Zootaxa 4722 (2): 101–128
https://www.mapress.com/j/zt/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.4722.2.1
http://zoobank.org/urn:lsid:zoobank.org:pub:8B48EA63-A94D-441D-93B1-C13E84E7822C

An annotated type catalogue of amphibians and reptiles collected by Nikolay A. Zarudny in Iran and Middle Asia

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Abstract

A complete catalogue is provided for the type specimens of amphibians and reptiles collected by Nikolay A. Zarudny and stored mostly in the herpetological collection of the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZISP), as of August 2018. The collection contains 270 type specimens, representing 51 taxa (species and/or subspecies) of one family of turtles, one amphisbaenia family, five lizard families and four snake families from 74 type localities. As a result of studying Zarudny's collections, mainly from Iran, was the description by A. M. Nikolsky of two new genera, *Microgecko* and *Diplometopon*, and 42 species and subspecies (varieties). Twenty-two of these taxa are regarded currently as valid.

Key words: historical collections, natural history collections, Nikolay A. Zarudny, amphibians, reptiles, type specimens, vouchered material, Zoological Institute

Introduction

The name of Nikolai Alekseevich Zarudny (1859–1919), an outstanding zoologist, geographer and traveler, is widely known to the scientific community. In comparison with the well-known recognition of his contribution to the study of birds, studies in the field of herpetology are much less familiar to zoologists. At present, due to the growing attention to the study of the structure and formation of the biodiversity of Iran, Middle and Central Asia, Zarudny's contribution to this area of zoology requires special study (Ananjeva 2008, 2012, 2017). Contemporaries noted the outstanding ability of Nikolay A. Zarudny to act as a collector who sampled large quantitites of zoological materials during his numerous voyages (Nikolsky 1966). Among them, collections of amphibians and reptiles are of important value and are represented by numerous new records and new species for science (Garanin 2000, Ananjeva 2017). Most of them were contributed to the research collection of the Zoological Museum of the Imperial Academy of Sciences (now the Zoological Institute of the Russian Academy of Sciences) in St. Petersburg.

Specimens collected in Persia (currently Iran), a poorly known country at that time from a herpetological point of view, were presented for the first time by Nikolay A. Zarudny to the collections of the Zoological Institute of the Russian Academy of Sciences.

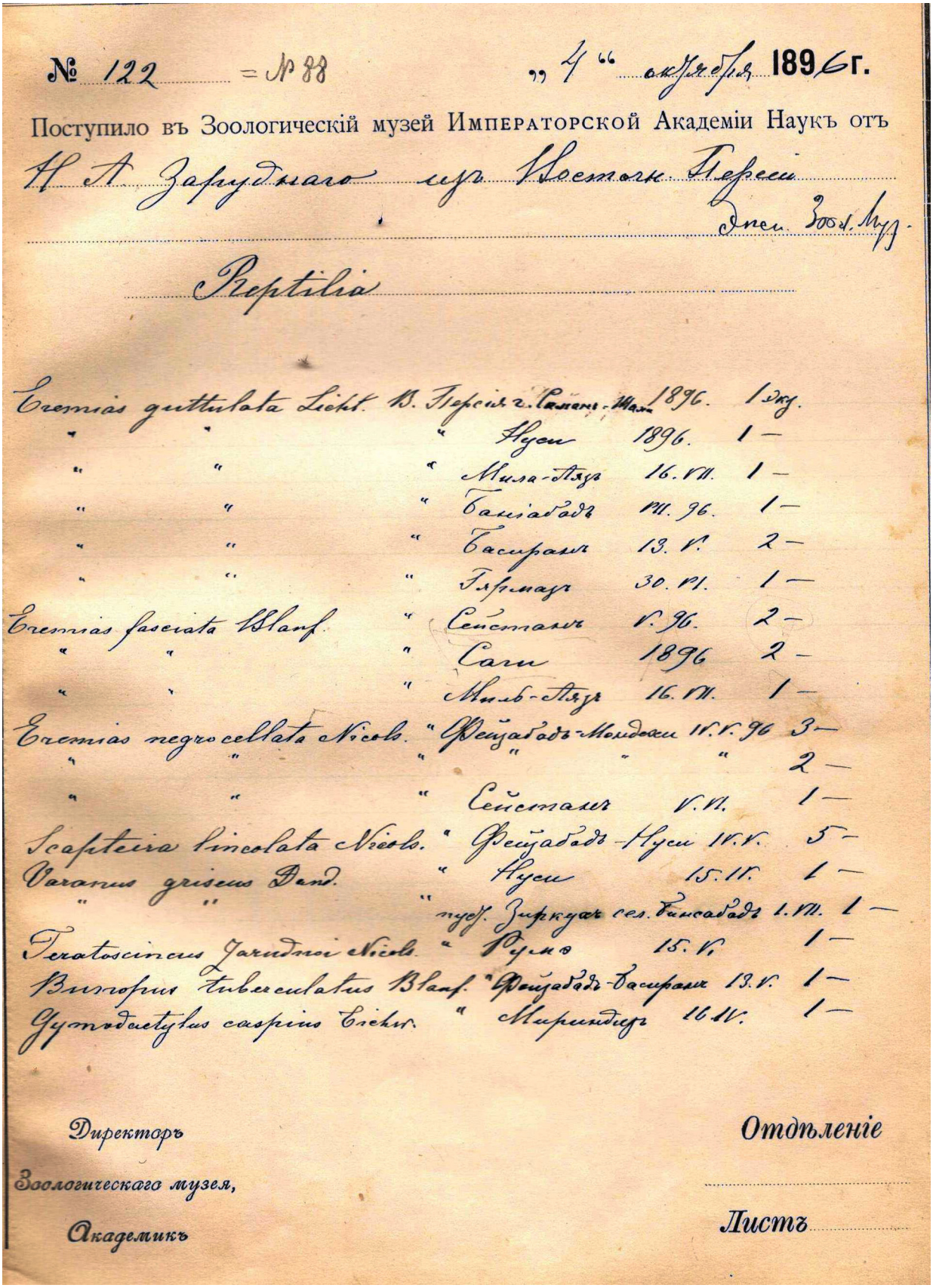
Based on these specimens, a number of new species of amphibians, turtles and squamate reptiles were described. Collections of Nikolay A. Zarudny together with the most valuable material collected by Nikolay M. Przewalsky and other Russian researchers and travelers during their expeditions to Iran and Central Asia during the second half of XIX century and beginning of XX century constitute the "golden fund" of the Zoological Institute of the Russian Academy of Sciences. Studying these specimens prominent herpetologists Alexander A. Strauch, Jacob von Bedriaga, Alexander M. Nikolsky and Sergey F. Tzarewsky described numerous new species of amphibians and reptiles. As results of these descriptions, about 1,000 specimens representing more than 150 taxa of species rank are stored in the herpetological collection. During the identification and description of specimens stored in the Herpetology Department of the Zoological Institute (Milto & Barabanov 2011, 2012; Barabanov & Milto 2017), information was updated on specimens of amphibians, agamids, anguids, dibamids, scincids and varanid lizards,

Accepted by S. Carranza: 27 Nov. 2019; published: 13 Jan. 2020

which were brought by Nikolay A. Zarudny from his expeditions and especially from his travels to Iran. The data on stored specimens and their images is available from the Zoological Institute's website in the section "Research Collections" https://www.zin.ru/Collections/

In the late XIXth–early XXth centuries Nikolay A. Zarudny, a naturalist and traveler with extensive experience in fieldwork to the Orenburg region, the Middle and the Central Asia taught natural science in the Cadet Corps in Russian City of Pskov. During this period of his life, he made his famous journeys through Eastern, Central and Western Persia (Iran) and Balochistan (also Balochistan or Baluchestan). These expeditions were conducted in 1896, 1898, 1890-1901 and 1903-1904 on behalf of and with funds from the Russian Geographical Society, which brought the scientist well-deserved worldwide fame of a zoologist and traveler. The results of the expeditions made it possible for the first time to provide a detailed general geographic and zoological characterization of the investigated territories. To imagine the scale of Zarudny's routes (Fig. 1), it is enough to note that during his first voyage in 1896, the traveler penetrated into Sistan (eastern Iran and southern Afghanistan); in the second (1898), after passing through Sistan, he went deep into the center of Persian Baluchistan to the city of Bampur. On the third voyage (1900-1901), Zarudny crossed the Iranian Plateau at its widest point and explored the Mekran Coast of the Indian Ocean. On the fourth journey (1903-1904), he penetrated Persian Mesopotamia to the Persian Gulf (Bobrinsky 1940; Ananjeva 2008, 2012, 2017; Kovshar 2012) and explored western Persia and the southern coast of the Caspian Sea (Fig.1).

FIGURE 1. Routes of Nikolay Zarudny journeys to Persia in 1896, 1898, 1890–1901 and 1903–1904 (from Bobrinsky, 1940, with changes).



№ 122 = № 88 „4“ октября 1896 г.

Поступило въ Зоологическій музей Императорской Академіи Наукъ отъ

Н. А. Зарудного муз. Восточн. Персіи

Отд. Зоол. Муз.

Reptilia

Eremias guttulata Licht.	В. Персія г. Сарыкамышъ	1896.	1 экз.	
" "	" Нуси	1896.	1 —	
" "	" Мила-Пяд	16. VII.	1 —	
" "	" Банисабадъ	VII. 96.	1 —	
" "	" Басирамъ	13. V.	2 —	
" "	" Гяхмаръ	30. VI.	1 —	
Eremias fasciata Blanf.	" Сейстанъ	V. 96.	2 —	
" "	" Сари	1896	2 —	
" "	" Миль-Пяд	16. VII.	1 —	
Eremias negrocellata Nicols.	" Фейзабадъ-Молджанъ	IV. V. 96	3 —	
" "	" " "	"	2 —	
" "	" Сейстанъ	V. VI.	1 —	
Scapteira bicolata Nicols.	" Фейзабадъ-Нуси	IV. V.	5 —	
Varanus griseus Daud.	" Нуси	15. IV.	1 —	
" "	" пус. Зиркуаръ сел. Банисабадъ	I. VII.	1 —	
Teratoscincus Zarudnii Nicols.	" Фумъ	15. V.	1 —	
Bunopus tuberculatus Blanf.	" Фейзабадъ-Басирамъ	13. V.	1 —	
Gymnodactylus caspius Eichw.	" Мириндеръ	16. IV.	1 —	

Директоръ Зоологическаго музея, Академикъ

Отдѣленіе

Листъ

FIGURE 2. Page from calatogue of Zoological Museum, Imperial Academy of Sciences with notes about Zarudny's collection from Eastern Persia in 1896.

