



Types of birds in the collections of the Museum and Institute of Zoology, Polish Academy of Sciences, Warszawa, Poland. Part 1: Introduction and European birds

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ABSTRACT. The Museum and Institute of Zoology of the Polish Academy of Sciences (MIZ) houses ca. 40 000 bird skins and dermoplasts. The history of these collections goes back to the late 18th century. Currently, the MIZ contains types of 14 species-group taxa of European birds, incl. 8 holotypes. The status of the specimen listed here as the holotype of *Turdus atrogularis* Jarocki, 1819 is uncertain. Holotypes of 3 species-group taxa were lost in the past, as was an unknown number of syntypes..

KEY-WORDS. Museum of Zoology, Warszawa, Aves, types, Europe.

GENERAL INTRODUCTION

Ornithological collections of the Muzeum i Instytut Zoologii (Museum and Institute of Zoology; MIZ) of the Polish Academy of Sciences, Warszawa, Poland, contain ca. 40 000 bird skins and dermoplasts (W. Tomaszewska, pers. comm., 2007) and belong thus to top 20 European bird collections (cf. Roselaar 2003). They contain numerous type specimens from Europe, Asia and South America. These types were catalogued by Taczanowski (1889) and Sztolcman & Domaniewski (1927), but both these catalogues are now outdated to a large degree.

The aim of the present study is to provide an up-to-date review of avian types currently available at the MIZ and of those which were expected to be at the MIZ, but have been lost. For practical reasons, the results were divided into three parts, covering types of European, Asian, and South American birds, respectively. First of these installments includes also a general introduction.

All specimens from original type series are listed, including holotypes, syntypes, lectotypes and paralectotypes. Considering their rarity and often absence of published data, paratypes were also checked and listed for extra-European birds.

International rules of zoological nomenclature are used (ICNZ 1999).

History of the Museum

Roots of this collection go back to Sylvius August von Minckwitz (1772-1818; also spelled Silvius or Minkwitz), a private collector resident at Grunwitz, Silesia (now

Gronowice, Poland; 51.2°N, 17.7°E), who created a large collection of birds in 1792-1818 (Pax 1923, 1925). This collection was purchased in November 1818 from Minckwitz's heirs by Feliks Jarocki (1790-1865) as a basis for the Gabinet Zoologiczny (Zoological Museum), which was founded in 1819 at the Royal Warszawa University. Since then, the collections have been administratively subordinated to several institutions, as follows (Sztolcman 1921, Brzęk 1959, Kazubski 1996):

1792-1818: Private collection of Sylvius August von Minckwitz

1819-1831: Królewski Uniwersytet Warszawski (Royal Warszawa University)

1831-1862: Warszawa School District

1862-1869: Szkoła Główna (Main School)

1869-1919: Varšavskij Imperatorskij Universitet (Imperial Warszawa University)

1919-1921: Narodowe Muzeum Przyrodnicze (National Museum of Natural History)

1921-1928: Polskie Państwowe Muzeum Przyrodnicze (Polish State Museum of Natural History)

1928-1952: Państwowe Muzeum Zoologiczne (State Zoological Museum)

1952-1992: Instytut Zoologii, Polska Akademia Nauk (Institute of Zoology, Polish Academy of Sciences)

1992 ff.: Muzeum i Instytut Zoologii, Polska Akademia Nauk (Museum and Institute of Zoology, Polish Academy of Sciences)

In addition, a private Muzeum Zoologiczne Branickich (Branicki Zoological Museum) existed in Warszawa in 1877-1919. It was founded by Count Konstanty Branicki (1824-1884) and its collections were donated to the Polish state by Konstanty's son Ksawery Branicki (1864-1926) in 1919, when they were incorporated in the newly founded National Museum of Natural History.

Ornithological collections were formed in Grunwitz (Gronowice) in 1792-1818, and then deposited in several places in Warszawa until the 1970s, when they were moved to a depository at the Research Station of the MIZ PAN at Łomna-Las, ca. 30 km NW of Warszawa.

Type specimens

Ornithological collections of the Zoological Museum in Warszawa have been continuously growing since their very beginnings. In regard to avian types, the following three periods were significant:

(1) Sylvius August von Minckwitz (1772-1818), owner of the collection in the years 1792-1818 was in contact and exchanged avian specimens with numerous significant European ornithologists of that time. It is possible (Pax 1923, 1925, Syniawa 2000: 135) that Minckwitz's collection included types (i.e. probably syntypes) of bird species described by Johann Matthaeus Bechstein (1757-1822), Johann Andreas Naumann (1744-1826) and Coenraad Jacob Temminck (1778-1858). Feliks Jarocki (1790-1865) purchased this collection in 1818 for the planned Gabinet Zoologiczny in Warszawa (see above) and catalogued it (Jarocki 1819), unfortunately without making useful references regarding the origin of individual specimens. Subsequent catalogues (Taczanowski 1889, Sztolcman & Domaniewski 1927) did not list any types from the Minckwitz collection. However, a few specimens from this collection are still available at the MIZ (Anonymous s.d., Mlíkovský pers. obs. in 2007) and there is minor chance that some of them, when located in the collections, could be recognized as types.

(2) Feliks Jarocki (1790-1865) described two species of birds on the basis of specimens in the Gabinet Zoologiczny in Warszawa (Jarocki 1819), i.e. quite probably on the basis of specimens obtained with the Minckwitz collection.

(3) The Golden Age (cf. Brzęk 1959) of avian alpha-taxonomy in Warszawa started in the 1870s and lasted till 1939, when it was finished by the onset of the World War II. Local ornithologists that described avian species on the basis of material deposited at the MIZ included Władysław Taczanowski (1819-1890), Benedykt Dybowski (1833-1930), Jan Sztolcman (1854-1928), Tadeusz Chrostowski (1878-1923), Janusz Domaniewski (1891-1954), and Andreas Dunajewski (1908-1944).

Geographically, described species originated from four regions: (1) Central and Eastern Europe, (2) Transcaucasia and Central Asia, (3) Eastern Asia between Lake Baikal, Kamchatka and Korea, and (4) northeastern South America.

