZMUC R-6912) [see pl. 14, fig. 5 for distribution].

**REMARKS.**— Leviton and Anderson (1970) mentioned this species as *Agkistrodon halys* from a single record of the Universitetets Zoologiske Museum, Copenhagen. Later, Nilson (1983) recognized it as the taxon caucasicus and placed it as subspecies into *Gloydius intermedius*. However, some authors (e.g., David and I niece 1999, Orlov and Barabanov “1999” 2000, Gumprecht et al. 2004, Sindaco et al. 2013) accepted it as the same subspecies, but placed it again into *G. halys*. In any case, according to Gloyd and Conant (1982), this represents the easternmost record for the taxon caucasicus.

In 2000, Orlov and Barabanov (“1999” 2000) designated ZISP 19017.1 from “Azerbaijan, Lenkoran District, vicinity of the Kirovsk town” as neotype, stating that all original types were lost. However, Vedmederya et al. (2009) were able to show that one of the syntypes still existed and designated it as the lectotype.

**Macrovipera lebetina** (Linnaeus, 1758:218) - complex

1758 *Coluber Lebetinus* Linnaeus, Systema Naturæ per Regna Tria Naturæ, Secundum Classes, Ordines, Gen-
era, Species, cum Characteribus, Differentiis, Synonymis, Locis. Tomus I. Editio decima, reformata. Lau-
rentii Salvii, Holmiae (Stockholm), Sweden. (4) + 823 + (I) pp.

**Type.**—Not located, from “Habitat in Oriente.”

**Synonyms.**—*Vipera peilei* Murray, 1892 from “Zandra. S. Afghanistan, Quetta [in Baluchistan,
Pakistan]”; types not located.

**Localities.**—Jalalabad (FMNH 161139); Wama [Nuristan Prov.] (ZMUC R-6911) [see pl. 14,
fig. 6 for distribution].

**Remarks.**—Boulenger (1889:104) mentioned four specimens, one each from “Shore-kaltegai”,
“Sang-hadji”, “Sang-kotal” and “Mt. Do-Shakh, at Kilki”. Specimens from the first two locali-
ties are probably identical with specimens BMNH 1886.9.21.121–122 of *Macrovipera lebetina
aranica*. The specimen from “Sang-kotal” was donated to the ZSI collection, whereas the
whereabouts of the specimen from “Mt. Do-Shakh at Kilki” is unknown. Sclater (1891:68) men-
tioned a specimen (ZSI 13137) of “*Vipera lebetina*” from “Sang Kotal [NW Herat]”, collected
by the “Boundary Commission (Aitchison1889)”. This specimen may be identical with the spec-
imen mentioned by Leviton and Anderson (1970, see below) and could represent the subspecies
*M. l. turanica*. Leviton and Anderson (1970) mentioned a single record from the Kabul River
Valley near Jalalabad. However, they also mentioned a specimen of *Gloydius himalayanus*
(Günther, 1864) from the Universitetets Zoologiske Museum, Copenhagen collected at Wama in
Nuristan Province. This specimen was later identified by Nilson (1983) as *Macrovipera lebeti-
tina*. Leviton and Anderson (1970) also mentioned an occurrence of *M. lebetina* in northwestern
Afghanistan (without mentioning specific specimens, but see also above), and this record should
be attributed to *M. l. turanica*.

The taxon *Macrovipera lebetina* needs to be clarified. Oriae et al. (*in litt. David and Ineich
1999:322f.*) studied the Iranian populations of the species and recognized the western and north-
western Populations in Iran as the subspecies *obtusa*, and the eastern and northeastern (in the
border area to Afghanistan and Turkmenistan) as the subspecies *M. l. chernovi*. According to
David and Ineich (1999), Turkmenistan is inhabited only by *M. l. chernovi*, Uzbekistan by *M. l.
chernovi* and *M. l. turanica*, Tajikistan by *M. l. turanica*, and Afghanistan solely by *M. l. chern-
ovi*. Moreover, some of the populations in Afghanistan, Pakistan and India that are recognized
today as *M. l. chernovi* may be referable to the synonymy of *Vipera peilei*. If the taxa are iden-
tical, *chernovi* would be a junior synonym of *peilei* and some of the Afghan populations would
represent this taxon. From the aforementioned comments, it is obvious that most likely more
than one taxon of the complex is present in Afghanistan. Eastern and western populations could
refer to “*Vipera peilei*” or *Macrovipera lebetina chernovi*, whereas specimens from northern
Afghanistan could refer to *Macrovipera lebetina turanica*. An occurrence of the latter taxon in
Afghanistan is very likely because this taxon was found in Tajikistan directly at the border with
Afghanistan (P. Wagner, pers. obs.).

**Reptilia: Testudinoidea**

**Family Testudinidae**

*Testudo horsfieldii horsfieldii* Gray, 1844:7

1844 *Testudo horsfieldii* Gray, Catalogue of Tortoises, Crocodilians, and Amphibians in the Collection of

**Holotype.**—BMNH 1947.3.4.3 from “Kabul,” Afghanistan.

**Synonyms.**—*Homopus burnesi* Blyth, 1854 from “Afghanistan” (holotype ZSI 793 *fide* Das et
al. 1998). *Testudo baluchiorum* Annandale, 1906 from “Baluchistan” (holotype ZSI 11420 *fide*
Das et al. 1998).
LOCALITIES.— 24 km SW of Aqcha (CAS 120708); 25 km SW of Aqcha (CAS 120707); Ghazni (MZLU L957/3075); 10 mi. SE Chakansur (CU 11324); Kabul (NMw 10563, inventoried as T. horsfieldii ssp. baluchorum); N edge of village of Kara Bagh (CAS 90799–800); Kunduz [Kataghan Prov.] (AFG 13–14); Mazar-i-Sharif (PWC 46); 65–75 km W of Mazar-i-Sharif (CAS 120706); Pagham (FMNH 161207); Seistan [Faizabad Prov.] (ZMUC R-2563) [see pl. 14, fig. 7 for distribution].

REMARKS.— Boulenger (1889: 94) mentioned 12 specimens as “Testudo horsfieldii” from “Gulran, Badghis”. Jakeš (1964, in litt. Král 1968) observed this species frequently in the valleys of Wadi-i-Ali Gul (Maimana Prov.) and Wadi-i-Namak Shor (Herat Prov.). Sayer and Zon (1981: 88) also mention one specimen from “Loami”. There is also a series of specimens from Afghanistan without further locality in the FLMNH collections (FLMNH 15522, FLMNH 25780–90, FLMNH 48758).

Family Trionychidae

Nilssonia gangetica (Cuvier, 1825:203)


SYNTYPES.— MNHN 4148, 9387, 1887–838, A5226 (= 1866–751), from “du Gange” [= Ganges River], India.

LOCALITIES.— Khost [Pakthia Prov.] (specimen uncataloged and presumed lost) [Fig. 22; see pl. 14, fig. 8 for distribution].

REMARKS.— Even though the first record of this species from Afghanistan was published in 1970,
it has rarely been recognized in subsequent literature (except for Dayer and Zon 1981:88). The authors (Schneider and Djalal 1970) found two specimens. One was seen in a garden pond of a German medical practitioner in Khost. The other one was collected near Khost and donated to the Zoological Museum in Kabul where it was catalogued as a skeleton (see Fig. 25). The authors did not give a museum catalog number but presented images (Fig. 25) and a determination of the species supported by Heinz Wermuth. Therefore, without any doubt *N. gangetica* is part of the Afghan herpetofauna.

**Amphibians and reptiles probably present in Afghanistan, but not yet vouched by specimens**

**Bufonidae:** *Bufo pewzowi* Bedriaga, 1898:56


**LECTOTYPE.**— ZISP 1818 (designated by Stöck et al. 2001), from “Kokyar (= Pishan, 37°25′N, 77°10′E), Xinjiang, China”.

**DISTRIBUTION.**— The species is found in isolated oasis populations ranging through Kyrgyzstan and adjacent Russia to eastern Uzbekistan, Tajikistan and the eastern Pamirs in China to western Mongolia.

**REMARKS.**— This species is mentioned by Das (2014) as *Bufoes pewzowi* for Afghanistan but without mentioning any voucher record or a respective publication.

**Bufonidae:** *Duttaphrynus olivaceus* (Blanford, 1874:35)


**LECTOTYPE.**— BMNH 74.11.23.122, from “Dasht, Baluchistan” Iran, designated by Balleto et al. (1985).

**DISTRIBUTION.**— Found in southeastern Iran and from extreme western Balochistan (Pakistan) to the Gurgaon District (Haryana state) in India.

**REMARKS.**— Because of the disjunct distribution range in Iran and Pakistan/India, it is very likely that this species occurs in southern Afghanistan. The species is mentioned by Das (2014) for the country but without mentioning any voucher specimens or a respective publication.

**Agamidae:** *Phrynocephalus ornatus vindumi* Golubev, 1998:163, fig. 1a, 2


**HOLOTYPE.**— CAS 141204, from “Iran, Khorasan Prov., 35 km N of Gonabad on road to Torbat-E. Heydariyeh (ca. 34°49′N, 58°47′E), 850 m. elevation”.

**DISTRIBUTION.**— In Iran it occurs in the eastern part of Kavir-i-Namak Desert, along NE slopes of Kelat (Qalat) Range, and Kayen Mountains at the Iranian-Afghanistan border.