These trips were highly fruitful. The traveler brought a large number of species of animals, which were unknown to science before this time (Zarudny 1897, 1903; Nikolsky 1896, 1897, 1899a, 1899b, 1900, 1903, 1905, 1907, 1915, 1916). Without exaggeration, it should be recognized that the research and collection of Nikolay A. Zarudny became the first and most important stage in the study of the rich and diverse fauna of Persia (Iran). They are of special value these days when it has now become the arena of numerous complex studies conducted by Iranian zoologists, also in the framework of international projects (Rastegar-Pouyani & Nilson, 2002, Nazarov *et al*., 2010, 2017; Šmíd *et al*., 2014, Safaei-Mahroo *et al*., 2015, Rajabizadeh *et al*., 2016; Orlova & Nazarov, 2017, Zarrintab *et al*., 2017, Fathinia *et al*., 2018, among many others). A tribute of respect to our compatriot and recognition of his achievements are reflected in the dedication to N. A. Zarudny (along with De Filippi and Blanford) of the fundamental monograph "The Lizards of Iran" (Anderson, 1999). In it, a photograph of our outstanding compatriot adorns the page about the merits of "three field zoologists who initiated the scientific research of the Iranian herpetofauna" (Anderson, 1999, p. V).

Specimens of amphibians and reptiles sampled by Zarudny, brought from his expeditions and deposited in the Zoological Museum of the Imperial Academy of Sciences always attracted the interest of herpetologists (Fig.2).

The head of the Department of Ichthyology and Herpetology, Alexander M. Nikolsky, examined them immediately after their receipt. It is known that these two outstanding zoologists also were experienced in joint fieldwork. In 1885, Nikolsky and Zarudny visited the Transcaspian region and the northeastern part of Persia (Mazurmovich 1983) together. As a result of studying Zarudny's collections, mainly from Iran, was the description by A. M. Nikolsky of the two new genera, *Microgecko* and *Diplometopon*, and 42 new species and/or subspecies (varieties), many of which currently remain valid, and the status of others has been reviewed in recent years. Among the new species of reptiles A. M. Nikolsky described a number of forms in honor of N. A. Zarudny: *Testudo zarudnyi* Nikolsky, 1896 [= *Testudo graeca zarudnyi* Nikolsky, 1896], *Phrynocephalus raddei* var. *zarudnyi* Nikolsky, *Teratoscincus zarudnyi* Nikolsky, 1897 [=*Teratoscincus keyserlingii* Strauch, 1863], *Gymnodactylus zarudnyi* [= *Mediodactylus russowii zarudnyi* (Nikolsky, 1899)], *Eumeces zarudnyi* Nikolsky, 1900 [= *Eumeces schneiderii zarudnyi* Nikolsky, 1900] and *Diplometopon zarudnyi* Nikolsky, 1907.

The overwhelming majority of type specimens, for which new forms are described, were collected during expeditions to unexplored areas of Iran (Table 1, Fig. 1,4,5).

TABLE 1. List of type localities. The geographical location of the type localities is shown in Figs. 4 and 5. A detailed list of type specimens collected by N. Zarudny with catalogue numbers, original and present names is given in the Results section.

NN	Original name of locality	Modern name of original locality	Coordinates	Taxa described after specimens collected by Nikolay A. Zarudny*
1	Urbs Dizful in Arabistano	Dezful, Khuzestan Province, Iran	32.38 N 48.41 E	*Phyllodactylus eugeniae*, 37 syntypes; *Glauconia hamulirostris*, paralectotype; *Contia brevicauda*, 3 syntypes; *Contia persica* var. *nigrofasciata*, holotype; *Lytorhynchus gaddi*, 2 syntypes
2	Nasrie in Arabistano	Ahvaz, Khuzestan Province, Iran	31.32 N 48.67 E	*Diplometopon zarudnyi*, holotype; *Glauconia hamulirostris*, 6 paralectotypes; *Contia brevicauda*, syntype
3	Flum. Karun	Rud-e Karun, Khuzestan Province, Iran	approx. 31.65 N 48.89 E	*Ablepharus brandtii* var. *brevipes*, 2 syntypes
4	Flum. Abu-Garia (ad flum. Karun)	Abu Karaniyeh River, Khuzestan Province, Iran	approx. 31.65 N 48.89 E	*Phyllodactylus eugeniae*, 2 syntypes
5	Gurschir in Arabistano	Golgi, Khuzestan Province, Iran	31.76 N 49.50 E	*Glauconia hamulirostris*, 6 paralectotypes
6	Bidezar in Arabistano	Bid Zard, Khuzestan Province, Iran	31.68 N 49.58 E	*Microgecko helenae*, paralectotype; *Glauconia hamulirostris*, paralectotype
7	Aguljaschker in Arabistano	Ab-e Lashkar, Khuzestan Province, Iran	31.58 N 49.70 E	*Microgecko helenae*, paralectotype; *Glauconia hamulirostris*, lectotype and 10 paralectotypes; *Eryx persicus*, holotype; *Contia brevicauda*, 2 syntypes

....*Continued next page*

TABLE 1. (Continued)

NN	Original name of locality	Modern name of original locality	Coordinates	Taxa described after specimens collected by Nikolay A. Zarudny*
8	Damdeli in Arabistano	southern foothill of Kuh-e-Sere-Dalleh Mountains, Khuzestan Province, Iran	31.52 N 49.81 E	*Glauconia hamulirostris*, 2 paralectotypes
9	Alchorschir in Arabistano	Alkhorshid, Khuzestan Province, Iran	31.54 N 49.86 E	*Microgecko helenae*, lectotype and 4 paralectotypes; *Glauconia hamulirostris*, 4 paralectotypes
10	Malamir Hollow, ruins of Kale-Madrese settl.	vicinity of Izeh, Khuzestan Province, Iran	31.81 N 49.87 E	*Glauconia laticeps*, syntype
11	Kale-Tol settl.	Qal'eh Tall, Khuzestan Province, Iran	31.63 N 49.89 E	*Glauconia laticeps*, syntype
12	Dech-i-Diz	Dehdez, Khuzestan Province, Iran	31.71 N 50.29 E	*Ablepharus brandtii* var. *brevipes*, syntype
13	Sarchun—Gamdaukal	Sar Khun, Chaharmahal and Bakhtiari Province, Iran	31.74 N 50.56 E	*Glauconia laticeps*, syntype
14	Qahferokh	vicinity of Farokhshahr, Chaharmahal and Bakhtiari Province, Iran	32.27 N 50.97 E	*Phrynocephalus ananjevae*, holotype and 4 paratypes
15	Isfagan in Kuchistano occid.	Isfahan, Isfahan Province, Iran	32.66 N 51.68 E	*Microgecko helenae*, paralectotype
16	Pudeschk-Kupa	Tudeshg, Isfahan Province, Iran	32.72 N 52.67 E	*Phrynocephalus olivieri* var. *carinipes*, lectotype and paralectotype
17	Kochrud in prov. Irak-Adschemi	Ghohrud, Isfahan Province, Iran	33.67 N 51.41 E	*Agama kirmanensis* var. *brevicauda*, holotype
18	Oppid. Kum in prov. Irak-Adschemi	Qom, Qom Province, Iran	34.64 N 50.88 E	*Bunopus crassicauda* var. *flavescens*, holotype
19	Maljat-abad in prov. Irak-Adschemi	Malekabad, Markazi Province, Iran	34.89 N 50.31 E	*Bunopus crassicauda*, paralectotype
20	Chara-Magommed-Abad in prov. Irak-Adschemi	Mohammedabad-Khere, Qazvin Province, Iran	36.02 N 50.07 E	*Bunopus crassicauda*, lectotype
21	Dshandak in Kuchistano occid.	Jandaq, Isfahan Province, Iran	34.04 N 54.42 E	*Phrynocephalus olivieri* var. *brevipes*, 2 paralectotypes; *Phrynocephalus olivieri* var. *carinipes,* paralectotype
22	Descht-i-Kewir Desert (22 versts to the south from Gusein-Nan)	23.5 km south of Hoseinan, Dasht-e Kavir Desert, Semnan Province, Iran	35.03 N 54.59 E	*Phrynocephalus olivieri* var. *brevipes,* paralectotype
23	Deh-i-Mulla (Schachrud)	Dehmolla, Semnan Province, Iran	36.27 N 54.76 E	*Ablepharus persicus*, holotype
24	Nasterabad prope Astrabad	Natrabad near Gorgan, Golestan Province, Iran	36.83 N 54.50 E	*Coluber longissimus* var. *nigra*, holotype
25	Kircher	Khirs-Dere, Ahal Province, Turkmenistan	37.95 N, 57.45 E	*Eryx jaculus czarewskii*, syntype

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TABLE 1. (Continued)

NN	Original name of locality	Modern name of original locality	Coordinates	Taxa described after specimens collected by Nikolay A. Zarudny*
26	Garmab	Germab, Ahal Region, Turkmenistan	38.01 N 57.74 E	*Vipera lebetina turanica*, 2 paratypes
27	Gululi-dag	Gelul Mountains, Ahal Province, Turkmenistan	37.79 N 58.13 E	*Eryx jaculus czarewskii*, syntype
28	Nachduin	Nachduin Mountains, Ahal Province, Turkmenistan	37.66 N 58.37 E	*Eryx jaculus czarewskii*, syntype
29	Urbs Mesched	Mashhad, Razavi Khorasan Province, Iran	36.32 N 59.57 E	*Stellio erythrogaster* var. *pallida*, holotype
30	Naim-abad (Damysan) in Chorosano occident.	Naim-Abad, Razavi Khorasan Province, Iran	36.14 N 58.92 E	*Phrynocephalus olivieri* var. *brevipes*, lectotype
31	Ferimun in Persia orientali	Fariman, North Khorasan Province, Iran	35.71 N 59.85 E	*Stellio erythrogaster*, lectotype
32	Kalender-Abad in Persia orientali	Kalantar, North Khorasan Province, Iran	35.60 N 59.95 E	*Stellio erythrogaster*, paralectotype
33	Eastern Persia, Kale-Minar mountains	northern slope of Qal'eh Manar Mountains, Razavi Khorasan Province, Iran	35.47 N 59.89 E	*Eremias strauchi kopetdaghica*, 4 paratypes
34	Eastern Persia, Kale-Minar mountains	southern slope of Qal'eh Manar Mountains, Razavi Khorasan Province, Iran	35.40 N 59.93 E	*Eremias strauchi kopetdaghica*, paratype
35	Feizabad-Mondechi (Feizabad-Nusi) in Persia orientali	Feyzabad, Razavi Khorasan Province, Iran	35.02 N 58.78 E	*Eremias nigrocellata*, 5 paralectotypes; *Scapteira lineolata*, lectotype and 3 paralectotypes
36	Zirkuh in Persia orientali	between Sangan and Neyazabad, Rasavi Khorasan Province, Iran	34.31 N 60.25 E	*Teratoscincus bedriagai*, paralectotype
37	Eastern Persia, Zirkuh Region, Khous	Khous, Zirkuh District, Ghayen County, South Khorasan Province, Iran	33.99 N 60.01 E	*Phrynocephalus ornatus vindumi*, 5 paratypes
38	Eastern Persia, Zirkuh, after Gyarmakh	Garmaab, Zirkuh District, Ghayen County, South Khorasan Province, Iran	33.92 N 59.82 E	*Phrynocephalus ornatus vindumi*, 7 paratypes
39	Tscharachs in terra Zirkuch	Tscharachs, 28 km from Ahangeran, South Khorasan Province, Iran	33.64 N 60.28 E	*Scapteira persica*, 7 syntypes
40	Eastern Persia, Zirkuh Region, Bamrud aryk	Irrigation canal of Bamrud, Zirkuh District, Ghayen County, South Khorasan Province, Iran	33.64 N 60.08 E	*Phrynocephalus ornatus vindumi*, 9 paratypes
41	Zirkuh in Persia orientali	between Bamrud and Mahmudabad, South Khorasan Province, Iran	33.56 N 60.02 E	*Teratoscincus bedriagai*, paralectotype
42	Rume in Persia orientali	Rum, South Khorasan Province, Iran	33.45 N 59.19 E	*Teratoscincus zarudnyi*, holotype
43	Birdschan	Birjand, South Khorasan Province, Iran	32.87 N 59.22 E	*Testudo zarudnyi*, holotype

