



Type specimens and type localities of Rock Nuthatches of the *Sitta neumayer* species complex (Aves: Sittidae)

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ABSTRACT. Twenty species-group names were created for Rock Nuthatches of the *Sitta neumayer* species group in 1790–1950. Their applicability is discussed, their type specimens are identified, and their type localities are specified. Lectotypes were designed for three nominal species, incl. *Sitta obscura* Zarudnyj & Loudon, 1905, *Sitta dresseri* Zarudnyj & Buturlin, 1906, and *Sitta zarudnyi* Buturlin, 1907.

KEY-WORDS. Aves, Sittidae, *Sitta*, Palearctic, nomenclature.

INTRODUCTION

Rock Nuthatches inhabit eastern Mediterranean, from the Balkans to Tien-Shan Mountains (Harrap & Quinn 1995). The systematics of Rock Nuthatches has been much discussed in the past (e.g. Hellmayr 1901, 1903, 1911, Hartert 1905, Buturlin 1907, 1916, Buxton 1920, Zarudnyj & Härms 1923, Jordans 1923, Stresemann 1925, Hartert & Steinbacher 1933, Dunajewski 1934, Vaurie 1950, Stepanân 1961; see also Vaurie 1951, 1959, Grant 1975) and 20 names were created for them between 1790 and 1950 (Latham 1790, Michelles 1830, Brehm 1831, Temminck 1835, Gould 1837, Schinz 1840, Keitel 1857, Sharpe 1872, Blanford 1873, Zarudnyj 1904a, Zarudnyj & Loudon 1905, Zarudnyj & Buturlin 1906, Buturlin 1906, 1907, 1916, Zarudnyj in Zarudnyj & Bil'kevič 1918, Ticehurst 1923, Vorob'ev 1934, Meinertzhagen 1938a, Koelz 1950). In the course of a taxonomic revision of this species complex (Mlíkovský in prep.), I observed that applicability of some of these names is not apparent from original descriptions, that it remains unclear what are types of some of these nominal species, and that current whereabouts of some of their types is unknown. Also, it turned out that some of relevant data and authorship of some of these names are inaccurately or even incorrectly cited in literature. Hence, I revised the nomenclatural status of nominal species created for Rock Nuthatches of the *Sitta neumayer* species complex in order to clear up applicability of relevant names. Taxonomic issues were addressed only if they were directly relevant to nomenclatural issues. Names applied to Rock Nuthatches are listed alphabetically (according to species-group names) in the following list.

MATERIAL AND METHODS

During this study I checked all original descriptions of nominal taxa belonging to the *Sitta neumayer* species complex and searched for other relevant literature. Concurrently I searched in museum collections for surviving type specimens. In particular, I visited museums in Berlin, Germany (ZMB), København, Denmark (ZMUC), Russia (ZMMU), Praha, Czechia (NMP), Sankt-Peterburg, Russia (ZIN), Tring, United Kingdom (BMNH), Warszawa, Poland (MIZ), and Wien, Austria (NMW). Data on specimens in other collections were obtained from published sources and through correspondence with colleagues worldwide. Where possible I checked taxonomic identity of each type and I controlled its type status using both published data and data in unpublished museum catalogues.

Type localities were identified using data on labels attached to specimens, data published in relevant papers and available expedition itineraries. Current names of localities were checked with available maps. In general, I followed spelling used by Alexandria Digital Library (Anonymous 2007). Names of authors and localities originally written in non-Latin scripts were transliterated into the Latin script using relevant standards (see e.g. Pedersen 2007). Julian dates (used by most Russian researchers prior to 1918) were given in original and recalculated Gregorian dates were added in brackets.

Museum acronyms (following Roselaar 2003 where possible) are as follows:

AMNH = American Museum of Natural History, New York, New York, USA

BMNH = Natural History Museum, Tring, England, United Kingdom [Formerly: British Museum (Natural History)]

FMNH = Field Museum, Chicago, Illinois, USA

MANCH = Manchester Museum, University of Manchester, Manchester, United Kingdom

MIZ = Muzeum i Instytut Zoologii, Polska Akademia Nauk [Museum and Institute of Zoology, Polish Academy of Sciences], Warszawa, Poland

MRSN = Museo Regionale di Scienze Naturali [Regional Museum of Natural Sciences], Torino, Italy

NMGM = National Museums and Galleries on Merseyside, Liverpool, United Kingdom

NMP = Národní muzeum [National Museum], Praha, Czechia

NMW = Naturhistorisches Museum, Wien, Austria

RMNH = Naturalis, Leiden, The Netherlands [Formerly: Rijks Rijksmuseum van Natuurlijke Historie]

TASU = O'zbekiston Milliy Universiteti [National University of Uzbekistan], Tashkent, Uzbekistan [Formerly: Taškentskij gosudarstvennyj universitet = Tashkent State University]

ZFMK = Zoologisches Forschungsmuseum und Museum Alexander Koenig, Bonn, Germany

ZIN = Zoologičeskij institut, Russkaja akademija nauk [Institute of Zoology, Russian Academy of Sciences], Sankt-Peterburg, Russia

ZMB = Museum für Naturkunde, Humboldt-Universität, Berlin, Germany

ZMMU = Zoologičeskij muzej, Moskovskij gosudarstvennyj universitet [Zoological Museum, Moscow State University], Moskva, Russia

ZMUC = Zoologisk Museum, Københavns Universitet [Zoological Museum, København University], København, Denmark

AUTHORS

Blanford, William Thomas (1832–1905): British geologist and zoologist.
Brehm, Christian Ludwig (1787–1874): German zoologist.
Buturlin, Sergej Aleksandrovič (1872–1938): Russian zoologist.
Gould, John (1804–1881): British painter and ornithologist.
Keitel, G. T.: German naturalist and natural history dealer.
Koelz, Walter Norman (1895–1989): American zoologist.
Latham, John (1740–1837): British ornithologist.
Loudon, Harald von (1876–1959): Lithuanian-German ornithologist.
Meinertzhagen, Richard (1878–1967): British ornithologist.
Michahelles, Karl (1807–1834): German zoologist.
Schinz, Heinrich Rudolf (1777–1861): Swiss zoologist.
Sharpe, Richard Bowdler (1847–1909): British ornithologist.
Temminck, Coenraad Jacob (1778–1858): Dutch zoologist.
Ticehurst, Claud Buchanan (1881–1941): British ornithologist.
Vorob'ev, Konstantin Aleksandrovič (1899–1988): Russian ornithologist.
Zarudnyj, Nikolaj Alekseevič (1859–1919): Russian zoologist.

GAZETTEER

Type localities of Rock Nuthatches are listed below, incl. those at which holotypes, lectotypes, syntypes and paralectotypes were collected. Variant spellings are added in parentheses. Current administrative position and geographic coordinates of each locality are given.

Aydin (Aidin), Aydin Province, Turkey [37.85°N, 27.85°E]
Akhalt'sikhe (Achal'cichë, Akhalikh), Samtskhe-Javakheti Province, Georgia [41.63°N, 42.98°E]
Bampur (Rud"-i-Kaskin", Rud-i-Kasskin), Sistan va Baluchestan Province, Iran [27.20°N, 60.45°E]
Bazman (Bazman", Basman), Sistan va Baluchestan Province, Iran [27.86°N, 60.18°E]
Bsharri (Bischerre), al-Shamal Governorate, Lebanon [34.25°N, 36.02°E]
Dardeh (Dar Deh), Tehran Province, Iran [36.02°N, 51.26°E]
Dihok (Dohuk), Dihok Province, Iraq [36.87°N, 43.00°E]
Do Polan (Dopulan, Dopulun), Chahar Mahall va Bakhtiari Province, Iran [31.90°N, 50.63°E]
Dubrovnik (Ragusa), Dubrovačko-neretvanska County, Croatia [42.65°N, 18.09°E]
Dzhamaldin (Džamal-Edin, Djamaldin), Naxçıvan Republic, Azerbaijan [39.09°N, 45.60°E]
Esfahan (Isfahan, Ispagan, Isphagan), Esfahan Province, Iran [32.66°N, 51.67°E]
Firûza (Feruse, Firûza, Firyuza), Ahal Province, Turkmenistan [37.93°N, 58.07°E]
Goraghan (Guragan), Kerman Province, Iran [28.89°N, 57.90°E]
Hoseynabad-e Ga'yha (Schaschgirt), Qom Province, Iran [34.79°N, 50.79°E]
Kabusi (Pul-i-Amarat), Chahar Mahal va Bakhtiari Province, Iran [31.67°N, 50.49°E]
Kâmë-Zarčan' (Kjama Sardshan), Sistan va Baluchestan Province, Iran [Unidentified site at Kuh-e Taftan, 28.60°N, 61.13°E]
Karij Valley (Kary Valley, Lura Valley), Tehran Province, Iran [Birds probably collected at Dardeh, 36.02°N, 51.26°E]

