



Nomenclatural and taxonomic status of birds (Aves) collected during the Gmelin Expedition to the Caspian Sea in 1768-1774

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Abstract. At least 61 bird species were described as new to science on the basis of specimens collected during the Gmelin Expedition to the Caspian Sea in 1768-1774. All of the type specimens are lost. I revised the taxonomic identity and type localities of the taxa on the basis of published data, including original descriptions. I restricted the type localities of most of the taxa involved. New taxonomic conclusions are as follows: (1) *Anas cinerea* S.G. Gmelin, 1774a is synonymous with *Aythya ferina* (Linnaeus, 1758); (2) *Anas cinerea* Pennant, 1776 is synonymous with *Bucephala clangula* (Linnaeus, 1758); (3) *Anas gmelini* Latham, 1790 is synonymous with *Aythya nyroca* (Güldenstädt, 1770); (4) *Anas lurida* S.G. Gmelin, 1774a is synonymous with *Aythya nyroca* (Güldenstädt, 1770); (5) *Anas peregrina* S.G. Gmelin, 1774a is synonymous with *Anas penelope* Linnaeus, 1758; (6) *Emberiza arundinacea* S.G. Gmelin, 1774a is a nomen oblitum, being a senior subjective synonym of *Emberiza (schoeniclus) pyrrhuloides* Pallas, 1811; (7) *Motacilla obscura* Hablitzl, 1783 is a nomen dubium; (8) the Caucasian-Elburz subspecies of *Prunella modularis* (Linnaeus, 1758) should be called *Prunella modularis orientalis* (Sharpe, 1883); (9) taxonomic meaning of *Parus luteus* S.G. Gmelin, 1774b was fixed by designation of a lectotype; (10) *Saxicola maurus variegatus* (S.G. Gmelin, 1774b) applies to trans-Caucasian form of *Saxicola maurus* (Pallas, 1773); (11) the northern Caucasian form of *Saxicola maurus* (Pallas, 1773) should be called *Saxicola maurus amaliae* (Buturlin, 1929); (12) *Saxicola torquata armeniaca* Štegman, 1935 is synonymous with *Saxicola maurus variegatus* (S.G. Gmelin, 1774b); (13) *Porphyrio veterum* dates from Pallas (1811b); and (14) *Porphyrio poliocephalus caspius* Hartert, 1917 is synonymous with *Porphyrio porphyrio veterum* Pallas, 1811b.

Key words. Historical ornithology, Russia, Iran, Samuel Gottlieb Gmelin, Carl Hablitzl.

INTRODUCTION

In 1767, Catherine II (1729-1796), tsarina of Russia, decided to send scientific expeditions to southern parts of her empire and beyond its borders (Bogdanov 1876, Lebedev & Esakov 1971, Kolčinskij 2004, Moon 2010). One of them, headed by Samuel Gottlieb Gmelin (1745-1774), a German naturalist (Fischer 2008), explored the vicinity of the Caspian Sea, reaching even its southern shores in the territory of the modern-day Iran (then Persia).

Ornithological results of this expedition included interesting faunal records (Mlíkovský 2008) and descriptions of at least 61 taxa believed to be new to science (S.G. Gmelin 1770, 1771, 1774a,b, 1784, Hablitzl 1783b, J.F. Gmelin (1788, 1789), Latham (1790), Daudin (1800), Shaw (1809), Pallas (1811a,b) and Brehm (1831). For some reason, some of these taxa were overlooked by subsequent authors and type localities and dates of collection were inaccurately given for those taxa, which were not overlooked. Moreover, the taxonomic identity of some of these taxa was misinterpreted. The aim of the present paper is thus to revise nomenclatural and taxonomic status of the bird taxa described from specimens obtained during the Gmelin Expedition.

Specimens collected by the Gmelin Expedition were sent to the Imperial ‘Kunstammer’ (Museum) in Sankt-Peterburg (St.-Petersburg), Russia (Běllâev 1800: 12). However, no specimens survived (Steinheimer 2005; V. Loskot, pers. communication in December 2005).

The spelling of toponyms follows NGA (2011). Transliteration of Cyrillic script follows currently valid rules (Mlíkovský 2010a, Pedersen 2011). The Gmelin Expedition used Old Style dates (OS; Julian calendar). They are given, where appropriate, and recalculated [in brackets] to the currently valid New Style dates (NS; Gregorian calendar). In the period covered, the Gregorian calendar was 11 days ahead of the Julian calendar (Mlíkovský 2010b).

Nomenclatural issues follow the International Code of Zoological Nomenclature (ICZN 1999). Current taxonomic status of avian taxa follows Dickinson (2003). Where possible, a cross-reference to *Die Vögel der paläarktischen Fauna* (Hartert 1903-1922; Hartert & Steinbacher 1932-1938), a standard reference work for the taxonomy of Palearctic birds, is provided.

Museum acronyms are as follows: NHMW = Naturhistorisches Museum, Wien, Austria; NMP = National Museum, Praha, Czech Republic; ZIN = Zoological Institute, Russian Academy of Sciences, Sankt-Peterburg, Russia; ZMB = Museum für Naturkunde, Berlin, Germany; and ZSM = Zoologische Staatssammlung, München, Germany.

NOTE: Three naturalists whose surname was ‘Gmelin’, all Germans, worked in the second half of the 18th century (M. Gmelin 1877), are relevant to the topic discussed here and have been time to time confused with each other. They include Samuel Gottlieb Gmelin (1744-1774; see Fischer 2008), whose expedition is treated in this paper; his agnate uncle Johann Georg Gmelin (1709-1755), known for his botanical travels in Russia (J.G. Gmelin 1747, 1751, 1752a,b,c,d, 1768, 1769; see O. Gmelin 1911, Scuria 1965, Belkovec & Kopelevič 1990); and Johann Friedrich Gmelin (1748-1804), author of the so-called Thirteenth Edition of Carl Linnaeus’s *Systema naturae* (J.F. Gmelin 1788-1793).

EXPEDITION ITINERARY

S.G. Gmelin left St. Petersburg on 23 June 1768 [= 3 July 1768 NS] and went *via* Moscow (15 August – 1 October OS = 26 August – 12 October NS) and Tula to Voronež, where he stayed over winter 1768/69 and spring 1769. In summer 1769 he travelled along the

Don to Staročerkasskaâ (his “Tscherkassk”), from where he turned to Volgograd (his “Zarizyn”), and continued along the Volga to Astrahan’, where he spent the winter 1769/70.

Gmelin left Astrahan’ on 9 June 1770 OS [= 20 June 1770 NS] by ship, reaching Derbent on 12 June OS [= 23 June NS]. From Derbent he continued overland *via* Baku, Şamaxı (his “Schamachie”) and Salyan to Bandar-e Anzali, where he arrived in late 1770. Gmelin spent winter 1770/71 in Bandar-e Anzali, moving in February 1771 (OS) to Rasht, where he stayed until 18 June OS [= 29 June NS]. Gmelin then travelled along the southern coasts of the Caspian Sea via Babol to Sari and back to Babol, where he had unwillingly to stay until November 1771 (OS). Then he went by ship to Bandar-e Anzali. Shortly thereafter, he sailed from Bandar-e Anzali on 10 February 1772 OS [= 21 February 1772 NS], reaching Astrahan’ after a long and difficult journey only on 10 April OS [= 21 April NS].

Gmelin spent summer 1772 in Astrahan’ and Sarepta, where he married Anna Chapuzeau (1755-1828) (Pallas 1784: xi; Beyer-Thoma 2008). He continued his expedition on 11 September 1772 OS [= 22 September 1772 NS], when he went through the Kuma steppe *via* Burgun-Madzharı (his “Madaschary”) to Mozdok, where he stayed from 26 September to 9 October OS [= 7-20 October NS]. He continued along the Terek and then through the steppe back to Astrahan’, where he arrived on 22 October 1772 OS [= 3 November 1772 NS]. Gmelin spent winter 1772/73 and spring 1773 in Astrahan’.

Gmelin set off from Astrahan’ only on 29 June 1773 OS [= 10 July 1773 NS], when he sailed along the eastern coasts of the Caspian Sea, reaching Gorgān (his “Astrabat”) on 1 September OS [= 12 September NS] and continuing directly to Bandar-e Anzali, where he arrived in autumn 1773. Here the expedition members separated. Gmelin sent one of his assistants, Sokolov, with the ship back to Astrahan’ and left the other one, Hablizl, in Bandar-e Anzali (his “Enzelli”). He himself went on 12 November 1773 OS [= 23 November 1773 NS] from Bandar-e Anzali overland to Baku, which he left on 15 January 1774 OS [= 26 January 1774 NS] for Derbent, which he reached on 20 January OS [= 31 January NS] and left on 4 February OS [= 15 February NS]. Shortly thereafter he was captured by Amir-Hamza (*fl.* 1751-1788; †1788), utsmi¹ (= ruler, sovereign) of Kaitag (e.g. Bronevskij 1996: 113, Barrett 1998: 159, Feodaeva 2008, Bagautdinov 2011). Samuel Gottlieb Gmelin died as Amir-Hamza’s prisoner at Ahmedkent on 27 June 1774 OS [= 8 July 1774 NS].

Carl Ludwig Hablizl (1752-1821), German naturalist and Gmelin’s assistant, who joined Gmelin in spring 1769 in Voronež (S.G. Gmelin 1770: 65-66), stayed in Bandar-e Anzali from autumn 1773 until 27 May 1774 OS [= 7 June 1774 NS], when he went *via* Pir Bazar, Rasht, Lahijan, Langarud, Rudsar and Siahkalarud to the village of Javaher Dasht on the northern slopes of Kuh-e Somamus. He stayed at Javaher Dasht from 28 June to 8 September OS [= 8 July to 19 September NS], returning to Bandar-e Anzali on the same way. Hablizl sailed from Bandar-e Anzali on 19 October OS [= 30 October NS], reaching Astrahan’ on 10 November 1774 OS [= 21 November 1774 NS].

1 Often spelled as “Usmey” or given as “Usmey Khan” in earlier literature.

This marked the end of the Gmelin Expedition. Hablitzl subsequently stayed in Astrahan', made another expedition along the coasts of the Caspian Sea in 1781-1782 (Hablitzl 1809), and worked as a vice-governor of Crimea in 1783-1802 before he returned to St. Petersburg. He always continued to be interested in natural history; for his records of bird migration at the Caspian Sea see Hablitzl 1782, 1783a; for his avifauna of the Crimea see Hablitzl 1785, 1788, 1789a,b).

Details of the Gmelin Expedition were described by S.G. Gmelin (1770, 1774a,b, 1784), Hablitzl (1783b, 1784) and Pallas (1784).

The Gmelin Expedition made first ornithological observations in Iran (Mlíkovský 2008), where regular ornithological studies started a century later (Roselaar & Aliabadian 2007, 2009).

SOURCES OF S.G. GMELIN'S DATA

It has been generally assumed that S.G. Gmelin based all of his new bird taxa upon specimens collected during his Expedition. However, Pallas (1784: xxii-xxiii), whose remarks were later overlooked, pointed out that this was not so. In particular, Pallas (1784: xxii) observed that S.G. Gmelin (1770: 50 sub *Corvus* sp., pl. 11) described and figured, allegedly from Voronež, *Perisoreus infaustus* Linnaeus, 1758, a Siberian species which does not inhabit regions visited by S.G. Gmelin. Moreover, Pallas (1784: xxii-xxiii, 1811b: 311) found that this picture was taken from the heritage of J.G. Gmelin, similarly as was a picture of *Stercorarius parasiticus* (Linnaeus, 1758), published by S.G. Gmelin (1770: 69, pl. 14). S.G. Gmelin had access to J.G. Gmelin's heritage, because he edited, after J.G. Gmelin's death in 1755, the third and fourth volumes of J.G. Gmelin's *Flora sibirica* (J.G. Gmelin 1768, 1769; see Pallas 1784: xxi, Stafleu & Cowan 1976: 957) and it is thus probable that he "improved" his own results with the data or pictures of his late agnate uncle Johann Georg Gmelin. I guess that S.G. Gmelin's (1771: 480, pl. 23, fig. 3) *Emberiza leucocephalos* also might have been based upon a drawing from J.G. Gmelin's heritage (see also Pallas 1811b: 38). Consequently, S.G. Gmelin's type localities should be accepted with caution.