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TABLE 1. (Continued)

NN	Original name of locality	Modern name of original locality	Coordinates	Taxa described after specimens collected by Nikolay A. Zarudny*
44	Eastern Persia, Syman-Shakhi	Ssaman Shakhi mountains near Birjand, South Khorasan Province, Iran	32.83 N 59.21 E	*Bufo oblongus*, lectotype and paralectotype
45	Abas village in Zirkukh, Eastern Persia	Abas, South Khorasan Province, Iran	32.95 N 60.26 E	*Eryx miliaris incerta*, holotype
46	Khadji-i-du-Chaghi	Khvajeh Dow Chahi well, Nehbandan County, South Khorasan Province, Iran	31.87 N 60.52 E	*Phrynocephalus ornatus vindumi,* 6 paratypes; *Teratoscincus bedriagai*, lectotype
47	Zirkuh in Persia orientali	between Khvajeh Dow Chahi and Chah-e Gusha wells, South Khorasan Province, Iran	31.79 N 60.54 E	*Teratoscincus bedriagai*, paralectotype
48	Persia orient., Neh	Nehbandan, South Khorasan Province, Iran	31.54 N 60.04 E	*Gymnodactylus longipes*, lectotype and 8 paralectotypes
49	Labe-Ab in Seistano	Lab-e Bareng, Sistan and Baluchestan Province, Iran	31.12 N 61.05 E	*Eumeces zarudnyi*, paralectotype
50	Neizar in Seistano	surroundings of Zabol, Sistan and Baluchestan Province, Iran	approx. 31.03 N 61.49 E	*Eryx miliaris tritus*, 2 syntypes
51	Neizar in Seistano	Near Afsalabad, surroundings of Zabol, Sistan and Baluchestan Province, Iran	31.01 N 61.39 E	*Gymnodactylus agamuroides*, paralectotype
52	Neizar in Seistano	probably between Zabol and Varmal, Sistan and Baluchestan Province, Iran	approx. 30.89 N 61.41 E	*Rana cyanophlyctis* var. *seistanica*, 3 syntypes
53	Neizar in Seistano	probably between Varmal and Chah Nimeh lake, Sistan and Baluchestan Province, Iran	approx. 30.75 N 61.45 E	*Gymnodactylus zarudnyi*, lectotype and 7 paralectotypes; *Teratoscincus bedriagai*, paralectotype
54	Seistan in Persia orientali	between Harmak and Shileh River, Sistan and Baluchestan Province, Iran	30.09 N 60.95 E	*Teratoscincus bedriagai*, 4 paralectotypes
55	Ziaret in Sargado	Meleksiakh-Ziaret, Saragad Region, Sistan and Baluchestan Province, Iran	29.85 N 60.87 E	*Bufo viridis* var. *persica,* paralectotype
56	Duz-Ab in Kirmano orient.	Duz-Abad, Saragad Region, Sistan and Baluchestan Province, Iran	29.50 N 60.86 E	*Bufo viridis* var. *persica*, lectotype and 2 paralectotypes; *Gymnodactylus agamuroides*, paralectotype; *Teratoscincus microlepis*, holotype
57	Kirmanum orientale	vicinity of Mazel-Ab well, Sistan and Baluchestan Province, Iran	29.29 N 60.75 E	*Gymnodactylus kirmanensis*, lectotype and 7 paralectotypes
58	Vikus Degak in terra Dizak, Persia orient.	Dehak, Sistan and Baluchestan Province, Iran	28.99 N 60.54 E	*Alsophylax persicus*, holotype

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TABLE 1. (Continued)

NN	Original name of locality	Modern name of original locality	Coordinates	Taxa described after specimens collected by Nikolay A. Zarudny*
59	Kurin in Kirmano orient.	Kurin, Sargad Region, Sistan and Baluchestan Province, Iran	28.88 N 60.36 E	*Agama kirmanensis*, holotype
60	Flum. Tamin in Sargado	Tamin River, Saragad Region, 20 km SW Ladiz, Sistan and Baluchestan Province, Iran	28.80 N 61.20 E	*Bufo viridis* var. *persica*, 2 paralectotypes
61	Mons Ku-i-tuftan in Sargado	foot of the volcano of Kuh-e Taftan, Sistan and Baluchestan Province, Iran	28.62 N 61.14 E	*Gymnodactylus kirmanensis*, 6 paralectypes
62	Schur-Ab in Kirmano orient.	Shurab, Sistan and Baluchestan Province, Iran	28.15 N 60.29 E	*Eumeces zarudnyi*, paralectotype
63	Pendsch-Sara in Kirmano orient.	Panjsareh, Sistan and Baluchestan Province, Iran	27.98 N 60.18 E	*Gymnodactylus agamuroides*, lectotype
64	Urbs Bazman	Bazman, Saragad Region, Sistan and Baluchestan Province, Iran	27.86 N 60.18 E	*Bufo viridis* var. *persica,* paralectotype; *Eumeces zarudnyi*, lectotype
65	Bampur in Kirmano orient.	Bampur, Sistan and Baluchestan Province, Iran	27.19 N 60.46 E	*Gymnodactylus sagittifer*, lectotype and paralectotype
66	Farra, in Kirmano orient.	Iranshahr, 32 km from Bampur, Sistan and Baluchestan Province, Iran	27.21 N 60.69 E	*Gymnodactylus sagittifer*, paralectotype
67	Sarbaz, Rud-e-Sarbaz River, Eastern Persia	Rud-e-Sarbaz River, Sarbaz, Sistan and Baluchestan, Iran	26.63 N 61.26 E	*Bufo persicus*, 3 syntypes
68	Kelif, Buchara orient.	Kelif, Lebap Province, Turkmenistan	37.36 N 66.31 E	*Phrynocephalus raddei* var. *zarudnyi*, lectotype and 6 paralectotypes; *Eremias bedriagai*, holotype
69	Khadzha-fil	Khodja-Pil, Lebap Region, Turkmenistan	37.95 N 66.63 E	*Vipera lebetina turanica*, paratype
70	Tschubek, Buchara orient.	Chubek, Khatlon Province, Tajikistan	37.61 N 69.71 E	*Agama reticulata*, holotype
71	Golodnaya Step rail-road station, Samarkand Region	Gulistan, Syrdarya Region, Uzbekistan	40.49 N 68.78 E	*Eryx miliaris rarus*, syntype
72	Chomkau-Tau mountains, Khodzhent settl.	near Khujand, Sughd Region, Tajikistan	40.31 N 69.53 E	*Vipera lebetina turanica*, paratype
73	upper and middle stream of Diirman river, Turkestan	Dirmensay, South Kazakhstan Province, Kazakhstan	42.11 N 69.72 E	*Eryx miliaris tritus*, syntype
74	downstream of Ayu-Tur river	Ayutor River, South Kazakhstan Province, Kazakhstan	42.14 N 70.62 E	*Asymblepharus alaicus yakovlevae,* paratype

According to available information from curators, museum catalogues, and databases (Tiedemann *et al*., 1994; Schatti & Perret 1997; Borissenko *et al*., 2001; Pisanets 2001; Vedmederya *et al*., 2009; Frost 2018, Uetz *et al*., 2018,

VertNet 2018) several type specimens were sent to the museums in Europe (London, Great Britain; Wien, Austria, Basel, Switzerland) and to the California Academy of Sciences, United States of America as exchange of collections and are stored there up to these days. Acting from 1903 as professor of Kharkov State University (Kharkiv, Ukraine these days), Nikolsky stored three types of *Glauconia hamulirostris* Nikolsky [=*Myriopholis macrorhyncha* (Jan)] in the Museum of Nature at V. N. Karazin Kharkiv National University. Two types of *G. hamulirostris* Nikolsky [=*Myriopholis macrorhyncha* (Jan)] were sent to the National Museum of Natural History, Kiev in 13.X.1967. One specimen from the type series of *Phrynocephalus ornatus vindumi* Golubev collected by Zarudny is stored in Zoological Museum, Moscow State University.

In the present manuscript, we provide a complete catalogue of the type specimens of amphibians and reptiles collected by N. Zarudny during his expeditions to Iran, the Middle and the Central Asia. The task of the work was to identify the type localities as accurately as possible with determination of geographic coordinates based on the study of his published itineraries, routes and field diaries and localize them on the maps.

Material and methods

Museum abbreviations follow Sabaj (2016), and include: BM: The Natural History Museum, London (formerly British Museum [Natural History]); CAS: California Academy of Sciences, San Francisco; MHNG: Museum d'Histoire Naturelle de Geneve, Switzerland; MNKNU: Museum of Nature at V. N. Karazin Kharkiv National University, Kharkiv, Ukraine; NMB (=NMBA); Naturhistorisches Museum Basel; NMNH: National Museum of Natural History at the National Academy of Sciences of Ukraine, Kiev. NMW: Naturhistorisches Museum Wien; ZISP: Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia; ZMMGU: Zoological Museum, Moscow State University. Designation of "*ex*" denotes the original collection number, now changed.

For the determination of the exact publication dates of the original descriptions published by the Zoological Museum, Imperial Academy of Science, we follow Asanovich, *et al*., (2007). Accurate identification of type localities was made based on the study of N. Zarudny routes, itineraries and field diaries (Zarudny, 1896, 1898, 1902, 1904) as well as the original catalogue notes. To search for coordinates, we used GOOGLE maps (https://www.google.com/maps), the global geographical directory Fallingrain (http://www.fallingrain.com/world/index.html), as well as the topographic maps of the general staff at a scale of 1: 200,000, available as open access on the site http://loadmap.net. The definition of decimal coordinates was carried out with observance of geo-referencing techniques, accurate to the second decimal place.