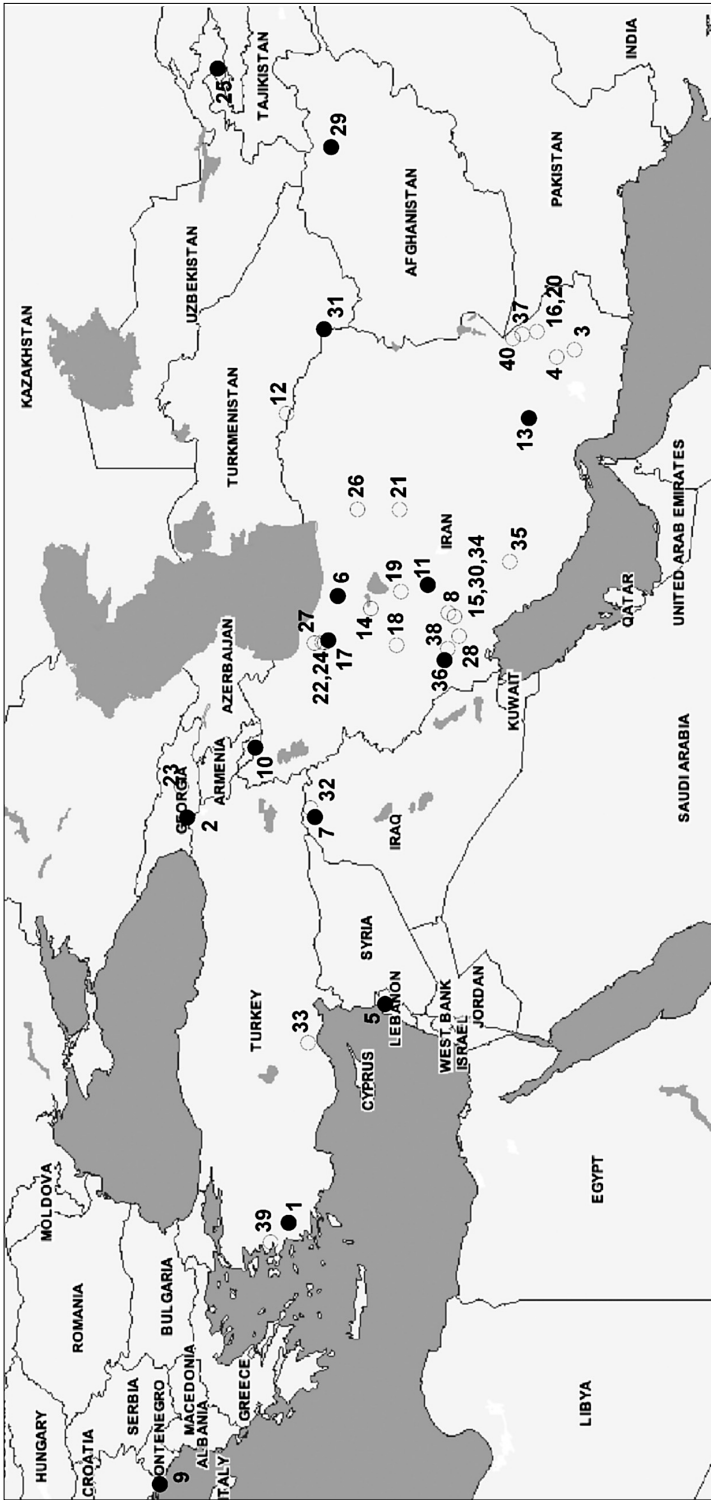


Fig. 1. Type localities of the *Sitta neumayer* species complex. ● = localities of holotypes and syntypes, ○ = localities of paracotypes. United Nations three-letter codes of countries are given in parentheses (AFG – Afghanistan, GEO – Georgia, HRV – Croatia, IRN – Iran, IRQ – Iraq, LBN – Lebanon, TUR – Turkey, UZB – Uzbekistan).
 1 – Aydın (TUR), 2 – Akhalts'ikhe (GEO), 3 – Bampur (IRN), 4 – Bazman (IRN), 5 – Bsharri (LBN), 6 – Dardeh in Karij valley (IRN), 7 – Dihok (IRQ), 8 – Do Polan (IRN), 9 – Dubrovnik (HRV), 10 – Dzhamaldin (AZE), 11 – Esfahan (IRN), 12 – Firūza (TKM), 13 – Goraghan (IRN), 14 – Hoseynabad-e Ga'yha (IRN), 15 – Kabusi (IRN), 16 – Kâmtê-Zarçan' (IRN), 17 – Keroo (IRN), 18 – Kharaji (IRN), 19 – Kohrud (IRN), 20 – Kuh-e Taftan (IRN), 21 – Kuh-e Zalu Band (IRN), 22 – Molla Ali (IRN), 23 – Okhera (GEO), 24 – Pa Chenar (IRN), 25 – Quqon (UZB), 26 – Rashm (IRN), 27 – Rostamabad (IRN), 28 – Rud-e Zard (IRN), 29 – Samangan (AFG), 30 – Sar Khun (IRN), 31 – Saragt (TKM), 32 – Sarsing (IRQ), 33 – Sebîl (TUR), 34 – Shañî-e Olya (IRN), 35 – Shiraz (IRN), 36 – Shushtar (IRN), 37 – Tanq-i Nidam (IRN), 38 – Tembi (IRN), 39 – Yamamlar (TUR), 40 – Zahedan (IRN).

Keroo (Keróo), Qazvin Province, Iran [Unidentified site between Aqa Baba and Molla Ali, estimated at 36.37°N, 49.60°E]
 Kharaji (Charadschi), Lorestan Province, Iran [33.83°N, 49.42°E]
 Kohrud (Kohród), Esfahan Province, Iran [33.67°N, 51.42°E]
 Kuh-e Taftan (Kuh"-i-Tuftan", Kuh-i-Tuftan), Sistan va Baluchestan Province, Iran [28.60°N, 61.13°E]
 Kuh-e Zalu Band (Turumand, Zurumand), Esfahan Province, Iran [33.72°N, 54.48°E]
 Molla Ali, Qazvin Province, Iran [36.51°N, 49.52°E]
 Okhera (Ocher'), Shida-Kartli Province, Georgia [41.85°N, 44.13°E]
 Pa Chenar (Pa-činar"), Gilan Province, Iran [36.60°N, 49.53°E]
 Quqon (Kokand), Farg'ona Province, Uzbekistan [40.50°N, 70.95°E]
 Rashm (Reschm), Semnan Province, Iran [35.29°N, 54.49°E]
 Rostamabad (Rustem"-Abad"), Gilan Province, Iran [36.89°N, 49.50°E]
 Rud-e Zard (Tschmeschme-Rogan), Khuzeszan Province, Iran [31.50°N, 49.76°E]
 Samangan (Haibak, Aybak), Samangan Province, Afghanistan [36.27°N, 68.02°E]
 Sar Khun (Sarchun), Chahar Mahal va Bakhtiari Province, Iran [31.73°N, 50.56°E]
 Saragt (Serachs, Sirax), Ahal Province, Turkmenistan [36.53°N 61.22°E,]
 Sarsing (Chersafer), Dihok Province, Iraq [37.04°N, 43.34°E]
 Sebil (Zebil), Mersin Province, Turkey [37.13°N, 34.57°E]
 Shalil-e Olya (Schalil), Chahar Mahal va Bakhtiari Province, Iran [31.73°N, 50.47°E]
 Shiraz, Fars Province, Iran [29.61°N, 52.54°E]
 Shushtar (Schuster, Šuster), Khuzestan Province, Iran [32.04°N, 48.86°E]
 Tanq-i Nidam (Tankinidam", Tankinidan), Sistan va Baluchestan Province, Iran [Unidentified pass near Cheshmeh Bid, 29.14°N, 61.03°E]
 Tembi (Pain-Gjatsch, Pain'-Gâč), Khuzestan Province, Iran [31.92°N, 49.29°E]
 Yamanlar (Iamanlar), Izmir Province, Turkey [38.53°N, 27.13°E]
 Zahedan (Dus-ab, Duz"-ab"), Sistan va Baluchestan Province, Iran [29.50°N, 60.87°E]

SPECIES LIST

***Sitta armeniaca* Vorob'ev**

Sitta tephronota armeniaca Vorob'ev, 1934: 156.

TYPE SERIES: A holotype was designated by Vorob'ev (1934: 157). In addition, Vorob'ev (1934: 157) gave measurements of further three males, three females and two unsexed specimens. He had thus at least eight paratypes of this species at disposal. Of these specimens, the holotype and a paratype are deposited in ZMMU (Sudilovskaâ 1959: 86, Red'kin 2001: 153), another paratype is in ZMB (J. Mlíkovský, pers. observation in 2005), and current whereabouts of the remaining six paratypes is unknown.

HOLOTYPE: ZMMU R-14470, ♂, collected by G. V. Sosnin on 14 June 1929 at "Nach-kraj, okr. s. Džamal-Edin, pustyn. skalist. us." [= Dzhamaldin, Azerbaijan].

PARATYPE: ZMMU R-14469, unsexed specimen, collected by G. V. Sosnin on 14 June 1929 at "Nach-kraj, okr. s. Džamal-Edin, pustyn. skalist. us." [= Dzhamaldin, Azerbaijan].

PARATYPE: ZMB 33.1098: ad. ♀, collected by G. Sosnin on 10 June 1930 at Asni [= unidentified locality, probably close to Dzhamaldin, Azerbaijan].