Sources of information

Most catalogues and other relevant written sources were lost during the conflagration of the Zoological Museum in October 1944 (Kazubski 1996, W. Tomaszewska, pers. communication, 2007). The following sources survived and were used during the preparation of the present catalogue (only general sources are listed here, while sources relevant only to a geographical region will be listed at appropriate places):

- (1) Published catalogue of ornithological collections of the Gabinet Zoologiczny (Zoological Museum) of the Royal Warszawa University (Jarocki 1819). This is basically a catalogue of the Minckwitz collection (see above).
- (2) Slip catalogue of the Branicki Zoological Museum (unpublished), deposited at the MIZ. Useful work, which contains a list of specimens per species. Only sex, locality and collector are given for each specimen (where known). It is unknown, however, how complete this catalogue was and when it was finished.
- (3) Published catalogue of avian types in the collections of the Zoological Museum of the Imperial Warszawa University (Taczanowski 1889). Standard and useful work. Taczanowski's understanding of what is a type differed from current meaning of the word in zoological systematics and nomenclature (see ICZN 1999). Taczanowski was not an evolutionist (Brzęk 1959, Dybowski 1930) and his 'types' were a mixture of types in modern sense and of topotypes, where a locality was understood in a broad sense (e.g. Caucasus, Dauria, Ussuri, Korea). Hence, his Catalogue includes 'types', which are not types in current sense, and some species are thus listed in Taczanowski's (1889) catalogue, of which the Warszawa Museum never possessed types. On the other hand, this catalogue does not list some species, of which types were at the MIZ, but which Taczanowski probably did not accept as properly described.
- (4) Published catalogue of avian types in the Polish State Museum of Natural History (Sztolcman & Domaniewski 1927). This is the last published catalogue and the only source of information about the collection in the period in between the two 20th century World Wars. Sztolcman & Domaniewski (1927) listed, without explanation, only a single "typus" for each species-group taxon. It follows from comparisons of these data with other sources and from introductory comments by Sztolcman & Domaniewski (1927: 95-96) that their "typus" may mean a holotype, a syntype or a topotype (in the sense of ICZN 1999). It is not apparent from this catalogue which of these meanings is the correct one in individual cases. The use by Sztolcman & Domaniewski (1927)

of the word “typus” for a syntype certainly does not mean its designation as a lectotype.

- (5) Card catalogue of the ornithological collections at the MIZ (Anonymous s.d.). Written shortly after World War II (with continuing additions and corrections), this catalogue is the fundamental key to current ornithological collections housed at the MIZ. Types are identified in this catalogue using published catalogues by Taczanowski (1889) and Sztolcman & Domaniewski (1927) and rarely using label data. Consequently, this catalogue is not a reliable source as to whether a specimen is a type or not.
- (6) Label data.

Cataloging systems

Different inventory or catalogue numbers may have been associated with particular specimens, as follows:

- (1) Specimens which were formerly deposited at the Branicki Zoological Museum (MZBW), Warszawa, bear inventory numbers of this museum. Each species was given here a number and individual specimens were labeled with small-case letters added to this number. Species were numbered consecutively, without respect to taxonomy. The MZBW numbers are written on labels attached to relevant specimens, but were not given in any previously published catalogue of birds deposited at the MIZ.
- (2) Taczanowski (1889) labeled most of listed types with numbers prefixed with “N” (which could have mean just “number” or could have had some other meaning). These numbers do not appear on labels attached to specimens at the MIZ, even not on those written by Taczanowski himself, and Taczanowski did not use them in any other of his numerous ornithological writings. It is no more known what these numbers meant (W. Tomaszewska, pers. communication, March 2007).
- (3) Sztolcman & Domaniewski (1927) labeled specimens with numbers prefixed with “P”. These numbers are written on labels attached to relevant specimens.
- (4) Some specimens bear numbers of the Muzeum Zoologiczne (Zoological Museum) of the Imperial Warszawa University.
- (5) Currently valid inventory numbers are prefixed with the collection acronym (MIZ). All specimens bear these numbers, which are listed in the card catalogue (Anonymous s.d.) of the ornithological collections (see above: Source of information # 5).
- (6) In some cases, specimens bear numbers from other collections from which they originated (see Acronyms).
- (7) Field-numbers of collectors found on original labels attached to specimens.
- (8) Abbreviation “MIZ Ø” is used when I did not find a specimen at the MIZ in 2007.

Dates

Gregorian calendar was adopted by Poland already in 1582, but large parts of this country, incl. Warszawa, were part of the Russian Empire from the late 18th century till 1918, where the Julian (Old Style; OS) calendar was used (changing from 31 January 1918 OS to 14 February 1918 NS). I assume that local dates were used in all cases, and I add converted dates where appropriate.

Spelling of anthroponyms and toponyms

Original (native) spellings and versions are used for all authors’ names mentioned, although they often used foreign-language versions of their names. This applies particu-

larly to Polish (e.g. Tačanovskij for Taczanowski, Domanevskij for Domaniewski, Stolzmann for Sztolcman, Ladislas for Władysław, Benoit for Benedykt), Russian (Bykow for Bykov), and German (Sylwiusz for Sylvius) names.

Spellings of toponyms found on labels or in published papers are mentioned, and their current version is added in brackets.

National systems of transliterating the Cyrillic to the Latin writing system were followed (Belarusian: GOST-2002, Georgian: National 2002, Russian: GOST-2002, Ukrainian: National 1996).

Losses of type specimens

Ornithological collections currently housed at the MIZ had complicated past and had to survive turbulent periods. Main reasons why type specimens were not found at the MIZ in 2007 are listed below:

- (1) Specimens presumably decayed and were removed from collections in the 19th century, as was the standard worldwide, but it remains unknown to which degree collections were influenced by this curatorial practice and to which degree type specimens were involved.
- (2) Taczanowski (certainly and frequently) and his successors prior to World War II (presumably) exchanged specimens with other museums. It is highly probable that Taczanowski forwarded to other museum some of his syntypes. These specimens are not necessarily lost for science, but may be listed below as “not found”. No evidence is available at the MIZ as to the relevant activities of Taczanowski and his successors.
- (3) In 1915, when German troops approached Warszawa during World War I, Dr. Eysmond, an assistant at the (then Russian-language) Warszawa University, evacuated part of the avian collection to Rostov-na-Donu, Russia (J. Domaniewski in Neumann 1918). This shipment included over 300 type specimens (J. Domaniewski in Neumann 1918: 237) from 112 species-group taxa of birds (Sztolcman & Domaniewski 1927). This collection has never been returned to Poland, having been conflagrated in the 1920s (Kazubski 1996). Sztolcman & Domaniewski (1927) listed species, types of which were transferred to Rostov-na-Donu, but never specified how many specimens per species were transferred.
- (4) In 1935, a fire broke out in the Museum’s building and destroyed part of the ornithological collection (Kazubski 1996), but it is unknown whether any types were involved.
- (5) In September 1939, shortly after the German siege of Poland, the Museum building was hit by several artillery projectiles (Kazubski 1996), but it is unknown whether avian types were lost by this action.
- (6) In the late 1939, possibly in October or November, Andrzej Dunajewski, then curator of ornithology at the Museum, packed two boxes with ca. 150-180 skins of small birds, incl. types, and secretly took them to his home in belief that they will be safer there than in the Museum (M. Luniak in Nowak 2005: 73). These skins did not survive the World War II.
- (7) In November 1939, German troops removed from the Museum a number of zoological specimens. Between December 1945 and November 1946, Tadeusz Jaczewski (1899-1974), as a reclaim liaison officer of the Polish Revindication Commission,

secured much of this material (Kazubski 1996). It is unknown, however, whether avian types were involved in these transfers.