**REMARKS.**— As this species is recognized from the Iranian side of the border with Afghanistan, there is a high possibility that it also occurs on the Afghan side.
Gekkonidae: *Cyrtopodion agamuroides* (Nikolskii, 1900:384)

1900 “1899” *Gymnodactylus agamauroides* Nikolskii, Reptiles, amphibies et poissons, recueillis pendant le voyage de Mr. N. A. Zaroudny en 1898 dans la Perse. Annuaire Musée Zoologique de l’Académie Impériale des Sciences de St.-Pétersbourg, 4:375–417, pl. XX.

**Lectotype.**— ZISP 9327 from “Pendsch’Sara in Kirmano orient.”, E Kerman Prov., Iran designated by Szczerbak and Golubev (1986).

**Distribution.**— Known from Iran and Pakistan (Šmíd et al. 2014).

**Remarks.**— As this species is recognized from the Iranian side of the border with Afghanistan, there is a high possibility that it also occurs on the Afghan side. Šmíd et al. (2014) already mentioned it for Afghanistan but failed to present a reference or voucher specimen.

Gekkonidae: *Cyrtopodion kirmanense* (Nikolskii, 1900:381)

1900 *Gymnodactylus kirmanshense* Nikolskii, Reptiles, amphibies et poissons, recueillis pendant le voyage de Mr. N. A. Zaroudny en 1898 dans la Perse. Annuaire Musée Zoologique de l’Académie Impériale des Sciences de St.-Pétersbourg, 4 [1899]:375–417, pl. XX.

**Lectotype.**— ZISP 9220B from “Mons Kuh-i-Tuftan in Sargado”, Iran designated by Szczerbak and Golubev (1986).

**Distribution.**— Known only from Iran (Šmíd et al. 2014).

**Remarks.**— As this species is recognized from the Iranian side of the border with Afghanistan, there is a high possibility that it also occurs on the Afghan side.

Gekkonidae: *Mediodactylus russowii* (Strauch, 1887:49, figs. 10, 11, 12)


**Lectotype.**— ZISP 3658 from “30 km east of Fort Shevchenko (formerly Fort Alexandrowsk), Kazakhstan, on the Mangyschak Peninsula” Designated by Szczerbak and Golubev (1986).

**Distribution.**— S Russia, Kazakhstan, Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, NE Iran, China.

**Remarks.**— As this species is recognized from the Iranian and Tajikistan side of the border with Afghanistan, there is a high possibility that it also occurs on the Afghan side. Šmíd et al. (2014) already mentioned it for Afghanistan but failed to provide a reference.

Gekkonidae: *Tenuidactylus longipes* (Nikolskii, 1896:369)


**Lectotype.**— ZISP 8810 from “Tedzhen”, S Turkmenistan, designated by Szczerbak and Golubev (1986).

**Distribution.**— Turkmenistan, E Iran.

**Remarks.**— As this species is recognized from the Iranian side of the border with Afghanistan, there is a high possibility that it also occurs on the Afghan side. Šmíd et al. (2014) already mentioned it for Afghanistan but did not provide a reference. Alternatively, the record may be a holdover from the time *Cyrtopodion voraginosus* was recognized as subspecies of *Cyrtopodion longipes*. 
Lacertidae: *Acanthodactylus micropholis* Blanford, 1874:33


**Syntypes.**—BMNH 74.11.23.79 from “Rigan”; BMNH 1946.9.3.71–72 (formerly BMNH 1874.11.23.76–77) from “Magas”; BMNH 74.11.23.78 from “Bampur”; ZSI 5301 from “Magras” and ZMB 9333 from “Zamran”.

**Distribution.**—Known from SE Iran and SW Pakistan.

**Remarks.**—Although this species is sometimes listed for Afghanistan (e.g., Uetz and Hošek 2016), we could identify no confirmed records from the country. Salvador (1982) and Sindaco and Jeremčenko (2008) likewise do not recognize this lizard from Afghanistan. However, there are records from the border area between Pakistan and Afghanistan and an occurrence on the Afghan side is possible.

Scincidae: *Ophiomorus breviceps* (Blanford, 1874:33)


**Holotype.**—ZSI 3464 from “Sáadatabád, S.W. of Karman [Kerman], Persia [= Iran]” (*fide* Das et al. 1998).

**Distribution.**—E Iran, SW Pakistan.

**Remarks.**—As this species is recognized from the Iranian side of the border with Afghanistan and in Pakistan, there is a high possibility that it also occurs on the Afghan side.

Scincidae: *Ophiomorus chernovi* Anderson and Leviton, 1966:503, figs. 2a–b, 3a


**Holotype.**—BMNH 91.10.6.25, from “Turkmen: Pul-i-Khatun, at confluence of Geshef-Rud and Hari-Rud.”

**Distribution.**—Southern Turkmenistan (near the border between Iran and Afghanistan) and NE Iran.

**Remarks.**—As this species occurs in Iran and Turkmenistan near the border with Afghanistan, a presence in Afghanistan is possible.

Colubridae: *Lycodon striatus bicolor* (Nikolskii, 1903:96)


**Syntypes.**—ZIS 10006, 10013, from “Persia orientalis” and from “Transcaspia. Kulkulab”.

**Distribution.**—E and NE Iran, S Turkmenistan, Uzbekistan and W Tajikistan.

**Remarks.**—Leviton and Anderson (1970) mentioned no specimens found in Afghanistan but there is a record of the species from the Iranian part of the Sistan Basin. Therefore, an occurrence of the species in Afghanistan is possible.
Elapidae: *Bungarus caeruleus* (Schneider, 1801: 284)


**Syntype.**—ZMB 2787 from “India orientali” is the surviving syntype (*fide* Bauer 1998). Two other syntypes are a dry specimen in Schneider’s own collection and a specimen figured on plate I of Russell (1796), both now lost (Bauer 2015).

**Distribution.**—Most of South Asia from southwestern Pakistan to Bangladesh and northeast India, south through Peninsular India and Sri Lanka and north to Kashmir and northern Pakistan, including the border region with Afghanistan.

**Remarks.**—Král (1969) recorded *B. caeruleus* from eastern Afghanistan, but this record should be reexamined and is here interpreted as referable to *B. sindanus*. Masroor (2012) mapped several localities of *B. caeruleus* in Pakistan that are near the Afghan-Pakistan border, so an occurrence within the borders of Afghanistan is possible.

Viperidae: *Pseudocerastes persicus* (Duméril, Bibron, and Duméril, 1854:1443)

1854 *Cerastes persicus* Duméril, Bibron, and Duméril, Erpétologie Générale ou Histoire Naturelle Complète des Reptiles, vol. 7 (part 2). Librairie Encyclopédique de Roret, Paris, France. (1), (1), xii, 781–1536 pp., 2 folding tables, pls. 75–84 [see p. 1443 and pl. 78bis].

**Type(s).**—Not located, from “Persia”.

**Distribution.**—From Iraq and Oman to Turkmenistan and India.

**Remarks.**—Although Afghanistan is mentioned by some authors for this species, the closest record to this country is from Gomal Pass in Pakistan, which is close to the border with Afghanistan. Leviton and Anderson (1970) mentioned that “while Afghanistan has been included in the distribution of this species by previous authors, we find no documented records”. This latter statement is still correct.

**Species previously mentioned to be present in Afghanistan, but now considered to be doubtful or absent**

Bufonidae: *Bufo luristanicus* Schmidt, 1952

**Remarks.**—This species is recognized in Afghanistan based on a single record from Tanatchiv, 165 km N Kandahar (MZLU L960/3073). However, according to Stöck et al. (2001), this species is only known from few localities in the Zagros Mountains and from Fars Provinces of western Iran. Thus, this record seems doubtful and a reexamination of the specimen is needed.

Ranidae: *Pelophylax ridibundus* (Pallas, 1771)

**Remarks.**—Specimens previously mentioned under this name are now recognized as *Pelophylax terentievi* (*q.v.*).

Agamidae: *Phrynocephalus reticulatus* (Eichwald, 1831)

**Remarks.**—Leviton and Anderson (1970) mentioned the taxon *boettgeri* as a subspecies *Phrynocephalus reticulatus*. However, today it is recognized as a synonym or sometimes a subspecies of *P. raddei* (*q.v.*). Therefore, *Phrynocephalus reticulatus* has to be deleted from the Afghan herpetofauna.
Agamidae: *Trapelus ruderatus* (Olivier, 1804)

**Remarks.**—*Trapelus ruderatus* was previously mentioned from Afghanistan by several authors in respect to the taxon *baluchianus* (Smith 1935), which was recognized as subspecies of *T. ruderatus* at the time. However, today this taxon is now treated as synonym of *T. megalonyx* and, therefore, should be referred to under that nomen in the Afghan fauna.

Eublepharidae: *Eublepharis hardwickii* Gray, 1827

**Remarks.**—Wettstein (1960) mentioned a specimen from Kandahar donated to K. Lindberg by “Dr. Colognato.” Today we know that this species is restricted to eastern parts of the Indian subcontinent. Therefore, this specimen bears an erroneous locality or refers to *E. afghanicus*.

Gekkonidae: *Alsophylax pipiens* (Pallas, 1827)

**Remarks.**—Specimens from Afghanistan previously assigned to this species are now referred to *Altiphylax levitoni* (Golubev and Szczerbak, 1979).

Gekkonidae: *Tenuidactylus fedtschenkoi* (Strauch, 1887)

**Remarks.**—To date, *T. fedtschenkoi* is still cited (as *Cyrtopodion fedtschenkoi*) as present in Afghanistan by many authors (e.g., UNEP 2003), even though Clark (1990) explicitly mentioned that this is a mistake due to the misidentification of material collected by him and the Street expedition. These records actually refer to *T. turcmenicus* (q.v.).