TYPE LOCALITY: Specified as „environs de Nakhitchewan en Arménie“ (Vorob'ev 1934: 157), i.e. “surroundings of Naxçivan in Armenia”, and “alentours du village Djamaldin, 24 kilometres au S.-E. de Nakhitchewan” (Vorob'ev 1934: 156), i.e. “surroundings of the Dzhamaldin village, 24 km SE of Naxçivan”, and “Nach-kraj, okr. s. Džamal-Edin, pustyn. skalist. ušč.“, i.e. “Nax[çivan] province, surrounding of Dzhamaldin village, desert rocky gorge” (label of the holotype; Red'kin 2001: 153). The type locality of this species is thus Dzhamaldin, Azerbaijan.

***Sitta dresseri* Zarudnyj & Buturlin**

Sitta dresseri Zarudnyj & Buturlin, 1906: 132.

TYPE SERIES: Zarudnyj & Buturlin (1906: 132) did not indicate size of the type series, but gave measurements of eight specimens of this form. Buturlin (1907: 51) stated that Zarudnyj collected 12 specimens of *dresseri*, of which eight were available to him for study, while four specimens were already forwarded by Zarudnyj to other collections at that time. Buturlin (1907: 51, footnote) added that types of this form are deposited in Zarudnyj's private collection, but such a restriction is invalid according to ICZN (1999). Zarudnyj & Härms (1923: 411) listed 12 specimens of *dresseri*, all of which were collected during Zarudnyj's 1903-1904 expedition to western Iran. The original type series thus consisted of 12 syntypes. Zarudnyj's & Buturlin's (1923) list includes both specimens which are now deposited in NMW (J. Mlíkovský, pers. obs. 2006) and ZFMK (Rheinwald & van den Elzen 1984: 107), respectively. All specimens in Zarudnyj's collection in TASU (unknown number) were lost (see Balan 1966).

Vaurie (1950: 24) believed that Zarudnyj & Buturlin (1906) based their *Sitta dresseri* on Iranian specimens of Blanford's (1876: 224) “large pale variety”. This is not the case, however, because Zarudnyj's and Buturlin's paper was based on the results of Zarudnyj's 1903-1904 expedition to western Iran (see Zarudnyj 1911: 188-190), while Blanford (1876: 223), Zarudnyj (1903: 343) and Hartert (1905: 339) were cited only as references.

LECTOTYPE (here designed): NMW 32089, unsexed specimen, collected by N. Zarudnyj on “06.03.1904” [= 19 March 1904] at “Šuster” or “Schuster”, Arabistan (label) [= Shushtar, Iran]. See under 'Remarks' for the reasons of lectotypifying this specimen.

PARALECTOTYPE: ZFMK G.IX.e¹.α, ad. M, collected by Sarudny [= N. Zarudnyj] on “14.04.1904” [= 27 April 1904] at Charadschi, W-Persien [= Kharaji, Iran].

TYPE LOCALITY: Zarudnyj & Buturlin (1906: 132) did not mention any locality for their *S. dresseri*, but Zarudnyj & Härms (1923: 411) listed nine localities at which 12 syntypes were collected. All these localities form the original type locality of this form and all lay in Zagros Mountains, Iran. They include “Dopulun” [= Do Polan], “Sarchun” [= Sar Khun], “Schalil” [= Shalil-e Olya], “Tscheschme-Rogan” [= unidentified site in the vicinity of Rud-e Zard], “Schuster” [= Shushtar], “Pain-Gjatsch” [= unidentified site in the vicinity of Tembi], “Pul-i-Amarat (Fl. Bazuft)” [= Kabusi], and “Charadschi (Schlucht am Fl. Al-Tang-i-Darkasch)” [= Kharaji]. With the lectotypification of specimen NMW 32089, the type locality is automatically restricted to Shushtar, Iran (see ICZN 1999, Art. 76.2).

Vaurie (1950: 24) fixed Shiraz as the type locality of *dresseri* (see also Vaurie 1959: 533), because he erroneously believed that Zarudnyj & Buturlin (1906) based this

species on Blanford's (1876: 223) "large pale variety", whose specimens were collected by Blanford and/or his colleagues at Shiraz or its wider vicinity. This fixation is invalid, because Blanford's specimens from the Shiraz region have not been part of the type series upon which *Sitta dresseri* was based (see above). Moreover, none of Zarudnyj's specimens was collected at Shiraz (see Zarudnyj & Härms 1923: 411).

REMARKS: Two forms of so-called large Rock Nuthatches were distinguished in the Zagros Mountains and adjacent mountain ranges, incl. *Sitta dresseri* Zarudnyj & Buturlin, 1906, and *Sitta obscura* Zarudnyj & Loudon, 1905. Current whereabouts of most syntypes of *S. dresseri* is unknown, and their taxonomic identity thus cannot be revised. Taxonomic identity of *S. dresseri* thus can be properly settled only if one of the remaining syntypes is selected as a lectotype (Mlíkovský, in prep.). Hence, I design here specimen NMW 32089, which I studied personally, as the lectotype of *Sitta dresseri* Zarudnyj & Buturlin. All other syntypes of *S. dresseri* became paralectotypes by this action.

***Rupisitta iranica* Buturlin**

Rupisitta tephronota iranica Buturlin, 1916: 165.

TYPE SERIES: Buturlin (1916: 165) stated: "Typy v" moej kolekcii: tri êkz. ot marta 1905 s" persidskoj granicy. Vsego isslédovano svyše polutora desâtkov êkz.", i.e. "Types in my collection: three specimens from March 1905 [= 14 March – 13 April 1905] from the Persian border. Overall, over 15 specimens were examined." The original Russian text was inaccurately translated in the English summary of Buturlin's paper (Buturlin 1916: 173), where "zvyše polutora desâtkov" (i.e. over 15) was given as "about a dozen and half" (i.e. about 18). However, both these statements indicate that Buturlin examined 16-19 specimens (incl. three syntypes and 13-16 paratypes). Buturlin's collection is deposited in ZMMU and both ZMMU specimens of *Sitta iranica* can be regarded as syntypes of this form (see also Sudilovská 1959: 86, Red'kin 2001: 153-154). Relevant specimens found in other museums are probably paratypes. I located five of the 13-16 paratypes, two of which are deposited in ZMMU (Sudilovská 1959: 86, Red'kin 2001: 153-154), two are in ZMB (J. Mlíkovský, pers. observation in 2005) and one is in AMNH (see Sweet 2007).

LECTOTYPE (designed by Sudilovská 1959: 86): ZMMU R-10220, unsexed specimen, collected by N. Zarudnyj on "20.03.1905" [= 2 April 1905] at "Sirax" (label) or "Serachs, Zakaspijskij kraj, iranskaâ granica" (Sudilovská 1959: 86) [= Saragt, Turkmenistan].

PARALECTOTYPE: ZMMU R-10221, unsexed specimen, collected by an unknown collector [= N. Zarudnyj] on "04.03.1905" [= 17 March 1905] at "Feruse" [= Firûza, Turkmenistan].

PARATYPE: ZMB 73.42, unsexed specimen, collected by an unknown collector [= N. Zarudnyj] on "06.03.1905" [= 19 March 1905] at "Feruse" [= Firûza, Turkmenistan].

PARATYPE: ZMB 73.43, unsexed specimen, collected by an unknown collector [= N. Zarudnyj] on "01.03.1905" [= 14 March 1905] at "Feruse" [= Firûza, Turkmenistan].

PARATYPE: AMNH 684041, unsexed specimen, collected by Zarudnyj [= N. Zarudnyj] on "07.03.1905" [= 20 March 1905] at "Feruze, Nr Aschabad" [= Firûza, Turkmenistan].

TYPE LOCALITY: The lectotype was collected at Saragt, Turkmenistan, which is thus the restricted type locality of *Sitta iranica* (see ICZN 1999, Art. 76.2). Originally, the type locality included also Firûza, Turkmenistan.

***Sitta kurdistanica* Ticehurst**

Sitta neumayer kurdistanica Ticehurst, 1923: 28.

TYPE SERIES: A holotype was designated by Ticehurst (1923). In addition, Ticehurst (1923: 28) listed three males and a female as paratypes of this form. The holotype and three paratypes are deposited at BMNH (Warren & Harrison 1971, J. Mlíkovský, pers. observation in 2006), while current whereabouts of the fourth paratype is unknown.

HOLOTYPE: BMNH 1924.3.20.506, ♂, collected by V. S. La Personne (his field-Nr. 1721) on 19 October 1922 at “Tang-i-Dorq, 2000’, Dohuk, Kurdistan” [= Dihok, Iraq]. Obtained by BMNH from the Cox–Cheesman Collection.

PARATYPE: BMNH 1924.3.20.507, ♂, collected by V. S. La Personne (his field-Nr. 1739) on 24 October 1922 at “Tang-i-Dorq, 2000’, Dohuk, Kurdistan” [= Dihok, Iraq]. Obtained by BMNH from the Cox–Cheesman Collection.

PARATYPE: BMNH 1924.3.20.508, ♀, collected by V. S. La Personne (his field-Nr. 1745) on 27 October 1922 at “Chersafer, 15 m. N. of Dohuk” [= Sarsing, Iraq]. Obtained by BMNH from the Cox–Cheesman Collection.

PARATYPE: BMNH 1941.5.30.238, ♂, collected by V. S. La Personne (his field-Nr. 1746) on 27 October 1922 at “Chersafer, 2100’, 15 m. N. of Dohuk” [= Sarsing, Iraq]. BMNH obtained this species from the Ticehurst Collection, which in turn obtained it from the Cox–Cheesman Collection.