- (8) In October 1944, shortly after the Warszawa uprising, the building of the Zoological Museum was conflagrated. This resulted in great losses of avian specimens, including types.

Most of relevant written evidence (catalogues etc.) was conflagrated in 1944. It is thus impossible, in most cases, to estimate exact time of the destruction of specimens, which I did not find at the MIZ in 2007, unless their absence was mentioned already by Sztolcman & Domaniewski (1927).

Structure of the present catalogue

The sequence of orders and families follows Peters's Check-list of Birds of the World (1931-1979). Within each family, however, the genera (and within genera, the species) are listed in alphabetical order.

Heading of each species-group taxon forms its original name. It is followed by the original taxon name with details on the place and date of its description.

Next to the 'names' section, all types are listed separately. The following data are given for each specimen: its type status, current (MIZ) and former catalogue numbers, name of the collector, and date and place of collection. Where appropriate, dates are converted from the Julian to the Gregorian calendar [with the 'new style' Gregorian date in brackets], and current names and country affiliations of localities are presented [in brackets]. Grapheme 'Ø' is added after MIZ, when no MIZ number was given to the specimen (this indicates that the specimen were not found at the MIZ after World War II).

'Remarks' section includes any useful comments.

'Now' section gives current name of the taxon, following the standards of Dickinson (2003). However, taxonomic status of each nominal species was checked also with Vaurie (1959, 1965), Stepanân (2003) and Koblik et al. (2006). Differences were noted and, where appropriate, other relevant references were given.

TYPES OF EUROPEAN BIRDS: INTRODUCTION

History

The Minckwitz Collection, created in 1792-1818, perhaps included syntypes of European birds (cf. Pax 1923, 1925, Syniawa 2000: 135; see above), but, if so, none were located in 2007 (but see below under *Turdus atrogularis*).

Feliks Jarocki (1790-1865) described two European bird species on the basis of specimens from the Minckwitz Collection (Jarocki 1819). The existence of these names was unknown to ornithologists for a long time. The existence of one of these names (*Turdus atrogularis*) was discovered only by Dunajewski (1934b), while the existence of the other name (*Tringa macroura*) remained overlooked until I found it when I studied Jarocki's (1819) publication (see below).

Next period of taxonomic interest in European birds existed in the early 20th century, when Janusz Domaniewski (1891-1954) and Andreas Dunajewski (1908-1944) described new subspecies of birds from eastern Europe (Domaniewski 1913, 1915a,b, 1916, 1917a,b, 1918b, 1922, 1925, 1927, 1933, Dunajewski 1934a, 1938a,b,c).

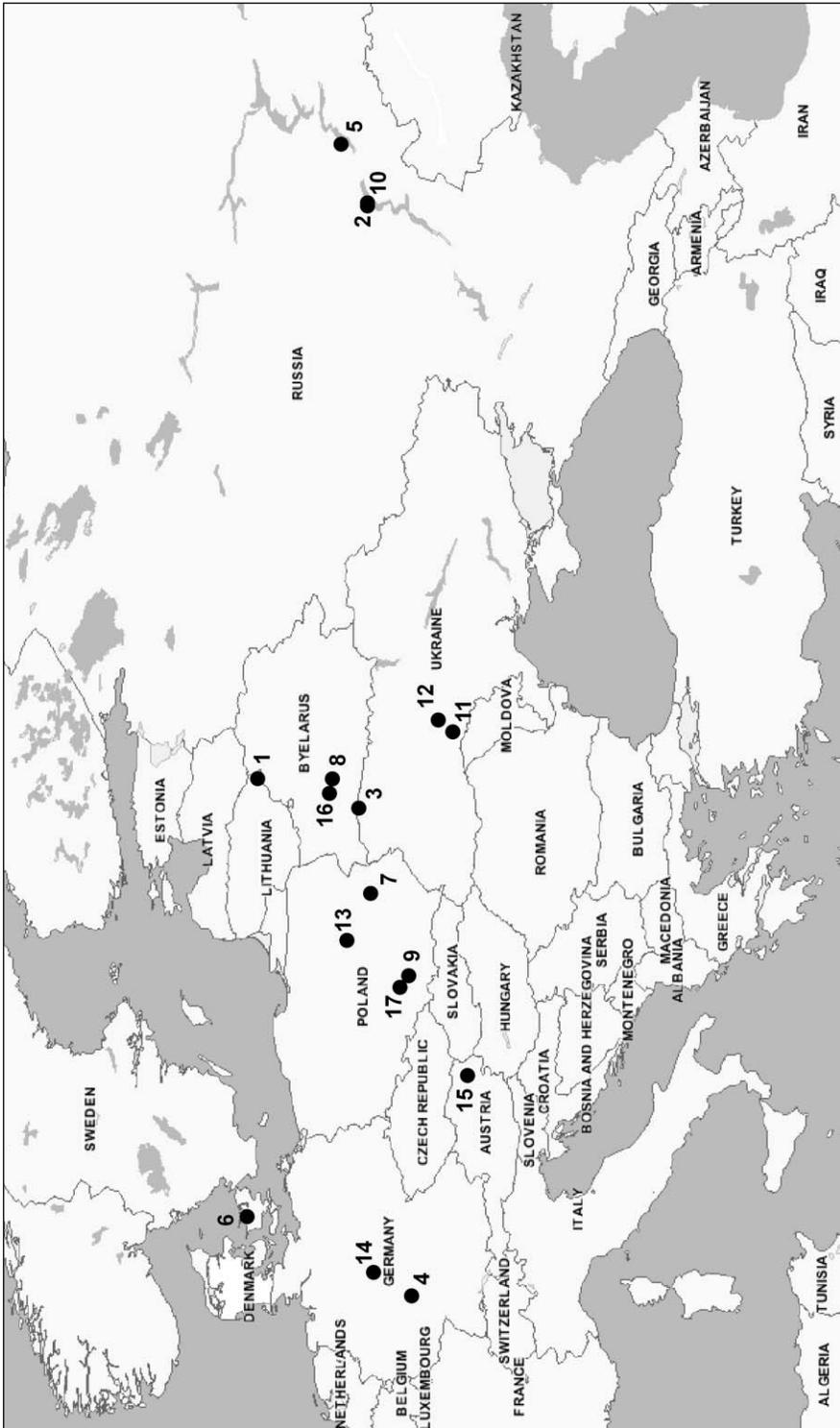


Fig. 1. Type localities of European birds at the MIZ. 1 – Antanai, 2 – Doł'sk, 3 – Dolgij Bujerak, 4 – Hamau, 5 – Hvalyn'sk, 6 – Løvenborg, 7 – Lubartów, 8 – Ogareviči, 9 – Ojców, 10 – Saratov, 11 – Vinnycja, 12 – Šargorod, 13 – Warszawa, 14 – Werra, 15 – Wien, 16 – Zavin'e, 17 – Zawiercie.