TYPE LOCALITIES

S.G. Gmelin seems to have been only marginally interested in birds and the descriptions he provided indicate that he was a bad ornithologist (see also Pallas 1784). His ornithological observations are thus of little use (see also Mlíkovský 2008), unless accompanied by a detailed description of specimen(s). Accordingly, I understand as type localities only those places where specimens were collected, not other areas, where S.G. Gmelin reportedly observed the species. I derived the type localities of bird taxa described by S.G. Gmelin from his itineraries and from his published notes.

Hablitzl was a much better ornithologist, who described the type localities of his new bird taxa more accurately. All his records of new bird taxa originated from the period when Gmelin left him alone in Iran (November 1773 to October 1774). Previously, from

spring 1769 to November 1773, Hablizl served as S.G. Gmelin's assistant and published no own observations.

In the following text, the expression "collected by" refers to expedition heads (S.G. Gmelin or Hablizl), not to proper hunters, which remain unknown.

Localities at which new (or allegedly new) bird taxa were collected during the Gmelin Expedition are as follows (in alphabetical order according to the current spelling; alternative spellings are listed in parentheses):

Astrahan' (Astrachan, Astrakhan), Astrahan' Province, Russia [46.35°N, 48.05°E].

Azov (Tanain), Rostov-na-Donu Province, Russia [47.11°N, 39.41°E].

Bandar-e Anzali (Enzelli), Gilan Province, Iran [37.47°N, 49.46°E].

Javaher Dasht, Gilan Province, Iran [36.89°N, 50.38°E]: Birds collected by Hablizl during 8 July to 19 September 1774 (NS) and described by Hablizl (1783b). The locality lies on the northern slopes of Kuh-e Somanus, at ca. 2000 m a.s.l. S.G. Gmelin's (1774b: 365) locality "Tschurdast" probably also refers to Javaher Dasht. Considering S.G. Gmelin's itinerary I think that "Tschurdast" is a German transcription of Jordast, an earlier name of Javaher Dasht (see Masoud 2006). S.G. Gmelin collected there on 25 June – 1 July 1771 (NS).

Staročerkasskaâ (Čerkassk, Tscherkassk), Rostov-na-Donu Province, Russia [47.24°N, 40.03°].

Voronež (Woronesch, Woronez), Voronež Province, Russia [51.67°N, 39.17°E]: Birds collected by S.G. Gmelin from winter 1768 to spring 1769 and described by S.G. Gmelin (1770, 1771).

It should be noted that many type specimens were collected during winter or during the period of migration. It remains unclear in these cases, whether the type specimens originated from locally breeding populations or from northern populations which migrated through or wintered at localities, where the specimens were procured.

AUTHORS

The following authors described bird species on the basis of the material collected during the Gmelin expedition to the Caspian Sea in 1769-1774. The numbers of described species are given in parentheses.

Brehm, Christian Ludwig (1787-1864): German ornithologist (1 species).

Daudin, François Marie (1774-1804): French zoologist (3 species).

Gmelin, Johann Friedrich (1748-1804): German naturalist (2 species).

Gmelin, Samuel Gottlieb (1745-1774): German naturalist (41 species).

Gray, George Robert (1808-1872): English zoologist (1 species).

Hablizl, Carl Ludwig (1752-1821): German naturalist (7 species).

Latham, John (1740-1837): English ornithologist (1 species).

Pallas, Peter Simon (1741-1811): German naturalist (4 species).

Shaw, George (1751-1813): English naturalist (1 species).

SYSTEMATIC LIST

Bird taxa are listed here alphabetically according to the original binomina, because their taxonomic identity often was confused, requiring clarification. A systematically arranged list is given in the Summary (below).

***Accipiter ferox* S.G. Gmelin**

Accipiter ferox S.G. Gmelin, 1771: 442, pl. 10.

Now: *Circaetus gallicus* (J.F. Gmelin, 1788). See below.

TYPE SERIES: Single bird, collected in winter 1769 (S.G. Gmelin 1771: 443).

TYPE LOCALITY: “Astrachaniae hyeme 1769. avis haec observata fuit” (“This bird was observed in winter 1769 at Astrahan”) (S.G. Gmelin 1771: 443). The type locality is thus Astrahan’, Russia.

REMARKS: Pallas (1811a: 354) identified S.G. Gmelin’s *Accipiter ferox* with his own *Accipiter hypoleucus* Pallas, 1811a, which is a synonym of *Circaetus gallicus* (J.F. Gmelin, 1788) (e.g. Sharpe 1874: 281; Hartert 1914: 1189). Herewith, the name fell into oblivion until Thienemann (1854) and Cabanis (1854a,b) resurrected it, incorrectly concluding that it represents a *Buteo* species, now known as *Buteo rufinus* Cretzschmar (1826: 40). For the next 70 years or so, this *Buteo* species was known as *Buteo ferox* (S.G. Gmelin) (see Blanford 1876:113, Sharpe 1874: 176; Hartert 1914: 1115; Swann 1922: 74) until Hartert (1914: 1189) and Mackworth-Praed & Grant (1934: 643-645) confirmed Pallas’s (1811a) identification of S.G. Gmelin’s *ferox* as a *Circaetus* form. Indeed, both the description and illustration of this bird in S.G. Gmelin (1771) agree better with *Circaetus gallicus* (J.F. Gmelin) than with any other raptor that S.G. Gmelin could have met at Astrahan’. Due to the re-identification of *ferox*, Hartert (1914: 1189) adopted for the *Buteo* species the next oldest name, i.e. *Falco rufinus* Cretzschmar, 1826, but left the *Circaetus* form the name under which it was commonly known at his time, i.e. *Falco* (= *Circaetus*) *gallicus* J.F. Gmelin, 1788. Grant & Mackworth-Praed (1934: 645) suggested that the correct name for the *Circaetus* species under question is *Circaetus ferox* (S.G. Gmelin, 1771), which has been in accordance with the provisions of the Code, and several, though not all, authors followed them (e.g. Dement’ev 1936: 97, 1941: 122, 1951: 333; Strautman 1963: 154).

Later, Grant & Mackworth-Praed (1946: 77) preferred to treat S.G. Gmelin’s *ferox* as indeterminate in order to save J.F. Gmelin’s (1788) *gallicus* for the species under question. Hemming (1957) treated S.G. Gmelin’s *ferox* as a senior synonym of J.F. Gmelin’s *gallicus* and formally proposed to suppress it. The International Committee on Zoological Nomenclature accepted the proposal and suppressed *Accipiter ferox* S.G. Gmelin, 1771 for the purposes of the Principle of Priority (but not for those of the Principle of Homonymy) and placed *Falco gallicus* J.F. Gmelin, 1788, on the Official List of Specific Names in Zoology (ICZN 1957: Direction 83).

***Accipiter hypoleucus* Pallas**

Accipiter hypoleucus Pallas, 1811a: 354.

REMARKS: Created as a new replacement name for *Accipiter ferox* S.G. Gmelin, 1771, which Pallas (1811a: 354) cited in the synonymy of his *A. hypoleucus*. Pallas’s *hypoleucus* was thus based upon the same type series and from the same type locality as S.G. Gmelin’s *ferox* (Art. 72.7 of the Code).

***Accipiter korschun* S.G. Gmelin**

Accipiter Korschun S.G. Gmelin, 1771: 444, pl. 11a.

Now: *Circus aeruginosus* (Linnaeus, 1758). See Hartert (1914: 1169).

TYPE SERIES: Not specified; probably a single specimen.

TYPE LOCALITY: “Avis haec in desertis Tanain [...] fere in Tschercask urbem [...] saepium mihi occurrit.” (“I recorded this bird in the deserted places at Tanain [= Azov] and around the city of Staročkasskaâ”) (S.G. Gmelin 1771: 445).

REMARKS: S.G. Gmelin (1771: 444-445) had the Black Kite *Milvus migrans* (Boddaert) in mind, when he described the bird, as evidenced by his use of the Russian name коршун (koršun; Korschun in German transcription; see also S.G. Gmelin 1770: 146-147). However, Nilsson (1817: 20), Blanford (1876: 114, footnote) and Hartert (1914: 1169) correctly observed that the plate 11a of S.G. Gmelin (1771) shows a *Circus aeruginosus* and that S.G. Gmelin’s description of the birds better agrees with the latter than with a kite. Although Sharpe (1874: 322) and a number of subsequent authors applied *korschun* to a form of the Black Kite (until the 1950s – e.g. Dement’ev 1951: 221, Portenko 1951: 163), the name *Accipiter korschun* S.G. Gmelin, 1771, falls into the synonymy of *Falco* (= *Circus*) *aeruginosus* Linnaeus (1758: 91).

***Accipiter macrourus* S.G. Gmelin**

Accipiter macrourus S.G. Gmelin, 1771: 439, pl. 8 (♂), 9 (♀).

Now: *Circus macrourus* (S.G. Gmelin, 1770). See Hartert (1914: 1142), Stresemann & Amadon (1979: 318).

TYPE SERIES: Not specified, but male and female plumages described.

TYPE LOCALITY: “Voronez abhinc ad omnem Tanain occurrit.” (Occurs everywhere from Voronež down to Tanain [= Azov]) (S.G. Gmelin 1771: 442). The type locality is Voronež, Russia, alone, because *Accipiter macrourus* S.G. Gmelin (1771: 439) is just a repeated description of *Falco macrourus* S.G. Gmelin (1770: 48), whose type locality is Voronež (see also Stresemann & Amadon 1979: 318).

***Alauda mutabilis* S.G. Gmelin**

Alauda mutabilis S.G. Gmelin, 1771: 479, pl. 23, fig. 2.

Now: *Melanocorypha yeltoniensis* (Forster, 1767). See Pallas (1811a: 514), Hartert (1904: 213).

TYPE SERIES: Not specified, but male and female plumages described.

TYPE LOCALITY: “Hyeme Astrachaniae frequentissima avis.” (“Very common bird at Astrahan’ in winter”) (S.G. Gmelin 1771: 479). The type locality is thus Astrahan’, Russia.

***Anas cinerea* S.G. Gmelin**

Anas cinerea S.G. Gmelin, 1774a: 184, pl. 18 (incorrectly printed “17” in S.G. Gmelin 1774a: 184; corrected by S.G. Gmelin 1774a: 260).

Now: *Anas strepera* Linnaeus, 1758. See Salvadori (1895: 222), Hartert (1920a: 1320).

TYPE SERIES: Single specimen, collected in spring 1770.

TYPE LOCALITY: “Astrachan” [= Astrahan’, Russia] (cf. S.G. Gmelin 1774a: 183).

REMARKS: Salvadori (1895) was uncertain as regards the identity of S.G. Gmelin’s *Anas cinerea*, because he listed it in the synonymies of *Anas strepera* Linnaeus, 1758

(p. 222) and *Netta rufina* (Pallas, 1773) (p. 328), and tentatively in that of *Melanitta nigra* (Linnaeus, 1758) (p. 401). Hartert (1920a: 1320) synonymized *Anas cinerea* S.G. Gmelin with *Anas strepera* Linnaeus, 1758, for unknown reasons. Pl. 18 in S.G. Gmelin (1774a) clearly shows a female *Aythya ferina* (Linnaeus, 1758) and also Gmelin's description matches the latter species. Thus I synonymize here *Anas cinerea* S.G. Gmelin, 1774a with *Aythya ferina* (Linnaeus, 1758).

Anas cinerea S.G. Gmelin, 1774a, is a senior primary homonym of *Anas cinerea* Pennant (1776: 760) = *Bucephala clangula* (Linnaeus, 1758), and *Anas cinerea* J.F. Gmelin (1789: 506) = *Tachyeres brachypterus* (Latham, 1790). I found no work, where Pennant's (1776) *Anas cinerea* was taxonomically interpreted. Pennant (1776: 760) based it upon "Anas cinereo, albo, nigroque variegata, capite castaneo" of Kramer (1756: 341-342), which is a *Bucephala clangula* (Linnaeus, 1758). Thus I synonymize here *Anas cinerea* Pennant, 1776 with *Anas clangula* Linnaeus, 1758 = *Bucephala clangula* (Linnaeus, 1758).