TYPE LOCALITY: The holotype and all paratypes originated from the Dihok Province, Iraq (Ticehurst 1923). The holotype was collected at „Tang-i-Dorq, 2000 ft”, which I was not able to identify exactly. The name itself is not typical for an Iraqi or Kurdistan locality, because it means “rocky gorge” in Farsi. Considering the geography of the Dihok Province, available roads, dates of collection, and notes on labels I tentatively identify here “Tang-i-Dorq” with Dihok (capital of the province), which I deem to be the type locality of *Sitta kurdistanica*.

REMARKS: Percy Cox (1864-1937) and Robert Ernest Cheesman (1878-1962) were British zoologists.

***Sitta longirostris* Latham**

Sitta longirostris Latham, 1790: 264

TYPE SERIES: This species was described by Latham (1787: 118) as a “Long-billed Nuthatch” and later Latinized as “*Sitta longirostris*” (Latham 1790: 264). Type locality was given as “Batavia”, and because no similar birds currently inhabit the region the identity of this species remained unresolved until present. Fisher & Warr (2003: 159) recently called attention to the fact that Latham (1787, 1790) based the description of this species on paintings which he explicitly examined in the collection of Lady Mary Impey (1749-1818), wife of Sir Elijah Impey (1732-1809), a British judge. These paintings were probably a work of Sheikh Zayn-al-Din, and originated at Calcutta, when the Impeys resided there, i.e. in between 1774-1783 (Fisher & Warr

2003, see also Pandey 1967). The type series of *Sitta longirostris* Latham thus consists of one or more specimens painted by Sheikh Zayn-al-Din. Their whereabouts is unknown (they probably perished long ago), but the surviving two paintings are currently deposited in NMGM and BMNH (see Fisher 2002, Fisher & Warr 2003, Fig. 21 and 22).

TYPE LOCALITY: Geographic origin of nuthatches painted by Sheikh Zayn-al-Din is unknown. Latham (1787: 118, 1790: 264) wrote that they originated from “Batavia”, i.e. present-day Jakarta on the island of Java, Indonesia. Fisher & Warr (2003: 159) said that *longirostris* could be a Siamese (Thai) species, because one of the paintings was labeled as a ‘Syam Chakar’, which they interpreted as ‘Siamese nuthatch’. Dickinson (2006: 233) indicated that “the picture much more closely resembles south-west Iranian birds, which belong to *Sitta europaea persica* Witherby, 1903, than it does any from Thailand”, thus indirectly supporting Iran as the country of the bird’s origin. Indeed, there are several details which point toward Iran (then Persia): (1) Zayn-al-Din is a Persian name, (2) original signs on the BMNH painting are in Farsi, and (3) the birds shown on both paintings are large Rock Nuthatches (see below). With this in mind I restrict here the type locality of *Sitta longirostris* to the Zagros Mountains in western Iran.

REMARKS: *Sitta longirostris* received less taxonomic evaluation with diverse results. Gadow (1883) omitted any reference to it. Greenway (1967: 142, footnote) decided that the species is “not identifiable”. Fisher & Warr (2003: 159) conjectured that *Sitta longirostris* could be a Siamese (Thai) species. However, no similar species is currently known to inhabit south-eastern Asia, and I am not aware of any historical reports on similar species from this region, so *Sitta longirostris* would have to be an extinct species. Dickinson (2006: 233) indicated that “the picture much more closely resembles south-west Iranian birds, which belong to *Sitta europaea persica* Witherby, 1903, than it does any from Thailand”. The latter form, however, differs from the birds depicted as *Sitta longirostris* in having underparts washed reddish, facial stripe shorter and less conspicuous, and bill shorter.

In general, both known figures of *Sitta longirostris* particularly resemble some forms of Rock Nuthatches, especially those with dark reddish belly sharply separated from the white or whitish rest of the underparts. These forms occur in western Balkans, in Zagros Mountains (in broad sense), and in Tien-Shan (in broad sense). Broad and long facial stripe rules out the Balkan birds. It is not possible to distinguish with certainty, whether the paintings show a nuthatch from western Iran or from Tien-Shan, but various signs related to the paintings point toward Persia (see above), and I thus suggest that *Sitta longirostris* Latham was based on large Rock Nuthatches from the Zagros Mountains (in a broad sense), to which also the following names were applied: *Sitta obscura* Zarudnyj & Loudon, 1905, and *Sitta dresseri* Zarudnyj & Buturlin, 1906. Taxonomic relations between *Sitta longirostris*, *Sitta obscura* and *Sitta dresseri* will be discussed elsewhere.

***Sitta neumayer* Michahelles**

Sitta Neumayer Michahelles, 1830: col. 814.

NOMENCLATURE: Many authors spelled the species name with <i> at the end, i.e. *neumayeri*. This change has been done either unintentionally or intentionally while the name

was listed in synonymy (e.g. Blanford 1876: 225). It is thus a subsequent incorrect spelling in such cases, without standing in zoological nomenclature (see ICZN 1999, Art. 33). Beginning with Dresser (1872: 183), a few authors used *Sitta neumayeri* [sic!] as a valid name for this Nuthatch (e.g. Gadow 1883: 345, Brusina 1901: 14, Kollibay 1904: 466, Smallbones 1906: 415, Szielasko 1913: 237), but in no case the use was “demonstrably intentional” in the sense of ICZN (1999, Art. 33.2). Hellmayr (1903: 173) and Hartert (1905: 338) observed that correct spelling of the name is *neumayer*, which was generally accepted subsequently.

TYPE SERIES: Unknown number of individuals obtained by Karl Michahelles (1807-1834) from Franz Neumayer (1791-1842), a naturalist and natural history dealer in Ragusa, Dalmatia [= Dubrovnik, Croatia]. I located three potential syntypes of this species in AMNH (in a database – see Sweet 2007). All were collected in “Dalmatien” in 1829-1830 and AMNH purchased them in 1932 from Lionel Walter Rothschild (1868-1937), who in turn purchased them in 1900 from the heirs of Christian Ludwig Brehm (1787-1864), a famous German ornithologist and bird collector. Brehm was in contact with Michahelles, because their correspondence is known (F. Steinheimer, pers. communication in 2007) and he could have obtained these specimens from him. However, Christoph Fellner von Feldegg (1789-1845), a significant Austrian bird collector and officer of the Austrian army was garrisoned in southern Dalmatia in the 1820s. Feldegg donated or sold collections of Dalmatian birds in 1830 to NMW (Natterer 1843) and in 1830-1831 to NMP (Anonymous 1831a-d). Both these collections contained Rock Nuthatches (Natterer 1843, Anonymous s.d.) and it is thus possible that also Brehm obtained some Dalmatian birds from him. The situation is even more complicated, because Feldegg and Michahelles apparently knew each other and Michahelles may have seen some Dalmatian Rock Nuthatches in Feldegg’s collection prior to his description of *Sitta neumayer*. If so, even some specimens in Feldegg’s collection could have belonged to the original type series of *Sitta neumayer* Michahelles. In absence of further evidence I list here the three AMNH specimens only as potential syntypes of this species. For Feldegg’s specimens see under *Sitta orientalis* (below).

SYNTYPE (?): AMNH 456038, unsexed specimen, collected by an unknown collector in 1830 in “Dalmatien” [= Dalmatia, Croatia/Montenegro].

SYNTYPE (?): AMNH 456039, unsexed specimen, collected by an unknown collector in May 1829 in “Dalmatien” [= Dalmatia, Croatia/Montenegro].

SYNTYPE (?): AMNH 456040, unsexed specimen, collected by an unknown collector in 1830 in “Dalmatien” [= Dalmatia, Croatia/Montenegro].

TYPE LOCALITY: “Ragusa” (Michahelles 1830: col. 814), i.e. Dubrovnik, Croatia.

REMARKS: Elter (1986: 430) listed two specimens of “*Sitta neumayeri*” (MRSN 256 and MRSN 275), originating from “Dalmazia” said to have been obtained from Michahelles [sic!] and Heckel, respectively. In absence of further data I did not include these two specimens among the types of *Sitta neumayer*.

***Sitta obscura* Zarudnyj & Loudon**

Sitta syriaca obscura Zarudnyj & Loudon, 1905: 76.

TYPE SERIES: Zarudnyj & Loudon (1905) did not mention the size of the type series, but specified three regions from which the syntypes of *S. obscura* originated (see below).

Buturlin (1907: 50-51) studied 13 specimens of this nuthatch from 'northwestern Iran' and 'Persian Baluchistan' and said that his description of this form was based on type specimens of *S. obscura*. However, it is unclear from his paper whether all the 13 specimens belonged to the type series and whether he had at disposal all syntypes of *S. obscura*. Zarudnyj & Härms (1923: 407-408) listed 13 specimens of *S. obscura* from western Persia and 7 specimens from northern Baluchistan. This paper – written before WWI (E. Stresemann in Zarudnyj & Härms 1923: 399) – is the first in which Zarudnyj presented a list of localities from which specimens he believed to belong to *S. obscura* originated, and specified numbers of measured specimens. Taking the geographic origin of the syntypes of *S. obscura* (see below under 'Type locality') facilitates further search for specimens from the original type series of this form.