Collectors

Most specimens of birds upon which species-group taxa were later based were collected in the territory of Poland and adjacent Russian governorates by Władysław Taczanowski prior to 1890, An. Bykov in 1880-1882, Jan Sztolcman in 1882-1888, Mr. Olewiński in 1912, Mr. Szwański prior to 1913, Janusz Domaniewski in 1917, Andreas Dunajewski in 1935, Bogdan Kreczmer in 1936, and M. Masłowski in 1937. Note that the borders of local states considerably changed since that time, so that these localities lay now in Poland, Lithuania, Belarus, and Ukraine (Fig. 1). In addition, a holotype was collected in the territory of Denmark by A. Benzon in 1882.

Additional type specimens were collected by Janusz Domaniewski (1891-1954) during his expedition to the Saratov region, Russia, in 1914 and 1915 (see Domaniewski 1916). Domaniewski collected these birds at the Volga in the surroundings of the cities of Saratov and Hvalyn'sk.

Gazetteer

Antanai, Vilnius County, Lithuania [55.2°N, 26.7°E]

Dolgij Bujerak, Russia [51.6°N, 46.1°E]

Dol'sk, Volyn Province, Ukraine [51.9°N, 25.5°E]

Hanau am Main, Hessen, Germany [50.1°N, 8.9°E]

Hvalyn'sk, Saratovskaâ Province, Russia [52.5°N, 48.1°E]

Kultuk, Irkutskaâ Province, Russia [51.7°N, 103.7°E]

Lipowiec, Poland or Ukraine (not identified). There are three settlements of this name near Lublin in modern-day Poland, and one such settlement (currently Lipovets) just across the border in Ukraine. It remains unclear which of these four settlements were meant by Domaniewski (1917).

Løvenborg, Sjaelland Island, Denmark [55.7°N, 11.6°E]

Lubartów, Lubelskie Voivodeship, Poland [51.5°N, 22.6°E]

Ogareviči, Hrodna Province, Belarus [52.8°N, 26.5°E]

Ojców, Małopolskie Voivodeship, Poland [50.2°N, 19.8°E]

Saratov, Saratovskaâ Province, Russia [51.6°N, 46.0°E]

Šargorod, Vinnycia Province, Ukraine [48.7°N, 28.1°E]

Vinnycia, Vinnycia Province, Ukraine [49.2°N, 28.5°E]

Warszawa, Mazowieckie Voivodeship, Poland [52.3°N, 21.0°E]

Werra (river), Thüringen, Germany [opens in the Weser at 51.4°N, 9.7°E]

Wien (capitol), Austria [48.2°N, 16.4°E]

Zavin'e, Hrodna Province, Belarus [52.9°N, 26.0°E]

Zawiercie, Śląskie Voivodeship, Poland [50.5°N, 19.4°E]

Museum acronyms

JDW = Janusz Domaniewski, Warszawa, Poland (private collection, now at the MIZ).

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

MZBW = Muzeum Zoologiczne Branickich [Branicki Zoological Museum], Warszawa, Poland.

NMPW = Narodowe Muzeum Przyrodnicze, Dział Zoologiczny [= National Museum of Natural History, Department of Zoology], Warszawa, Poland.

- PTKW = Polskie Towarzystwo Krajoznawcze, Warszawa, Poland.
 SAMG = Sylvius August von Minckwitz, Grunwitz, Silesia (private collection, now at the MIZ)
 SD = Numbers used by Sztolcman & Domaniewski (1927). They are prefixed with 'P'.
 ZSM = Zoologische Staatssammlung, München, Germany.

TYPES OF EUROPEAN BIRDS: SYSTEMATIC LIST

Falconidae

Cerchneis naumanni sarmaticus Domaniewski

Cerchneis naumanni sarmaticus Domaniewski, 1917b: 1044.

SYNTYPE: MIZ 34101 (SD P.2284), ad. ♂, collected by W. Taczanowski on an unknown date at Lubartów, woj. Lublin [= Lubartów, Poland]. This specimen was listed as a "typus" by Sztolcman and Domaniewski (1927: 99).

REMARKS: Domaniewski (1917b: 1044) based this subspecies on "5 okazów z gub. Lubelskiej", i.e. "five specimens from the Lublin Province", of which only one specimen was listed by Anonymous (s.d.) and I found only this specimen at the MIZ in 2007. The remaining syntypes (for which no data are available apart of Domaniewski's assurance that they originated from the Lublin Province) either did not survive World War II or were never deposited at the MIZ.

Now: *Falco naumanni* (Fleischer, 1818).

Rallidae

Gallinula chloropus lucida Dunajewski

Gallinula chloropus lucida Dunajewski 1938b: 157.

HOLOTYPE: MIZ 34353, ad. ♂, collected by M. Masłowski on 2 January 1937 at "Kosowska Niwa", ow. Zawiercie, Woj. Kielce [= Zawiercie, Poland].

Now: *Gallinula chloropus chloropus* (Linnaeus, 1758). See e.g. Vaurie (1965), Taylor & Van Perlo (1998), and Stepanân (2003). Only tentatively included in *G. c. chloropus* by Dickinson (2003), considered valid subspecies by Keve (1964, 1965).

Scolopacidae

Tringa macroura Jarocki

Tringa macroura Jarocki, 1819: 46.

HOLOTYPE (lost): MIZ Ø, an individual, collected on an unknown date at Hanau [= Hanau am Mainz, Germany] (Jarocki 1819: 46-47).

REMARKS: This specimen was not listed in catalogues by Taczanowski (1889), Sztolcman & Domaniewski (1927), and Anonymous (s.d.), and I did not find it at the MIZ in 2007. It is thus probable that the specimen perished long ago, perhaps already in the 19th century. This was possibly the same specimen, which Johann Friedrich Naumann (1780-1826) examined in the Minckwitz Collection (J. A. Naumann 1811: 271, pl. 38, fig. 75; see also J. F. Naumann 1836: 51). The latter individual, the only accepted his-

torical record of *Bartramia longicauda* in Germany (Niethammer 1942: 153, Glutz et al. 1977: 260, see also Barthel 1993), however, was said to have been collected at the Werra in Hessen, Germany.