***Anas cornuta* S.G. Gmelin**

Anas cornuta S.G. Gmelin, 1774a: 185, pl. 19 (incorrectly printed "18" in S.G. Gmelin 1774a: 185; corrected by S.G. Gmelin 1774a: 260).

Now: *Tadorna tadorna* (Linnaeus, 1758). See Hartert (1920a: 1302).

TYPE SERIES: An adult specimen, collected in spring 1770.

TYPE LOCALITY: "Astrachan" [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 183).

***Anas erythrocephala* S.G. Gmelin**

[*Anas*] *erythrocephala* [sic] S.G. Gmelin, 1770: 71. [Nomen nudum; no description or indication.]

Anas erythrocephala [sic] S.G. Gmelin, 1771: 465, pl. 20 (♂).

Now: *Aythya ferina* (Linnaeus, 1758). See Pallas (1811b: 250), Hartert (1920a: 1336).

TYPE SERIES: Not specified, but male and female plumages described.

TYPE LOCALITY: "Woronesch" [= Voronež, Russia] (see S.G. Gmelin 1770: 67).

REMARKS: The original description given by S.G. Gmelin (1771: 465-467) matches adult male of Common Pochard *Aythya ferina* (Linnaeus, 1758). 'Krasnogolovoj nyrok', the Russian name of the duck mentioned by S.G. Gmelin (1770: 71, 1771: 465), also applies to *Aythya ferina*. The original spelling of the species name is *erythrocephala*, because I found nothing in S.G. Gmelin (1771) what would allow to emend it to the linguistically correct 'erythrocephala' (Art. 32.5.1 of the Code).

***Anas gmelini* Latham**

Anas Gmelini Latham, 1790: 876.

Now: *Aythya nyroca* (Güldenstädt, 1770). See below.

REMARKS: *Anas gmelini* Latham, 1790, is a new replacement name for *Anas lurida* S.G. Gmelin, 1770, which follows from Latham's (1790: 876) reference to S.G. Gmelin (1770: 70, 1774a: 182, pl. 16). See under *Anas lurida* (below) for further discussion. Latham's *gmelini* was thus based upon the same type series and from the same type locality as S.G. Gmelin's *lurida* (Art. 72.7 of the Code). *Anas gmelini* was not listed by Hartert (1903-1922, Hartert & Steinbacher 1932-1938).

***Anas kekuschka* S.G. Gmelin**

Anas Kekuschka S.G. Gmelin, 1774b: 249, pl. 26 (ad. ♂), 27 (ad. ♀).

Now: *Anas strepera* Linnaeus, 1758. See Pallas (1811b: 254), Brandt (1843: 115), Blanford (1876: 300), Hartert (1920a: 1320).

TYPE SERIES: S.G. Gmelin (1774b: 249-250) described and figured a male and a female. The type series thus included at least two specimens.

TYPE LOCALITY: S.G. Gmelin (1774b: 250) recorded this duck at “Astrachan” [Astrahan’, Russia] and in winter “an dem Persischen Gestade des Caspischen Meers” (“on Persian shores of the Caspian Sea”). In the latter region, S.G. Gmelin could have seen these ducks only during the winter 1770-71 at Bandar-e Anzali (Mlíkovský 2008). I thus restrict the type locality of *Anas kekuschka* to the shores of the Caspian Sea at Astrahan’, Russia, and Bandar-e Anzali, Iran.

REMARKS: S.G. Gmelin (1774b: 249) remarked that this duck is called “Kekuschka” by local Russians (German transcription; ‘kekushka’ in English transcription). I was not able to find such a vernacular name. However, S.G. Gmelin might have misheard “гагушка” (‘gaguška’ in currently valid transliteration; ‘gagushka’ in English transcription), which simply means “little duck” in Russian and has no particular taxonomic meaning.

***Anas kogolka* S.G. Gmelin**

Anas cogolca S.G. Gmelin, 1770: 70 [Nomen nudum.; no description or indication.]

Anas Kogolka S.G. Gmelin, 1771: 468, pl. 21.

Now: *Anas penelope* Linnaeus, 1758. See Pallas (1811b: 251), Hartert (1920a: 1321).

TYPE SERIES: Single specimen described.

TYPE LOCALITY: “Woronesch” (see S.G. Gmelin 1770: 67) [= Voronež, Russia].

REMARKS: Hartert (1920a: 1131) and Stepanân (2003: 67) listed *Anas cogolca* of S.G. Gmelin (1770: 70) as a name available for nomenclatural purposes, but it is a *nomen nudum* being not accompanied by description or valid indication.

***Anas lurida* S.G. Gmelin**

Anas lurida S.G. Gmelin, 1770: 70.

Now: *Aythya nyroca* (Güldenstädt, 1770). See Brandt (1843: 115).

TYPE SERIES: Not specified; specimen(s) collected in spring 1769.

TYPE LOCALITY: “Woronesch” [= Voronež, Russia] (see S.G. Gmelin 1770: 67).

REMARKS: Additional description and figure of a specimen (not type) were given by S.G. Gmelin (1774a: 182-183, pl. 16). Later, S.G. Gmelin (1774b: 249) identified his *lurida* with *Anas* (= *Bucephala*) *clangula* Linnaeus, 1758. However, I have found that the description matches adult *Aythya nyroca*, not other species. *Anas lurida* was not listed by Hartert (1903-1922, Hartert & Steinbacher 1932-1938).

***Anas peregrina* S.G. Gmelin**

Anas peregrina S.G. Gmelin, 1774a: 183, pl. 17 (incorrectly printed “16” in S.G. Gmelin 1774a: 183; corrected by S.G. Gmelin 1774a: 260).

Now: *Anas penelope* Linnaeus, 1758. See Hartert (1920: 1321).

TYPE SERIES: Single specimen, collected in spring 1770.

TYPE LOCALITY: "Astrachan" [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 183).

REMARKS: This form was identified with *Bucephala clangula* (Linnaeus, 1758) (e.g. Salvadori 1895: 377) or *Aythya nyroca* (Güldenstädt, 1769) (e.g. Brandt 1843: 115, Giebel 1872: 359, Salvadori 1895: 345), but it seems that these authors were misled by the misprint and looked on pl. 16, where the holotype of *Anas lurida* is figured. The bird on pl. 17 is a male *Anas penelope* Linnaeus, 1758 in eclipse plumage, and S.G. Gmelin's (1774a: 183) description matches the figure (see also Hartert 1920a: 1321). I thus consider *Anas peregrina* S.G. Gmelin, 1774a, as a synonym of *Anas penelope* Linnaeus, 1758.

***Anas subulata* S.G. Gmelin**

Anas subulata S.G. Gmelin, 1770: 13, pl. 1 (♀).

Now: *Anas acuta* Linnaeus, 1758. See Pallas (1784: xxii), Hartert (1920a: 1325).

TYPE SERIES: Not specified, only a female described and figured.

TYPE LOCALITY: This species was described in the chapter on "Woronesch" birds. The type locality is thus Voronež, Russia. S.G. Gmelin (1770: 13) wrote that "Diese Ente hält sich an den Ufern der Wolga auf, und gehört unter die Zugvögel." ("This duck inhabits shores of the Volga and it is a migratory bird.").

***Anas torquata* S.G. Gmelin**

Anas torquata S.G. Gmelin, 1774a: 180, pl. 14.

Now: *Branta ruficollis* (Pallas, 1769). See Pallas (1811b: 231), Eyton (1838: 85), Salvadori (1895: 125), Hartert (1920a: 1299).

TYPE SERIES: Single specimen, collected in spring 1770.

TYPE LOCALITY: "Astrachan" [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 179). S.G. Gmelin (1774a: 182) added that: "Diese Ente [...] kommt von der Kaspischen See her, und nistet [...] hier nicht, sondern pflegt [...] längst der Wolga hinauf zu ziehen." ("This duck comes from the Caspian Sea and does not breed here, but migrates further up [= northwards] along the Volga."). These hypothetical localities do not form part of the type locality.

REMARKS: *Anas torquata* S.G. Gmelin, 1774a is a senior primary homonym of *Anas torquata* Vieillot (1816: 110) = *Calonetta leucophrys* (Vieillot in Sonnini & Vieillot 1817: 156) (Oberholser 1917: 75, Collin & Hartert 1927: 50).

***Anser casarka* S.G. Gmelin**

Anser Casarka S.G. Gmelin, 1774a: 177, pl. 13.

Now: *Anser albifrons* (Scopoli, 1769). See Hartert (1920a: 1280).

TYPE SERIES: Adult male (S.G. Gmelin 1774a: 179).

TYPE LOCALITY: "Astrachan" [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 177).

REMARKS: The Russian name казарка (kazarka; Casarka in Gmelin's German transcription) is used for various *Anser*, *Branta* and *Tadorna* species. Note that *Anas casarca* Linnaeus (1768: 224), based upon specimen(s) sent to Linnaeus from the Astrahan'

region by “Paul. Demidoff” [= Pavel Grigor'evič Demidov (1738-1821), Russian scholar] is an independent name. It is a synonym of *Tadorna ferruginea* (Pallas, 1764) (Hartert 1920a: 1304).

***Aquila mogilnik* S.G. Gmelin**

Aquila mogilnik S.G. Gmelin, 1771: 445, pl. 11b.

Now: *Aquila* sp. indet. See below.

TYPE SERIES: Single specimen, collected in summer 1769. I estimated the collection date from the restricted type locality (see below) and S.G. Gmelin's itinerary.

TYPE LOCALITY: Said to be similar as for *Accipiter korschun* by S.G. Gmelin (1771: 447). I thus restrict here the type locality of *Aquila mogilnik* to Staročekasskaâ, Russia.

REMARKS: *Aquila mogilnik* was treated as indeterminate by Pallas (1811a: 353). Stephens (1826: 15) used it as a valid name for the eagle species now known as *Aquila heliaca* Savigny, 1809, without explanation, but perhaps because the species name was directly derived from the Russian vernacular name *могильник* (*mogil'nik*), which means *Aquila heliaca*. Stephens's opinion was followed by several authors (e.g. Strickland 1855: 57; Schlegel 1862: 3; Heuglin 1869: 44; Giebel 1872: 395; Dresser 1873: 521, 1903: 521; Gurney 1873: 99; see also Alléon 1866: 274). Sharpe (1874: 240) applied the name to the eagle species now known as *Aquila nipalensis* Hodgson, 1833, without explanation. Blanford (1894: 283-286) and Hartert (1914: 1092, 1099) suggested to set the name aside as indeterminate. In agreement with Pallas (1811a), Blanford (1876: 111, 1894) and Hartert (1914) I treat *Aquila mogilnik* S.G. Gmelin, 1771, as a nomen dubium (ICZN 1999: 111).

***Ardea caspica* S.G. Gmelin**

Ardea Caspica S.G. Gmelin, 1774a: 193, pl. 24.

Now: *Ardea purpurea* Linnaeus, 1766. See Pallas (1811b: 119), Hartert (1920a: 1232).

TYPE SERIES: Single specimen (S.G. Gmelin 1774a: 193).

TYPE LOCALITY: S.G. Gmelin (1774a: 193) described this bird in the chapter “Von Wolgischen Reigern” (“on the Volga herons”). I thus restrict here the type locality to Astrahan', Russia.

REMARKS: Hartert (1920a: 1232, 1922: 2242) incorrectly spelled the species name as *caspia*.

***Ardea castanea* S.G. Gmelin**

Ardea castanea [sic!] S.G. Gmelin, 1771: 454, pl. 15.

Now: *Ardeola ralloides* (Scopoli, 1769). See Pallas (1811b: 124), Hartert (1920a: 1246).

TYPE SERIES: Not specified.

TYPE LOCALITY: “Venit [...] e mare nigro ad Tanain” (“collected at the Black Sea near Tanain”) (S.G. Gmelin 1771: 454) [= Azov, Russia].

REMARKS: *Castanea* is the incorrect original spelling, because S.G. Gmelin (1771: 454) described the *dorsum* of the bird as being *castaneo-rufum*. This allows to correct the spelling to the expected *castanea*.

***Ardea egretoides* S.G. Gmelin**

Ardea egretoides S.G. Gmelin, 1774a: 193, pl. 25.