- (1) Specimens from the 'Persian Beluchistan': Zarudnyj & Härms (1923: 408) presented measurements of seven specimens from 'Beluschistan' and cited six localities, from which they originated. Zarudnyj (1903: 343) listed seven specimens of Rock Nuthatches (then identified by him as *Sitta syriaca*). The localities of specimens Nr. 2-7 (sensu Zarudnyj 1903: 343) correspond with those given by Zarudnyj & Härms (1923: 408) for *S. obscura* from 'Beluchistan' (incl. sequence in which they listed). These six specimens thus qualify as syntypes of *S. obscura*. It remains unknown, however, whether the seventh specimen mentioned by Zarudnyj & Härms (1923: 408) is identical with the specimen Nr. 1 of Zarudnyj (1903: 343), whether another specimen replaced the former Nr. 1, or whether 'seven' was erroneously printed for 'six' in Zarudnyj & Härms (1923). The six specimens identified here as syntypes of *S. obscura* are listed below, although their current whereabouts is unknown.
- (2) Specimens from 'central parts of the Iranian Upland: This is explained by Zarudnyj and Härms (1923: 408), who stated that "Nach den [oben] genannten Orten ... zu urteilen, kann man annehmen, dass diese Form auch die centralen Teilen Persiens, nämlich in den Bergen, welche mit einander die genannten nordwestlichen und südöstlichen Verbreitungsgebiete verbinden, vorkommen muss.", i.e. "As judged after the [above] mentioned localities it is possible to expect that this form has to occur also in central parts of Persia, i.e. in the mountains which connect the mentioned northwestern and southeastern ranges." The occurrence of *S. obscura* in 'central parts of the Iranian Plateau', mentioned by Zarudnyj & Loudon (1905:76) is thus hypothetical. No syntypes of *S. obscura* thus originated from this part of Iran.
- (3) Specimens from the 'mountains between the Caspian Sea and the Saveh River in the south': Zarudnyj & Härms (1923: 407) specified that they had 13 specimens at disposal. All Zarudnyj's specimens were collected in Iran prior to the description of *S. obscura*, so all of these specimens belong to the original type series of this form. Zarudnyj & Härms (1923: 407) specified that these specimens originated from the following nine localities: "Reschm" [= Rashm], "Turumand" [= Kuh-e Zalu Band], "Schaschgirt" [= unidentified site near Hoseynabad-e Ga'yha], "Keróo" [= Keroo; unidentified site between Aqa Baba and Molla Ali], "Molla-Ali" [= Molla Ali], "Pa-Tschinar" [= Pa Chenar], and "Rustem-Abad" [= Rostamabad]. It follows from the itineraries of Zarudnyj's expeditions to Iran (Zarudnyj 1886, 1896a,b, 1899, 1900, 1902, 1903, 1904b) that all of these specimens were collected during the 1903-1904 expedition. Identity of individual specimens is unclear, however, and was unable to locate any one of them.

Overall, the original type series of *S. obscura* thus consisted of 20 specimens, collected by N. Zarudnyj in Iran in 1898 and by N. Zarudnyj and M. Härms in 1903-1904. I located only two of these syntypes, one in NMW (J. Mlíkovský, pers. observation in 2006) and one in AMNH (see Sweet 2007).

LECTOTYPE (here designed): NMW 32088, unsexed specimen, collected by N. Zarudnyj on "13.05.1904" [= 26 May 1904] at "Keroo, Gilan, Persia" [= Keroo, Iran]. See under 'Remarks' for the reasons of lectotypifying this specimen.

PARALECTOTYPE: AMNH 684035 ad. ♂, collected by N. Zarudnyj on "31.08.1898" [= 12 September 1898] at Tankinidam" or Tankinidan [= Tanq-i Nidam, Iran].

PARALECTOTYPE (lost): juv. ♀, collected by N. Zarudnyj on "30.06.-03.07.1898" [= 12-15 July 1898] at Bazman" or Basman [= Bazman, Iran].

PARALECTOTYPE (lost): ad. ♂, collected by N. Zarudnyj on "07.07.1898" [= 19 July 1898] at Rud"-i-Kaskin" or Rud-i-Kasskin [= Bampur, Iran].

PARALECTOTYPE (lost): ad. ♀, collected by N. Zarudnyj on "20.08.1898" [= 1 September 1898] at Kâmè-Zarčan' or Kjama Sardshan [= Kâmè-Zarčan', Iran].

PARALECTOTYPE (lost): ad. ♀, collected by N. Zarudnyj on "26.08.1898" [= 7 September 1898] at Kuh"-i-Taftan" or Kuh-i-Taftan [= Kuh-e Taftan, Iran].

PARALECTOTYPE (lost): juv. ♂, collected by N. Zarudnyj on "02.09.1898" [= 14 September 1898] at Duz"-ab" or Dus-ab [= Zahedan, Iran].

TYPE LOCALITY: Zarudnyj & Loudon (1905: 76) did not list any type specimens of *S. obscura*, but specified its distribution, as follows: "Sie bewohnt das Gebirge zwischen dem Kaspischen Meere und dem Tale des Sawa Flusses im Süden und ebenso das persische Beludschistan. Dieselbe Form bewohnt auch die zentralen Teile des Iranischen Hochlandes.", i.e. "It inhabits mountains between the Caspian Sea and the Sawa [= Saveh] River valley [= Alborz Mountains] and also Persian Baluchistan. The same form inhabits also central parts of the Iranian Upland." My reconstruction of the original type series of *S. obscura* (see above) showed, that the occurrence in central parts of the Iranian Upland was purely hypothetical and that it thus does not belong to the original type locality of *S. obscura*. The original type locality (see above under 'Type series') thus included six localities in southeastern Iran (Bampur, Bazman, Kâmè-Zarčan', Kuh-e Taftan, Tanq-i Nidam, Zahedan) and seven localities in northern Iran (Keroo, Kuh-e Zalu Band, Molla Ali, Pa Chenar, Rashm, Rostamabad, Hoseynabad-e Ga'yha). With the designation of specimen NMW 32088 as the lectotype of this form, its type locality is restricted to "Keróo", i.e. Keroo, Iran (see ICZN 1999, Art. 76.2).

REMARKS: Zarudnyj & Loudon (1905) described *S. obscura* from two different regions and there are indications that not all specimens from the original type series belonged to a single form. (1) Wing lengths given by Zarudnyj & Härms (1923: 407-408; measured on fresh specimens) for birds from the southern area (88-95 mm) and for those from the northern area (84.5-90 mm) differ from each other and the smallest northern specimens seem to be too small for a typical *S. obscura* (J. Mlíkovský, unpub. data). (2) The locality Rashm lays far outside the otherwise known range of so-called large Rock Nuthatches, to which *S. obscura* was believed to belong (J. Mlíkovský, unpub. data). These doubts cannot be checked with specimens from the original type series, because they seem to be lost, and the taxonomic identity of *Sitta obscura* thus cannot

be clarified without selecting one of the two surviving specimens of this form as its lectotype. Hence, I design here the specimen NMW 32088 – which I examined personally – as the lectotype of *Sitta obscura* Zarudnyj & Härms. All other syntypes of this form become herewith its paralectotypes.

***Sitta orientalis* Brehm**

Sitta orientalis „Natt[erer]“ Brehm, 1831: 207.

AUTHORSHIP: Brehm (1831: 207) attributed this name to „Natt.“, i.e. to Johann Natterer (1787-1843), curator of birds in the Naturalienkabinett in Wien, Austria. Brehm probably received information on this species from Natterer, who listed two specimens of Rock Nuthatches in NMW under this name (Natterer 1843). Natterer (1843) wrote that the two syntypes were received “von Baron Feldegg als *Sitta orientalis*”. The person who first used – and possibly invented – the name is thus Christoph Fellner von Feldegg (1780-1845), an Austrian collector of birds, but Brehm (1831) is the author of the name according to the International Code of Zoological Nomenclature (ICZN 1999, Art. 50.1).

TYPE SERIES: Unspecified number of individuals. Early accession catalogue of NMW, where Johann Natterer was a curator (see above) showed that NMW owned only two specimens of Rock Nuthatches prior to 1832, both of which were listed as *Sitta orientalis* by Natterer (1843), who wrote “Von Baron Feldegg als *Sitta orientalis* in Tausch à 8 Gl. // Dalmatien“. Undoubtedly, these two specimens represent the complete type series of *Sitta orientalis* “Natterer”. Both syntypes are still preserved at the NMW (J. Mlíkovský, pers. observation in 2006), and are listed below.

SYNTYPE: NMW 32076 (formerly NMW 1831/VIII/2), ad. ♂, collected by an unknown collector on an unknown date [= prior to November 1830] at an unknown locality [= southern Dalmatia, Croatia/Montenegro]; presented to NMW by Christoph Fellner von Feldegg in October 1830.

SYNTYPE: NMW 43776 (formerly NMW 1831/VIII/2a), ad. ♀, collected by an unknown collector on an unknown date [= prior to November 1830] at an unknown locality [= southern Dalmatia, Croatia/Montenegro]; presented to NMW by Christoph Fellner von Feldegg in October 1830.

TYPE LOCALITY: „im südlichen Dalmatien“ (Brehm 1831: 207) or „Dalmatien“ (Natterer 1843), i.e. southern Dalmatia, probably in the territory of the modern-day Croatia and/or Montenegro.