Lacertidae: *Eremias guttulata* (Lichtenstein, 1823)

**Remarks.**—This species, mentioned e.g., by Leviton and Anderson (1970) with its subspecies *Eremias guttulata watsonana*, has to be deleted from the Afghan herpetofauna, because this subspecies is today regarded as full species and respective localities can be found under this account.

Scincidae: *Eumeces schneiderii princepes* (839)

**Remarks.**—The eastern populations of this subspecies are now recognized as *Eumeces schneiderii zarudnyi* (Anderson 1999).

Boidae: *Eryx miliaris* (Pallas, 1773)

**Remarks.**—Only one specimen (CAS 84638, from “Chah-i-Angir, Dasht-i-Margo desert”) of this species was mentioned from Afghanistan (Leviton 1959), but Sergius Chernov in 1959 reidentified the specimen as *E. tataricus*.

Colubridae: *Platyceps ventromaculatus* (Gray, 1834)

**Remarks.**—Different authors, e.g., Boulenger (1890) and Leviton (1959), mentioned *P. ventromaculatus* for Afghanistan without details of either localities or specimens. According to Schätti et al. (2014), these records refer to Jan’s Cliff Racer, *P. rhodorachis*.

Elapidae: *Naja naja* (Linnaeus, 1758)

**Remarks.**—Previously, *Naja oxiana* was recognized as subspecies of *Naja naja* and, therefore, the latter taxon was mentioned for Afghanistan. Meanwhile, *N. oxiana* is currently treated as full species and *N. naja* has to be deleted from the Afghan herpetofauna inasmuch as no Afghan locality records for the nominotypical subspecies exist.
Viperidae: *Gloydius himalayanus* (Günther, 1864)

**Remarks.**—Leviton and Anderson (1970) mention this taxon from a single specimen from Wama in Nuristan Province, present in the collection of the Universitetets Zoologiske Museum, Copenhagen. But, this specimen was subsequently identified by Nilson (1983) as *Macrovipera lebetina* and, therefore, the previous species must be deleted from the Afghan herpetofauna.

**Discussion**

Leviton (1959) included 67 nominal species in his first checklist of the amphibians and reptiles of Afghanistan and inadvertently omitted *Calotes versicolor*, which was known at this time as well from the country. About a decade later, Leviton and Anderson (1970) increased this number to 101 nominal and subspecific species, mentioning that the knowledge of the Afghan herpetofauna was still incomplete. Herein, we increase the number of known species and subspecies to 118, due to some new descriptions after 1970 (e.g., *Bufo pseudoraddei baturae*, *Altiphylax levitoni*), new country records between 1970 and today (e.g., *Hoplobatrachus tigerinus*, *Bungarus sindanus*, *Nilssonia gangetica*) as well as our new country records (e.g., *Hemidactylus cf. brookii*). Other species have been reconsidered during the past few years (e.g., *Pelophylax terentievi*, *T. turkmenicus*) and are therefore new additions to the herpetofauna of Afghanistan, whereas another 18 species have to be deleted (e.g., *Trapelus ruderatus*, *Alsophylax pipiens*, *Tenuidactylus fedtschenkoi*; see checklist above) from this list. Seven taxa (including *Eublepharis afghanicus*) are currently regarded as endemic to Afghanistan. The highest species richness can be found in the Agamidae (26 taxa), the Lacertidae (16 taxa) and the Colubridae (15 taxa). The dominant genus is the lacertid genus *Eremias* with twelve taxa, followed by the agamid genus *Phrynocephalus* with nine taxa. Amphibians (ten taxa, one endemic) and turtles (two taxa) are distinctly poor in species diversity compared with lizards and snakes.

In total, we present records of more than 1000 specimens from 36 museum and private collections. However, records from many larger areas in the country are still lacking. A summary of all records (Fig. 26) shows that the central highlands are especially undercollected, as are the southern, southeastern and easternmost regions and the Wakhan Corridor. However, the latter region is at very high elevation and its species diversity is presumed to be very low. The summary also

![Figure 26: Summary of all records from Afghanistan, showing the major collection sites.](image-url)
shows that most specimens were collected along major roads (Fig. 26), especially between Kabul and Herat. Based upon the number of specimens collected and collecting localities, the most abundant species are *Paralaudakia caucasia*, *Trapelus agilis*, and *Mesalina watsonana*. Other species, especially snakes are very rare and often known from a single record only (e.g., *Hoplobatrachus tigerinus*, *Laudakia tuberculata*, *Eumeces blythianus*, *Eirenis persicus*, *Elaphe dione*, *Oligodon arnensis*, *Nilssonia gangetica*).

Afghanistan is known to be a transition zone between the Palearctic and the Oriental zoogeographic regions. However, the diversity of amphibians and reptiles is clearly dominated by Palearctic species which occupy most areas of the country. With 26 species occurring mainly within arid areas of the country, Afghanistan is a distinct hotspot of agamid lizards, but only three species (*Calotes versicolor*, *Laudakia tuberculata*, *Saara hardwickii*) can be associated with the Oriental region. Most records of oriental species are concentrated in the Khost area, including the remarkable records of *Hoplobatrachus tigerinus* and *Nilssonia gangetica*. Other species are e.g., *Eublepharis afghanicus*, *Varanus bengalensis*, or *Bungarus sindanus*. Typical Palearctic elements are e.g., *Natrix tessellata*, occurring from Europe to northern Pakistan (Khan 2002), and *Pseudopus apodus*, with roughly the same distribution. Therefore, regarding the herpetodiversity, Afghanistan can be mainly recognized as part of the Palearctic region with some influence from the Oriental region.

This study is based mainly on material present in the biodiversity archives of museums and private collections, as well as some recently collected material, resulting in more than 1000 specimens known from the country. Recognizing that Afghanistan is under war conditions and has been for roughly the past 40 years, this is a surprisingly high number, especially as some larger collections (e.g., BMNH, ZISP, ZSI) have yet to be fully evaluated. This number could also lead to the impression that the Afghan herpetofauna is well explored. However, many areas in Afghanistan are still unknown, and there are as well many unresolved species or species complexes. For instance, the nomenclatural and taxonomical status of *Eublepharis afghanicus* still needs to be resolved and even the correct identities and/or relationships of some taxa from Afghanistan are yet to be established (e.g., *E. afghanicus*, *Gloydius halys boehmei*). The *Bufo viridis* complex (*B. oblongus*, *B. p. baturae*, *B. turanensis*, *B. zugmayeri*), the *Trapelus agilis* complex (*T. agilis*, *T. megalonyx*, *T. sanguinolentus*), as well as some other complexes, e.g., *Eremias persica*/*E. velox*, need to be analyzed in detail to resolve the species status of several taxa and their distributions. The value of this contribution is that it presents a summary of most of the known material from Afghanistan in the form of an up-to-date checklist, and in this regard it should prove useful inasmuch as it provides baseline distributional data for biogeographic as well as conservation studies and can serve as the springboard for additional faunistic studies as well as encourage others to examine and, hopefully, resolve some of the above mentioned taxonomic problems as they relate to the Afghan herpetofauna.

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WAGNER ET AL.: AMPHIBIANS AND REPTILES OF AFGHANISTAN


Distribution maps showing plots of known locality occurrences for the amphibians and reptiles in Afghanistan


**Plate 2**: (1) *Pelophylaxterentievi*, (2) *Afghanodon mustersi*, (3) *Calotes versicolor farooqi*, (4) *Laudakia agroensis*, (5) *L. m. melanura*, (6) *L. n. nupta*, (7) *L. nuristanica*, (8) *L. tuberculata*


**Plate 4**: (1) *Phrynocephalus interscapularis sogdianus*, (2) *P. luteoguttatus*, (3) *P. m. maculatus*, (4) *P. mystaceus galli*, (5) *P. o. ornatus*, (6) *P. raddei*, (7) *P. scutellatus*, (8) *Saaraasmussi*


**Plate 8**: (1) *Eremias afghanistanica*, (2) *E. aria*, (3) *E. fasciata*, (4) *E. grammica*, (5) *E. intermediata*, (6) *E. lineolata*, (7) *E. nigrocellata*, (8) *E. persica*


Plate 1

[1] Bufo o. oblongus
[3] Bufo turanensis
[4] Bufo zugmayeri
[5] Duttaphrynus stomaticus
[6] Chrysopaa sternosignata
[7] Euphlyctis cyanophlyctis
[8] Hoplobatrachus tigerinus
Plate 2

[1] Pelophylax terentievi
[3] Calotes v. farooqi
[4] Laudakia agarvensis
[5] Laudakia m. melanura
[6] Laudakia n. nupta
[7] Laudakia nuristanica
[8] Laudakia tuberculata
Plate 3

[1] Paralaudakia badakhshana
[2] Paralaudakia caucasia
[3] Paralaudakia erythrogaster
[4] Paralaudakia himalayana
[5] Paralaudakia lehmanni
[6] Paralaudakia microlepis
[7] Phrynocephalus clarkorum
[8] Phrynocephalus euptilopus
Plate 4

Plate 4 contains maps of various species of Phrynocephalus, including:

1. Phrynocephalus i. sogdianus
2. Phrynocephalus luteoguttatus
3. Phrynocephalus m. maculatus
4. Phrynocephalus m. galli
5. Phrynocephalus o. ornatus
6. Phrynocephalus raddei
7. Phrynocephalus scutellatus
8. Saara asmussi
Plate 5

1. Saara hardwickii
2. Trapelus a. agilis
3. Trapelus megalonyx
4. Trapelus s. sanguinolentus
5. Pseudopus a. apodus
6. Eublepharis afghanicus
7. Agamura persica
8. Altiphyllax levitoni
Plate 6