Now: *Bartramia longicauda* Bechstein, 1811.

Picidae

Dendrocopos major rossicus Domaniewski

Dryobates major rossicus Domaniewski, 1925: 81.

HOLOTYPE: MIZ 34413 (SD P.2326, JDW 167), ♂, collected by J. Domaniewski on 19 October 1914 [= 1 November 1914] at Ostrów Dubiażij = Ostroff Dubia, environs de Saratoff [= Saratov, Russia].

Now: *Dendrocopos major major* (L., 1758).

Dryobates minor menzbieri Domaniewski

Dryobates minor menzbieri Domaniewski, 1927: 81.

HOLOTYPE: MIZ 34037 (SD P.2690), ♂, collected by J. Domaniewski on 29 March 1914 [= 11 April 1914] at Gusielskoe Zaimišče, environs de Saratoff, Russie [= Saratov, Russia]

Now: *Dendrocopos minor minor* (L., 1758).

Motacillidae

Motacilla alba intermedia Domaniewski

Motacilla alba intermedia Domaniewski, 1916: 55.

SYNTYPE: MIZ 34083 (SD P.2750), ad. ♂, collected by J. Domaniewski on 18 May 1915 [= 31 May 1915] at “Woronij ostrów (ok. Chwałyńska)” (orig. label) = Ostrow Woronii, environs de Khwałynsk, sud-est Russie [= Hvalyn’sk, Russia]. This specimen was listed as a “typus” by Sztolcman & Domaniewski (1927: 167).

SYNTYPE: MIZ 33941, ad. ♂, collected by J. Domaniewski on 5 June 1915 [= 17 June 1915] at “Woronij ostrów (ok. Chwałyńska)” (orig. label) [= Hvalyn’sk, Russia].

SYNTYPE: MIZ 33940 (JDW 101 or 102), ad. ?, collected by J. Domaniewski on 29 August 1914 [= 11 September 1914] at “Dolgij Bujerak (ok. Saratowa)” (orig. label) [= Dolgij Bujerak, Russia].

SYNTYPE: MIZ 33939, ad. ♂, collected by J. Domaniewski on 5 June 1915 [= 18 June 1915] at “Woronij ostrów (ok. Chwałyńska)” (orig. label) [= Hvalyn’sk, Russia].

SYNTYPE: MIZ 33937 (JDW 101 or 102), ad. ♂, collected by J. Domaniewski on 29 August 1914 [= 11 September 1914] at “Dolgij Bujerak (ok. Saratowa)” (orig. label) [= Dolgij Bujerak, Russia].

SYNTYPE: MIZ 33938 (JDW 79), juv., collected by J. Domaniewski on 26 July 1914 [= 8 August 1914] at “Ostrów Riabiszyn (ok. Saratowa)” (orig. label) [= Saratov, Russia].

REMARKS: Domaniewski (1916: 56) based this subspecies on six syntypes, all of which are still present at the MIZ.

Now: *Motacilla alba alba* Linnaeus, 1758.

Turdidae

***Turdus atrogularis* Jarocki**

Turdus atrogularis Jarocki, 1819: 14.

HOLOTYPE (?): MIZ 10006 (SAMG 1307a according to Dunajewski 1934b; I found no such number on the two labels attached to the specimen in 2007), ad. ♂, “Europa” (Jarocki 1819: 14). The specimen was bought, probably by Joseph Natterer (1786-1852) or his brother Johann Natterer (1787-1843), on 5 September 1816 on a bird market in Wien, Austria (see Pelzeln 1874: 561), and presumably originated from Lower Austria or Burgenland, Austria (see Glutz & Bauer 1988: 984). Note that neither Pelzeln (1874) nor Glutz & Bauer (1988) were aware of the fact that this specimen is the holotype of *Turdus atrogularis* Jarocki.

REMARKS: This species was not included in the catalogues by Taczanowski (1889) and Sztolcman & Domaniewski (1927). I have some doubts whether the specimen MIZ 10006 is the holotype (if not, then all other data refer solely to the specimen SAMG 1307a). It lacks the label mentioned by Dunajewski (1934b: 290) and is in a perfect condition. No damage to feathers is observable, and the specimen thus differs from two specimens of birds from the Minckwitz Collection that I examined at the MIZ in 2007. It is, however, a skin reworked from a dermoplast, which indicates that the specimen is from an old collection. Chemical tests could, perhaps, show the age of the specimen and uncover whether it was conserved with arsenic soap. If so, this could increase the probability that the specimen MIZ 10006 is identical with the specimen SAMG 1307a. Type locality of *Turdus atrogularis* was given as “Europa” by Jarocki (1819: 14), and can be restricted here to the wider vicinity of Wien, Austria, based on the information found in a manuscript by Johann Natterer (see Pelzeln 1874). Vaurie (1959: 396) and Ripley (1964: 202) incorrectly stated that the type locality of this species is “Poland”. This species was known under the name *Turdus atrogularis* Temminck, 1820 until Dunajewski (1934b) showed that this name is antedated by *Turdus atrogularis* Jarocki, 1819. Johann Natterer labeled the specimen as “*Turdus atrogularis* Natt.” (see Pelzeln 1874: 561), and it is thus possible that Jarocki adopted Natterer’s label name for the species. Temminck (1820: 169-170) was unaware of Jarocki’s (1819) book, but new that the bird was collected as a rarity in Austria and in Silesia (“rarement in Autriche et en Silésie”). He was in contact with Johann Natterer in Wien as well as with Sylvius Mickwitz in Grunwitz. He did not specify type series upon which he based his *Turdus atrogularis*, and it is thus well possible that the specimen SAMG 1307a is both the holotype of *Turdus atrogularis* Jarocki, 1819 and a syn-type of *Turdus atrogularis* Temminck, 1820.

Now: *Turdus atrogularis* Jarocki, 1819.

Sylviidae

***Sylvia borin kreczmeri* Dunajewski**

Sylvia borin kreczmeri Dunajewski 1938b: 159.

HOLOTYPE: MIZ 01909, ♂, collected by B. Kreczmer on 13 June 1936 at “Antony, pow. Święciany, Woj. Wilno” [= Antanai, Lithuania].

Now: *Sylvia borin borin* (Boddaert, 1783).

***Sylvia communis hoyeri* Dunajewski**

Sylvia communis hoyeri Dunajewski 1938c: 232.