REMARKS: NMP possessed two specimens of “*Sitta syriaca*” from Dalmatia, obtained from Feldegg in 1830-1831 (former inventory numbers b.576 = B-514b, and b-577 = B-514a), both of which were discarded by Václav Vávra (1866-1941), then curator of zoological collections in NMP, on 5 November 1913 according to entries in the respective Museum catalogue (J. Mlíkovský, pers. observation in 2007). There is no evidence that Natterer or Brehm studied these specimens, and that they were part of the type series of *Sitta orientalis*. They have no type status.

***Sitta parva* Buturlin**

Sitta syriaca parva Buturlin, 1906: 417.

TYPE SERIES: The original type series constitute “four winter specimens from Akhalzikh” of unknown sex, collected by A. M. Kobylin (Buturlin 1906: 417). Two of these syn-

types (a lectotype and a paralectotype) are deposited in ZMMU (Sudilovskaâ 1959: 86, Red'kin 2001: 153), while current whereabouts of the remaining two paralectotypes is unknown.

LECTOTYPE (designated by Sudilovskaâ 1959: 86): ZMMU R-10153, unsexed specimen, collected by A. M. Kobylin on "03.12.1894" [= 15 December 1894] at "// Skaly na vtoroj verste Abas'-Tuminskogo šosse" (label) [= Akhalts'ikhe, Georgia].

PARALECTOTYPE: ZMMU R-10154, unsexed specimen, collected by A. M. Kobylin on "17.03.1905" [= 30 March 1905] at "skalistoje usel'e okolo sela Oher", i.e. rocky gorge near Oher' village [= Okhera, Georgia].

TYPE LOCALITY: "Akhalzikh" (Buturlin 1906: 417), i.e. Akhalts'ikhe, Georgia.

REMARKS: Rheinwald & van den Elzen (1984: 108) listed an adult male (ZFMK G.IX.1.d2.α) collected by Sarudny [= Zarudnyj] on "26.10.1903" [= 8 November 1903, not 15 October 1903 as given by them] at Kuljam-Chadsch-Ali, NW-Persien [= Qal'am-ye Hajji Ali, Iran] as a potential syntype of *Sitta parva*, because Adolf von Jordans (1892-1974), from whose collection the specimen was obtained, listed it as a "Cotypus". However, neither collector's name, nor the date and locality agree with those given for the syntypes of this species by Buturlin (1906), so this specimen has no type status. Moreover, Zarudnyj visited Qal'am-ye Hajji Ali only on 13.10.1903 [= 26 October 1903] during this expedition (see Zarudnyj 1904b).

***Sitta plumbea* Koelz**

Sitta neumayer plumbea Koelz, 1950: 9.

TYPE SERIES: A holotype was designed by Koelz (1950: 9). In addition, Koelz (1950: 9) examined an adult male and two adult females from the locality, which are thus paratypes of this form. The holotype and all paratypes are preserved in AMNH (Sweet 2007) and FMNH (Anonymous 2006), respectively.

HOLOTYPE: AMNH 803073 (formerly C.N.H.M. 246505), ad. ♂, collected by W. Koelz on 10 February 1940 at Guragan, Iran [= Goraghan, Iran].

PARATYPE: AMNH 464342, ad. ♀, collected by W. Koelz on 10 February 1940 at Guragan, Iran [= Goraghan, Iran]

PARATYPE: AMNH 464343, ad. ♂, collected by W. Koelz on 9 February 1940 at Guragan, Iran [= Goraghan, Iran]

PARATYPE: FMNH 235599, ad. ♀, collected by W. Koelz on 10 February 1940 at Guragan, Iran [= Goraghan, Iran]

TYPE LOCALITY: "Guragan, near Masghun, Kuh i Jamal Range, southwest of Bam, Kirman, southeastern Iran" (Koelz 1950: 9), i.e. Goraghan, Iran.

***Sitta rufescens* Gould**

Sitta rufescens Gould, 1837: pl. 235.

NOMENCLATURE: Gould (1837, pl. 235) named this species "*Sitta rufescens* (Temm.?)" on pl. 235 and "*Sitta rufescens*, Temm." in the accompanying text (here without the question mark and without parentheses around the abbreviation of Temminck's name), but "Temm", i.e. Coenraad Jacob Temminck, never published this name, so Gould (1837)

is its author. Later, in the index to his book, Gould listed this species as "*Sitta Syriaca*, Ehrenb." with a remark in a footnote "Named erroneously *Sitta rufescens*." (Gould 1837). Regardless of this statement, the name *Sitta rufescens* was introduced by Gould in a way required by the ICZN (1999) and is available for nomenclatural purposes.

TYPE SERIES: Gould (1837) did not specify how many specimens of this Rock Nuthatch he had at disposal, but he figured one specimen ("Drawn from Nature") and there is no evidence that he had more specimens than this one.

HOLOTYPE (?): BMNH 148a, unsexed adult, collected by an unknown collector and on an unknown date in "Europe" (label).

TYPE LOCALITY: Gould (1837: text to pl. 235) said "The Dalmatian Nuthatch is an inhabitant not only of the country from which it takes its name, but also the whole of the south-eastern portion of Europe generally; indeed, to this section of the globe it appears to be strictly limited." All European Rock Nuthatches with known origin were collected in southern Dalmatia (i.e. in southeastern Croatia or adjacent parts of Montenegro in modern-day sense) prior to 1845, when a specimen was collected in Greece (AMNH 456042). If Gould (1837) knew that this Rock Nuthatch inhabits not only Dalmatia, but also other parts of the Balkans, then he either had to hear of the occurrence of this species in non-Dalmatian parts of the Balkans (but it is unclear, why such unique information would not be specifically published in the zoological literature of that time) or, more probably, inaccurately inferred this information from the data on specimens collected by Hemprich and Ehrenberg in "Syria" in 1824 (He tells that the species occurs only in southeastern Europe). In absence of contrary evidence I restrict here the type locality of *Sitta rufescens* Gould to southern Dalmatia.

REMARKS: Specimens of Rock Nuthatches were extremely rare prior to 1840 outside of their natural range. In fact, I found trace only of the following specimens collected prior to 1840: (1) Seven specimens collected by Hemprich and Ehrenberg in 1824 in Lebanon (see under *Sitta syriaca*), (2) three specimens collected by Cantraine in 1826 in Dalmatia (see under *Sitta rupestris*), (3) three specimens collected by an unknown collector [= Neumayer?] in 1829-1830 in Dalmatia (see under *Sitta neumayer*), (4) four specimens supplied by Feldegg to NMW and NMP in 1830-1831 (see under *Sitta orientalis*), and (5) specimen BMNH 148a, said to come from Gould collection (label data and Gadow 1883: 346). Although no evidence is available in BMNH catalogues which would unequivocally relate the specimen BMNH 148a with the specimen figured by Gould in the 1830s (R. Prys-Jones & J. Mlíkovský, pers. observation in 2006), it is improbable that Gould would then have more specimens of the Dalmatian Rock Nuthatch, of which one would be figured by him and another one would be presented to the BMNH. I am inclined to believe that the specimen BMNH 148a is the holotype of *Sitta rufescens* Gould, but having only indirect evidence and no direct proof for this I list it here only as probable holotype.

***Sitta rupestris* Keitel**

Sitta rupestris „Cantraine“ Temminck, 1835: 287. [Nomen nudum.]

Sitta rupestris Keitel, 1857: 9.

AUTHORSHIP: *Sitta rupestris* is Cantraine's label name, which was listed by Temminck (1835: 287) in the synonymy of *Sitta syriaca* "Ehrenberg" (= *Sitta syriaca* Temminck,

1835). It was thus a nomen nudum at this point (ICZN 1999, Art. 11.6). Keitel (1857: 9) used *Sitta rupestris* as a valid name for the Rock Nuthatch (his 'Felsenkleiber' or 'Syrischer Kleiber', citing *Sitta syriaca* and *Sitta Neumayeri* [sic!] in its synonymy. Using this indication, the species name can be traced back to Temminck (1835: 287), where it is a nomen nudum. Keitel (1857: 9) was the first to use the name as valid, and became thus its author (ICZN 1999, Art. 11.6).

TYPE SERIES: Neither Temminck (1835: 287) nor Keitel (1857: 9) listed any types for *Sitta rupestris*. The size of the original type series is thus unknown. Dekker & Quaisser (2006: 13) discovered in RMNH three specimens collected by Cantraine, which they listed as syntypes of *Sitta rupestris* Temminck. This is incorrect, because nomina nuda have no types (ICZN 1999). However, these three specimens qualify as syntypes of *Sitta rupestris* Keitel.

SYNTYPE: RMNH 89907, ad. ♂, collected by F. Cantraine on an unknown date [= 1826] in "Dalmatia" [= Dubrovnik, Croatia].

SYNTYPE: RMNH 89908, ad. ♀, collected by F. Cantraine on an unknown date [= 1826] in "Dalmatia" [= Dubrovnik, Croatia].

SYNTYPE: RMNH 89909, unsexed adult, collected by F. Cantraine on an unknown date [= 1826] in "Dalmatia" [= Dubrovnik, Croatia].

TYPE LOCALITY: "Ragusa" (Temminck 1835: 287), i.e. Dubrovnik, Croatia.