Now: *Ardea alba* Linnaeus, 1758. See Hartert (1920a: 1236).

TYPE SERIES: Not specified.

TYPE LOCALITY: Astrahan', Russia (see S.G. Gmelin 1774a: 194), not "Astrachan und Persien" as given by Hartert (1920a: 1236).

***Ardea ferruginea* S.G. Gmelin**

Ardea ferruginea S.G. Gmelin, 1771: 456, pl. 16.

Now: *Nycticorax nycticorax* (Linnaeus, 1758). See Pallas (1811b: 126), Hartert (1920a: 1252).

TYPE SERIES: Not specified, but only a juvenile was described and figured.

TYPE LOCALITY: Said to live together with *Ardea kwakwa* by S.G. Gmelin (1771: 458). The type locality of *A. ferruginea* is thus the lower Don River between its opening into the Black Sea and Staročerkasskaâ, Russia.

***Ardea gigantea* S.G. Gmelin**

Ardea Gigantea S.G. Gmelin, 1774a: 189, pl. 21.

Now: *Grus leucogeranus* Pallas, 1773. See Pallas (1811b: 103), Hartert (1921b: 1819).

TYPE SERIES: Single specimen, collected in spring 1770 (cf. S.G. Gmelin 1774a: 188).

TYPE LOCALITY: "Astrachan" [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 188).

***Ardea kwakwa* S.G. Gmelin**

Ardea Kwakwa S.G. Gmelin, 1771: 452, pl. 14.

Now: *Nycticorax nycticorax* (Linnaeus, 1758). See Pallas (1811b: 126), Hartert (1920a: 1252).

TYPE SERIES: Not specified, but only an adult was described and figured.

TYPE LOCALITY: "Ad Tanais littora degit [...] ad omnia huius fluvii littora ad Tscherkask usque urbem visa." ("Lives on the shores at Tanais [...] seen along the river up to the town of Staročerkasskaâ.") (S.G. Gmelin 1771: 453). The type locality is thus the lower Don River between its opening into the Black Sea and Staročerkasskaâ, Russia.

***Ardea nivea* S.G. Gmelin**

Ardea nivea S.G. Gmelin, 1771: 458, pl. 17.

Now: *Egretta garzetta* (Linnaeus, 1766). See Hartert (1920a: 1239).

TYPE SERIES: Not specified.

TYPE LOCALITY: "ex mari nigro vere Tanai petens, [...], autumnno, quo venit, redit" ("arrives at Tanain in spring across the Black Sea, [...], returning in autumn back" [= to lower Don River, Russia.]) (S.G. Gmelin 1771: 459).

***Charadrius scolopax* S.G. Gmelin**

Charadrius scolopax S.G. Gmelin, 1774b: 87, pl. 16.

Now: *Burhinus oedichenus* (Linnaeus, 1758). See Pallas (1784: xxv), Hartert (1920b: 1518).

TYPE SERIES: Single specimen (S.G. Gmelin 1774b: 87-89).

TYPE LOCALITY: S.G. Gmelin (1774b: 86-87) said that he recorded this bird in “Persien” in late October and/or early November. His itinerary allows to identify the type locality with Bandar-e Anzali, Iran, where he collected the holotype in October or November 1773 (Mlíkovský 2008).

REMARKS: Reviews of *Burhinus oedicnemus* revealed that the Indian form (*indicus* Salvadori, 1865: 380) is distinct, but that Western Palearctic populations of *oedicnemus* vary only slightly in size and coloration and that the variation is clinal (Rothschild & Hartert 1912: 547-548, Hartert 1916, 1920b: 1518-1521, A.C. Meinertzhagen 1924, Vaurie 1963). Populations from southern Caspian Sea, where the holotype of S.G. Gmelin’s *scolopax* was collected, are said to be intermediate between the European nominotypic *oedicnemus* Linnaeus (1758: 151) and *harterti* Vaurie (1963: 2) of Central Asia (Vaurie 1963; see also Zarudnyj 1911: 232, Hartert 1916: 93). S.G. Gmelin’s *scolopax* is indeterminate within West Palearctic forms of *Burhinus oedicnemus* (Hartert 1916: 93, A.C. Meinertzhagen 1924: 334). It is thus best to list it in the synonymy of the nominotypical *oedicnemus* (Hartert 1920b: 1518, A.C. Meinertzhagen 1924: 334) until the classification of the Palearctic *Burhinus oedicnemus* is better resolved.

***Colymbus caspicus* Hablizl**

Colymbus caspicus Hablizl, 1783b: 9.

Now: *Podiceps nigricollis* Brehm, 1831. See ICZN (1956).

TYPE SERIES: Not specified. Morphological description was based on a single specimen.

TYPE LOCALITY: “in dem enzellinischen Meerbusen” (Hablizl 1783b: 9), i.e. “in the sea bay at Enzelli” [= Bandar-e Anzali, Iran]. Winter visitor to the area, first recorded by Hablizl (1783b: 9) in late November 1773 [= early December 1773 NS] (Mlíkovský 2008).

REMARKS: This species was long considered a junior subjective synonym of *Podiceps auritus* (Linnaeus, 1758) until Stresemann (1948) restudied Hablizl’s (1783b) description and showed that the type specimen was a Black-necked Grebe. The name *Colymbus* (or *Podiceps*) *caspicus* Hablizl, 1783b started then to be in official use for Black-necked Grebes in North America (Wetmore et al. 1949: 281). Subsequently, however, R. Meinertzhagen et al. (1956) proposed to suppress the name in favor of *Podiceps nigricollis* Brehm (1831: 963), concealing that *caspicus* has already started to be used. Following this incomplete proposal, the specific name *caspicus*, as published in the binomen *Colymbus caspicus* Hablizl, was placed on the Official Index of Rejected and Invalid Specific Names in Zoology (ICZN 1956: Opinion 406) in favor of *Podiceps nigricollis* Brehm, 1831, which has been placed on the Official List of Specific Names in Zoology (ICZN 1956: Opinion 406). Despite this ruling, *caspicus* Hablizl was in official use in North America until 1973 (Eisenmann et al. 1973).

***Corvus docilis* S.G. Gmelin**

Corvus docilis S.G. Gmelin, 1774b: pl. 39.

Now: *Pyrrhocorax pyrrhocorax docilis* (S.G. Gmelin, 1774b). See Dement’ev (1932: 10), Vaurie (1954: 3), Dickinson (2003: 512).

TYPE SERIES: Single specimen, collected on 14-20 June 1771 OS [= 25 June – 1 July 1771 NS].

TYPE LOCALITY: “Tschurdast” (see S.G. Gmelin 1774b: 365) [= Javaher Dasht, Iran].

***Emberiza arundinacea* S.G. Gmelin**

Emberiza arundinacea S.G. Gmelin, 1774a: 175.

Now: *Emberiza schoeniclus pyrrhuloides* Pallas, 1811b. See Hartert (1904: 195) and below.

TYPE SERIES: Single specimen described; collected during 12-26 February 1770 [= 23 February – 9 March 1770 NS].

TYPE LOCALITY: “Astrachan” [= Astrahan’, Russia] (cf. S.G. Gmelin 1774a: 174).

REMARKS: This bird was called “Kamischnik” in Russian (S.G. Gmelin 1774a: 175), literally “Reedling” (bird of reeds), which name could have been applied to a variety of reed-inhabiting songbirds by local inhabitants. However, the description (much gray in upperparts, large body size) agrees with the large-billed form of the Reed-Bunting *Emberiza schoeniclus* (Linnaeus, 1758), which is currently known under a much later Pallas’s name *Emberiza (schoeniclus) pyrrhuloides* Pallas (1811b: 49). Also, S.G. Gmelin (1774a: 175) found this bird different from proper *Emberiza schoeniclus* (Linnaeus, 1758), which he received in the same days (S.G. Gmelin 1774a: 174-175). I thus consider *Emberiza arundinacea* S.G. Gmelin, 1774a, synonymous with *Emberiza pyrrhuloides* Pallas, 1811b (see also Hartert 1904: 195), also described from Astrahan’ (type locality restricted by Vaurie 1956: 8).

S.G. Gmelin’s (1774a) *Emberiza arundinacea* antedates Pallas’s (1811a) *Emberiza pyrrhuloides*, but the prevailing usage of the latter name must be maintained, because both condition of Art. 23.9.1 of the Code are met. First, *Emberiza arundinacea* S.G. Gmelin has not been used as a valid name after 1899 to the best of my knowledge. Second, *Emberiza pyrrhuloides* Pallas, 1811b has been used “for a particular taxon, as its presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years”. The required citations are as follows: Beretzk et al. (1962), Hüe & Etchécopar (1970), Paynter (1970), Ghiot (1972), Chappuis et al. (1973), Ali & Ripley (1974), Blümel (1982), Prŷs-Jones (1984), Čtyroký (1987), Stepanân (1990, 2003), Cramp et al. (1994), Zheng (1994), Grapputo et al. (1998), Macchio et al. (1999), MacKinnon & Phillips (2000), Roberts (2000), De la Puente & Seoane (2001), Meyrom et al. (2001), Dickinson (2003), Mustafaev (2005), Koblik et al. (2006), Arlott (2007), Wassink & Oreel (2007), Mlíkovský (2009), Porter & Aspinall (2010).

***Emberiza leucocephalos* S.G. Gmelin**

Emberiza leucocephalos S.G. Gmelin, 1771: 480, pl. 23, fig. 3.

Now: *Emberiza leucocephalos* S.G. Gmelin, 1771. See Hartert (1904: 169).

TYPE SERIES: S.G. Gmelin (1771: 480, pl. 23, fig. 3) described and figured a single specimen, which is thus the holotype. The specimen was probably collected by J.G. Gmelin in southern Siberia and described by S.G. Gmelin on the basis of its drawing (see below).

TYPE LOCALITY: “Habitat Astrachaniae arundinetis” (“inhabits reedbeds at Astrahan’”) (S.G. Gmelin 1771: 482). The type locality thus would be Astrahan’, Russia, but see below.

REMARKS: The description and figure (S.G. Gmelin 1771: 480, pl. 23, fig. 3) agree better with the bunting currently known as *Emberiza leucocephalos* S.G. Gmelin than with any other bird. The taxonomic identity of the bird thus cannot be doubted. However, details on the distribution and habitat given by S.G. Gmelin (1771) do not match those of the species. First, S.G. Gmelin (1771) reportedly collected the bird at Astrahan’, i.e. some 1500 km to the west of its normal winter distribution (Spangenberg & Sudilovskaâ 1954: 390-395, Râbicev 2001: 567-568). S.G. Gmelin’s contemporaries described the species from Siberian pinewoods (Pallas 1773: 710-711) or, more specifically, from the pinewoods surrounding Ekaterinburg, a township lying in south-western Siberia east of the Urals (Lepelin 1770: 486-488); they did not mention having recorded the bird west of the Urals (see Pallas 1811b: 38). Much later, Vladimir Alekseevič Hlebnikov (1857-1935), Russian forrester and ornithologist, listed *E. leucocephalos* among birds wintering at Astrahan’ (Hlebnikov 1930), but his unspecific record, the only for the region, was rejected by Spangenberg & Sudilovskaâ (1954: 391). Second, S.G. Gmelin (1771: 482) said that his *Emberiza leucocephalos* abounded in reedbeds at Astrahan’ and that it was also very common at “Tanain” [= Azov], which does not agree with the species’s biology. It is thus probable that S.G. Gmelin “improved” his meager ornithological results with a drawing taken from the files of his late uncle J. G. Gmelin, as he demonstrably did with drawings of at least two other Siberian birds (see above) and as has been discovered by Pallas (1784: xxii-xxiii). Pallas (1811b: 38) has already suggested that this is the case with S.G. Gmelin’s *Emberiza leucocephalos*. Hence, I consider the type locality of *Emberiza leucocephalos* fictitious and I correct it here to southern Siberia. J.G. Gmelin (1751, 1752a,b,c) widely traveled through southern Siberia, so a closer identification of the locality where the figured specimen was collected is impossible.

***Falco astracanus* Shaw**

Falco Astracanus [sic] Shaw, 18093: 85 [New name for *Accipiter ferox* S.G. Gmelin, 1771.]