Results

AMPHIBIA

BUFONIDAE

Bufo oblongus NIKOLSKY (1896: 372)

Lectotype (designated by Stöck *et al.* 2001a):

ZISP 1952.1, adult female, "Eastern Persia, Syman-Shakhi" [Ssaman Shakhi Mountains near Birjand, South Khorasan Province, Iran, 32.8266 N 59.2146 E]. Leg: N. A. Zarudny, 29.IV.1896.

Paralectotype:

ZISP 1952.2, 1 specimen, "Eastern Persia, Syman-Shakhi" [Ssaman Shakhi Mountains near Birjand, South Khorasan Province, Iran, 32.8266 N 59.2146 E]. Leg: N. A. Zarudny, 29.IV.1896.

Present name: *Bufotes oblongus oblongus* (Nikolsky, 1896) *fide* Frost (2018) and Stöck *et al.* (2001b).

***Bufo persicus* NIKOLSKY (1904: 97)**

Syntypes:

ZISP 2263.1-3, 3 adult specimens, "Sarbaz, Rud-e-Sarbaz River, Eastern Persia" [Rud-e-Sarbaz River, Sarbaz, Sistan and Baluchestan, Iran, 26.63 N 61.26 E]. Leg: N. A. Zarudny, 15-16.02.1901.

Present name: *Bufotes surdus surdus* (Boulenger, 1891) *fide* Frost (2018) and Stöck *et al.* (2001b).

***Bufo viridis* var. *persica* NIKOLSKY ("1899" 1900: 406)**

Lectotype (designated by Stöck *et al.* 2001b):

ZISP 2058.3, subadult male, "Duz-Ab in Kirmano orient" [Duz-Abad, Saragad Region, Sistan and Baluchestan Province, Iran, 29.50 N 60.87 E]. Leg: N. A. Zarudny, 14.VI.1898.

Paralectotypes:

ZISP 2056, 1 specimen, "Urbs Bazman" [Bazman, Saragad Region, Sistan and Baluchestan Province, Iran, 27.86 N 60.18 E]. Leg: N. A. Zarudny, 6.VIII.1898.

ZISP 2057, 2 specimens, "Flum. Tamin in Sargado" [Tamin River, Saragad Region, 20 km SW Ladiz, Sistan and Baluchestan Province, Iran, 28.80 N 61.20 E]. Leg: N. A. Zarudny, 27–30.VIII.1898.

ZISP 2058, 2 specimens, "Duz-Ab in Kirmano orient" [Duz-Abad, Saragad Region, Sistan and Baluchestan Province, Iran, 29.50 N 60.87 E]. Leg: N. A. Zarudny, 14.VI.1898.

ZISP 2059, 1 specimen, "Ziaret in Sargado" [Meleksiakh-Ziaret, Saragad Region, Sistan and Baluchestan Province, Iran, 29.85 N 60.87 E]. Leg: N. A. Zarudny, 4.IX.1898.

Present name: *Bufotes surdus surdus* (Boulenger, 1891) *fide* Stöck *et al.* (2001b) and Frost (2018).

DICROGLOSSIDAE

***Rana cyanophlyctis* var. *seistanica* NIKOLSKY ("1899" 1900: 406)**

Syntypes:

ZISP 2053, 3 specimens, "Neizar in Seistano" [probably between Zabol and Varmal, Sistan and Baluchestan Province, Iran, approx. 30.89 N 61.41 E]. Leg: N. A. Zarudny, 16.V.1898.

Present name: *Euphlyctis cyanophlyctis* (Schneider, 1799) *fide* Frost (2018).

REPTILIA

TESTUDINES

TESTUDINIDAE

***Testudo zarudnyi* NIKOLSKY (1896: 369)**

Holotype:

ZISP 8738, "Birdschan" [Birjand, South Khorasan Province, Iran, 32.87 N 59.22 E]. Leg: N. A. Zarudny, 19.VI.1896.

Present name: *Testudo graeca zarudnyi* Nikolsky, 1896 *fide* Rhodin *et al*. (2017).

SQUAMATA

AMPHISBAENIA

TROGONOPHIDAE

***Diplometopon zarudnyi* NIKOLSKY ("1905" 1907: 277)**

Holotype:

ZISP 10341, "Nasrie in Arabistano" [Ahvaz, Khuzestan Province, Iran, 31.32 N 48.67 E]. Leg. N. A. Zarudny, 21.II.1904.

Present name: *Diplometopon zarudnyi* Nikolsky ("1905" 1907) *fide* Anderson (1999) and Gans (2005).

Remarks: This species served as the type of the genus *Diplometopon* Nikolsky, "1905" 1907 by monotypy.

SAURIA

AGAMIDAE

***Agama kirmanensis* NIKOLSKY ("1899" 1900: 389)**

Holotype:

ZISP 9321, adult male, "Kurin in Kirmano orient." [Kurin, Sargad Region, Sistan and Baluchestan Province, Iran, 28.88 N 60.36 E]. Leg: N. A. Zarudny, 21.VI.1898.

Present name: *Trapelus agilis* (Olivier, 1804) *fide* Anderson (1999).

***Agama kirmanensis* var. *brevicauda* NIKOLSKY ("1905" 1907: 272)**

Holotype:

ZISP 10335, subadult male, "Kochrud in prov. Irak-Adschemi" [Ghohrud, Isfahan Province, Iran, 33.67 N 51.41 E]. Leg: N. A. Zarudny, 26.IV.1904.

Present name: *Trapelus agilis* (Olivier, 1804) *fide* Anderson (1999).

***Agama reticulata* NIKOLSKY (1911: 272)**

Holotype:

ZISP 10718, adult female, "Tschubek, Buchara orient." [Chubek, Khatlon Province, Tajikistan, 37.61 N 69.71 E]. Leg: N. A. Zarudny, 24.VI.1910.

Present name: *Laudakia caucasia* (Eichwald, 1831) *fide* Anderson (1999) and Macey *et al*. (2018).

***Phrynocephalus ananjevae* MELNIKOV, MELNIKOVA, NAZAROV, RAJABIZADEH (2013: 40)**

Holotype:

ZISP 10256.1, adult male, "Qahferokh" [vicinity of Farokhshahr, Chaharmahal and Bakhtiari Province, Iran, approx. 32.27 N 50.97 E]. Leg: N. A. Zarudny, 14.04.1904.

Paratypes:

ZISP 10256.2–3, 2 adult females, "Qahferokh" [vicinity of Farokhshahr, Chaharmahal and Bakhtiari Province, Iran, approx. 32.27 N 50.97 E]. Leg: N. A. Zarudny, 14.04.1904. –

ZISP 10256.4 and ZISP 10257, 2 subadult males, "Qahferokh" [vicinity of Farokhshahr, Chaharmahal and Bakhtiari Province, Iran, approx. 32.27 N 50.97 E]. Leg: N. A. Zarudny, 14.04.1904.

Present name: *Phrynocephalus ananjevae* Melnikov, Melnikova, Nazarov, Rajaabizadeh (2013) *fide* Šmíd *et al*. (2014).

Remarks: The original description of this subspecies was based not only on Zarudny's material.

***Phrynocephalus olivieri* var. *brevipes* NIKOLSKY ("1905" 1907: 274)**

Lectotype (designated by Barabanov & Ananjeva 2007):

ZISP 10235, adult female, "Naim-abad (Damysan) in Chorosano occident" [Naim-Abad, Razavi Khorasan Province, Iran, 36.14 N 58.92 E]. Leg: N. A. Zarudny, 18.X.1903.

Paralectotypes:

ZISP 10239.1-2, 2 specimens, "Dshandak in Kuchistano occid." [Jandaq, Isfahan Province, Iran, 34.04 N 54.42 E]. Leg: N. A. Zarudny, 8.XI.1903.

ZISP 10344, 1 specimen," Descht-i-Kewir Desert (23.5 km to the south from Gusein-Nan)" [23.5 km south of Hoseinan, Dasht-e Kavir Desert, Semnan Province, Iran, 35.03 N 54.59 E]. Leg. N. A. Zarudny, 3.XI.1903.

Present name: *Phrynocephalus scutellatus* (Olivier, 1807) *fide* Anderson (1999).

Remarks: Two paralectotypes (ZISP 10239.1-2) could not be located in the ZISP collection.

***Phrynocephalus olivieri* var. *carinipes* NIKOLSKY ("1905" 1907: 273)**

Lectotype (designated by Barabanov & Ananjeva, 2007):

ZISP 10236, adult female, "Pudeschk-Kupa" [Tudeshg, Isfahan Province, Iran, 32.72 N 52.67 E]. Leg: N. A. Zarudny, 1903.

Paralectotypes:

ZISP 10240, 1 specimen, "Dschandak in Kuchistano occid." [Jandaq, Isfahan Province, Iran, 34.04 N 54.42 E]. Leg: N. A. Zarudny, 8.XI.1903.

ZISP 10241, 1 specimen, "Pudeschk-Kupa" [Tudeshg, Isfahan Province, Iran, 32.72 N 52.67 E]. Leg: N. A. Zarudny, 1903.

Present name: *Phrynocephalus scutellatus* (Olivier, 1807) *fide* Anderson (1999).

***Phrynocephalus ornatus vindumi* GOLUBEV (1998: 163)**

Paratypes:

ZISP 8768.1–8768.7, 7 specimens: 2 adult males, 4 adult females, 1 subadult female, "Eastern Persia, Zirkuh, after Gyarmakh" [after Garmaab, Razavi Khorasan Province, Iran, approx. 33.92 N 59.82 E]. Leg: N. A. Zarudny, 30.VI.1896.

ZISP 9207.1-5, 5 adult specimens: 4 males, 1 female, "Eastern Persia, Zirkuh Region, Khous" [Khous, on the border of Razavi Khorasan and South Khorasan Provinces, Iran, approx. 33.9935 N 60.0126 E]. Leg: N. A. Zarudny, 18.IV.1898.

ZISP 9920.1-6, 6 adult males, "Eastern Persia, Neh-i-Bendan Region, Khadji-i-du-chaghi well" [Khvajeh Dow Chahi well, Nehbandan County, South Khorasan Province, Iran, 31.87 N 60.52 E]. Leg: N. A. Zarudny, 2.VII.1901.

ZISP 9921.1-9, 9 juveniles. "Eastern Persia, Zirkuh Region, Bamrud aryk" [irrigation canal of Bamrud, South Khorasan Province, Iran, 33.64 N 60.08 E]. Leg: V. A. Zarudny, 20.VII.1901.

NMB (NMBA) 4950, 1 adult male, "Chous in terra Zirckuh (Iran)" [Khous, Zirkuh District, Ghayen County, Southern Khorasan Province, Iran, N 35.69 E 54.61, no exact collection date, no exact information about collector].

NMW 24796.1-2, adult male and female, "Ost Persien" (= eastern Iran)" [Eastern Iran, no exact locality, no collection date, no exact information about collector].

ZMMGU 2114, adult male, "Eastern Persia" [Eastern Iran, no exact locality, no collection date, no exact information about collector].