REMARKS: Temminck (1835: 287) stated that "Cantraine", i.e. François Joseph Cantraine (1801-1868), a Belgian naturalist, gave this name to the birds known at "Raguse" [= Dubrovnik, Croatia] as "Bergliesce" or "Vergliesce". Cantraine collected for Coenraad Jacob Temminck (1778-1858), then curator of birds at the Leyden Museum, Holland, in Italy, Dalmatia and Istria in 1826 (see Anonymous 1858). and it is thus well possible that he obtained his specimens of Rock Nuthatches from the same Franz Neumayer, as Michahelles did (see under *Sitta neumayer*).

***Sitta rupicola* Blanford**

Sitta rupicola Blanford, 1873: 87.

TYPE SERIES: Blanford (1873: 88) stated that he based his *Sitta rupicola* on six specimens, including four collected by himself „in the Elburz mountains, north of Tehran“, one collected by himself „at Kohrúd, north of Ispahan“, and one collected by „Major St. John, R.E., near Shiraz, in Southern Persia“. Later, Blanford (1876: 225) listed the same six specimens with specified localities and dates of collection. These six specimens thus constitute syntypes of *Sitta rupicola* Blanford. Warren & Harrison (1971) considered only the four specimens from the Alborz Mountains syntypes of *S. rupicola*, but this has no support in Blanford's (1873, 1876) writings. The lectotype is deposited in AMNH (see Sweet 2007), a paralectotype is in BMNH (Warren & Harrison 1971, Mlíkovský, pers. observation in 2006), but current whereabouts of the remaining four paralectotypes is unknown.

LECTOTYPE (designed by Buxton 1920: 136): AMNH 683968, ♀ (Blanford 1876: 225) or unsexed juvenile (Buxton 1920: 136), collected by W. T. Blanford on an unknown date [= 9 August 1873, see Blanford 1873, 1876, Buxton 1920: 136] in "Kary Valley" (label) or "Karij valley, Elburz Mts." (Blanford 1873: 88) or "Lura valley, Elburz

mountains, north of Tehrán" (Blanford 1876: 225) [= Dardeh, Iran]. This specimen was figured by Blanford (1876, pl. 15, fig. 2) according to Buxton (1920: 136).

PARALECTOTYPE: BMNH 1874.11.23.64, ♀, collected by Blanford (his field-Nr. 627) on 16 August 1873 at "Karij Valley, Elburz Mts., N. Persia, 6500'" (label) or "Lura Valley, Elburz mountains, north of Tehrán, 6500 [feet]" (Blanford 1876: 225) [= Karij Valley, Iran].

PARALECTOTYPE (lost): ♂, collected by W. T. Blanford on 9 August 1873 in "Lura Valley, Elburz mountains, north of Tehrán" [= Karij Valley, Iran].

PARALECTOTYPE (lost): ♀, collected by W. T. Blanford on 16 August 1873 in "Lura Valley, Elburz mountains, north of Tehrán" [= Karij Valley, Iran].

PARALECTOTYPE (lost): ♀, collected by W. T. Blanford on 18 July 1872 at "Kohrud, 7000 [feet]" [= Kohrud, Iran].

PARALECTOTYPE (lost): ♂, collected by O. B. C. St. John in December 1872 at Shiráz [= Shiraz, Iran].

TYPE LOCALITY: "Hab. in montibus Persicis praesertim in Elburz saxa scopulosque frequentans" (Blanford 1873: 87) or – with punctuation added – "Hab. in montibus Persicis, praesertim in Elburz, saxa scopulosque frequentans" (Blanford 1876: 226), i.e. "Inhabits the mountains of Persia, being especially common in Elburz [= Alborz Mountains], where it frequents rocks in large numbers" (my translation). Blanford (1873, 1876) added data, which allow for a closer identification of the composite type locality of *S. rupicola*. The locality north of Tehran was given as "Karij valley" on some labels, but as "Lura valley" by Blanford (1876: 225). The Lura is synonymous with the Karij River (see Blanford 1876: 502). Knowing Blanford's itinerary (Blanford 1876: 501-505) and the altitude of 6500 feet (given both on labels and by Blanford 1876: 225) it is possible to restrict the collection locality approximately to the Dardeh village. The original type locality thus consisted of Dardeh, Kohrud, and Shiraz, Iran. The lectotype selected by Buxton (1922: 136) was collected in the Karij Valley, i.e. probably at Dardeh, which is thus the restricted type locality of *Sitta rupicola*.

REMARKS: Sir Oliver Beauchamp Coventry St. John (1837-1891) was a British army officer and explorer.

***Sitta saxatilis* Schinz**

Sitta saxatilis Schinz, 1840: 286.

TYPE SERIES: Same as for *Sitta syriaca* Temminck.

TYPE LOCALITY: Same as for *Sitta syriaca* Temminck.

REMARKS: *Sitta saxatilis* was created by Schinz (1840: 286) as a new replacement name for *Sitta syriaca* „Ehrenberg“, which was considered inappropriate by him. *Sitta saxatilis* Schinz, 1840 is thus a junior objective synonym of *Sitta syriaca* Temminck, 1835 (see below).

***Sitta subcaeruleus* Meinertzhagen**

Sitta neumayer subcaeruleus Meinertzhagen, 1938a: 96.

TYPE SERIES: A holotype was designated by Meinertzhagen (1938a). In addition, Meinertzhagen (1938a) listed seven paratypes of this form. All these specimens are preserved at BMNH (Warren & Harrison 1971, J. Mlíkovský, pers. observation in 2006).

HOLOTYPE: BMNH 1965-M-16, ad. ♂, collected by R. Meinertzhagen on 17 May 1937 at Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan].

PARATYPE: BMNH 1965-M-15800, juv. ♂, collected by R. Meinertzhagen on 15 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15779, juv. ♀, collected by R. Meinertzhagen on 15 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15799, juv. ♀, collected by R. Meinertzhagen on 15 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15780, juv. ♀, collected by R. Meinertzhagen on 16 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15777, juv. ♀, collected by R. Meinertzhagen on 15 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15776, ad. ♀, collected by R. Meinertzhagen on 16 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

PARATYPE: BMNH 1965-M-15778, juv. ♀, collected by R. Meinertzhagen on 15 May 1937 at "Haibak, 3000', N. Afghanistan" [= Samangan, Afghanistan]

TYPE LOCALITY: "Haibak, Afghan Turkestan, 3000 feet" (Meinertzhagen 1938a: 96, see also Meinertzhagen 1938b: 672-673), i.e. Samangan, Afghanistan. Note that "Haibak" [= Aybak] is now part of Samangan.

REMARKS: Meinertzhagen's publications and collections are full of fraudulent data and specimens (Knox 1993, Rasmussen & Collar 1999, Rasmussen & Prys-Jones 2003, Garfield 2007), and cannot be accepted at a face value. Nevertheless, I found nothing suspicious with his *Sitta subcaeruleus*. I examined the holotype and all paratypes in BMNH in 2006 and I found that all are morphologically inseparable from other Afghan specimens. Second, Meinertzhagen was accompanied on this trip by Salim Ali (1896-1987), a famous Indian ornithologist (see Paludan 1959: 12). Third, Knud Paludan (1908-1988), a well known Danish ornithologist, visited "Haibak" in 1949 and confirmed both the presence of these nuthatches as well as their appearance (Paludan 1959: 251). It is thus probable that Meinertzhagen's original specimens of his *Sitta subcaeruleus* are genuine.

***Sitta syriaca* Temminck**

Sitta syriaca „Ehrenb[erg]" Temminck, 1835: 286.

AUTHORSHIP: Temminck (1835: 286) attributed this name to „Ehrenb", i.e. Christian Gottfried Ehrenberg (1795-1876), who labeled seven specimens of Rock Nuthatches supplied to ZMB from „Syria" with this name, but Temminck is the author of the name according to the International Code of Zoological Nomenclature (ICZN 1999, Art. 51.1). The name itself was probably invented by Wilhelm Friedrich Hemprich (1796-1825), who collected the type specimens together with Ehrenberg in the field (see Lichtenstein 1825, Stresemann 1962: 387).

TYPE SERIES: Temminck (1835: 286) stated that this name was „donné par M. Ehrenberg au sujets du musée de Berlin, rapportés par lui de Syrie". These specimens were sent by Ehrenberg to Germany from Alexandria [= Al Iskandariyah], Egypt, and arrived at

the ZMB in April 1825, where they were unpacked by Martin Heinrich Karl Lichtenstein (1780-1857), then curator of zoology at the ZMB (Stresemann 1962: 384). Both Ehrenberg's and Lichtenstein's lists created at the departure and at receipt of the material, respectively, indicate that the shipment included seven specimens of Rock Nuthatches. These seven specimens form thus the original type series upon which *Sitta syriaca* was based. Of these seven specimens, four remained in ZMB (Lichtenstein 1825: fol. 182, 1854: 65, Sammlungs-Katalog of ZMB) and three were probably disposed prior to 1855. Two of the syntypes survived in ZMB (Mlíkovský, pers. observation 2005) and one in RMNH (Dekker & Quaisser 2006: 13), while current whereabouts of the remaining four syntypes is unknown.

SYNTYPE: ZMB 9271, unsexed specimen, collected by W. F. Hemprich and C. G. Ehrenberg on an unknown date [= 5-24 July 1824] in "Syria" [= Bsharri, Lebanon]. This specimen is labeled as "Typus" in ZMB, but it is a syntype in fact.