Now: *Circaetus gallicus* (J.F. Gmelin, 1788). See under *Accipiter ferox* (above).

REMARKS: Shaw (1809: 85) created his *Falco astracanus* as a new replacement name for *Accipiter ferox* S.G. Gmelin, 1771 (incorrectly saying that Gmelin described the species in the binomen *Falco ferox*). His *astracanus* was thus based upon the same type series and from the same type locality as S.G. Gmelin’s *ferox* (Art. 72.7 of the Code).

***Falco haliaetos arundinaceus* J.F. Gmelin**

Falco Haliaëtos [sic] β *arundinaceus* J.F. Gmelin, 1788: 263.

Now: *Pandion haliaetus haliaetus* (Linnaeus, 1758). See Hartert (1914: 1191).

TYPE SERIES: J.F. Gmelin (1788: 263) based this form on the specimen described by S.G. Gmelin (1774a: 163) as “eine neue Art” (“a new species”), resembling “*Falco Haliaetus*”, but left unnamed by the latter.

TYPE LOCALITY: J.F. Gmelin (1788: 263) mentioned no locality, but the holotype originated from “Astrachan” [= Astrahan’, Russia] (G.S. Gmelin’s 1774a: 163), which is thus the type locality of *Falco haliaetos arundinaceus* (see also Hartert 1914: 1191).

***Falco macrourus* S.G. Gmelin**

Falco macrourus S.G. Gmelin, 1770: 48.

NOW: *Circus macrourus* (S.G. Gmelin, 1770). See Hartert (1914: 1142), Stresemann & Amadon (1979: 318).

TYPE SERIES: Not specified, but male and female plumages described.

TYPE LOCALITY: Described in the chapter on “Woronesch” birds (S.G. Gmelin 1771: 442).

The type locality is thus Voronež, Russia (see also Stresemann & Amadon 1979: 318).

REMARKS: S.G. Gmelin (1771: 439) described this species anew as *Accipiter macrourus* (see there).

***Falco milvus* var. *castaneus* Daudin**

Falco milvus var. *castaneus* Daudin, 1800: 148.

NOW: *Circus aeruginosus* (Linnaeus, 1758). See Hartert (1914: 1170).

TYPE SERIES: Daudin (1800) based this form upon the specimen described by S.G. Gmelin (1770: 147) sub “*Milvus* mit einem kastanien-gelben Kopf” (“*Milvus* with a maroon-yellow head”). There, S.G. Gmelin (1770: 147) said that he has already described this bird in the *Denkschriften der Kayserlichen Akademie*, but his manuscript, where the bird was described as *Accipiter korschun*, appeared later in that journal (S.G. Gmelin 1771: 444). *Milvus castaneus* Daudin, 1800, thus has the same type as the latter species.

TYPE LOCALITY: Same as for *Accipiter korschun* S.G. Gmelin, 1771 (see above).

REMARKS: *Falco milvus* var. *castaneus* Daudin, 1800, is a junior objective synonym of *Accipiter korschun* S.G. Gmelin, 1771.

***Falco milvus* var. *russicus* Daudin**

Falco milvus var. *russicus* Daudin, 1800: 148.

NOW: *Circus aeruginosus* (Linnaeus, 1758). See Hartert (1914: 1170).

REMARKS: Daudin (1800: 148) created his *Falco milvus* var. *russicus* as a new replacement name for *Accipiter korschun* S.G. Gmelin, 1771 (see also Hartert 1914: 1170). His *russicus* was thus based upon the same type series and from the same type locality as S.G. Gmelin’s *korschun* (Art. 72.7 of the Code).

***Falco tinnunculus griseus* J.F. Gmelin**

Falco tinnunculus β *griseus* J.F. Gmelin, 1788: 279.

NOW: *Falco tinnunculus tinnunculus* Linnaeus, 1758. See Hartert (1913: 1082).

TYPE SERIES: Based on “*Tinnunculus pedis griseis*, S. G. Gmelin. it. p. 49. t. 10” [= S.G. Gmelin 1770: 49, pl. 10].

TYPE LOCALITY: No locality was given by J.F. Gmelin (1788: 279), but the bird described by S.G. Gmelin (1770: 49) originated from “Woronesch”. I thus restrict here the type locality of *Falco tinnunculus griseus* to Voronež, Russia.

REMARKS: *Falco tinnunculus griseus* J.F. Gmelin, 1788, is a junior primary homonym of *Falco griseus* J.F. Gmelin, 1788, following provisions of Art. 57.7 of the Code. The latter nominal species is synonymous with *Circus cyaneus cyaneus* (Linnaeus, 1758) (Hartert 1914: 1139).

***Gypaetus castaneus* Daudin**

Gypaëtus castaneus Daudin, 1800: 26.

Now: *Gypaetus barbatus aureus* (Hablizl, 1783b). See Stresemann (1928: 404), Dement'ev (1951: 262), Stresemann & Amadon (1979: 303).

TYPE SERIES: Based on the bird figured by S.G. Gmelin (1774b, pl. 38), which is thus the holotype.

TYPE LOCALITY: It follows from the S.G. Gmelin's itinerary that Gmelin collected the bird in May 1771 in Talesh Mountains in the northern part of the moder-day Gilan Province, Iran.

REMARKS: For an account of this bird see S.G. Gmelin (1774b: 364-365).

***Mergus asiaticus* S.G. Gmelin**

[*Mergus*] *Asiaticus* S.G. Gmelin, 1774a: 188, pl. 20.

Now: *Mergus merganser* Linnaeus, 1758. See Hartert (1920b: 1376).

TYPE SERIES: Adult male, collected in spring 1770.

TYPE LOCALITY: “Astrachan” [= Astrahan', Russia] (cf. S.G. Gmelin 1774a: 183).

***Motacilla flaveola* Pallas**

Motacilla flaveola Pallas, 1811a: 501.

REMARKS: Pallas (1811a: 501) created his *Motacilla flaveola* as a new replacement name for *Parus luteus* S.G. Gmelin (1774b: 101). His *flaveola* was thus based upon the same type series and from the same type locality as S.G. Gmelin's *luteus* (Art. 72.7 of the Code).

***Motacilla littorea* S.G. Gmelin**

Motacilla littorea S.G. Gmelin, 1774b: 98, pl. 19, fig. 1.

Now: *Anthus pratensis* (Linnaeus, 1758). See Hartert & Steinbacher (1933: 138).

TYPE SERIES: Single specimen (S.G. Gmelin 1774b: 98-100).

TYPE LOCALITY: “hält sich beständig am Strande, oder in keiner allzugroßen Entfernung von demselben auf” (“occurs only on shores or not far from them”) (S.G. Gmelin 1774b: 100). Considering S.G. Gmelin's itinerary (see above), I restrict here the type locality of *Motacilla littorea* to Caspian shores at Bandar-e Anzali, Iran.

REMARKS: Pallas (1811a: 513) tentatively identified this bird with his *Motacilla spipola*, which seems to be a mixture of various *Anthus* species (Hartert 1905: 272). S.G. Gmelin's figure of the holotype (S.G. Gmelin 1774b, pl. 19, fig. 1) shows an *Anthus*

with heavily streaked underparts, dark, streaked upperparts and long, slightly curved hind claws. This combination of characters and the predominant occurrence of the bird on the shores (of the Caspian Sea) allow to synonymize *Motacilla littorea* S.G. Gmelin, 1774b with *Anthus pratensis* (Linnaeus, 1758), as was already done by Hartert & Steinbacher (1933: 138). This species is a common winter visitor to Iran (Alström & Mild 2003, Porter & Aspinall 2010)

***Motacilla longirostra* S.G. Gmelin**

Metacilla [sic] *longirostra* S.G. Gmelin, 1774b: 100, pl. 19, fig. 2.

Now: *Tichodroma muraria muraria* (Linnaeus, 1766). See Pallas (1784: xxv, 1811a: 431), Hartert (1905: 327), Greenway (1967: 149).

TYPE SERIES: Single specimen (S.G. Gmelin 1774b: 100).

TYPE LOCALITY: S.G. Gmelin (1774b: 100) described this bird among those from Bandar-e Anzali, but remarked (p. 100) that “er hält sich meistentheils nur auf den Gebürgen auf” (“occurs usually only [sic] in the mountains”). S.G. Gmelin reached Bandar-e Anzali by ship from Salyan, Azerbaijan, and at that time (late 1770) he visited no Iranian mountains. It is thus probable that he obtained the specimen from a local hunter. Considering that he obtained the specimen during his sojourn in Bandar-e Anzali, I restrict here the type locality of *Motacilla longirostra* to Talesh Mountains, Gilan Province, Iran, the nearest mountain group.

***Motacilla obscura* Hablizl**

Motacilla obscura Hablizl, 1783b: 56.

Now: nomen dubium (see below).

TYPE SERIES: Single specimen, collected by Hablizl during 20-23 July 1774 [= 31 July – 3 August 1774 NS] (Hablizl 1783b: 56).

TYPE LOCALITY: “Samamische Berge” (= “Kuh-e Somamus”) (cf. Hablizl 1783b: 55-56). Considering Hablizl’s itinerary, I restrict here the type locality of *Motacilla obscura* to Javaher Dasht, Iran.

REMARKS: Not listed by Hartert (1903-1922). Stresemann (1928: 389) suggested that Hablizl’s *obscura* represents local subspecies of *Prunella modularis* (Linnaeus, 1758: 184) without supporting evidence. I doubt that Stresemann’s (1928) interpretation is correct, because Hablizl’s (1783: 56) description of *obscura* does not match *Prunella modularis*. In particular, Hablizl said that *obscura* has yellow iris (*modularis* has brown iris) and that tips of its closed wings reach half of the tail (they reach only onset of the tail in *modularis*). Also details of plumage coloration do not match those of *modularis*. *Prunella collaris* (Scopoli, 1769) has longer wings, but not yellow iris and details of plumage coloration do not match *collaris* either (I compared Hablizl’s description with adults and juveniles of various *Prunella* species in NHMW, NMP, ZMB and ZSM, including specimens of *collaris* and *modularis* from Elburz Mountains in ZMB). No *Prunella* species have blackish legs, but *obscura* did according to Hablizl (1783b: 56). In conclusion, I found no evidence that Hablizl’s *obscura* was a *Prunella*, but I was not able to identify the bird denoted by Hablizl (1783b) as *Motacilla obscura*. I thus con-

sider *Motacilla obscura* Hablizl, 1783b a nomen dubium. It should be remembered, however, that almost ¼ milleny elapsed from the time Hablizl collected the bird and the possibility that he described a species which became extinct should be taken into account in further attempts to clarify the identity of *Motacilla obscura*.

Following Stresemann's (1928) suggestion, the subspecies of *Prunella modularis* inhabiting Caucasus and Elburz mountains was called *Prunella modularis obscura* (Hablizl) (Steinbacher 1935: 339, Marien 1951: 15, Vaurie 1955: 24, 1959: 218, Ripley 1964a: 11, Dickinson 2003: 738, Koblik et al. 2006: 157). Hablizl's *obscura* being not applicable, the subspecies should be called *Prunella modularis orientalis* Sharpe (1883: 652), which is the oldest name available for the form.

***Motacilla ochruros* S.G. Gmelin**

Motacilla ochruros S.G. Gmelin, 1774b: 101, pl. 19, fig. 3.

Now: *Phoenicurus ochruros ochruros* (S.G. Gmelin, 1774). See Hartert (1910: 722), Ripley (1964b: 75).

TYPE SERIES: S.G. Gmelin (1774b: 101) described a male and a female. The type series thus consisted at least of two specimens.

TYPE LOCALITY: "ein Einwohner der Persischen Gebürge" ("inhabitant of Persian mountains") (S.G. Gmelin 1774b: 101). Considering S.G. Gmelin's itinerary I restrict here the type locality of *Motacilla ochruros* to Talesh Mountains, Gilan Province, Iran. See under *Motacilla longirostra* (above) for discussion of the type locality.

***Motacilla samamistica* Hablizl**

Motacilla samamistica Hablizl, 1783b: 60.

Now: *Phoenicurus phoenicurus samamisticus* (Hablizl, 1783b). See Stresemann (1928: 386), Steinbacher (1935: 321), Ripley (1964b: 77).