Present name: *Phrynocephalus vindumi* Golubev, 1998 *fide* Macey *et al*. (2018).

Remarks: The original description of this subspecies was based not only on Zarudny's material.

***Phrynocephalus raddei* var. *zarudnyi* NIKOLSKY (1915: 193)**

Lectotype (designated by Barabanov & Ananjeva, 2007):

ZISP 10722.1, adult male, "Kelif, Buchara orient." [Kelif, Lebap Province, Turkmenistan, 37.36 N 66.31 E]. Leg: N. A. Zarudny, 2–4.V.1910.

Paralectotypes:

ZISP 10722.2-6, 5 specimens, "Kelif, Buchara orient." [Kelif, Lebap Province, Turkmenistan, 37.36 N 66.31 E]. Leg: N. A. Zarudny, 2–4.V.1910.

Present name: *Phrynocephalus raddei boettgeri* Bedriaga *in* Nikolsky, 1905 *fide* Barabanov & Ananjeva (2007).

***Stellio erythrogaster* NIKOLSKY (1896: 370)**

Lectotype (designated by Rastegar-Pouyani & Nilson 2002):

ZISP 8760, "Ferimun in Persia orientali" [Fariman, North Khorasan Province, Iran, 35.71 N 59.85 E]. Leg: N. A. Zarudny, 15.VII.1896.

Paralectotype:

ZISP 8759, 1 specimen, "Kalender-Abad in Persia orientali" [Kalantar, North Khorasan Province, Iran, 38.07 N 47.82 E]. Leg: N. A. Zarudny, 13.VII.1896.

Present name*: Laudakia erythrogaster* (Nikolsky, 1896) *fide* Anderson (1999) and Macey *et al*. (2018).

***Stellio erythrogaster* var. *pallida* NIKOLSKY (1897: 319)**

Holotype:

ZISP 8761, "Urbs Mesched" [Mashhad, Razavi Khorasan Province, Iran, 36.32 N 59.57 E]. Leg: N. A. Zarudny, 17.III.1896.

Present name: *Laudakia erythrogaster* (Nikolsky, 1896) *fide* Anderson (1999) and Macey *et al*. (2018).

GEKKONIDAE

***Alsophylax persicus* NIKOLSKY (1903: 95)**

Holotype:

ZISP 10005, "Vikus Degak in terra Dizak, Persia orient." [Dehak, Sistan and Baluchestan Province, Iran, 28.99 N 60.54 E]. Leg. N. A. Zarudny, 09.II.1901.

Present name: *Microgecko persicus* (Nikolsky, 1903) *fide* Bauer *et al.* (2013).

***Bunopus crassicauda* NIKOLSKY ("1905" 1907: 261)**

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 10233, male, "Chara-Magommed-Abad in prov. Irak-Adschemi" [Mohammedabad-Khere, Qazvin Province, Iran, 36.02 N 50.07 E]. Leg: N. A. Zarudny, 10.V.1904.

Paralectotype:

ZISP 10345, 1 specimen,"Maljat-abad in prov. Irak-Adschemi" [Malekabad, Markazi Province, Iran, 34.89 N 50.32 E]. Leg: N. A. Zarudny, 6.V.1904.

Present name: *Bunopus crassicauda* Nikolsky, "1905" 1907 *fide* Szczerbak & Golubev (1986) and Anderson (1999).

Remarks: paralectotype (ZISP 10345) could not be located in the ZISP collection.

***Bunopus crassicauda* var. *flavescens* NIKOLSKY ("1905" 1907: 264)**

Holotype:

ZISP 10230, "Oppid. Kum in prov. Irak-Adschemi" [Qom, Qom Province, Iran, 34.64 N 50.88 E]. Leg: N. A. Zarudny, 3.V.1904.

Present name: *Bunopus crassicauda* Nikolsky, "1905" 1907 [our data].

***Gymnodactylus agamuroides* NIKOLSKY ("1899" 1900: 384)**

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 9327, adult male, "Pendsch-Sara in Kirmano orient." [Panjsareh, Sistan and Baluchestan Province, Iran, 27.98 N 60.18 E]. Leg: N. A. Zarudny, 10.VIII.1898.

Paralectotypes:

ZISP 9326, 1 specimen, "Neizar in Seistano" [near Afsalabad, surroundings of Zabol, Sistan and Baluchestan Province, Iran, 31.01 N 61.39 E]. Leg: N. A. Zarudny, 26.V.1898.

ZISP 9328, 1 specimen, "Duz-Ab in Kirmano orient" [Duz-Abad, Saragad Region, Sistan and Baluchestan Province, Iran, 29.50 N 60.86 E]. Leg: N. A. Zarudny, 14.VI.1898.

Present name: *Cyrtopodion agamuroides* (Nikolsky, 1900) *fide* Bauer *et al.* (2013).

Remarks: Specimen ZISP 9328 was reidentified by Nazarov *et al.* (2010) as *Cyrtopodion golubevi* Nazarov, Ananjeva, Radjabizadeh (2010). One paralectotype (ZISP 9326) could not be located in the ZISP collection.

***Gymnodactylus kirmanensis* NIKOLSKY ("1899" 1900: 381)**

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 9330.2, adult male, "Kirmanum orientale" [vicinity of Mazel-Ab well, Sistan and Baluchestan Province, Iran, 29.29 N 60.75 E]. Leg: N. A. Zarudny, 17.VI.1898.

Paralectotypes:

NMW 17388–17389, 2 specimens, "Kirman, E-Persien" [vicinity of Mazel-Ab well, Sistan and Baluchestan Province, Iran, 29.29 N 60.75 E]. Leg: N. A. Zarudny, 1898.

ZISP 9329.1-6, 6 specimens, "Mons Ku-i-tuftan in Sargado" [foot of the volcano of Kuh-e Taftan, Sistan and Baluchestan Province, Iran, 28.62 N 61.14 E]. Leg: N. A. Zarudny, 25.VIII.1898.

ZISP 9330.1, 3-6, 5 specimens, "Kirmanum orientale" [vicinity of Mazel-Ab well, Sistan and Baluchestan Province, Iran, 29.29 N 60.75 E]. Leg: N. A. Zarudny, 17.VI.1898.

Present name: *Cyrtopodion kirmanense* (Nikolsky, 1900) *fide* Bauer *et al.* (2013).

Remarks: Six paralectotypes (ZISP 9329.1-6) could not be located in the ZISP collection.

***Gymnodactylus longipes* NIKOLSKY (1896: 369)**

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 8810.1, adult female, "Persia orient., Neh" [Nehbandan, South Khorasan Province, Iran, 31.54 N 60.04 E]. Leg: N. A. Zarudny, 1896.

Paralectotypes:

NMW 17392–17393, 2 specimens, "Nech, E-Persien" [Nehbandan, South Khorasan Province, Iran, 31.54 N 60.04 E]. Leg: N. A. Zarudny, 1896.

ZISP 8809.1-3, 3 specimens, "Persia orient., Neh" [Nehbandan, South Khorasan Province, Iran, 31.54 N 60.04 E]. Leg: N. A. Zarudny, 1896.

ZISP 8810.2-3, 2 specimens, "Persia orient., Neh" [Nehbandan, South Khorasan Province, Iran, 31.54 N 60.04 E]. Leg: N. A. Zarudny, 1896.

ZISP 8811, 1 specimen, "Persia orient., Neh" [Nehbandan, South Khorasan Province, Iran, 31.54 N 60.04 E]. Leg: N. A. Zarudny, 1896.

Present name: *Tenuidactylus longipes* (Nikolsky, 1896) *fide* Bauer *et al.* (2013).

Remarks: 3 paralectotypes (ZISP 8809.1-3) could not be located in the ZISP collection.

Gymnodactylus sagittifer NIKOLSKY ("1899" 1900: 379)

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 9331, adult male, "Bampur in Kirmano orient." [Bampur, Sistan and Baluchestan Province, Iran, 27.19 N 60.46 E]. Leg: N. A. Zarudny, 30.VII.1898.

Paralectotypes:

ZISP 9332, 1 specimen, "Farra in Kirmano orient." [Iranshahr, Sistan and Baluchestan Province, Iran, 27.211 N 60.69 E]. Leg: N. A. Zarudny, 25.VII.1898.

ZISP 9333, 1 specimen, "Bampur in Kirmano orient." [Bampur, Sistan and Baluchestan Province, Iran, 27.19 N 60.46 E]. Leg: N. A. Zarudny, 10.VII.1898.

Present name: *Mediodactylus sagittifer* (Nikolsky, 1900) *fide* Bauer *et al.* (2013).

Gymnodactylus zarudnyi NIKOLSKY ("1899" 1900: 385)

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 9334.1, adult male, "Neizar in Seistano" [probably between Varmal and Chah Nimeh Lake, Sistan and Baluchestan Province, Iran, approx. 30.75 N 61.45 E]. Leg: N. A. Zarudny, 21-24.V.1898.

Paralectotypes:

ZISP 9334.2-8, 7 specimens, "Neizar in Seistano" [probably between Varmal and Chah Nimeh Lake, Sistan and Baluchestan Province, Iran, approx. 30.75 N 61.45 E]. Leg: N. A. Zarudny, 21-24.V.1898.

Present name: *Mediodactyus russowii zarudnyi* (Nikolsky, 1900) *fide* Bauer *et al.* (2013).

Microgecko helenae NIKOLSKY ("1905" 1907: 261)

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 10242.1, adult female, "Alchorschir in Arabistano" [Alkhorshid, Khuzestan Province, Iran, 31.54 N 49.86 E]. Leg.: N. A. Zarudny, 30.XII.1903.

Paralectotypes:

ZISP 10242.2-5, 4 specimens, "Alchorschir in Arabistano" [Alkhorshid, Khuzestan Province, Iran, 31.54 N 49.86 E]. Leg: N. A. Zarudny, 30.XII.1903.

ZISP 10243, 1 specimen, "Isfagan in Kuchistano occid." [Isfahan, Isfahan Province, Iran, 32.66 N 51.68 E]. Leg: N. A. Zarudny, 2.XII.1903.

ZISP 10244, 1 specimen, "Bidezar in Arabistano" [Bid Zard, Khuzestan Province, Iran, 31.68 N 49.58 E]. Leg: N. A. Zarudny, 27.III.1904.

ZISP 10346, 1 specimen, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran, 31.58 N 49.707 E]. Leg: N. A. Zarudny, 28.III.1904.

Present name: *Microgecko helenae* Nikolsky ("1905" 1907**)** *fide* Szczerbak & Golubev (1986) and Anderson (1999).

Remarks: This species served as the type of the genus *Microgecko* Nikolsky, "1905" 1907 by monotypy. Lectotype (ZISP 10242.1) could not be located in the ZISP collection.

PHYLLODACTYLIDAE

Phyllodactylus eugeniae NIKOLSKY ("1905" 1907: 268)

Syntypes:

ZISP 10261.1-22, 22 specimens, "Urbs Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 12–17.III.1904.