[1] Bunopus tuberculatus

[2] Crossobamon e. eversmanni

[3] Cyrtopodion scabrum

[4] Cyrtopodion watsoni

[5] Hemidactylus brookii

[6] Hemidactylus flaviviridis

[7] Tenuidactylus caspius

[8] Tenuidactylus turcmenicus
Plate 7

[1] Tenuidactylus voraginosus

[2] Teratoscincus bedriagai

[3] Teratoscincus keyserlingii

[4] Teratoscincus microlepis

[5] Teratoscincus scincus


[7] Acanthodactylus c. cantoris

[8] Eremias acutirostris
Plate 8

[1] Eremias afghanistanica
[2] Eremias aria
[3] Eremias fasciata
[4] Eremias grammica
[5] Eremias intermedia
[6] Eremias lineolata
[7] Eremias nigrocellata
[8] Eremias persica
Plate 10

[1] Eumeces blythianus
[2] Eumeces s. zarudnyi
[3] Eurypleis t. parthianicus
[4] Eutropis dissimilis
[5] Ophiomorus tridactylus
[6] Trachylepis septemtaeniata
[7] Varanus b. bengalensis
[8] Varanus g. caspius
Plate 11

1. *Eryx elegans*
2. *Eryx j. persicus*
3. *Eryx t. tataricus*
4. *Boiga t. melanocephala*
5. *Eirenis aff. persicus*
6. *Elaphe dione*
7. *Hemorrhoid ravigieri*
8. *Lytorrhynchus maynardi*
Plate 12

1. Lytorhynchus ridgewayi
2. Natrix tessellata
3. Oligodon arnensis
4. Oligodon t. taeniolatus
5. Platyceps k. karelini
6. Platyceps rhodorachis
7. Ptyas m. nigriceps
8. Spalerosipis d. schirradianus
Plate 13

[1] Telescopus rhinopoma
[2] Xenochrophis piscator
[3] Bungarus sindanus
[4] Naja oxiana
[5] Psammophis leithii
[6] Psammophis lineolatus
[7] Psammophis schokari
[8] Myriopholis blanfordii
**APPENDIX 1**

**Gazetteer of georeferenced localities. Coordinates presented as decimal degrees.**

Assembled from several sources but principally using Google Earth, as well as internal Afghanistan reports.

<table>
<thead>
<tr>
<th>Locality</th>
<th>Lat</th>
<th>Long</th>
<th>Locality</th>
<th>Lat</th>
<th>Long</th>
</tr>
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<tbody>
<tr>
<td>Ab-i-Istada [Ghazni Prov., 2000 m]</td>
<td>32.501655</td>
<td>67.832966</td>
<td>Bamian</td>
<td>34.817468</td>
<td>67.817173</td>
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<tr>
<td>Ag Chah [=Aqcha, Mazar-i-Sharif Prov.]</td>
<td>36.91147</td>
<td>66.182785</td>
<td>Bamian (on rd to Saigon), along Kunduz River</td>
<td>34.84424</td>
<td>67.996902</td>
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<tr>
<td>Ag Chah settlement [=Aqcha]</td>
<td>36.91147</td>
<td>66.182785</td>
<td>Bamiyan Hotel, Bamiyan, 1.8km E</td>
<td>34.820004</td>
<td>67.872105</td>
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<td>Ajdaha, near Bamiyan</td>
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<td>Baraki Barak</td>
<td>33.966712</td>
<td>68.949451</td>
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<tr>
<td>Amu-Darya swamps, nr. Darquad</td>
<td>37.000359</td>
<td>68.310013</td>
<td>Baraki Barak, 10 km W</td>
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<td>68.949451</td>
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<td>Andkhoy, 20 km S</td>
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<td>Bost, vic. Lashkargah [Helmand Prov., 1000 m]</td>
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<td>Cowkae dada, Ski Club Hill</td>
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<td>Armalik [=Armālik]</td>
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<td>Chanchir ghar (Pandjvai), 25 km SO of Kundahar</td>
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<td>Bala Murghab [= Bala Murghab], 2 km N</td>
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<td>Cia-i-Dudi [= Kuh-e Chah Dudi], mountains near Cia-i-Lagun</td>
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<td>30.826781</td>
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<td>Djaouz, Kouchkourough [=Kouchiquoroghi]</td>
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<td>Jawzan, Seberghan [Sheberghan]</td>
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<td>Kabul at Pul Churkhi suburb, 67 km E</td>
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<td>70.448333</td>
<td>Kabul to Lataband</td>
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<td>Kabul, 10 mi E</td>
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<td>Jalalabad to Nimla [=Memlah]</td>
<td>34.387646</td>
<td>70.265579</td>
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<td>34.377446</td>
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<tr>
<td>Jalalabad, 10 km E direction to Somaehel</td>
<td>34.470335</td>
<td>70.544357</td>
<td>Kabul, 20 km NW</td>
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<td>Jalalabad, 10 km ENE</td>
<td>34.470335</td>
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<td>Kabul, 30 km S</td>
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<tr>
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<td>70.544357</td>
<td>Kabul, 30 mi E, btwn Kabul &amp; Sarobi</td>
<td>34.513346</td>
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<td>34.349105</td>
<td>70.567703</td>
<td>Kabul, 35 km S on rd to Kandahar</td>
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<td>Jalalabad, 18 km W by Kabul Rd.</td>
<td>34.493333</td>
<td>70.36</td>
<td>Kabul, 36 km S on rd to Kandahar</td>
<td>34.198173</td>
<td>68.804122</td>
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<td>34.642247</td>
<td>70.444107</td>
<td>Kabul, 40 km SW on rd to Kandahar</td>
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<td>68.790436</td>
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<td>Jalalabad, 2 km SE</td>
<td>34.40691</td>
<td>70.475693</td>
<td>Kabul, 70 km S</td>
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<td>69.147491</td>
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<td>34.283319</td>
<td>70.716019</td>
<td>Kabul, 70-80 km S</td>
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<td>69.147491</td>
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<td>Jalalabad, 20 km SW</td>
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<td>Kabul, 71 km SSW by Kandahar Rd.</td>
<td>34.0516667</td>
<td>68.781333</td>
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<td>Jalalabad, 20 mi. towards Kabul</td>
<td>34.511083</td>
<td>70.174255</td>
<td>Kabul, 80 km S</td>
<td>33.671783</td>
<td>69.216156</td>
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<td>Jalalabad, 25 km SE (by air)</td>
<td>34.398333</td>
<td>70.466667</td>
<td>Kabul, Chairkana [1740 m]</td>
<td>34.53145</td>
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<tr>
<td>Jalalabad, 25 km SW</td>
<td>34.347971</td>
<td>70.204925</td>
<td>Kabul, Koh-el-Tschel Zetun</td>
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<td>Kabul, Logar Valley, 10km S of Kabul</td>
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<td>69.1642</td>
<td>Khurd-Kabul [=Khur Kābul] [Kabul prov., 1900 m]</td>
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<td>Kabul, on road to Paghm</td>
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<td>69.037285</td>
<td>Kōlkā [Kolkā]</td>
<td>33.999996</td>
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<td>Kishim (Keshhem), near Dārā-ē-kūr</td>
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<td>Kandahar</td>
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<td>65.70282</td>
<td>Kotal, Zarni</td>
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<td>66.7316667</td>
<td>Kotal-e-Khār-Khāna</td>
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<td>65.5633333</td>
<td>Kotal-e-Uma [=Kōtal-e-ʿOmay]</td>
<td>34.452643</td>
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<td>Kandahar, 20 mi SE</td>
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<td>65.94223</td>
<td>Kōtgāi [=Kottgai], nr. Safed-Koh</td>
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<td>Kandahar, 3 km SE</td>
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<td>65.765</td>
<td>Kōlb-Akhour near Farah</td>
<td>32.430977</td>
<td>62.104797</td>
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<td>Kandahar, 30 km S</td>
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<td>65.917511</td>
<td>Kohb-Bachī [Koub-Bachtou near Farah]</td>
<td>32.472695</td>
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<td>Kandahar, 32 km N</td>
<td>31.905541</td>
<td>65.766449</td>
<td>Kundus R. NE Dashi-Doab n. of Kabul</td>
<td>34.852129</td>
<td>69.262848</td>
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<tr>
<td>Kandahar, 35 mi NW</td>
<td>31.896214</td>
<td>66.515808</td>
<td>Kunduz</td>
<td>36.725402</td>
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<td>Kandahar, 36-56 km N</td>
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<td>65.684051</td>
<td>Kunduz, 6 1/2 mi SE of, village of Bolla Quichi</td>
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<td>Kandahar, 40 km N</td>
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<td>Kurdkabul Dam, 4 mi tw. Butakh [=Butikhak]</td>
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<td>Kandahar, 56 km N</td>
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<td>Lashkar Gar, 50 km SSW</td>
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<td>Lashkargah [Dashtimargo], 40 m W</td>
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<td>64.925</td>
<td>Lashkargah</td>
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<td>Kara Bagh [=Karabagh]</td>
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<td>Lashkargah (Dashtimargo), 10 m W</td>
<td>31.576196</td>
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<td>30.892797</td>
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<td>KAsh-Rud Valley near Lashi, Dashht-i-Margo</td>
<td>31.674421</td>
<td>62.975922</td>
<td>Lashkargh, 50 m S</td>
<td>31.212801</td>
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<td>65.70282</td>
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<td>36.744386</td>
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<td>Lindai-Sin Valley [Nuristan Prov., 2200 m]</td>
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<td>72.27042</td>
<td>Maimaneh</td>
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<td>69.366293</td>
<td>Marshy area along Logar River, 7-8 mi from Kabul</td>
<td>34.557466</td>
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<td>Khoast [=Khost]</td>
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<td>Khuln, Mazar-i-Sharif [700 m]</td>
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<td>67.696152</td>
<td>Mazar-i-Sharif, 20 km E</td>
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<td>Mazar-i-Sharif, 57-75 km W</td>
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<td>66.304779</td>
<td>Pass to Dasht-i-Nawar [=Dasht-i-Nawur]</td>
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<td>Mazar-i-Sharif, 65-75 km W</td>
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<td>66.304779</td>
<td>Pesh Valley [Nuristan Prov.]</td>
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<td>70.773468</td>
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<td>Meiden Khula, about 30 mi ENE of Gardez</td>
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<td>69.542541</td>
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<td>70.773468</td>
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<td>Pol Khomri [=Pol-e Khomri]</td>
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<td>Murichaq, N Bala Murghâb [=Bala Morgab]</td>
<td>35.759886</td>
<td>63.35266</td>
<td>Pul-e-Khumeri [1300 m]</td>
<td>35.951052</td>
<td>68.708096</td>
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<tr>
<td>N edge of village of Kara Bagh</td>
<td>34.944488</td>
<td>61.775894</td>
<td>Pul-e-Khumri [Baghlan Prov., 1300 m]</td>
<td>35.951052</td>
<td>68.708096</td>
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<td>Narâi (NW of)</td>
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<td>69.637771</td>
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<td>36.109034</td>
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<td>33.82023</td>
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<td>Qula Nau, just N of Ghazni</td>
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<td>NE Dashi-Deab n. of Kabul (Kundus R.)</td>
<td>34.998504</td>
<td>69.218445</td>
<td>Qula-e-Bagrau, 5 km W of Ghazni</td>
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<td>Nemla [=Memlah], near Jalalabad</td>
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<td>70.1028</td>
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<tr>
<td>Nimla [=Memlah], 5-10 mi ENE</td>
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<td>Qalat, 10 mi N</td>
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<td>Noburtscha, on road to Dasht-i-Nawar</td>
<td>33.619194</td>
<td>68.124619</td>
<td>Qalat, 24-50 km N</td>
<td>32.400835</td>
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<tr>
<td>nr Paghman River, 10 km SW of Kabul</td>
<td>34.595346</td>
<td>68.952827</td>
<td>Qalat, 24-50 km S</td>
<td>31.854231</td>
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<td>Nr Tarnak River, 90 km NE of Kandahar</td>
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<td>66.790466</td>
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<td>32.495864</td>
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<td>Qalat, 50 km S</td>
<td>31.672083</td>
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<tr>
<td>Oarya-e-Matum, vic. of Khost</td>
<td>33.348885</td>
<td>69.92157</td>
<td>Qalat-Ghilzai</td>
<td>32.103516</td>
<td>66.90628</td>
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<tr>
<td>Obêh [=Awbeh, Herat Prov.]</td>
<td>34.369866</td>
<td>63.176265</td>
<td>Qizil Qula [Kunduz Prov., 400 m]</td>
<td>37.190476</td>
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<td>35.348736</td>
<td>63.434143</td>
<td>Qalat</td>
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<tr>
<td>on road to Thor Khama, 8 km ESE of Jalalabad</td>
<td>34.391046</td>
<td>70.534515</td>
<td>Quâl'eh Lakou, near the valley of Kabul</td>
<td>31.711813</td>
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<tr>
<td>on Tarnak River, 50 km NE of Kandahar</td>
<td>31.872893</td>
<td>66.076353</td>
<td>Quandher [=Kandahar], 32 km NE</td>
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<td>66.16745</td>
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<td>Rabatak</td>
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<td>64.478302</td>
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<td>Salang Pass</td>
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<td>Samangan, 12 km NW</td>
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<td>34.631372</td>
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<td>Sang-Hadjî [= Sang-e Hajeh]</td>
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<td>Paghman, 4 km above</td>
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<td>Sanglakh, 60-80 km W of Kabul</td>
<td>34.572168</td>
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<td>Pandjwai [=Panjwai], nr. Kandahar</td>
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<td>65.457802</td>
<td>Sar-pol [=Sar-e-Pol], 10 km around</td>
<td>36.225442</td>
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<td>Panjao, Koh-i-Baba</td>
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<td>34.410309</td>
<td>67.013111</td>
<td>SE of Zehak</td>
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<td>Lat</td>
<td>Long</td>
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<td>Long</td>
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<td>36.89939</td>
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<td>32.502813</td>
<td>67.818146</td>
</tr>
<tr>
<td>Shiberghan, 30 km NW</td>
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<td>32.502813</td>
<td>67.818146</td>
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<td>35.122155</td>
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<td>Yabowlang [=Yakawlang] to Band-i Ahair pass</td>
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<td>36.52895</td>
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<td>Somarkhel, right bank of Kabul River</td>
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<td>31</td>
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Appendix 2