SYNTYPE: ZMB 9269 or 9270 or 9272, unsexed specimen, collected by W.F. Hemprich and C.G. Ehrenberg on an unknown date [= 5-24 July 1824] in "Syria" [= Bsharri, Lebanon]. In 2005, I found in NMB a specimen labeled with numbers „9269-70, 9272“. A former curator at ZMB was evidently unable to decide which of three available inventory numbers belongs to the latter specimen (S. Frahnert, pers. communication in 2005 and 2007), which indicates that two of the four specimens listed by Lichtenstein (1854: 65) were lost long ago.

SYNTYPE: RMNH 89906 (skin), ad., collected by W.F. Hemprich and C.G. Ehrenberg on an unknown date [= 5-24 July 1824] in "Syria" [= Bsharri, Lebanon].

TYPE LOCALITY: "Syrie" (Temminck 1835: 286). Stresemann (1962: 387) showed that all seven syntypes of *Sitta syriaca* were collected in between 5-24 July 1824 at Bsharri, Lebanon.

***Sitta tephronota* Sharpe**

Sitta tephronota Sharpe, 1872: 450.

TYPE SERIES: Sharpe (1872: 450) explicitly based this form on a specimen he and H. Dresser examined, referring to Dresser (1872), where details on the specimen are given (Dresser 1872: 187). This specimen is thus the holotype of *Sitta tephronota*. Sharpe (1872: 451) tentatively referred to this species "two specimens from Candahar in the National Collection" (i.e. probably specimens BMNH 1860.4.16.495 and BMNH 1860.4.16.497, both collected by W. Griffith in 1839 and both checked by me in BMNH in 2006), but did not discuss them further. They do not form part of the original type series. The holotype is deposited in MANCH (McGhie 2006).

HOLOTYPE: MANCH BB-1440, ♀, collected by Dode on 16 April [year not given] at Kokand [= Quqon, Uzbekistan].

TYPE LOCALITY: Kokand, Ferghana (Sharpe 1872: 450, see also Dresser 1872: 187), i.e. Quqon, Uzbekistan.

***Sitta transcaspia* Zarudnyj**

Sitta syriaca transcaspia Zarudnyj & Bil'kevič, 1918: 18 [Nomen nudum.]

REMARKS: This name lacks both description and indication and is thus a nomen nudum (see also Bobrinskoy 1923: 35).

***Sitta tschitscherini* Zarudnyj**

Sitta tschitscherini Zarudnyj, 1904a: 218.

TYPE SERIES: Zarudnyj (1904a: 218-219) described this species on the basis of a male and two females, all collected at Esfahan, which are thus its syntypes. Zarudnyj & Härms (1923: 415), however, listed four specimens (2 ♂ ♂, 2 ♀ ♀) as collected at “Isfahan” on “6. XII. 1903” [= 19 December 1903]. One of the males is deposited in TASU (Balan 1966: 115), while the other one is possibly deposited in NMW (Mlíkovský, pers. observation in 2006), while the current whereabouts of the third syntype is unknown.

SYNTYPE (?): TASU R-31, ♂, collected by N.A. Zarudnyj on “06.12.1903” [= 19 December 1903] at “Isfagan” (label) or “Ispagan” (Zarudnyj 1904a: 218) [= Esfahan, Iran].

TYPE LOCALITY: “Ispahan, Pers.” (Zarudnyj 1904a: 218), i.e. Esfahan, Iran.

REMARKS: NMW possesses specimen NMW 32077, a male collected by N.A. Zarudnyj on “30.11.1903” [= 13 December 1903] at “Ispagan” or “Isfagan” or “Ispagan” (labels) [= Esfahan, Iran]. This specimen was not listed by Zarudnyj & Härms (1923: 415) and would be second male in the type series which contained only one male. There is no evidence that this specimen is type of *S. tschitscherini*. It is, however, its topotype and was collected at Esfahan only a few days before the syntypes were. Zarudnyj collected at Esfahan on 24.11.-13.12.1903 [= 7-26 December 1903] (see Zarudnyj 1904b) and it remains unclear why Zarudnyj (1904a) did not use it when he described *S. tschitscherini*.

***Sitta zarudnyi* Buturlin**

Sitta zarudnyi Buturlin, 1907: 56.

TYPE SERIES: The type series consists of “6 ekzemplárov iz raznyh” častej Maloj Azii – ot Ajdina do Tavra, – vse v” Akademičeskom Muzeě“ (Buturlin 1907: 56), i.e. “6 specimens from various parts of Little Asia – from Aidin to Taurus, – all in the Academic Museum [= ZIN]”. I found all of these syntypes in ZIN in 2005.

LECTOTYPE (here designed): ZIN 84559, ad. ♂, collected by I. Michalovskij on “12.03.1893” [= 24 March 1893] at “Aidin” [= Aydin, Turkey]. See under 'Remarks' for the reasons of lectotypifying this specimen.

PARALECTOTYPE: ZIN 84560, ad. ♀, collected by an unknown collector on 15 January 1888 at “Aidin” [= Aydin, Turkey].

PARALECTOTYPE: ZIN 84561, ad. ♂, collected by an unknown collector on 15 January 1888 at “Aidin” [= Aydin, Turkey].

PARALECTOTYPE: ZIN 84563, ad. ♀, collected by E. Danford on 7 February 1876 at “Zebil. Taurus” [= Sebil, Turkey].

PARALECTOTYPE: ZIN 84564, ad. ♂, collected by E. Danford on 25 November 1875 in „Iamanlar dagh“ [= Yamanlar, Turkey].

PARALECTOTYPE: ZIN 84565, ad. ♀, collected by E. Danford on 7 February 1875 on an unknown locality (none was given on label) [= Sebil, Turkey].

TYPE LOCALITY: “Ot Avdina do Tavra” (Buturlin 1907: 56) i.e. from Aydin to Taurus. This is a generalized statement. Specimen labels show that the type locality includes three sites, incl. Aydin, Yamanlar, and Sebil, of which the former two lay in westernmost

Turkey (Asian part) and the latter one lays in the Taurus Mountains. See also Danford (1877) for the identity of his collection localities. Roselaar (1995: 149) restricted the type locality of *S. zarudnyi* to Aydin, which is an invalid action, because types of this species are extant (ICZN 1999, Art. 76). With the designation of specimen ZIN 84559 as the lectotype of *S. zarudnyi*, the type locality of this form becomes automatically restricted to Aydin, Turkey (see ICZN 1999, Art. 76.2).

REMARKS: Roselaar (1995: 149) suggested that subspecies *zarudnyi* occupies only western part of the Asian Turkey (incl. Aydin and Yamanlar), considering birds from the Taurus Mountains (incl. Sebil) to be intermediate between *zarudnyi* and *syriaca*. To avoid doubts on the taxonomic meaning of *Sitta zarudnyi* Buturlin, I design here specimen ZIN 84559 as the lectotype of this form, relegating the remaining five syntypes to the category of paralectotypes. This decision supports Roselaar's (1995) interpretation of *Sitta zarudnyi*.

CONCLUSIONS

Overall, 20 species-group names were proposed for Rock Nuthatches of the *Sitta neumayer* species complex in between 1790-1950. One of them (*Sitta transcaspia* Zarudnyj, 1918) was found to be nomen nudum, while the remaining 19 names (listed below as binomina in original combination) were found applicable to the Rock Nuthatches (though not always with original authors). The names are arranged chronologically and type localities of these nominal taxa are given in parentheses.

- 1790: *Sitta longirostris* Latham, 1790: 264 (Zagros Mountains, Iran)
- 1830: *Sitta neumayer* Michahelles, 1830: col. 814 (Dubrovnik, Croatia)
- 1831: *Sitta orientalis* Brehm, 1831: 207 (southern Dalmatia, Croatia/Montenegro)
- 1835: *Sitta syriaca* Temminck, 1835: 286 (Bsharri, Lebanon)
- 1837: *Sitta rufescens* Gould, 1837: pl. 235 (southern Dalmatia, Croatia/Montenegro)
- 1840: *Sitta saxatilis* Schinz, 1840: 286 (Bsharri, Lebanon)
- 1857: *Sitta rupestris* Keitel, 1857: 9 (Dubrovnik, Croatia)
- 1872: *Sitta tephronota* Sharpe, 1872: 450 (Quqon, Uzbekistan)
- 1873: *Sitta rupicola* Blanford, 1873: 87 (Dardeh, Iran)
- 1904: *Sitta tschitscherini* Zarudnyj, 1904a: 218 (Esfahan, Iran)
- 1905: *Sitta obscura* Zarudnyj & Loudon, 1905: 76 (Keroo, Iran)
- 1906: *Sitta dresseri* Zarudnyj & Buturlin, 1906: 132 (Shusthtar, Iran)
- 1906: *Sitta parva* Buturlin, 1906: 417 (Akhalt's'ikhe, Georgia)
- 1907: *Sitta zarudnyi* Buturlin, 1907: 56 (Aydin, Turkey)
- 1916: *Rupisitta iranica* Buturlin, 1916: 165 (Saragt, Turkmenistan)
- 1923: *Sitta kurdistanica* Ticehurst, 1923: 28 (Dihok, Iraq)
- 1934: *Sitta armeniaca* Vorob'ev, 1934: 156 (Dzhamaldin, Azerbaijan)
- 1938: *Sitta subcaeruleus* Meinertzhagen, 1938a: 96 (Samangan, Afghanistan)
- 1950: *Sitta plumbea* Koelz, 1950: 9 (Goraghan, Iran).

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