Holotype: MIZ 34155, ♀, collected by A. Dunajewski on 15 May 1935 at Dolsk, Wojw. Łuck [= Dol'sk, Ukraine].

Now: *Sylvia communis communis* Latham, 1787.

***Sylvia communis volgensis* Domaniewski**

Sylvia communis volgensis Domaniewski, 1915a: 550.

SYNTYPE: MIZ 34156 (SD P.2722), ♂, collected by J. Domaniewski on 8 May 1915 [= 21 May 1915] at „Ostrów Wroni, ok.. Chwałyńska“ [= Hvalyn'sk, Russia]. This specimen was listed as a “typus” by Sztolcman & Domaniewski (1927: 158).

SYNTYPE: MIZ 02004 (JDW 299), ♂, collected by J. Domaniewski on 19 June 1915 [= 2 July 1915] at Ostrów Rabiszyn, pow. Saratowski [= Saratov, Russia].

SYNTYPE: MIZ02005 (JDW 51), ♂, collected by J. Domaniewski on 10 July 1914 [= 23 July 1914] at “Sazanij jerik (ok. Saratowa)” = pow. Saratowski [= Saratov, Russia].

REMARKS: Domaniewski (1915a) based this form on four syntypes, of which three were deposited at the MIZ and one was said by Domaniewski (1915a) to be deposited in “Muzeum Saratowskiego Towarzystwa Badaczów i Miłośników Przyrody” (♂, collected by F. G. on 9 June 1906 [= 22 June 1906] in Saratowska gub. [= Saratovsk Governorate]). The whereabouts of the latter specimen are unknown.

Now: *Sylvia communis volgensis* Domaniewski, 1915 (e.g. Vaurie 1954, 1959, Dickinson 2003) or *Sylvia communis communis* Latham, 1787 (e.g. Stepanân 2003).

Sittidae

***Sitta europaea domaniewskii* Dunajewski**

Sitta europaea domaniewskii Dunajewski, 1934a: 194.

HOLOTYPE (lost): MIZ Ø, ♂, collected by A. Benzon (his field-Nr. 276d) on 1 October 1882 at Lövenborg, Seeland, Dänemark [= Løvenborg, Denmark].

REMARKS: This specimen was not listed by Anonymous (s.d.) and I did not find it at the MIZ in 2007. It probably did not survive World War II.

Now: *Sitta europaea europaea* Linnaeus, 1758.

***Sitta europaea sztolcmani* Domaniewski**

Sitta europaea sztolcmani Domaniewski, 1913: 1038.

Sitta europaea sztolcmani Domaniewski, 1915b: 142 [Again marked as “subsp. nov.”. This is thus a junior homonym and a junior objective synonym of *Sitta europaea sztolemani* Domaniewski, 1913.]

SYNTYPE: MIZ 11932 (MZBW 276i), ♀, collected by Bykov on 16 April 1882 [= 28 April 1882] at “Vinnica, Pod. Gub.” (orig. Russian label) = Winnica, Podolie [=Vinnycia, Ukraine]. [Labeled only as *Sitta europaea*]

SYNTYPE: MIZ 11948 (NMPW 4194), collected by Bykov in 1880 at “Podolia – Winnica” [= Vinnycia, Ukraine]. [Labeled as *S. e. sztolcmani*]

SYNTYPE: MIZ 11949 (MZBW 276l), unsexed, collected by J. Sztolcman in 1882 at “Winnica Podoliae” [= Vinnycia, Ukraine].

SYNTYPE: MIZ 11952 (MZBW 276q), ♀, collected by Szymański at “Szarogród”, Wolhynia [= Šargorod, Ukraine].

SYNTYPE: MIZ 11953 (MZBW 276r), ♂, collected by Szymański on an unknown date at “Szarogród”, Wolhynia [= Šargorod, Ukraine].

SYNTYPE: MIZ 12024 (MZBW 276j), ♀, collected by Bykov in 1882 at “Winnica – Polesie” [= Vinnycia, Ukraine].

SYNTYPE: MIZ 12025 (MZBW 276h), ♀, collected by Bykov in 1882 at “Winnica – Podolie” [= Vinnycia, Ukraine].

SYNTYPE: MIZ 12249 (MZBW 276t), ♀, collected by Szymański on an unknown date at “Szarogród”, Wolhynia [= Šargorod, Ukraine].

SYNTYPE: MIZ 12288 (PTKW 1443), ad. ♀, collected by J. Domaniewski on 30 July 1913 [= 12 August 1913] at Zawincze, pow. Pińsk, woj. Polesie [= Zavin’e, Belarus].

SYNTYPE: MIZ 34366 (SD P.2745), ad. ♂, collected by Olewiński in 1912 at “Oharewicz”, woj. Polesie [= Ogareviči, Belarus]. This specimen was listed as a “typus” by Sztolcman and Domaniewski 1927: 162).

REMARKS: Domaniewski (1913: 1038) described *Sitta europaea sztolcmani* on the basis of „dość duży materiał z Polesia, Wołynia i Podola“, i.e. “rather large material from Polesie, Wolhynia and Podolie”, but did not indicate the numbers of specimens from each region. His study was made mainly on the basis of material deposited at the MZBW. According to the card catalogue of this museum, MZBW contained no specimens of *Sitta europaea* from Polesie, four specimens from Wolhynia (MZBW 276q-t) and six specimens from Podolia (MZBW 276g-l). Of these syntypes, one specimen from Winnica [= Vinnycia, Ukraine] and one specimen from Szarogród [= Šargorod, Ukraine] were not found and, being not listed in Anonymous (s.d.), probably did not survive World War II. Another syntype of *sztolcmani* is deposited at the ZSM (ZSM 17.503, ad ♀, collected by Bykov in Podolie) (Anonymous 2007).

Now: *Sitta europaea europaea* Linnaeus, 1758 (e.g. Dickinson 2003, Stepanân 2003, Koblik et al. 2006) or *Sitta europaea homeyeri* Seebohm, 1890 (Gryčyk 2005).

Certhiidae

Certhia familiaris rossica Domaniewski

Certhia familiaris rossica Domaniewski, 1922: 3.

HOLOTYPE: MIZ 34371 (SD P.2746, JDW 239), ♂, collected by J. Domaniewski on 10 March 1915 [= 23 March 1915] at Gousielskoie Zaimischtche, environs de Saratoff [= Saratov, Russia].

REMARKS: Domaniewski (1922) based this subspecies on a holotype and four paratypes, of which three were collected at Saratov, Russia, in 1914-1915, and one originated from Siberia (MIZ 11897, ♂, collected by B. Dybowski and W. Godlewski on 6 October 1870 [= 18 October 1870] at “Kultuk” (original label) = Koulouk [= Kultuk, Russia]).