ZISP 10262.1-7, 7 specimens, "Urbs Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny [no date of collecting].

ZISP 10263.1-7, 7 specimens, "Urbs Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 11–12.III.1904.

ZISP 10349, 1 specimen, "Urbs Dizful" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 12.III.1904.

ZISP 10270.1-2, 2 specimens, "Flum. Abu-Garia (ad flum. Karun)" [Abu Karaniyeh River, Khuzestan Province, Iran, approx. 31.65 N 48.89 E]. Leg: N. A. Zarudny, 2.III.1904.

Present name: *Asaccus elisae* (Werner, 1895) *fide* Anderson (1999).

Remarks: A. M. Nikolsky in the species description listed among the paratypes one egg (as ZISP 10367) collected by N. A. Zarudny from Dezful in 12-14.III.1904. It does not appear in the ZISP catalogue.

SPHAERODACTYLIDAE

Teratoscincus bedriagai NIKOLSKY (1899: 146)

Lectotype (designated by Szczerbak & Golubev 1986):

ZISP 9161, adult male, "Khadji-i-du-Chaghi" [Khvajeh Dow Chahi well, Nehbandan County, South Khorasan Province, Iran, 31.87 N 60.52 E]. Leg: N. A. Zarudny, 5.V.1898.

Paralectotypes:

BM 1946.8.23.39, 1 specimen, "Sistan (Persia)". [Sistan and Baluchestan Province, Iran, no exact locality]. Leg: N. A. Zarudny, 1898 [no collection date].

ZISP 9157, 1 specimen, "Zirkuh in Persia orientali" [between Sangan and Neyazabad, Rasavi Khorasan Province, Iran, 34.31 N 60.25 E]. Leg: N. A. Zarudny, 16.IV.1898.

ZISP 9158, 1 juvenile, "Zirkuh in Persia orientali" [between Khvajeh Dow Chahi and Chah-e Gusha wells, South Khorasan Province, Iran, 31.79 N 60.54 E]. Leg: N. A. Zarudny, 6.V.1898.

ZISP 9159.1-3, 3 specimens, "Seistan in Persia orientali" [between Harmak and Shileh River, Sistan and Baluchestan Province, Iran, 30.09 N 60.95 E]. Leg: N. A. Zarudny, 6.IX.1898.

ZISP 9160, 1 subadult, "Zirkuh in Persia orientali" [between Bamrud and Mahmudabad, South Khorasan Province, Iran, 33.56 N 60.02 E]. Leg: N. A. Zarudny, 13.X.1898.

ZISP 9162, 1 subadult, "Seistan in Persia orientali" [between Harmak and Shileh Rivers, Sistan and Baluchestan Province, Iran, 30.09 N 60.95 E]. Leg: N. A. Zarudny, 9.VI.1898.

ZISP 9163, 1 specimen, "Seistan in Persia orientali" [probably between Varmal and Chah Nimeh Lake, Sistan and Baluchestan Province, Iran, approx. 30.75 N 61.45 E]. Leg: N. A. Zarudny, 23.V.1898.

Present name: *Teratoscincus bedriagai* Nikolsky 1899 *fide* Macey *et al* (1999), Anderson (1999) and Nazarov *et al*. (2017).

Remarks: The original description of this species was published in October 1899 (Asanovich *et al.* 2006). One paralectotype (ZISP 9163) could not be located in the ZISP collection.

Teratoscincus microlepis NIKOLSKY (1899: 145)

Holotype:

ZISP 9164, adult male, "Duz-ab in Kirmano orientali" [Duz-Abad, Saragad Region, Sistan and Baluchestan Province, Iran, 29.50 N 60.86 E]. Leg: N. A. Zarudny, 15.VI.1898.

Present name: *Teratoscincus micropelis* Nikolsky 1899 *fide* Macey *et al* (1999), Anderson (1999) and Nazarov *et al*. (2017).

Remarks: The original description of this species was published in October 1899 (Asanovich *et al.* 2006).

***Teratoscincus zarudnyi* NIKOLSKY (1896: 370) (Fig. 3)**

Holotype:

ZISP 8804, "Rume in Persia orientali" [Rum, South Khorasan Province, Iran, 33.45 N 59.19 E]. Leg: N. A. Zarudny, 15.V.1896 (Fig. 3).

Present name: *Teratoscincus keyserlingii* Strauch, 1863 *fide* Macey *et al* (2005), Anderson (1999) and Nazarov *et al*. (2017).

FIGURE 3. *Teratoscincus zarudnyi* Nikolsky 1896. Drawing from description of Nikolsky (1896, tab. XVIII).

LACERTIDAE

***Eremias bedriagai* NIKOLSKY (1911: 278)**

Holotype:

ZISP 10743, "Kelif in Bucharia orient." [Kelif, Lebap Province, Turkmenistan, 37.36 N 66.31 E]. Leg: N. A. Zarudny, 2-4.V.1910.

Present name: *Eremias regeli* Bedriaga *In* Nikolsky 1905 *fide* Szczerbak (1974).

***Eremias nigrocellata* NIKOLSKY (1896: 371)**

Lectotype:

ZISP 8800, adult male, "Seistan in Persia orientali" [Sistan and Baluchestan Province, Iran, no exact locality]. Leg: N. A. Zarudny, V-VI.1896 [no exact date of collecting].

Paralectotypes:

ZISP 8798.1-3, 3 specimens, "Feizabad-Mondechi in Persia orientali" [Feyz Abad, Razavi Khorasan Province, Iran, 35.02 N 58.78 E]. Leg: N. A. Zarudny, V.1896.

ZISP 8799.1-2, 2 specimens, "Feizabad-Mondechi in Persia orientali" [Feyz Abad, Razavi Khorasan Province, Iran, 35.02 N 58.78 E]. Leg: N. A. Zarudny, IV-V.1896.

Present name: *Eremias nigrocellata* Nikolsky, 1896 *fide* Szczerbak (1974).

***Eremias strauchi kopetdaghica* SZCZERBAK (1972: 83)**

Paratypes:

ZISP 8784.1-2, 2 specimens, "Eastern Persia, Kale-Minar Mountains" [northern slope of Qal'eh Manar Mountains, Razavi Khorasan Province, Iran, 35.47 N 59. 89 E]. Leg: N. A. Zarudny, 13.VII.1896.

ZISP 8785.1-4, 4 specimens: 2 adults, 1 subadult and 1 juvenile, "Eastern Persia, Kale-Minar Mountains" [Qal'eh Manar Mountains, Razavi Khorasan Province, Iran, 35.47 N 59.89 E]. Leg: N. A. Zarudny, 1896.

ZISP 8786, 1 specimen, "Eastern Persia, Kale-Minar Mountains" [southern slope of Qal'eh Manar Mountains, Razavi Khorasan Province, Iran, 35.40 N 59.93 E]. Leg: N. A. Zarudny, 11.VII.1896.

Present name: *Eremias kopetdaghica* Szczerbak, 1972 *fide* Rastegar-Pouyani *et al*. (2015).

Remarks: The original description of this subspecies was based not only on Zarudny's material.

***Eremias* (*Scapteira*) *zarudnyi* LANTZ (1928: 51)**

Nomen novum pro *Scapteira persica* Nikolsky 1900, nec *Eremias persica* Blanford 1874. Ineich & Doronin (2019) provided data and comments on the type series, an English translation of the French description of *E. zarudnyi*, designate, and describe a lectotype for the species.

Present name: *Eremias grammica* (Lichtenstein, 1823) *fide* Szczerbak (1974).

***Scapteira lineolata* NIKOLSKY (1896: 371)**

Lectotype (designated by Szczerbak 1974):

ZISP 8801.1, "Feizabad-Nusi in Persia orientali" [Feizabad, Razavi Khorasan Province, Iran, 35.02 N 58.78 E]. Leg: N. A. Zarudny, IV-V.1896.

Paralectotypes:

ZISP 8801.2-4, 3 specimens, "Feizabad-Nusi in Persia orientali" [Feizabad, Razavi Khorasan Province, Iran, 35.02 N 58.78 E]. Leg: N. A. Zarudny, IV-V.1896.

Present name: *Eremias lineolata* (Nikolsky, 1896) *fide* Szczerbak (1974).

Remarks: Lectotype (ZISP 8801.1) could not be located in the ZISP collection.

Scapteira persica NIKOLSKY ("1899" 1900: 395)

Syntypes:

ZISP 9322.1-3, 3 specimens, "Tscharachs in terra Zirkuch" [Tscharachs, 28 km from Ahangeran, South Khorasan Province, Iran, 33.64 N 60.28 E]. Leg: N. A. Zarudny, 25.IV.1898.

ZISP 9323.1-4, 4 specimens, "Tscharachs in terra Zirkuch" [Tscharachs, 28 km from Ahangeran, South Khorasan Province, Iran, 33.64 N 60.28 E]. Leg: N. A. Zarudny, 25.IV.1898.

Present name: *Eremias grammica* (Lichtenstein, 1823) *fide* Szczerbak (1974) and Anderson (1999).

Remarks: these specimens are also the types of *Eremias* (*Scapteira*) *zarudnyi* Lantz 1928.

SCINCIDAE

Ablepharus brandtii var. *brevipes* NIKOLSKY ("1905" 1907: 283)

Syntypes:

ZISP 10188.1-2, 2 specimens, "Flum. Karun" [Rud-e Karun, Khuzestan Province, Iran, approx. 31.65 N 48.89 E]. Leg: N. A. Zarudny, 22.I.1904.

ZISP 10189, 1 specimen, "Dech-i-Diz" [Dehdez, Khuzestan Province, Iran, 31.71 N 50.29 E]. Leg: N. A. Zarudny, 5.IV.1904.

Present name: *Ablepharus pannonicus* Lichtenstein, 1823 *fide* Anderson (1999).

Ablepharus persicus NIKOLSKY ("1905" 1907: 283)

Holotype:

ZISP 10342, "Deh-i-Mulla (Schachrud)" [Dehmolla, Semnan Province, Iran, 36.27 N 54.76 E]. Leg: N. A. Zarudny, 17.X.1903.

Present name: *Ablepharus pannonicus* Lichtenstein, 1823 *fide* Anderson (1999).

Asymblepharus alaicus yakovlevae EREMCHENKO (1983: 40)

Paratypes:

ZISP 10542.1-3, 3 specimens, "downstream of Ayu-Tur River" [Ayutor River, South Kazakhstan Province, Kazakhstan, 42.14 N 70.62 E]. Leg: N. A. Zarudny, VI.1907.

Present name: *Asymblepharus alaicus yakovlevae* Eremchenko (1983) *fide* Eremchenko and Szczerbak, 1986.

Remarks: The original description of this subspecies was based not only on Zarudny's materials.

Eumeces zarudnyi NIKOLSKY ("1899" 1900: 399)

Lectotype (designated by Taylor "1935" 1936):

ZISP 9339, "Urbs Bazman in Kirmano orient." [Bazman, Sistan and Baluchestan Province, Iran, 27.86 N 60.18 E]. Leg: N. A. Zarudny, 3.VIII.1898.