TYPE SERIES: Hablizl (1783b: 60) described a single specimen, collected during 3-6 August 1774 OS [= 14-17 August 1774 NS], which is thus the holotype.

TYPE LOCALITY: "Samamistische Berge" (= "Kuh-e Somamus") (Hablizl 1783b: 60). Considering Hablizl's itinerary, I restrict here the type locality of *Motacilla samamistica* to Javaher Dasht, Iran.

***Mystacinus russicus* Brehm**

Mystacinus Russicus "Gm[elin]" Brehm, 1831: 472.

Now: *Panurus biarmicus russicus* (Brehm, 1831). See Hartert (1907: 405), Voinstvenskij (1954: 788), Deignan (1964: 430).

TYPE SERIES: S.G. Gmelin (1774b: 104) described a single specimen, collected in spring 1770, which is thus the holotype.

TYPE LOCALITY: "Sie lebt in Russland, kommt im Herbst und Winter nach Ungarn und in die Nähe von Wien" ("lives in Russia, travels in autumn and winter to Hungary and to the vicinity of Vienna") (Brehm 1831: 473). Due to the data in S.G. Gmelin (1774b) I restrict here the type locality to "Astrachan" [= Astrahan', Russia].

REMARKS: Brehm (1831: 472) attributed this species to "Gm.", which can be traced via J.F. Gmelin (1789: 1011), who cited "*Parus russicus*, S.G. Gmelin 2. p. 164. t. 10" in

the synonymy of *Parus biarmicus* Linnaeus (1758: 190), to S.G. Gmelin (1774a: 164, pl. 10). However, neither Hartert (1907: 405) nor me were able to find *Parus ruscicus* or a similar name in S.G. Gmelin's papers. Hartert (1907: 405) thus correctly attributed the name *ruscicus* to Brehm (1831: 472), where it was published in the binomen *Mystacinus ruscicus*.

***Noctua minor* S.G. Gmelin**

Noctua minor "Brisson" S.G. Gmelin, 1771: 447, pl. 12.

Now: *Asio flammeus* (Pontoppidan, 1763). See Hartert (1913: 988).

TYPE SERIES: Single specimen described.

TYPE LOCALITY: Not mentioned (S.G. Gmelin 1771: 447). Considering Gmelin's itinerary, I restrict here the type locality of *Noctua minor* to southern Russia between Voronež, Azov and Astrahan'.

REMARKS: The description is rather uninformative, but the figure shows an *Asio flammeus* (Pontoppidan, 1763) (see also Hartert 1913: 988).

***Numenius igneus* S.G. Gmelin**

Numenius igneus S.G. Gmelin, 1771: 460, pl. 13.

Now: *Plegadis falcinellus* (Linnaeus, 1766). See Pallas (1811b: 166), Hartert (1920a: 1220).

TYPE SERIES: S.G. Gmelin (1771: 460) described a single specimen, which is thus the holotype.

TYPE LOCALITY: "degit ad littora Tanais, ad Choperum fluvium quoque frequens" ("occurs on the shores of the Azov Sea and at the Choper [= Hoper] River², where it is also common") (S.G. Gmelin 1771: 462). I found no mention of *Plegadis* from the Hoper River region (in broad sense) in S.G. Gmelin's travel-book (S.G. Gmelin 1770), but he (S.G. Gmelin 1770: 124) described from the same area Black Storks, which he called "*Ardea ignea* Linn.". Perhaps did the nomenclatural similarity lead to a confusion of "*Numenius igneus*" of S.G. Gmelin (= *Plegadis falcinellus*) collected at the Azov Sea with "*Ardea ignea*" of Linnaeus (= *Ciconia nigra* Linnaeus) observed by S.G. Gmelin long ago in the Hoper area. I thus consider the mention of the Hoper irrelevant and I suggest that S.G. Gmelin (1771) based the species upon a specimen from the shores of the "Tanais". Hence, I restrict here the type locality of *Numenius igneus* S.G. Gmelin to the Don delta at Azov ("Tanais"), Russia.

***Numenius viridis* S.G. Gmelin**

Numenius viridis S.G. Gmelin, 1771: 462, pl. 19.

Now: *Plegadis falcinellus* (Linnaeus, 1758). See Hartert (1920a: 1220).

TYPE SERIES: Single specimen described.

TYPE LOCALITY: "iisdem cum *N. igneo* locis degit" ("inhabits the same places as *Numenius igneus*") (S.G. Gmelin 1771: 464). I thus restrict here the type locality of *Numenius viridis* S.G. Gmelin to the Don delta at Azov, Russia.

² Hoper River enters the Don at 49.61°N, 42.31°E.

***Parus alpinus* Hablizl**

Parus alpinus Hablizl, 1783b: 49.

Now: *Aegithalos caudatus alpinus* (Hablizl, 1783b). See Stresemann (1928: 369), Marien (1951: 2), Snow (1967: 55).

TYPE SERIES: Hablizl (1783b: 49) described a single specimen, collected during 8-11 July 1774 [= 19-22 July 1774 NS], which is the holotype.

TYPE LOCALITY: “Samamische Berge” (= “Kuh-e Somamus”) (Hablizl 1783b: 49). Considering Hablizl’s itinerary, I restrict here the type locality of *Parus alpinus* to Javaher Dasht, Iran.

REMARKS: Subspecific taxonomy of *Aegithalos caudatus* is currently in flux (Eck & Martens 2006, Zink et al. 2008, Päckert et al. 2010), which makes the taxonomic fate of Hablizl’s *alpinus* uncertain.

***Parus caspicus* S.G. Gmelin**

Parus caspicus S.G. Gmelin, 1774b: 104, pl. 20, fig. 2.

Now: *Motacilla cinerea cinerea* Tunstall, 1771. See Vaurie (1957: 10), Vaurie et al. (1960: 136), Alström & Mild (2003: 481).

TYPE SERIES: S.G. Gmelin (1774b: 104) described a single specimen, which is thus the holotype.

TYPE LOCALITY: “bei Enzelli häufig vorhanden” (“common at Enzelli”) (S.G. Gmelin 1774b: 104). The type locality is thus Bandar-e Anzali, Iran.

REMARKS: Sharpe (1885: 516) and Hartert (1905: 291; tentatively) identified this bird with *Motacilla flava* Linnaeus, 1758 (see also Blanford 1876: 234), but S.G. Gmelin’s (1774b: 104) description clearly shows that the holotype is a juvenile *Motacilla cinerea* Tunstall, 1771 (e.g. Laubmann 1922b: 89, Hartert & Steinbacher 1933: 147, Vaurie 1957: 10; see also Pallas 1784: xxv). It is unknown at which date the bird was collected; it might have originated from the locally breeding population or represents a migrating bird of unknown geographic origin.

Mees (2006: 141) suggested that *Motacilla cinerea* Tunstall (1771: 2) is a nomen nudum and that *Motacilla caspia* (S.G. Gmelin, 1774b) should be used for the species. Schodde & Bock (2008) pointed out that *Motacilla cinerea* Tunstall has been validated by the ICZN (1969: Opinion 882) and that *Parus caspicus* S.G. Gmelin, 1774b is thus a junior subjective synonym of *Motacilla cinerea* Tunstall, 1771.

***Parus luteus* S.G. Gmelin**

Parus luteus S.G. Gmelin, 1774b: 101.

Now: *Motacilla flava lutea* (S.G. Gmelin, 1774b). See Alström & Mild (2003: 287), Dickinson (2003: 739).

LECTOTYPE (herein designated): Specimen described by S.G. Gmelin (1774b: 101-103) as the “male”; not figured. See ‘Remarks’ for explanation.

TYPE LOCALITY: S.G. Gmelin (1774b: 101-103) described this bird in the chapter on the birds from Iran, remarking (p. 103): “Dieser Vogel ist der einzige [...], der da zieht, und sich mit dem ersten Frühling nach Astrachan Heerden weise auf macht allwo er aber nicht nistet, sondern sich über die Wolga nach Rußland begibt, [...], in dem Herbst

nach den Ufern der Caspischen See zurück kommt” (“This bird is the only one [among those mentioned], which only migrates here, arrives in early spring at Astrahan’, but does not breed there, but goes over the Volga to Russia [for breeding] and returns to the shores of the Caspian Sea in autumn”). This led some authors (e.g. Laubmann 1922a: 89, Gladkov 1954a: 645, Vaurie 1957: 4) to take Astrahan’ as the type locality. However, S.G. Gmelin (1774b: 103) clearly described the species on the basis of birds from Iran. Considering his itinerary, I restrict here the type locality of *Parus luteus* S.G. Gmelin, 1774b, to Bandar-e Anzali, Iran.

REMARKS: S.G. Gmelin (1774b: 101-103) described two specimens, which he believed to be a male and a female of a single species. The description of his “male” agrees best with adult male of the wagtail now known as *Motacilla flava lutea* (S.G. Gmelin), while his “female” (description on p. 103; figured on pl. 20, fig. 1) is a female *Motacilla cinerea* Tunstall, 1771. In the interest of nomenclatural stability I designate here the unfigured and lost specimen described by S.G. Gmelin (1774b: 101-103) as the lectotype of the form.

***Parus variegatus* S.G. Gmelin**

Parus varietagus [sic] S.G. Gmelin, 1774b: 105, pl. 20, fig. 3.

Now: *Saxicola maurus variegatus* (S.G. Gmelin, 1774b). See below.

TYPE SERIES: S.G. Gmelin (1774b: 104) described a single specimen, which is thus the holotype.

TYPE LOCALITY: S.G. Gmelin (1774b: 105-107) described this bird among those he encountered in the Bandar-e Anzali region (see S.G. Gmelin 1774b: 97), but added (p. 107): “Dieser Vogel ist mir von Schamachie aus überall vorgekommen” (“I encountered this bird everywhere starting in Schamachie [= Şamaxı]”), i.e. everywhere between Şamaxı and Bandar-e Anzali (see also Hartert 1910: 707). This means that the described specimen (holotype) originated from Bandar-e Anzali, Iran, to which I restrict here the type locality. The acceptance of Şamaxı as the type locality (e.g. Štegman 1935: 46; Gladkov 1954b: 530; Ripley 1964b: 107) is incorrect.

REMARKS: The species name was spelled as “*varietagus*” on p. 105, but as “*variegatus*” on pl. 20, fig. 3 in S.G. Gmelin (1774b). Kleinschmidt (1903: 385) and Hartert (1910: 707) correctly concluded that *varietagus* is an incorrect original spelling, which should be corrected to *variegatus* (Art. 32.5 of the Code).

Pallas (1784: xxv, 1811a: 468) and Blanford (1876: 146) synonymized Gmelin’s *variegatus* with *Motacilla* (= *Saxicola*) *rubetra* Linnaeus, 1758, but both the description and figure of *variegatus* clearly apply to *Saxicola torquatus* s.l.

The *Saxicola torquatus* of the 20th-century authors is now recognized as a species complex (Wink et al. 2002a,b, Illera et al. 2008, Woog et al. 2008, Zink et al. 2009). Populations inhabiting the Caucasus region differ in molecules and morphology from neighboring populations of the European type and are more allied to geographically separated Central Asian forms (Zink et al. 2009), i.e. they belong to *Saxicola maurus* (Pallas, 1773: 708) sensu Urquhart (2002) and Zink et al. (2009).

Štegman (1935) distinguished in the Caucasus region two forms of stonechats from the *Saxicola torquata* complex: that living in eastern Great Caucasus and north of it (“northern form”) and that inhabiting Little Caucasus and adjacent parts of Turkey and Iran (“southern form”). Erroneously believing that S.G. Gmelin’s *variegatus* was described from Şamaxı he applied this name to the northern form and described the southern form as *Saxicola torquata armeniaca* Štegman (1935: 47). The northern and southern forms are distinguished mainly by tail color: only the basis of tail is white and the rest is black in the southern form, while about the distal half of the tail is white in the northern form. The description given by S.G. Gmelin (1774b: 106) agrees with the southern form, which lends another support for my interpretation of the type locality. Thus, if two forms are recognized within the *Saxicola maurus* of the Caucasus region (e.g. Urquhart 2002: 181-197, Dickinson 2003: 683), then the southern form should be called *Saxicola maurus variegatus* (S.G. Gmelin, 1774) and the northern form *Saxicola maurus amaliae* Buturlin (1929: 16), which is the earliest available name. *Saxicola torquatus armeniacus* Štegman, 1935 falls into the synonymy of *Saxicola maurus variegatus* (S.G. Gmelin, 1774b).