Now: *Certhia familiaris familiaris* Linnaeus, 1758.

Emberizidae

Cynchramus schoeniclus curvirostris Domaniewski

Cynchramus [sic] *schoeniclus curvirostris* Domaniewski, 1918: 745.

SYNTYPE: MIZ 16639 (JDW 13), ♀, collected by J. Domaniewski on 7 April 1914 [= 20 April 1914] at “Ioradskoje zajimiszcze (ok. Saratova)” [= Saratov, Russia].

SYNTYPE: MIZ 16642 (JDW 15), ♀, collected by J. Domaniewski on 25 April 1914 [= 8 May 1914] at “Ostrów Kozaczy na vpost Saratova” [= Saratov, Russia].

SYNTYPE: MIZ 16738 (JDW 279), ♂, collected by J. Domaniewski on 18 May 1915 [= 31 May 1915] at “Gusiołka (ok. Saratova) [= Saratov, Russia].

SYNTYPE: MIZ 16751 (JDW 71), ♂, collected by J. Domaniewski on 19 July 1914 [= 1 August 1914] at “Sazanij jerik (ok. Saratova) [= Saratov, Russia].

SYNTYPE: MIZ 16759 (JDW 70), ♂, collected by J. Domaniewski on 16 May 1914 [= 29 May 1914] at “Sazanij jerik (ok. Saratova) [= Saratov, Russia].

SYNTYPE: MIZ 16760 (JDW 46), ♂, collected by J. Domaniewski on 10 July 1914 [= 23 July 1914] at “Sazanij jerik (ok. Saratova) [= Saratov, Russia].

SYNTYPE: MIZ 16771 (JDW 14), ♂, collected by J. Domaniewski on 16 May 1914 [= 29 May 1914] at “Sazanij jerik (ok. Saratova) [= Saratov, Russia].

SYNTYPE: MIZ 33820 (JDW 69, P.2773), ad. ♂, collected by J. Domaniewski on 18 July 1914 [= 31 July 1914] at “Sazanij jerik (ok. Saratova) = Sazanii ierik, environs de Saratoff” [= Saratov, Russia]. This specimen was listed as a “typus” by Sztolcman & Domaniewski (1927: 174).

REMARKS: Domanieski (1918: 745) did not give size of the type series, but presented measurements of five specimens (without giving their localities) and stated that the type locality of *curvirostris* is “dolina Wołgi w okolicach Saratowa”, i.e. Volga valley in the surroundings of Saratov, and that birds from Pińsk [= Pinsk, Belarus] and Mińsk [= Minsk, Belarus] provinces also belong to this form. I found eight specimens at the MIZ in 2007 which conform to the conditions given by Domaniewski (1918). They should be considered syntypes of *Cynchramus schoeniclus curvirostris*.

Now: *Emberiza schoeniclus ukrainae* Zarudnyj, 1917.

Cynchramus schoeniclus goplanae Domaniewski

Cynchramus schoeniclus goplanae Domaniewski, 1918: 746.

SYNTYPE: MIZ 16762 (SD P.2773), ad. ♂, collected by J. Domaniewski on 13 June 1917 [= 26 June 1917] at “okolice Warszawy” (copy of the original label) = “environs de Varsovie”. This specimen was listed as a “typus” by Sztolcman & Domaniewski (1927: 174).

REMARKS: (Domaniewski 1918: 746) did not tell us how many species he used while describing *Cynchramus schoeniclus goplanae*, but presented measurements of five males (not giving the localities of their origin) and specified that the type locality of *goplanae* is “okolice Warszawy”, i.e. the surrounding of Warszawa. The catalogue by Anonymous (s.d.) lists four males of *goplanae*, only one of which originated from the surrounding of Warszawa (his locality is given directly as “okolice Warszawy”, and two females of this subspecies, none of which originated from the surroundings of Warszawa. All of these specimens were collected prior to 1918. It is unclear from the

available data whether Domaniewski (1918) had more specimens of *goplanae* from the surroundings of Warszawa (all of which but one were lost) or whether he had just one such specimen. It is thus unclear whether the surviving specimen MIZ 16762 is a holotype or a syntype of *goplanae*. In absence of further evidence and considering the fact that many specimens were lost from the MIZ collections I listed it here as a syntype.

Now: *Emberiza schoeniclus schoeniclus* Linnaeus, 1758 (e.g. Dickinson 2003, Stepanân 2003, Koblik et al. 2006) or *Emberiza schoeniclus goplanae* Domaniewski, 1918 (Gryčyk 2005).

Fringillidae

Serinus canarius polonicus Domaniewski

Serinus canarius polonicus Domaniewski, 1917a: 995.

HOLOTYPE (lost): MIZ ♂ (SD P.2783, MZBW 375a), ♂, collected by J. Sztolcman in May 1888 [= 13 May - 12 June 1888] at Bielany, environs de Varsovie [= Warszawa-Bielany, Poland].

PARATYPE: MIZ 15365, ♂, collected by W. Taczanowski in late August 1853 [= early September 1853] at Ojców, gub. Kielecka [= Ojców, Poland].

REMARKS: Domaniewski (1917a) described this form on the basis of a holotype and five paratypes. Of these, only one paratype seems to have survived World War II, because other specimens were not listed by Anonymous (s.d.) and I did not find them at the MIZ in 2007. Data for the holotype and the surviving paratype are given above. Lost paratypes were collected in August 1853 [= 13 August - 12 September 1853] at Ojców, gub. Kielecka [= Ojców, Poland], in May 1888 [= 13 May - 12 June 1888] at Bielany [= Warszawa-Bielany, Poland] (2 specimens), and on 19 July 1911 [= 1 August 1911] at Lipowiec, gub. Lubelska [= ?].

Now: *Serinus serinus* (Linnaeus, 1766).

Corvidae

Coloeus monedula sophiae Dunajewski

Coloeus monedula sophiae Dunajewski 1938a: 150.

HOLOTYPE: MIZ 34117, ♂, collected by A. Dunajewski on 21 April 1935 at Dolsk, Pow. Kovel [sic!], Wojw. Wołyń [= Dol'sk, Ukraine].

Now: *Corvus monedula monedula* Linnaeus, 1758 (e.g. Dickinson 2003, Stepanân 2003) or *Corvus monedula soemmeringii* Fischer, 1811 (e.g. Vaurie 1959).