Paralectotypes:

ZISP 9340, 1 specimen, "Labe-Ab in Seistano" [Lab-e Bareng, Sistan and Baluchestan Province, Iran, 31.12 N 61.05 E]. Leg: N. A. Zarudny, 12.V.1898.

ZISP 9341, 1 specimen, "Schur-Ab in Kirmano orient." [Shurab, Sistan and Baluchestan Province, Iran, 28.15 N 60.29 E]. Leg: N. A. Zarudny, 11.VIII.1898.

Present name: *Eumeces schneiderii zarudnyi* Nikolsky, "1899" 1900 *fide* Anderson (1999).

Remarks: Lectotype (ZISP 9339) and one of the paralectotypes (ZISP 9341) could not be located in the ZISP collection (Barabanov & Milto 2017).

OPHIDIA

LEPTOTYPHLOPIDAE

Glauconia hamulirostris NIKOLSKY ("1905" 1907: 286)

Lectotype (designated by Kramer & Schnurrenberger 1963):

ZISP 10299.1, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran, 31.58 N 49.70 E]. Leg: N. A. Zarudny, 28.III.1904.

Paralectotypes:

CAS 99737–99738, 2 specimens, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran, 31.58 N 49.707 E]. Leg: N. A. Zarudny, 28.III.1904. –

NMNH 872.2287, 1 specimen, "Eastern Persia" [Iran, no exact locality]. Leg: N. A. Zarudny, 1904.

MNKNU 1875, 2 specimens, "Persia" [probably Khuzestan Province, Iran, no exact locality]. Leg: N. A. Zarudny, 1904. (Vedmederya *et al*., 2009).

MNKNU 8841, 1 specimen, "Persia" [Iran, no exact locality]. Leg: N. A. Zarudny, 1904 (Vedmederya *et al*., 2009).

ZISP 10295.1-2, 2 specimens, "Damdeli in Arabistano" [southern foothill of Kuh-e-Sere-Dalleh Mountains, Khuzestan Province, Iran, 31.52 N 49.81 E]. Leg: N. A. Zarudny, 29.III.1904.

ZISP 10296, 1 specimen, "Bidezar in Arabistano" [Bid Zard, Khuzestan Province, Iran, 31.68 N 49.58 E]. Leg: N. A. Zarudny, 27.III.1904.

ZISP 10297.1-6, 6 specimens, "Nasrie in Arabistano" [Ahvaz, Khuzestan Province, Iran, 31.32 N 48.67 E]. Leg. N. A. Zarudny, 23-26.II.1904.

ZISP 10298.1-4, 4 specimens, "Alchorschir in Arabistano" [Ala Khvorshid, Khuzestan Province, Iran, 31.54 N 49.86 E]. Leg: N. A. Zarudny, 30.III.1904.

ZISP 10299.2-9, 8 specimens, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran, 31.58 N 49.70 E]. Leg: N. A. Zarudny, 28.III.1904.

ZISP 10300.1-6, 6 specimens, "Gurschir in Arabistano" [Golgi, Khuzestan Province, Iran, 31.76 N 49.50E]. Leg: N. A. Zarudny, 26.III.1904.

ZISP 10348, 1 specimen, "Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 17.III.1904.

Present name: *Myriopholis macrorhyncha* (Jan, 1860) *fide* Adalsteinsson *et al*. (2009).

Remarks: According Kramer & Schnurrenberger (1963) lectotype stored in MHNG (MHNG 1326.72), but currently lectotype is located in Zoological Institute, St. Petersburg under original catalogue number (ZISP 10299.1).

Glauconia laticeps NIKOLSKY ("1905" 1907: 288)

Syntypes:

ZISP 10294, 1 specimen, "Kale-Tol settl." [Qal'eh Tall, Khuzestan Province, Iran, 31.63 N 49.89 E]. Leg: N. A. Zarudny, 31.III.1904.

ZISP 10301, 1 specimen, "Sarchun—Gamdaukal" [Sar Khun, Chaharmahal and Bakhtiari Province, Iran, 31.74 N 50.56 E]. Leg: N. A. Zarudny, 9-10.IV.1904.

ZISP 10340, 1 specimen, "Malamir hollow, ruins of Kale-Madrese settl." [vicinity of Izeh, Khuzestan Province, Iran, 31.81 N 49.87 E]. Leg: N. A. Zarudny, 2-3.IV.1904.

Present name: *Myriopholis blanfordii* (Boulenger, 1890) *fide* Wallach *et al*. (2014).

BOIDAE

***Eryx jaculus czarewskii* NIKOLSKY (1916: 326)**

Syntypes:

ZISP 8463, 1 specimen, "Nachduin" [Nachduin Mt., Ahal Province, Turkmenistan, 37.66 N 58.37 E]. Leg: N. A. Zarudny, 1892.

ZISP 8473, 1 specimen, "Gululi-dag" [Gelul Mountain, Ahal Province, Turkmenistan, 37.79 N, 58.13 E]. Leg. N. A. Zarudny, 1892.

ZISP 8489, 1 specimen, "Kircher" [Khirs-Dere, Ahal Province, Turkmenistan, 37.95 N, 57.45 E]. Leg: N. A. Zarudny, 1892.

ZISP 8711.1-2, 2 specimens, "Kopet-dag orient." [Kopet Dag Mountains, Ahal Province, Turkmenistan, no exact locality]. Leg. N. A. Zarudny, 1892.

Present name: *Eryx elegans* (Gray, 1849) *fide* Wallach *et al.* (2014).

***Eryx miliaris incerta* TZAREWSKY (1915: 359)**

Holotype:

ZISP 9273, "Abas village in Zirkukh, Eastern Persia" [Abas, South Khorasan Province, Iran, 32.95 N 60.26 E]. Leg. N.A. Zarudny, 28.IV.1898.

Present name: *Eryx miliaris* (Pallas, 1773) *fide* Wallach *et al.* (2014).

***Eryx miliaris rarus* TZAREWSKY (1915: 352)**

Syntype:

ZISP 10640, 1 specimen, "Golodnaya Step rail-road station, Samarkand Region"
[Gulistan, Syrdarya Region, Uzbekistan, 40.49 N 68.78 E]. Leg: N. A. Zarudny, 18.VIII.1908.

Present name: *Eryx tataricus* (Lichtenstein, 1823) fide Wallach *et al*. (2014).

Remarks: The original description of this subspecies was based not only on Zarudny's material.

***Eryx miliaris tritus* TZAREWSKY (1915: 355)**

Syntypes:

ZISP 9272.1-2, 2 specimens, "Neizar in Seistan" [surroundings of Zabol, Sistan and Baluchestan Province, Iran, approx. 31.03 N 61.49 E]. Leg: N. A. Zarudny, 19-20.V.1898. –

ZISP 10638, 1 specimen, "upper and middle stream of Diirman River, Turkestan" [Dirmensay, South Kazakhstan Province, Kazakhstan, 42.11 N 69.72 E]. Leg: N. A. Zarudny, 7.VIII.1907.

Present name: this taxon is described on the basis of 13 specimens belonging to two different species *Eryx miliaris* (Pallas, 1773) and *Eryx tataricus* (Lichtenstein, 1823).

Remarks: The original description of this subspecies was based not only on Zarudny's material.

***Eryx persicus* NIKOLSKY ("1905" 1907: 290)**

Holotype:

ZISP 10343, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran,
31.58 N 49.70 E]. Leg. N. A. Zarudny, 28.III.1904.

Present name: *Eryx jaculus* (Linnaeus, 1758) *fide* Zarrintab *et al.* (2017).

COLUBRIDAE

***Coluber longissimus* var. *nigra* NIKOLSKY ("1905" 1907: 293)**

Holotype:

ZISP 10334, "Nasterabad prope Astrabad" [Natrabad near Gorgan, Golestan Province, Iran, 36.83 N 54.50 E]. Leg. N. A. Zarudny 5.X.1903.

Present name: *Zamenis persicus* (F. Werner, 1913) *fide* Wallach *et al.* (2014).

***Contia brevicauda* NIKOLSKY ("1905" 1907: 296)**

Syntypes:

ZISP 10322.1-2, 2 specimens, "Urbs Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 11-18.III.1904.

ZISP 10331, 1 specimen, "Urbs Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg: N. A. Zarudny, 12.III.1904.

ZISP 10332, 1 specimen, "Nasrie in Arabistano" [Ahvaz, Khuzestan Province, Iran, 31.32 N 48.67 E]. Leg. N. A. Zarudny, 23.II.1904.

ZISP 10347.1-2, 2 specimens, "Aguljaschker in Arabistano" [Ab-e Lashkar, Khuzestan Province, Iran, 31.58 N 49.70 E]. Leg: N. A. Zarudny, 28. III.1904.

Present name: *Eirenis coronella* (Schlegel, 1837) *fide* Leviton *et al*. (1992).

Remarks: In the original description a specimens from Aguljaschker (ZISP 10347) was erroneously mentioned under number ZISP 10239.

***Contia persica* var. *nigrofasciata* NIKOLSKY ("1905" 1907: 298)**

Holotype:

ZISP 10323, "Urbs Dizful (Arabistano)" [Dezful, Khuzestan Province, Iran, 32.38 N 48.41 E]. Leg. N. A. Zarudny, 16.III.1904.

Present name: *Eirenis nigrofasciatus* (Nikolsky, "1905" 1907) *fide* Rajabizadeh *et al.* (2016).

***Lytorhynchus gaddi* NIKOLSKY ("1905" 1907: 294)**

Syntypes:

ZISP 10288.1-2, 2 specimens, "Dizful in Arabistano" [Dezful, Khuzestan Province, Iran, 32.36 N 48.41 E]. Leg. N. A. Zarudny, 14-16.III.1904.

Present name: *Lytorhynchus diadema gaddi* Nikolsky, "1905" 1907 *fide* Safaei-Mahroo *et al.* (2015).

VIPERIDAE

***Vipera lebetina turanica* CHERNOV (1939: 180)**

Paratypes:

ZISP 6476, 1 specimen, "Germau" [Germab, Ahal Region, Turkmenistan, 38.01 N, 57.74 E]. Leg: N. A. Zarudny, 1885. –

ZISP 8482, 1 specimen, "Garmab" [Germab, Ahal Region, Turkmenistan, 38.01 N, 57.74 E]. Leg: N. A. Zarudny, 1892. –

ZISP 10761, 1 head, "Khadzha-fil" [Khodja-Pil, Lebap Region, Turkmenistan, 37.95 N 66.63 E]. Leg: N. A. Zarudny, 12.V.1910. –

ZISP 13768, 1 specimen, "Chomkau-Tau Mt., Khodzhent settl." [near Khujand, Sughd Region, Tajikistan, approx. 40.31 N 69.53 E]. Leg: N. A. Zarudny, 1907.