Bibliography of published references relating to the Afghan herpetofauna to supplement the references listed in the Literature section above.


BLANFORD, HENRY FRANCIS. 1873. *The Rudiments of Physical Geography for the Use of Indian Schools, Together with a Sketch of the Physical Structure and Climate of India, and a Glossary of the Technical Terms Employed*. Thacker, Spink and Co., Calcutta, India. viii + 169 pp., figs. 1–17. (First mention of a probable ancient land connection of India with the Seychelles Islands and Southern Africa: “Certain animals, whose remains are found fossil in the Panchét rocks, are closely related to kinds hitherto only met with in South Africa and Australia, in rocks of about the same age; and in the existing fauna of India there are many indications of relationship, and some cases of identity, with the South African and Seychelles fauna, pointing to a common origin, and therefore to a former communication between the two regions.” [p. 119])


BOULENGER, GEORGE ALBERT. 1891. A contribution to the knowledge of the races of *Rana esculenta* and their...


57:1–39.


Rastegar-Pouyani, Nasrullah. 1999. Systematics and Zoogeography of the Agamid Lizards of Iran. Ph.D. Dissertation. Göteborg University, Göteborg, Sweden. v + 176 pp. (This dissertation is a collection of individual papers previously published elsewhere, including papers published jointly with others, or currently in press, plus an introduction summarizing the findings and conclusions. This appears to me to

The paper by Rastegar-Pouyani (1999; Asiatic Herpetological Research, vol. 8) contains two new taxa, Trapelus agilis khuzistanensis Rastegar-Pouyani, 1999 and Trapelus agilis pakistanensis Rastegar-Pouyani, 1999.)

Rastegar-Pouyani, Nasrullah. 2000. Taxonomic status of Trapelus ruderatus (Olivier) and T. persicus (Blanford), and validity of T. lessonae (De Filippi). Amphibia Reptilia 21([31 March]):91–102, figs. 1, 2–3[maps], tables 1–2.


Sokolov, V.E., ed. 1983. [Ecology and Biogeography in Afghanistan]. Institute of Evolutionary Morphology
and Animal Ecology, USSR Academy of Sciences, Moscow, Russia. 208 pp. (In Russian.)


STÜMPFL, NIKOLAUS, AND ULRICH JoGER. 2009. Recent advances in phylogeny and taxonomy of Near and Middle Eastern vipers — an update. ZooKeys 31:179–191, figs. 1, 2–3[maps], 4–9, table 1. (Online: doi:10.3897/zookeys.31.138)


figs. 1–18.


**Wüster, Wolfgang.** 1998. The cobras of the genus *Naja* in India. *Hamadryad* 23([June]):15–32, fig. 1, 10 tables. (Publication date of issue shown as 31 June [clearly a typographical error]).


Tetram erium pauciflorum (Acanthaceae: Justicieae): a New Species from the Basin of the Río Balsas in Michoacán, Mexico

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Tetram erium pauciflorum, a local endemic in the Infiernillo region of the arid basin of the Río Balsas Michoacán, Mexico, is newly described and illustrated. It is distinguished from its congeners by the combination of the following characters: shrubby and somewhat thorny habit; linear to lance-linear leaves; pubescent (eglandular and glandular trichomes), lanceolate to lance-subulate, and entire bracts that are 6–10 mm long; 5-lobed calyx; pseudopapilionaceous and whitish (with purple markings) corollas; and pubescent capsules that are 4.5–5.5 mm long. It is compared to two superficially similar congeners that also occur in the Balsas basin, T. butterwickianum and T. vargasiae. A provisional conservation assessment of Least Concern is proposed for T. pauciflorum.

KeyworDs: Tetramerium, Michoacán, Mexico, endemic species, pollen

Se describe e ilustra Tetramerium pauciflorum como especie nueva de la región Infiernillo de la cuenca árida del Río Balsas en Michoacán, México. Se distingue de sus congéneres por la combinación de los siguientes caracteres: hábito arbustivo y más o menos espinoso; hojas lineares a lanceoladas-lineares; brácteas pubescentes (con ambos tricomas glandulares y eglandulares), lanceoladas a lanceoladas-subuladas, enteras, y 6–10 mm de largo; caliz con 5 lóbulos; corolas pseudopapilionáceas y blanquecinas (con marcas de color purpura); y cápsulas pubescentes y 4.5–5.5 mm de largo. Se compara la especie nueva con dos congéneres similar que también se ocurren en la cuenca del Balsas, T. butterwickianum y T. vargasiae. Se propone una evaluación de la conservación provisional de “Least Concern” para T. pauciflorum.