***Passer alpicola* Pallas**

Passer alpicola Pallas, 1811b: 20.

Now: *Montifringilla nivalis alpicola* (Pallas, 1811b). See Bianki (1907: 587), Hartert (1904: 133), Dickinson (2003: 718).

TYPE SERIES: Specimens from Caucasus (presumably collected by J.A. Gmelin; cf. Bogdanov 1876) and “Ceraunian” Mountains (presumably collected by S.G. Gmelin or Hablizl), examined by Pallas (1811b: 20).

TYPE LOCALITY: “Frequens in alpinis summis Caucasi atque montium Cerauniorum Caspicum lacum ambientum, hyeme in inferiora descendit, sed nunquam in borealiores regiones migrat” (“Inhabits mountain summits of Caucasus and Ceraunian Mountains surrounding the Caspian Sea; descends to lower altitudes in winter, but never migrates to northern regions”) (Pallas 1811b: 20). In Ancient geography, Ceraunian Mountains were an unspecified mountain range in the eastern part of the Caucasus system (Avery 1972: 78), but it remains unclear in which sense Pallas (1811b) used the name.

REMARKS: Pallas (1811b: 20) mentioned that S.G. Gmelin incorrectly identified the bird as a variety of *Emberiza nivalis* Linnaeus, 1758 = *Plectrophenax nivalis* (Linnaeus). This indicates that at least one of the syntypes originated from the S.G. Gmelin Expedition, although I was unable to find a respective note in S.G. Gmelin’s published works.

***Porphyrio veterum* Pallas**

Porphyrio veterum “Gmelin jun.” Pallas, 1811b: 157.

Now: *Porpyrio porpyrio veterum* Pallas, 1811b. See below.

TYPE SERIES: S.G. Gmelin (1774b: 79, pl. 12) described and figured a single specimen, which is thus the holotype of *Porphyrio veterum* Pallas, 1811b (Art. 72.4.3 of the Code).

TYPE LOCALITY: Due to the lectotypification made above, and considering S.G. Gmelin’s itineraries, I restrict here the type locality of *Porphyrio veterum* Gray to Bandar-e

Anzali, Iran, where S.G. Gmelin collected the holotype in October or November 1773 (Mlíkovský 2008).

REMARKS: *Porphyrio veterum* mentioned by S.G. Gmelin (1774b: 79, footnote) is not a new species name (contra Pallas 1811b: 157, Gray 1845: 598, Blanford 1876: 289, Dresser 1876: 299, 1903: 713, Elliot 1878: 14, Radde 1884: 40, 380, Sharpe 1894: 197, and others). It is a Latin expression meaning ‘*Porphyrio* of Ancient Authors’ (Sclater 1879: 196; Hartert 1917: 266, 1921b: 1847). Pallas (1811b: 157) was the first who used *Gallinago veterum* as a name, attributing it to S.G. Gmelin (1774b: 79) and listing it in the synonymy of his “*Fulica porphyrio*”. Gray (1845: 598) was the first to use *Porphyrio veterum* as a valid name for the species. Herewith, *Porphyrio veterum* became available for the purposes of zoological nomenclature with Pallas (1811b: 157) as its author (Art. 11.6.1 and Art. 50.7 of the Code). For the type series and type locality of this form see above.

Correctly concluding that *Porphyrio veterum* S.G. Gmelin never did exist, but overlooking that Gray (1845) made the name available for nomenclatural purposes from Pallas (1811b), Hartert (1917: 266) described the Caspian birds as *Porphyrio poliocephalus caspius* Hartert, 1917. Shortly thereafter, Hartert (1917: 266, 1927: 24) synonymized the latter form with *Porphyrio poliocephalus seistanicus* Zarudnyj & Härms (in Zarudnyj 1911: 240) and this arrangement was accepted by most subsequent authors (e.g. Peters 1934: 208; Buturlin 1935: 235; Kozlova 1951: 255; Spangenberg 1951: 619; Vaurie 1965: 358; Stepanân 1990: 164; Koblik et al. 2006: 110). Recently, Taylor (1996: 197) followed Zarudnyj’s (1911: 240) proposal and separated Caspian birds from *seistanicus* as *caspius*. *Porphyrio veterum* Pallas, 1811b antedates *seistanicus* Zarudnyj & Härms, 1911 as well as *caspius* Hartert, 1917. It is not a nomen oblitum, because it was used as a valid name after 1899 (e.g. by Zarudnyj 1911: 203, 240) (Art. 23.9.1 of the Code). Populations of *Porphyrio porphyrio* inhabiting the Middle East (in the broad sense) thus should be called *Porphyrio porphyrio veterum* Pallas, 1811b. If populations living around the Persian Bay (in the broad sense) are taxonomically separated from the Caspian populations, then they should bear the name *P. p. seistanicus* Zarudnyj & Härms, 1911. *Porphyrio poliocephalus caspius* Hartert, 1917 falls into the synonymy of *P. porphyrio veterum* Pallas, 1811b, because it was based on a specimen from Lenkoran, Azerbaijan (Hartert 1917: 266; Greenway 1973: 317).

***Scolopax obscura* S.G. Gmelin**

Scolopax obscura S.G. Gmelin, 1774b: 90.

Now: *Rallus aquaticus* Linnaeus, 1758. See Pallas (1811b: 154), Blanford (1876: 288), Hartert (1921b: 1824).

TYPE SERIES: S.G. Gmelin (1774b: 90-92) described male and female; the form was thus based on a series of at least two syntypes.

TYPE LOCALITY: S.G. Gmelin (1774b) published this bird in the same chapter as *Charadrius scolopax* (see above). Thus, I restrict here the type locality of *S. obscura* to Bandar-e Anzali, Iran, where the holotype was collected in October or November 1773 (see under *C. scolopax*).

***Sterna metopoleucos* S.G. Gmelin**

Sterna metopoleucos S.G. Gmelin, 1771: 475, pl. 12, fig. 1.

Now: *Sterna albifrons* Pallas, 1764. See Pallas (1784: xxi), Hartert (1921a: 1712).

TYPE SERIES: S.G. Gmelin (1771: 475) described male and female; the form was thus based on a series of at least two syntypes.

TYPE LOCALITY: “Trans mare nigrum [sic] vere huc venit; primo autem centum a Woronez mihi visus. Autumno redit” (“In spring comes to here across the Black Sea; I saw hundreds at Voronež. It returns in autumn”) (S.G. Gmelin 1771: 477). I found nothing in S.G. Gmelin’s paper what would specify where exactly he collected the syntypes. I restrict thus the type locality of *Sterna metopoleucos* to southern Russia between Voronež, Azov and Astrahan’, where S.G. Gmelin collected birds during his expedition. Hartert (1921a: 1712) listed “Woronetz” [= Voronež] as the type locality without explanation, but this is unsubstantiated.

***Sturnus montanus* Hablizl**

Sturnus montanus Hablizl, 1783b: 52.

Now: *Prunella collaris montanus* (Hablizl, 1783b). See Stresemann (1928: 389), Steinbacher (1935: 334), Ripley (1964a: 4).

TYPE SERIES: Hablizl (1783b: 52) described a single bird, collected on 15 July 1774 OS [= 26 July 1774 NS], which is thus the holotype.

TYPE LOCALITY: “Samamisische Berge” [= Kuh-e Somamus] (cf. Hablizl 1783b: 52). Considering Hablizl’s itinerary, I restrict here the type locality of *Sturnus montanus* to Javaher Dasht, Iran.

***Tetrao caspius* S.G. Gmelin**

Tetrao caspius S.G. Gmelin, 1784: 67, pl. 10.

Now: *Tetraogallus caspius caspius* (S.G. Gmelin, 1784). See Hartert (1921c: 1898).

TYPE SERIES: S.G. Gmelin (1784: 67) described a single specimen, which is the holotype.

TYPE LOCALITY: Hartert (1921c: 1898) incorrectly listed “Gilan in Nordpersien” as the type locality and also expressions like “Prov. of Astarabad” (Peters 1934: 60) or “Astrabad” (McGowan 1994: 482) are inaccurate. S.G. Gmelin (1784: 67) received the bird in “Astrabad” [= Gorgān, Iran], which is a lowland city. Considering that *Tetraogallus caspius* is a bird of high mountains, it is possible to assume that the specimen was collected in the mountains above Gorgān. I thus restrict here the type locality of *Tetrao caspius* S.G. Gmelin to the East Alborz Mountains above Gorgān, Iran. Three modern-day Iranian provinces (Mazandaran, Golestan and Semnan) join in the mountains close to Gorgān and the bird could have been collected in any of them.

***Tetrao caudacutus* S.G. Gmelin**

Tetrao caudacutus S.G. Gmelin, 1774b: 93, pl. 18.

Now: *Pterocles alchata* Linnaeus, 1766. See Ogilvie-Grant (1893: 7), Hartert (1920b: 1504).

TYPE SERIES: S.G. Gmelin (1774b: 90-92) described male and female; the form was thus based on a series of at least two syntypes.

TYPE LOCALITY: No locality was mentioned by S.G. Gmelin (1774b), but he described the form in a chapter on the birds of “Enzelli”. I thus restrict here the type locality of *Tetrao caudacutus* to Bandar-e Anzali, Iran.

***Tringa fasciata* S.G. Gmelin**

Tringa fasciata S.G. Gmelin, 1774a: 194, pl. 26.

Now: *Vanellus gregarius* (Pallas, 1771). See Hartert (1920b: 1358).

TYPE: Male and female described, collected in 1770.

TYPE LOCALITY: “Astrachan” [= Astrahan’, Russia] (cf. S.G. Gmelin, 1774a: 194).

REMARKS: *Tringa fasciata* S.G. Gmelin, 1774a, is a junior primary homonym of *Tringa fasciata* Scopoli, 1786 = *Pterocles indicus* J.F. Gmelin, 1789.

***Vultur aureus* Hablizl**

Vultur aureus “Brisson” Hablizl, 1783b: 64.

Now: *Gypaetus barbatus aureus* (Hablizl, 1783b). See Stresemann (1928: 404), Steinbacher (1936: 424), Dement’ev (1951: 262), Stresemann & Amadon (1979: 303).

TYPE SERIES: Single bird, collected during 13-17 August 1774 [= 24-28 August 1774 NS] (Hablizl 1783b: 64)

TYPE LOCALITY: “Samamische Berge” [= Kuh-e Somamus] (cf. Hablizl 1783b: 64). Considering Hablizl’s itinerary, I restrict here the type locality of *Vultur aureus* to Javaher Dasht, Iran.

***Vultur fulvus* Hablizl**

Vultur fulvus “Briss[on]” Hablizl, 1783b: 58

Now: *Gyps fulvus* (Hablizl, 1783b). See Hartert (1914: 1204), Stresemann & Amadon (1979: 307).

TYPE SERIES: (Hablizl 1783b: 58) described a single bird, collected during 25 July – 1 August 1774 [= 5-12 August 1774 NS], which is thus the holotype.

TYPE LOCALITY: “Samamische Berge” [= Kuh-e Somamus] (cf. Hablizl 1783b: 58). Considering Hablizl’s itinerary, I restrict here the type locality of *Vultur fulvus* to Javaher Dasht, Iran.

***Vultur meleagris* Pallas**

Vultur Meleagris Pallas, 1811a: 377.

Now: *Nophron percnopterus* (Linnaeus, 1758). See Hartert (1914: 1201), Dickinson (2003: 101).

TYPE SERIES: Unspecified specimens received by Pallas (1811a: 377) from the type locality (see below), and the specimen described and figured by S.G. Gmelin (1774b: 364, pl. 37), to which Pallas (1811a: 377) explicitly referred.

TYPE LOCALITY: Specimens collected in “Tauricae Chersonensi” (Pallas 1811a: 377), i.e. in the Kherson region, Ukraine. The city of Kherson lies at 46.66°N, 32.62°E.