Present name: *Macrovipera lebetina turanica* (Chernov, 1939) *fide* Golay *et al*. (1993) and Wallach *et al.* (2014)and.

Conclusions

A complete catalogue is provided for the type specimens of amphibians and reptiles collected by Nikolay A. Zarudny and stored mostly in the herpetological collection of the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZISP), as of August, 2018. These type specimens are of special value both in the historical context and for taxonomic, phylogenetic and ecological studies. They served as a basis for the description of two new genera, *Microgecko* and *Diplometopon*, and 51 new species and subspecies of turtles and squamate reptiles (Sauria and Ophidia). The set of type specimens contains a total of 270 types (holotypes, paratypes, syntypes, lectotypes and paralectotypes), representing 51 taxa and nomenclature names of species and subspecies from one family of turtles, six lizard families and four snake families from 74 type localities (Table 2). Twenty two taxa are regarded currently

TABLE 2. Number of taxa described after Zarudny' collection and the number of type specimens.

AMPHIBIANS AND REPTILE FAMILY	Number of taxa described	Number of type specimens
BUFONIDAE	3	12
DICROGLOSSIDAE	1	3
TESTUDINIDAE	1	1
TROGONOPHIDAE	1	1
AGAMIDAE	10	55
GEKKONIDAE	9	49
PHYLLODACTYLIDAE	1	39
SPHAERODACTYLIDAE	3	12
LACERTIDAE	6	25
SCINCIDAE	4	10
LEPTOTYPHLOPIDAE	2	38
BOIDAE	5	11
COLUBRIDAE	4	10
VIPERIDAE	1	4
TOTAL	51	270

as valid. A majority of taxa of amphibians and reptiles were described by A. M. Nikolsky. Later, after examination of specimens collected in Iran and the Middle Asia by other herpetologists, revealed new species and subspecies that have been described. Sergey F. Tzarewsky (1887-1971) described 3 taxa following a taxonomic revision of boid snakes of the genus *Eryx* (Tzarewsky 1915) and Louis Amédée Lantz (1886-1953) described *Eremias* (*Scapteira*) *zarudny*i Lantz (1928: 51) as a result of the revision of the lacertid lizard genus *Eremias.* During the Soviet period, Sergey A. Chernov (1903-1964) in his taxonomic study of the Levantine Vipers used Zarudny's material as a basis for describing *Vipera lebetina turanica* Chernov (1939). Nikolay N. Szczerbak (1928-1998) revising the racerunners of the genus *Eremias* (Szczerbak 1972) and Valery K. Eremchenko (1949-2014) while working with Palearctic

skinks (Eremchenko 1983), described new taxa of lacertid and scincid lizards on the base of Zarudny's specimens. Zarudny's collections from the Iranian territory were used in the study of the complex taxonomic group of agamid lizard of the genus *Phrynocephalus* by Golubev (1998) and these days by an international team of researchers using both morphological and molecular methods (Melnikov *et al*., 2013).

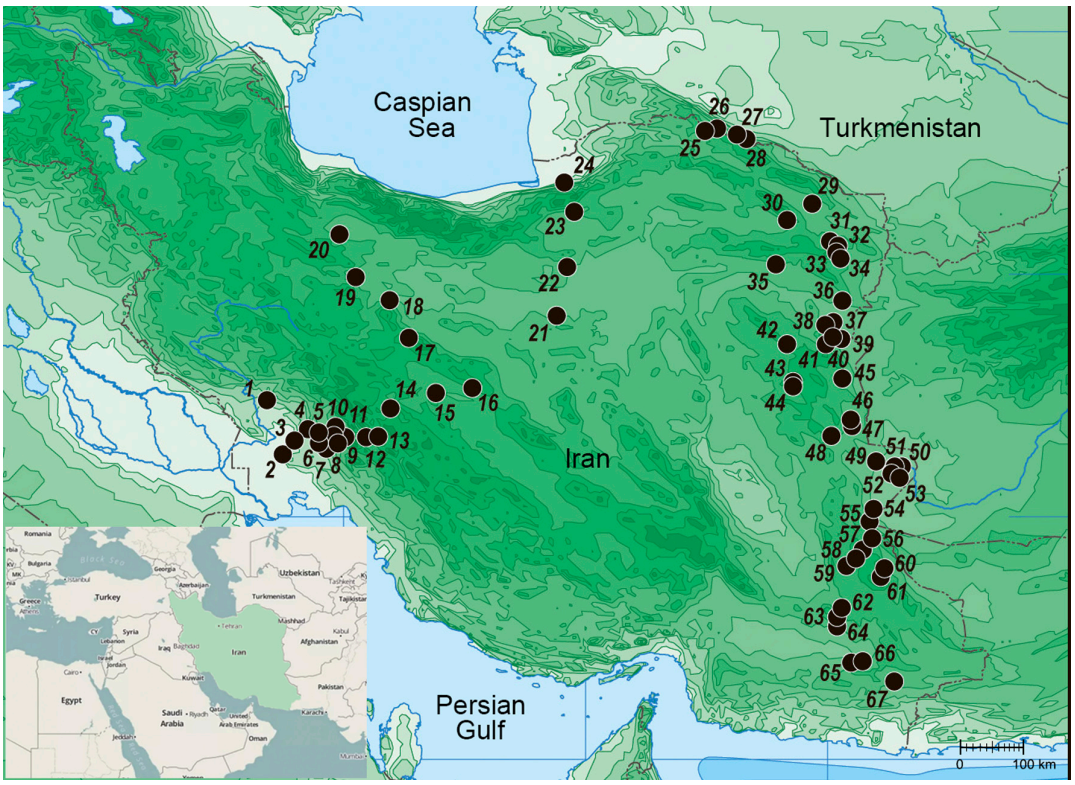

FIGURE 4. Type localities of taxa described after specimens collected by N. Zarudny in Iran and Turkmenistan. See Table 1 for more information.

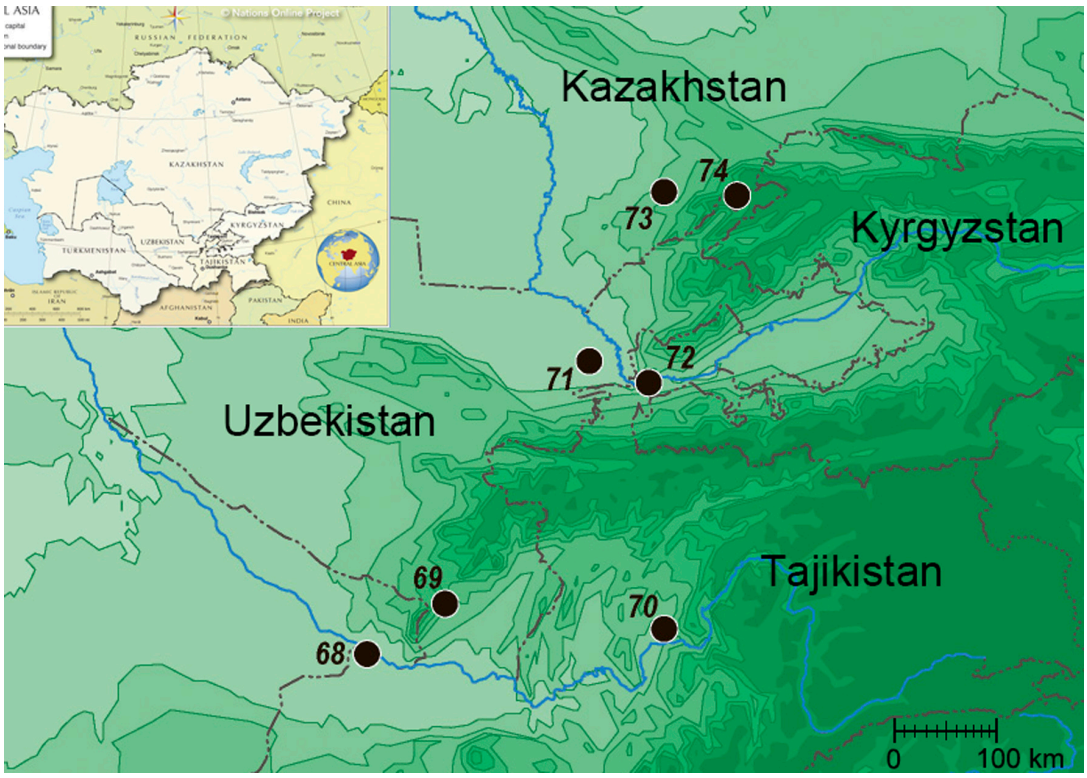

FIGURE 5. Type localities of taxa described after specimens collected by N. Zarudny in Middle and Central Asia. See Table 1 for more information.

Among the 270 specimens from 74 localities (63—in Iran and 11—in Middle Asia, 4 of which are located in Turkmenistan in the border with Iran) (Figs. 4, 5; Table 1) there are 15 specimens of amphibians, 1 specimen of turtles, 1 amphisbaenian, 190 lizards and 63 snakes (Nikolsky 1896, 1897, 1899a, 1899b (1900), 1903, 1905 (1907), 1911, 1915, 1916] (Table 2). Of these 270 specimens, 1 is stored in Moscow (ZMMGU), 6 in Wien (NMW), 1 in London (BM), 1 in Basel (NMB), 1 in Kiev (NMNH) , 3 in Kharkiv (MHNG) and 2 in San Francisco (CAS) and all remaining ones are in ZISP.

Recent taxonomic studies and, in particular, of cryptic diversity is increasingly turning to the careful study of Nikolay A. Zarudny's collections and itineraries and to attempts for the molecular identification of these historical specimens. These materials remain a source of rich information on the history of the diversity and distribution of Iranian amphibian and reptile diversity. An example of a successful study of museum specimens using modern molecular methods is a recent study of the so-called "historical DNA" of a type specimen of the nineteenth-century turtle, *Testudo zarudnyi* Nikolsky, 1896 (Parham *et al*., 2012).

Acknowledgement

We thank Igor V. Doronin, Daniel A. Melnikov, Nikolay L. Orlov (Zoological Institute, St. Petersburg), Valentina F.Orlova and Roman A.Nazarov (Zoological Museum, Moscow State University) for their valuable help in the progress of the present manuscript. Many thanks to Lyubomira Babenkova and Roman Ananjev for their help in map drawings. We are deeply grateful to Silke Schweiger and Georg Gassner (NMW, Wien, Austria) for providing working facilities and specimens for examination, Dieter Thomas Tietze (NMB, Basel, Switzerland), Anastasia Maluk (NMNH, Kiev) and Alan Leviton (CAS, San Francisco, USA) for information about specimens under their curatorship. We are thankful to S. Anderson for correcting our English and S.Carranza for valuable editorial comments.

This work was partially supported by Russian Foundation Basic Research Grants (Nrs. 18-04-00040 and 19-04-00119). This research was completed within the frameworks of Russian State projects AAAA-A19-119020590095-9.

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