The Río Balsas Basin in western Mexico is a region of considerable botanical richness and endemism (e.g., Fernández et al. 1998; Rodríguez-Jiménez et al. 2005; Lott and Atkinson 2006), and Rzedowski (1978) treated its lower elevations as the Balsas Depression Floristic Province. The region is rich in Acanthaceae, and at least 13 species of the family are endemic there (see Daniel and Steinmann 2007 for a discussion of Acanthaceae in the region). Tetramerium Nees consists of 30 currently recognized Neotropical species, at least 10 of which have been reported as occurring in the Río Balsas Basin of Guerrero and Michoacán (Daniel 1986; Daniel and Cruz Durán 2016). To these we add another one from the Infiernillo region, which is centered around the Presa Infiernillo, a reservoir resulting from the damming of the Río Balsas just downstream from its confluence with the Río Tepalcatepec. The Infiernillo region in southern Michoacán and adjacent Guerrero is the hottest and driest portion of the Río Balsas Basin, and it is an important center of local endemism (Guevara-Fefer and Rzedowski 1980).
Tetramerium pauciflorum T.F. Daniel & V.W. Steinmann, sp. nov.

*Tetramerium pauciflorum* is distinguished from its congeners by the combination of its shrubby and somewhat thorny habit; linear to lance-linear leaves; pubescent (e glandular and glandular trichomes), lanceolate to lance-subulate, and entire bracts that are 6–10 mm long; 5-lobed calyx; pseudopapilionaceous and whitish (with purple markings) corollas; and pubescent capsules that are 4.5–5.5 mm long.

**Type.**—MEXICO. Michoacán: Mpio. La Huacana, ca. 4 km SE of San Pedro Barajas, along MEX 37, hills W of El Limoncito, 18°46'59"N, 102°01'17"W, 315 m, scrublike tropical deciduous forest, 21-II-2002, V. Steinmann, E. Carranza, & E. Pérez 2310 (holotype: MEXU!; isotypes: CAS!, RGA!). Figures 1, 2.

Spindly and intricately branched shrub to 1 m tall, distal branches spreading at angles of 45° or more, sometimes sharp-pointed at apex. Young stems pubescent with retrorse eglandular trichomes 0.05–0.1 (–0.3) mm long, trichomes ± evenly to 2-fariously disposed. Leaves often absent during anthesis, subsessile to petiolate, petioles to 3 mm long, blades linear to lance-linear, 12–30 mm long, 0.6–3 mm wide, 10–25 × longer than wide, acute at apex, acute at base, surfaces (especially along midvein abaxially) pubescent with erect to antrorse eglandular trichomes 0.05–0.2 mm long, margin usually ciliate with similar trichomes. Inflorescence of densely bracteate terminal (mostly at apex of short axillary branches) 1–2-flowered spikes to 13 mm long (excluding flowers), 4–6 mm in diameter near midspike, rachis (if present) not visible. Bracts erect, lanceolate to lance-subulate, 6–10 mm long, 0.7–1.2 mm wide, 6–8.6 × longer than wide, attenuate and mucronate at apex, abaxial surface with midvein (only) evident and prominent, puberulent with erect eglandular, sub glandular, and glandular trichomes to 0.05 mm long and sparsely pubescent with an overstory of flexuose eglandular trichomes 0.1–0.4 mm long, margin and adaxial surface densely shaggy pubescent with flexuose eglandular trichomes to 1.3 mm long. Bracteoles lance-subulate, 4–5 mm long, 0.4–0.6 mm wide, abaxial surface and margin pubescent like bracts. Calyx 5-lobed, 3 mm long, lobes 2–2.5 mm long, abaxially and marginally pubescent like bracts (although glandular trichomes sometimes more conspicuous). Corolla ± pseudopapilionaceous, white with maroon veins outlining light purple regions on upper lip, 12.5–16.5 mm long, external-ly glabrous (margins of lobes ciliate), tube 3–5 mm long, 0.8–1 mm in diameter at base, 0.8–1.4 mm in diameter at apex, upper lip spatulate to obovate, 7–11 mm long, 3–4 mm wide, lower lip 7.5–12 mm long, lateral lobes 7–11.5 mm long, 2.5–4 mm wide, lower-central lobe 6.5–10.5 mm long, 3.5–4.4 mm wide. Stamens 6–8 mm long, filaments pubescent near base, thecae 1.2–1.5 mm long; pollen 3-colporate, 6-pseudocolpate, polar diameter (P) 50–52 µm, equatorial diameter (E) 26–27 µm, P:E = 1.84–1.98. Style 10–11 mm long. Capsule 4.5–5.5 mm long, pubescent with erect to flexuose eglandular trichomes 0.05–0.1 mm long, head 3–4 mm long. Seeds plano-convex, 1.6–1.7 mm long, 1.3–1.4 mm wide, surface and margin covered with ± conic papillae.

**Phenology.**—Flowering: November, February, May; fruiting: February, May. Plants collected in September bear abundant leaves, but lack flowers and fruits; plants collected in November, February, and May are leafless or nearly so, but fertile. Flowering likely occurs during the entire dry season from November through May.

**Distribution and Habitat.**—Mexico (south-central Michoacán). Plants occur on nearly vertical rocky cliffs in tropical deciduous forest (with *Hechtia* and *Agave*) at elevations of 250–400 m.

**Conservation Assessment.**—*Tetramerium pauciflorum* is endemic to the western portion of the basin of the Río Balsas, where it has been collected from two regions ca. 30 km apart – in the valleys of the Río Marquez in the north and the Río Tepalcatepec in the south. Two collections
Figure 2. *Tetramerium pauciflorum*. A. Inflorescence with flower from front showing colored markings on upper lip and spreading lower lip of corolla. B. Inflorescence with flower from side showing separation of anthers and stigma and cottony pubescence of bracts, bracteoles, and calyx. C. Sterile plant with leaves in September. D. Close up of leafy shoots in September. E. Habitat on steep, rocky slopes and numerous leafless plants of *T. pauciflorum* in May (e.g., see red arrows). A, B, E from Steinmann & Ramírez-Amezcua 5414; C, D from Steinman & Ramírez-Amezcua 8089.
(Steinmann & Ramírez-Aomezua 5414 and 8089) were made from nearby sites at the northern locality, and the type and remaining paratypes were made at the southern locality. The extent of occurrence (EOO) is ca. three km² and the area of occupancy (AOO; with grid cell area of four km²) is eight km². Field observations reveal that the species is rare within the EOO, but it can be locally abundant where it occurs (Fig. 2E). Although there is considerable agricultural development in the vicinity of the northern collections, plants occur on (or are possibly restricted to) steep (nearly vertical) and rocky slopes where habitat destruction is less than in surrounding areas. Furthermore, the southern locality is in the Zicuirán-Infiernillo Biosphere Reserve, where active efforts to conserve the vegetation are underway. Because no known threats, declines in population size/habitat quality, or extreme fluctuations can be identified at present, in spite of its limited distribution based on the calculated EOO and AOO, this species is provisionally assessed as Least Concern (LC) based on the IUCN criteria and guidelines (IUCN 2016).

**Paratypes.**—MÉXICO. Michoacán: Mpio. La Huacana, ca. 4 km SE of San Pedro Barajas, along MEX 37, hills W of El Limoncito, 18°46′59″N, 102°01′17″W, V. Steinmann 3907 (CAS, MEXU); V. Steinmann et al. 2688 (CAS, MEXU); Mpio. Múgica, 5.5 km NE de la salida a Nueva Italia por la autopista Lázaro Cárdenas–Morelia, cañada que baja al Río El Marqués debajo del puente de la autopista, 19°02′00″N, 102°03′20″W, V. Steinmann & Y. Ramírez-Aomezua 5414 (CAS, MEXU); Mpio. Múgica, 5.5 km NE de la salida a Nueva Italia sobre la autopista Morelia-Lázaro Cárdenas, 19°01′57″N, 102°03′12″W, V. Steinmann & Y. Ramírez-Aomezua 8089 (CAS, MEXU, RSA).

Flowers of *Tetramerium pauciflorum* are typical for species in sect. *Tetramerium*, in which the somewhat keel-like lower lip of the pseudopapilionaceous corolla acts both as a landing platform for floral visitors (including pollinators) and as a structural device to aid or ensure self-pollination as the corolla falls from the plant. This pattern was described and illustrated in some detail by Daniel (1986), especially for *T. nervosum* Nees. Herkogamy in *T. pauciflorum* can be somewhat more extreme than commonly seen in other species of sect. *Tetramerium* with the stigma extended.

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**Figure 3.** Pollen of *Tetramerium pauciflorum* (Steinmann 3907). A. Apertural view. B. Interapertural view.
beyond the anthers by up to 4 mm during anthesis (Fig. 2b). Pollen of *T. pauciflorum* (Fig. 3) resembles that of other species of the genus (Daniel 1986, 1998) in both size and sculpturing.

A characteristic of this species that appears to be unique in the genus is the terminal inflorescences that bear only one or two flowers in what appear to be mature spikes. Other species have from 4 (rare) up to 40 or more flowers per spike. Morphologically, *T. pauciflorum* appears similar to two other congeners that occur in the Balsas basin, *T. vargasiae* T.F. Daniel & Cruz Durán and *T. butterwickianum* T.F. Daniel. Whereas the former species is known only from Guerrero (ca. 300 km southeast of the nearest locality of *T. pauciflorum*), the distribution of *T. butterwickianum* overlaps that of *T. pauciflorum* in the Municipio of La Huacana. Although these two species occur within about 3.5 km of each other near Nueva Italia, they have not been found growing together. These three species, which pertain to section *Tetramerium* (Daniel 1986), all are somewhat thorny shrubs with ± divaricate branches, linear to lanceolate leaves, and white corollas. Table 1 summarizes distinctions among them, and the following key also serves to identify them:

Table 1. Morphological characteristics of three species of *Tetramerium*.