Varia

S.G. Gmelin (1770: 70) listed two duck species as “*Querquedula prima*” and “*Querquedula secunda*”, both with definitions and a reference to Linnaeus (1761). These names

were apparently not meant as new for science. Instead, S.G. Gmelin (1770: 70) just listed these ducks under names given to them by Willughby (1676: 290-291) and Ray (1713: 147-148), which Linnaeus (1761: 45-46) cited in the synonymy of *Anas querquedula* Linnaeus, 1758 and *Anas crecca* Linnaeus, 1758, respectively. Stone (1907: 191) incorrectly believed that these are valid descriptions and that *Querquedula* is an available genus name created by S.G. Gmelin (1770: 70). The genus *Querquedula* Stephens (1824: 142) is thus not preoccupied.

Larus maculatus mentioned by S.G. Gmelin (1774a: 191, pl. 22) is not a new species, but a reference to *Larus maculatus* of Pontoppidan (1763: 622).

Hartert (1905: 261) suggested that *Otocoris scriba* Bonaparte (1850: 246) is based in part on “Die Alpen Lerch” figured by S.G. Gmelin (1770, pl. 12), which is cited by Bonaparte. However, the arrangement of the entry indicates that Bonaparte (1850: 246) created his *Otocoris scriba* as a new name for *Alauda penicillata* Gould (1837: 126), described from Erzerum, Turkey. The name has thus nothing in common with the Gmelin Expedition.

Pallas (1811a: 550) listed *Emberiza passerina* S.G. Gmelin (1774a: 175, pl. 10) in the synonymy of his “*Parus barbatus*“ = *Panurus biarmicus* (Linnaeus, 1758), which is an apparent error. *Emberiza passerina* was described by Pallas (1771b: 456) himself (see also Pallas 1811b: 49) and I did not find this name in S.G. Gmelin’s published works. Of the two places mentioned by Pallas (1811a: 550), S.G. Gmelin (1774a: 175) described *Emberiza arundinacea* (see above) and S.G. Gmelin’s (1774a) pl. 10 shows a *Panurus biarmicus* (see below under *Mystacinus russicus* Brehm).

Pallas (1811b: 242) listed “*Anas rubra*” of S.G. Gmelin (1774a: 182, pl. 15) in the synonymy of his “*Anas rutila*” = *Tadorna ferruginea* (Pallas, 1764). However, such a name does not exist in S.G. Gmelin, who, on p. 182, described this shellgoose as “rothe Endte”, which in German means the same as “*anas rubra*” in Latin.

Sharpe (1874: 228) listed “*Falco magnus*, Gm. Reis. Sibir. iii. pl. 38 (1774)” in the synonymy of *Gypaetus barbatus* (Linnaeus, 1766: 87). Hartert (1914: 1196, footnote) correctly observed that no such name occurs in S.G. Gmelin (1774b). I think that Sharpe (1874: 228) incorrectly copied that entry from J.F. Gmelin (1788: 252), where variety γ of *Falco barbatus* is defined as follows: “*Falco* (magnus) cera caerulescente, pedibus et corpore subtus castaneis albo mixtis, cauda cinerea. S. G. Gmelin *it.* III. p. 365. t. 38.” (his italics) [= S.G. Gmelin 1774b: 364-365, pl. 38]. J.F. Gmelin certainly did not mean this as a creation of a new name. *Falco magnus* has never been used as a valid name for any *Gypaetus* form to my best knowledge. *Falco magnus* S.G. Gmelin and *Falco magnus* J.F. Gmelin thus never did exist. It is noteworthy that Sharpe (1874: 228), “improved” J.F. Gmelin’s (1788: 252) citation “*it.*” (= *iter*; Latin word often used instead of equivalent vernacular words, such as German ‘Reise’, in times when relevant books were so few that such citations were understandable) to “Reis. Sibir.”, confusing S.G. Gmelin’s (1770, 1774a,b) *Reise durch Rußland* with J.G. Gmelin’s (1751, 1752a,b,c) *Reise durch Sibirien*.

SUMMARY

The nomenclatural and taxonomic revision of the bird taxa described from specimens collected in Iran during the Gmelin Expedition resulted in the following conclusions (systematically arranged; subspecies are not listed if the species is monotypic or if the form is synonymous with the nominotypic subspecies):

Podicipedidae

Colymbus caspicus Hablitzl (1783: 9) = *Podiceps nigricollis* Brehm, 1831.

Ardeidae

Ardea caspica S.G. Gmelin (1774a: 193) = *Ardea purpurea* Linnaeus, 1766.

Ardea castenea [sic] S.G. Gmelin (1771: 454) = *Ardeola ralloides* (Scopoli, 1769).

Ardea egretoides S.G. Gmelin (1774a: 193) = *Ardea alba* (Linnaeus, 1758).

Ardea ferruginea S.G. Gmelin (1771: 456) = *Nycticorax nycticorax* (Linnaeus, 1758).

Ardea kwakwa S.G. Gmelin (1771: 452) = *Nycticorax nycticorax* (Linnaeus, 1758).

Ardea nivea S.G. Gmelin (1771: 458) = *Egretta garzetta* (Linnaeus, 1766).

Threskiornithidae

Numenius igneus S.G. Gmelin (1771: 460) = *Plegadis falcinellus* (Linnaeus, 1766).

Numenius viridis S.G. Gmelin (1771: 462) = *Plegadis falcinellus* (Linnaeus, 1766).

Anatidae

Anas cinerea S.G. Gmelin (1774a: 184) = *Anas strepera* Linnaeus, 1758.

Anas cornuta S.G. Gmelin (1774a: 185) = *Tadorna tadorna* (Linnaeus, 1758).

Anas erythrocephala [sic] S.G. Gmelin (1771: 465) = *Aythya ferina* (Linnaeus, 1758).

Anas gmelini Latham, (1790: 876) = *Aythya nyroca* (Güldenstädt, 1770).

Anas kekuschka S.G. Gmelin (1774b: 249) = *Anas strepera* Linnaeus, 1758.

Anas kogolka S.G. Gmelin (1771: 468) = *Anas penelope* Linnaeus, 1758.

Anas lurida S.G. Gmelin (1770: 70) = *Aythya nyroca* (Güldenstädt, 1770).

Anas peregrina S.G. Gmelin (1774a: 183) = *Anas penelope* Linnaeus, 1758.

Anas subulata S.G. Gmelin (1770: 13) = *Anas acuta* Linnaeus, 1758.

Anas torquata S.G. Gmelin (1774a: 180) = *Branta ruficollis* (Pallas, 1769).

Anser casarka S.G. Gmelin (1774a: 177) = *Anser albifrons* (Scopoli, 1769).

Mergus asiaticus S.G. Gmelin (1774a: 188) = *Mergus merganser* Linnaeus, 1758.

Pandionidae

Falco haliaëtus arundinaceus J.F. Gmelin (1788: 263) = *Pandion haliaëtus* (Linnaeus, 1758).

Accipitridae

Accipiter ferox S.G. Gmelin (1771: 442) = *Circaetus gallicus* (J.F. Gmelin, 1788).

Accipiter hypoleucus Pallas (1811a: 354) = *Circaetus gallicus* (J.F. Gmelin, 1788).

Accipiter korschun S.G. Gmelin (1771: 444) = *Circus aeruginosus* (Linnaeus, 1758).

Accipiter macrourus S.G. Gmelin (1771: 439) = *Circus macrourus* (S.G. Gmelin, 1771).

Aquila mogiĭlnik S.G. Gmelin (1771: 445) = *Aquila* sp.

Falco astracanus [sic] Shaw (1809: 85) = *Circaetus gallicus* (J.F. Gmelin, 1788).

Falco macrourus S.G. Gmelin (1770: 48) = *Circus macrourus* (S.G. Gmelin, 1770).

Falco milvus castaneus Daudin (1800: 148) = *Circus aeruginosus* (Linnaeus, 1758).

Falco milvus russicus Daudin (1800: 148) = *Circus aeruginosus* (Linnaeus, 1758).

Gypaëtus castaneus Daudin (1800: 26) = *Gypaëtus barbatus aureus* (Hablitzl, 1783b).

Vultur fulvus "Brisson" Hablitzl (1783b: 58) = *Gyps fulvus* (Hablitzl, 1783).

Vultur aureus Hablitzl (1783b: 64) = *Gypaëtus barbatus aureus* (Hablitzl, 1783).

Vultur Meleagris Pallas (1811a: 377) = *Neophron percnopterus* (Linnaeus, 1758).

Falconidae

Falco tinnunculus griseus J.F. Gmelin (1788: 279) = *Falco tinnunculus* Linnaeus, 1758.

Phasianidae

Tetrao caspius S.G. Gmelin (1784: 67) = *Tetraogallus caspius* (S.G. Gmelin, 1784).

Rallidae

Porphyrio veterum Pallas (1811b: 157) = *Porphyrio porphyrio veterum* Pallas, 1811b.³

Scolopax obscura S.G. Gmelin (1774b: 90) = *Rallus aquaticus* Linnaeus, 1758.

Gruidae

Ardea gigantea S.G. Gmelin (1774a: 189) = *Grus leucogeranus* Pallas, 1773.

Burhinidae

Charadrius scolopax S.G. Gmelin (1774b: 87) = *Burhinus oedicephalus* (Linnaeus, 1758).

Charadriidae

Tringa fasciata S.G. Gmelin (1774a: 194) = *Vanellus gregarius* (Pallas, 1771).

Laridae

Sterna metopoleucos S.G. Gmelin (1771: 475) = *Sterna albifrons* Pallas, 1764.

Pterocletidae

Tetrao caudacutus S.G. Gmelin (1774b: 93) = *Pterocles alchata* (Linnaeus, 1766).

Strigidae

Noctua minor S.G. Gmelin (1771: 447) = *Asio flammeus* (Pontoppidan, 1763).

Motacillidae

Motacilla flaveola Pallas, (1811a: 501) = *Motacilla flava lutea* (S.G. Gmelin, 1774b).

Motacilla littorea S.G. Gmelin (1774b: 98) = *Anthus pratensis* (Linnaeus, 1758).

Parus caspicus S.G. Gmelin (1774b: 104) = *Motacilla cinerea* Tunstall, 1771.

Parus luteus S.G. Gmelin (1774b: 101) = *Motacilla flava lutea* (S.G. Gmelin, 1774b).

Alaudidae

Alauda mutabilis S.G. Gmelin (1771: 479) = *Melanocorypha yeltoniensis* (J.R. Forster, 1767).

Prunellidae

Sturnus montanus Hablitzl (1783b: 52) = *Prunella collaris montana* (Hablitzl, 1783b).

Turdidae

Motacilla ochruros S.G. Gmelin (1774b: 101) = *Phoenicurus ochruros ochruros* (S.G. Gmelin, 1774).

Motacilla samamistica Hablitzl (1783b: 60) = *Phoenicurus phoenicurus samamisticus* (Hablitzl, 1783b).

Parus variegatus S.G. Gmelin (1774b: 105) = *Saxicola maurus variegatus* (S.G. Gmelin, 1774).⁴

Certhiidae

Motacilla longirostra S.G. Gmelin (1774b: 100) = *Tichodroma muraria muraria* (Linnaeus, 1766).

Aegithalidae

Parus alpinus Hablitzl (1783b: 49) = *Aegithalos caudatus alpinus* (Hablitzl, 1783b).

Paradoxornithidae

Mystacinus russicus C.L. Brehm (1831: 472) = *Panurus biarmicus russicus* (C.L. Brehm, 1831).

Passeridae

Passer alticola Pallas (1811b: 20) = *Montifringilla nivalis alticola* (Pallas, 1811b).

Emberizidae

Emberiza arundinacea S.G. Gmelin (1774a: 175) = *Emberiza schoeniclus pyrrhuloides* Pallas, 1811.

Emberiza leucocephalos S.G. Gmelin (1771: 480) = *Emberiza leucocephalos* S.G. Gmelin, 1771.

³ Listed as *Porphyrio porphyrio caspius* Hartert, 1917 by Dickinson (2003: 67).

⁴ This subspecies was called *Saxicola torquatus armeniacus* Štegman, 1935 by Dickinson (2003: 683).

Nomen dubium

Motacilla obscura Hablitzl (1783b: 56).⁵

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⁵ This taxon was listed as *Prunella modularis obscura* (Hablitzl, 1783) by Dickinson (2003: 738).

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