<table>
<thead>
<tr>
<th>Species</th>
<th>Young stem pubescence</th>
<th>Length: width of leaf blades</th>
<th>Flowers per spike</th>
<th>Spike length (excluding corollas)</th>
<th>Bract length: width</th>
<th>Bract length: width</th>
<th>Length of apical mucro of bract</th>
<th>Venation of abaxial surface of bracts</th>
<th>Calyx lobes</th>
<th>Corolla length</th>
<th>Capsule pubescence</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>T. butterwickianum</em></td>
<td>erect to retrorsely appressed</td>
<td>4–8</td>
<td>4 or more to 120 mm</td>
<td>5–6.5 × 1.5–3 mm</td>
<td>2.3–3.3</td>
<td>0.2–0.5</td>
<td>3 veins prominent</td>
<td>4</td>
<td>14–21 mm</td>
<td>pubescent</td>
<td></td>
</tr>
<tr>
<td><em>T. pauciflorum</em></td>
<td>retrorse</td>
<td>10–25</td>
<td>1–2 to 12 mm</td>
<td>6–10 × 0.7–1.2 mm</td>
<td>6–8.6</td>
<td>0.8–1.2</td>
<td>only midvein evident</td>
<td>5</td>
<td>12.5–16.5 mm</td>
<td>pubescent</td>
<td></td>
</tr>
<tr>
<td><em>T. vargasiae</em></td>
<td>antorse to antrorsely appressed</td>
<td>16.7–18.9</td>
<td>4 or more to 46 mm</td>
<td>16–19 × 1.8–3.2 mm</td>
<td>7.4–10</td>
<td>0.5–0.6</td>
<td>3 veins ± obscure to prominent</td>
<td>5</td>
<td>20 mm</td>
<td>glabrous</td>
<td></td>
</tr>
</tbody>
</table>

ACKNOWLEDGMENTS

We thank Nicole Bollinger, 2008 intern in biological illustration at the California Academy of Sciences, for the illustration of *Tetramerium pauciflorum* and Scott Serata for assistance with scanning electron microscopy of pollen. Yocupitzia Ramírez Amezcuca and Eleazar Carranza González assisted with field work.
LITERATURE CITED


On *Eremiasphecium arabicum* Pulawski and *Eremiasphecium sahelense* Simon Thomas (Hymenoptera: Crabronidae)

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*Eremiasphecium arabicum* Pulawski, 1992 is first recorded from Mauritania, and *Eremiasphecium harteni* Simon Thomas, 1994 is recognized as a junior synonym of *Eremiasphecium sahelense* Simon Thomas, 1994.

The two species discussed here show a similar distribution range: they are known from West Africa and the Arabian Peninsula. The gap almost certainly results from inadequate sampling in the southern Sahara area.

*Eremiasphecium arabicum* Pulawski


This species was described from a single female collected in El Riyadh, Saudi Arabia (Pulawski, 1992), and subsequently recorded from the United Arab Emirates by Schmidt Egger (2011), who described the male and a significant color variation in the female. It is here reported from Mauritania.

*Eremiasphecium arabicum* (Fig. 1) can be recognized by the following character combination: three submarginal cells, second cell petiolate, third cell as wide anteriorly as posteriorly, head round in front view (neither transverse nor elongate), basal flagellomeres shorter than wide, and the apical process of the female forebasitarsus short (its length about 1.7 x midocellar diameter).

The Mauritanian females, although not identical to any of the four color forms recognized by Schmid-Egger, fall well within the range of the species chromatic variation described by him. They differ from the holotype by an all black clypeus and pronotal lobe and the femora all pale yellow.

Records (Fig. 2).—Mauritania: 16 km SE Nouakchott, [no day] Nov 1993, Franco Borgato (4 ♀, 10 ♂, California Academy of Sciences). Saudi Arabia: El Riyadh (1 ♀, California Academy of Sciences, holotype of *Eremiasphecium arabicum*). United Arab Emirates (Schmid-Egger, 2011, 2014): 40 km NW Al-Ain Sweihan, Al-Ajban, N Ajman, Jebel Hafit S Al-Ain, Al-Wasit Protected Area, Al-Rafah, Dubai: Nakhalai, Um Al-Quwain, Wadi Shawkah.
FIGURE 1. Female of *Eremiasphecium arabicum* Pulawski in lateral view.

FIGURE 2. Collecting localities of *Eremiasphecium arabicum*.
Eremiasphecium sahelense (Simon Thomas)


Simon Thomas (1994) described Eremiasphecium sahelense (Fig. 3) from Senegal and Eremiasphecium harteni from Yemen, placing them in his new genus Xanthosphecium because of the presence of only two submarginal cells. The first species was based on two females, and the second on a single female. In 1996, he correctly synonymized Xanthosphecium with Eremiasphecium. Simon Thomas distinguished the two species by the details of their coloration, and by the presence of “some pubescence” on the gena in E. sahelense and its absence in harteni. In 2011 Schmid-Egger documented a significant color variation in E. harteni.

I was able to collect 26 females and six males of E. sahelense in Mauritania in October and November 1993, and 32 females and 44 males in Niger in August and September 2005. A study of these specimens demonstrates that the supposed differences between the two species represent just individual variation. For example, the black area on the propodeal posterior surface varies from wide to linear (linear in E. harteni), and the entire surface is yellow in one specimen; most Mauritanian females have a black, basal spot on the gastral terga, but one has the terga all yellow (as in E. harteni); and the gena is glabrous (as in E. harteni). I conclude that the two species are conspecific, and therefore synonymize them. The two names were published in the same paper, and acting as First Reviser (Article 24.2.2 of the Code on Zoological Nomenclature) I hereby select E. sahelense as the valid name, and E. harteni as its junior synonym.

Eremiasphecium sahelense is unique among its congeners in having only two submarginal cells (rather than three).

Records (Fig. 4) (West African specimens were collected by the author and are preserved in the California Academy of Sciences).—Mauritania: 16 km NE Nouakchott, 27 Oct 1993 (1 ♀); 32 km S Nouakchott, 6 Nov 1993 (24 ♀, 5 ♂); Tayart (7 km W Atar), 21 Oct 1993 (1 ♂); 25 km SW Tijikja, 30 Oct 1993 (1 ♀). Niger: Agadez Region: 0.5 km SE Aderbissinat at 15°36.9′N 7°54.0′E, 10 Aug 2005 (10 ♀, 10 ♂). Diffa Region: 54 km NE Diffa at 13°42.3′N 12°55.8′E, 25 Aug 2005 (1 ♀, 2 ♂); 36 km SW Diffa at 13°11.3′N 12°17.4′E, 23 Aug 2005 (1 ♀, 2 ♂); 15 km W Goudoumari at 13°42.8′N 11°03.9′E, 30 Aug 2005 (1 ♀); 3 km NNE Nguigmi at 14°16.5′N 13°06.9′E 26 Aug 2005 (2 ♀, 2 ♂); 8 km ENE Nguigmi at 14°17.2′N 13°10.1′E, 27 Aug 2005 (2 ♀, 2 ♂); 13 km SW Nguigmi at 14°10.3′N 13°01.3′E, 29 Aug 2005 (5 ♀, 1 ♂); 34 km SW Nguigmi at 13°58.8′N 12°58.2′E, 29 Aug 2005 (1 ♀). Tahoua Region: 60 km E Madaoua at 13°49.2′N 6°23.7′E, 2 Sept 2005 (1 ♂) Tillabéri Region: 13 km N Namey at 13°32.6′N 2°16.4′E, 14 Sept 2005 (2 ♀, 1 ♂); 82 km ESE Téra at 13°51.1′N 1°31.3′E, 10 Sept 2005 (3 ♀). Zinder Region: 15 km N Gouré at 14°07.0′N 10°12.4′E, 21 Aug 2005 (2 ♀); 63 km E Gouré at 13°42.9′N 10°45.1′E, 22 Aug 2005 (2 ♀, 1 ♂); 4 km E Guidiguir at 13°41.7′N 9°51.9′E, 19 Aug 2005 (1 ♀, 1 ♂); 27 km W Guidiguir at 13°40.9′N 9°39.1′E, 19 Aug 2005 (1 ♀, 7 ♂); 23 km NW Magaria at 13°06.4′N 8°42.9′E, 18 Aug 2005 (5 ♂); 49 km NW Tanout at 15°11.7′N 8°27.1′E, 8 Aug 2005 (2 ♀, 1 ♂). Senegal: 25-35 km S Richard Toll (Simon Thomas, 1994). United Arab Emirates (Schmid-Egger, 2011, 2014, as E. harteni): Al-Ajban, N Ajman, Al-Rafah, Ra’s al-Khaimah–Dibba, Um al-Qwain, Wadi Madaq.
FIGURE 3. Female of *Eremiasphecium sahelense* Simon Thomas in lateral view.

FIGURE 4. Collecting localities of *Eremiasphecium sahelense*. 
ACKNOWLEDGMENTS

I am indebted to Robert L. Zuparko for having reviewed and improved the manuscript, to Jere Schweikert for having created a database of localities with their coordinates, and to Erika Garcia for generating the distribution maps.

REFERENCES


A New Species of the Genus Palarus
(Hymenoptera: Crabronidae)

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A new species, Palarus inexspectatus, is described from Dubai. It is closely similar to Palarus jaxartensis Pulawski and Prentice, from which it differs by details of the elevation of sternum II and color, the male also by the venter of flagellomeres II-IX distinctly angulate near the midlength, the presence of a midtibial spur, and the shape of tergum VII. Three females and two males were collected on flowers of Heliotropium kotschyi Gürke (Boraginaceae), and one male on those of Calligonum comosum L’Herit (Polygonaceae). One prey, a male of Bembix hauseri Schmid-Egger, was taken from a nesting female. The nest, a sloping burrow, had been excavated.

When Pulawski and Prentice published their revision of Palarini in 2008, it was hoped that all the world species were included. In 2016, however, Sarah Gess collected seven specimens of an undescribed Palarus in Dubai that she submitted to Wojciech Pulawski for examination and description. Data on habitat, flower associations, prey and nest are those of Sarah Gess.

Palarus inexspectatus Pulawski, species nova

Figures 1–6

NAME DERIVATION.— Inexspectatus, Latin for unexpected; with reference to the surprising discovery of this species.

POSITION WITHIN GENUS.— Palarus inexspectatus is a member of the variegatus species group. As such, it is characterized by the presence on sternum II of an elevated, transverse crest, the female pygidial plate with minute but well-defined longitudinal ridges, and the male pygidial plate bidentate apically and raised above the apex of tergum VII. The outer apical spines of female hindtarsomeres II and III, however, are slightly longer and thicker than in the other members of the group. The species obviously lacks the defining characters of the interruptus, histrio, and the maculatus groups (see Pulawski and Prentice, 2008).

Within the group, the new species resembles most closely Palarus jaxartensis Pulawski and Prentice. Both species share the following unique character combination: genal setae sinuous, some setae close to hypostomal carina slightly longer than midocellar width, least interocular distance about equal to midocellar width, female sternum II with non-dentate crest and a short, transverse platform just behind it (posterior margin of platform almost rectilinear), distance between crest and platform’s posterior margin shorter than midocellar width, length of apical depression markedly greater than midocellar width, and male forebasitarsal venter with black, elongate spot.
TABLE 1. Comparison with *Palarus jaxartensis*. —The two species differ as follows:

<table>
<thead>
<tr>
<th>Character</th>
<th><em>Palarus jaxartensis</em></th>
<th><em>Palarus inexspectatus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Color of body maculae</td>
<td>pale yellow</td>
<td>brownish yellow</td>
</tr>
<tr>
<td>Color of frons</td>
<td>yellow up to about midheight</td>
<td>yellow only lateroventrally and between antennal sockets</td>
</tr>
<tr>
<td>Color of female gena</td>
<td>largely yellow</td>
<td>black</td>
</tr>
<tr>
<td>Color of flagellum</td>
<td>yellow or brown dorsally</td>
<td>all black</td>
</tr>
<tr>
<td>Color of mesopleuron</td>
<td>all or largely yellow</td>
<td>all black except yellow anterior to episternal sulcus</td>
</tr>
<tr>
<td>Color of propodeum</td>
<td>at least side of dorsum yellow</td>
<td>all black</td>
</tr>
<tr>
<td>Female sternum II: dentate carina immediately behind crest</td>
<td>absent</td>
<td>present</td>
</tr>
<tr>
<td>Color of female foretarsal venter</td>
<td>all yellow</td>
<td>with round, black, preapical spot</td>
</tr>
<tr>
<td>Venter of male flagellomeres</td>
<td>evenly convex</td>
<td>flagellomeres II-IX angulate</td>
</tr>
<tr>
<td>Apicomedian setae of male forecoxa</td>
<td>short, not forming a brush</td>
<td>long, forming a brush</td>
</tr>
<tr>
<td>Male midcoxal venter</td>
<td>flattened</td>
<td>not flattened</td>
</tr>
<tr>
<td>Male midtibial spur</td>
<td>absent</td>
<td>present</td>
</tr>
<tr>
<td>Lateral pygidial process of male</td>
<td>not extending beyond tergal apex</td>
<td>extending beyond tergal apex</td>
</tr>
<tr>
<td>Elevation of male sternum II</td>
<td>posterior margin even</td>
<td>posterior margin undulate laterally</td>
</tr>
</tbody>
</table>

**DESCRIPTION.**—Least interocular distance about 1.0–1.2 × midocellar width in female, 1.1–1.3 × in male. Occipital carina separated from eye margin at vertex by about hindocellar length in both sexes. Anterior margin of precoxal mesopleural declivity without angular prominence. Propodeal side finely ridged throughout or ridged only posterodorsally and posteroventrally, punctate except impunctate anteriorly.

Frons yellow laterally up to about midheight (yellow area narrowing dorsally) and between antennal sockets; mandible all yellow basally; scape yellow ventrally, black dorsally; pedicel and flagellum black. Pronotum yellow except black between streptaulus and collar; scutum yellow anterolaterally; scutellum, scutellar flange, metanotum, and metanotal flange brownish yellow; mesopleuron (except yellow preepisternal area), metapleuron, and propodeum black; mesothoracic venter black or yellow posteriorly in female, all yellow in male. Wing membrane nearly hyaline. Foreleg yellow, mid- and hindlegs brownish yellow; foretarsal venter with round, black, preapical spot. Terga brownish yellow except apical tergum black in both sexes.

♀ (Fig. 1).—Genal setae sinuous, those of genal ventral part about as long as midocellar diameter. Dorsal length of flagellomere I 2.0–2.2 × apical width. Adlateral carina of tergum I gradually effaced posterad. Lateral margin of pygidial plate straight or minimally concave at about midlength. Ridges of pygidial plate nearly regular, markedly diverging posterad from midline. Sternum II (Fig. 2): transverse crest simple; transverse, obtusely dentate carina present immediately behind crest (visible only obliquely from behind; located between crest and row of long, erect
setae); with short, transverse platform just behind row of setae, posterior margin of platform sharp both mesally and laterally; distance between crest and posterior margin of platform one midocellar width; apical depression longer than midocellar width; swelling that borders apical depression extending to lateromedian angle of crest, without sharp tubercle. Length 13.8–14.5 mm.

♂.— Free margin of medioclypeus slightly arcuate. Genal setae sinuous, slightly shorter than midocellar width. Longest setae between mandibular condyle and notch slightly longer than midocellar width. Dorsal length of flagellomere I 1.9–2.0 × apical width; venter of male flagellomeres angulate (Fig. 3). Mesothoracic setae posterior of episternal sulcus slightly curved, about 0.5 × as long as midocellar width. Mesothoracic venter, before precoxal sulcus, with most punctures two to three diameters apart, and setae shorter than those on ventral portion of preepisternum. Metasternum setose throughout. Forecoxa without apicomedian platform, with apicomedian brush of dense setae. Midcoxal venter not flattened, with insignificant preapical tubercle, with a few, sparse setae, without posteroventral carina. Midbasitarsus slightly flattened laterally, not curved, its ventral margin with one preapical and one apical, short spine. Midtarsomeres II and III with apicoventral, round, circular, translucent pad. Terminum V with obtuse adlateral carina posteriorly. Tergum VI with adlateral carina. Tergum VII (Figs. 4, 5): pygidial plate concave, emarginate apically, raised above and projecting beyond tergal apex (lateral pygidial process separated from tergal apex by about 0.7 × midocellar width); lateral pygidial process widest anteriorly, processes not connected ventrally by V-shaped carina; side of tergum not markedly concave; adlateral carina evenly curved, not expanded; ventral margin of tergum close to adlateral carina, but largely visible in lateral view; carina broadening apically into rounded flange; setae longest on sides and venter of lateral pygidial process, not upcurved at tergal apex. Sternum II (Fig. 6) with transverse ridge before elevation, anterior margin of elevation even and posterior margin undulating. Sternum V with a few, sparse punctures or densely punctate next to apical depression; associated setae inconspicuous. Sternum VI, on disk, with many well-defined punctures, at least some of which are less than one diameter apart; associated setae inconspicuous, straight; adlateral carina obtuse, inconspicuous, present only basally, not acutely pointed posteriorly. Gonocoxite with narrow sclerotized area adjacent basoventrally to membranous area, with short but well-defined setae in distal third (Figs. 7, 8). Length 13.1–15.0 mm.

COLLECTING SITES.— A description of the collecting sites is given in Gess and Roosenschoon (2016).

HABITAT.— Sparsely vegetated sand dunes.

FLORAL ASSOCIATIONS.— Three females and two males were collected on flowers of *Heliotropium kotschyi* Gürke (Boraginaceae), and one male on those of *Calligonum comosum* L’Herit (Polygonaceae).

PREY.— One prey, a male of *Bembix hauseri* Schmid-Egger, was taken from a nesting female.

NESTING.— A female was observed carrying prey, a male of *Bembix hauseri*, to her nest entrance where she put it down before entering the nest. The nest had been excavated in sand near the base of a large *Heliotropium kotschyi* plant. The burrow of diameter 7 mm sloped down at an angle of 60° to the sand surface for 110 mm. No prey were found in the burrow.


PARATYPES: same locality and collector as holotype, 6 Apr 2016 (1 ♂, Albany Museum; 2 ♀, California Academy of Sciences) and 11 Apr 2016 (1 ♂, 1 ♂, Albany Museum); same data except not Lucerne Farm, dune area, grazing and browsing exclusion plot at 24.82096°N 55.61533°E, 3 Apr 2016 (1 ♂, California Academy of Sciences).
**Figure 1.** *Palarus inexpectatus* – female body in lateral view.

**Figure 2.** *Palarus inexpectatus* – sternum II of female in lateral oblique view.
**Figure 3.** *Palarus inexspectatus* – male flagellum.

**Figure 4.** *Palarus inexspectatus* – male tergum VII in dorsal view.

**Figure 7.** *Palarus inexpectatus* – male genitalia in dorsal view.

**Figure 8.** *Palarus inexpectatus* – male genitalia in lateral view.
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