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REFERENCES

- Anonymous, s.d.: [Untitled card catalogue of bird skins and dermoplasts at the MIZ], 9501 cards. [This catalogue was created shortly after World War II and contains data on all skins and dermoplasts of birds present at that time at the MIZ. It is continuously amended.]
- Anonymous, 2007: http://www.biologie.uni-ulm.de/cgi-bin/query_all/details.pl?id=110155&stufe=7&typ=ZOO&lang=e&sid=T&extid=-1&extidname=null&syno=no (Accessed on 8 April 2007).
- Barthel P.H., 1993: Die Artenliste Deutschlands. – *Journal für Ornithologie* 134: 113-135.
- Brzęk G., 1959: Złoty wiek ornitologii polskiej [The Golden Age of Polish ornithology]. – *Memorabilia Zoologica* 3: 1-175. [In Polish.]
- Dickinson E.C., ed., 2003: The Howard and Moore Complete checklist of the birds of the world. 3rd rev. ed. – London: Christopher Helm, 1039 pp.
- Domaniewski J., 1913: Przyczynek do rozmieszczenia geograficznego rodzaju *Sitta* L. [A contribution to geographic distribution of the genus *Sitta* L.]. – *Comptes Rendus de la Société des Sciences de Varsovie* 6 (9): 1037-1044. [In Polish.]
- Domaniewski J., 1915a: Nowa odmiana pokrzewki: *Sylvia communis volgensis* subsp. nov. [A new variant of Greater Whitethroat: *Sylvia communis volgensis* subsp. nov.]. – *Comptes Rendus de la Société des Sciences de Varsovie* 8 (7): 550-555. [In Polish.]
- Domaniewski J. [Domanevskij Ā.B.], 1915b: K” geografičeskomu rasprostraneniū roda *Sitta* L. [On the geographic distribution of the genus *Sitta* L.]. – *Ornitologičeskij Věstnik* 6: 141-147. [In Russian.]
- Domaniewski J., 1916: Fauna Passeriformes okolic Saratowa [The passeriform fauna of the surroundings of Saratov]. – *Prace Towarzystwa Naukowego Warszawskiego* 18: i-iv, 1-149. [In Polish.]
- Domaniewski J., 1917a: Kulczyk polski – *Serinus canarius polonicus* subsp. nov. [Polish Serin – *Serinus canarius polonicus* subsp. nov.]. – *Comptes Rendus de la Société des Sciences de Varsovie* 10 (8): 991-1002. [In Polish.]
- Domaniewski J., 1917b: Przyczynek do znajomości form geograficznych *Cerchneis naumanni* (Fleisch.) [A contribution to the knowledge of geographic forms of *Cerchneis naumanni* (Fleisch.)]. – *Comptes Rendus de la Société des Sciences de Varsovie* 10 (9): 1043-1047. [In Polish.]
- Domaniewski J., 1918: Nowe i mało znane formy *Cynchramus schoenicius* Linn. [New and less known forms of *Cynchramus schoenicius* Linn.]. – *Comptes Rendus de la Société des Sciences de Varsovie* 11 (6): 741-751. [In Polish.]
- Domaniewski J., 1922: Krytyczne uwagi o palearktycznych przedstawicielach rodzaju *Certhia* [Critical thoughts on Palearctic representatives of the genus *Certhia*]. – *Archiwum Nauk Biologicznych Towarzystwa Naukowego Warszawskiego* 1 (10): 1-6. [In Polish.]
- Domaniewski J., 1925: Contributins f la connaissance des pics paléarctiques. – *Annales Zoologici Musei Polonici Historiae Naturalis* 4: 75-84.
- Domaniewski J., 1927: Die geographischen Formen von *Dryobates minor* (Linn.). – *Annales Zoologici Musei Polonici Historiae Naturalis* 6: 60-93.
- Domaniewski J., 1933: Neue paläarktische Vögel. – *Acta Ornithologica Musei Zoologici Polonici* 1: 79-82.
- Dunajewski A., 1934a: Die eurasiatischen Formen der Gattung *Sitta* Linn. – *Acta Ornithologica Musei Zoologici Polonici* 1: 181-251.
- Dunajewski A., 1934b: Krajowe formy rodziny Turdidae [Native forms of the family Turdidae]. – *Acta Ornithologica Musei Zoologici Polonici* 1: 275-301. [In Polish.]
- Dunajewski A., 1938a: Ein Beitrag zur Systematik der Rabenvögel (Corvidae). – *Acta Ornithologica Musei Zoologici Polonici* 2: 145-156.
- Dunajewski A., 1938b: Zwei neue Vogelformen. – *Acta Ornithologica Musei Zoologici Polonici* 2: 157-160.
- Dunajewski A., 1938c: Die geographischen Formen der Dorngrasmücke (*Sylvia communis* Lath.). – *Acta Ornithologica Musei Zoologici Polonici* 2: 229-238.
- Dybowski B., 1930: Pamiętnik dra Benedykta Dybowskiego od roku 1862 zacząwszy do roku 1878 [Memory book of Dr. Benedykt Dybowski from 1862 to 1878]. – Lwów: Wydawnictwo Zakładu Narodowego Imienia Ossolińskich, xvi + 628 pp.
- Glutz von Blotzheim U.N. & Bauer K.M., 1988: *Handbuch der Vögel Mitteleuropas*. Vol. 11. – Wiesbaden: AULA-Verlag, 1226 pp.
- Glutz von Blotzheim U.N., Bauer K.M. & Bezzel E., 1977: *Handbuch der Vögel Mitteleuropas*. Vol. 7. – Wiesbaden: Akademische Verlagsgesellschaft, 895 pp.
- Gryčyk [Gričik] V.V. [2004] 2005: Geografičeskaā izmenčivost’ ptic Belarusi (taksonomičeskij analiz)

- [Geographical variability of the birds of Belarus (a taxonomic analysis)]. – Minsk: Belorusskij gosudarstvennyj universitet, 127 pp. [In Russian.]
- ICZN [= International Commission on Zoological Nomenclature]. 1999. International code of zoological nomenclature. 4th ed. – London: International Trust for Zoological Nomenclature, xxix + 306 pp.
- Jarocki F., 1819: Spis ptaków w Gabinecie Zoologicznym Królewsko Warszawskiego Uniwersytetu znajdujących się [A list of birds in the Zoological Museum of the Royal Warszawa University]. – Warszawa: Zawadzki i Węcki, 69 pp. [In Polish.]
- Keve A., 1942: Systematische Studien über die Corviden des Karpathenbeckens, nebst einer Revision ihrer Rassenkreise. – *Aquila* 46-49: 159-224.
- Keve A., 1964: Über die taxonomische Stellung paläarktischer Teichhühner. – *Anzeiger der Ornithologischen Gesellschaft in Bayern* 7: 182-187.
- Keve A., 1965: A vizityúk (*Gallinula chloropus* [L.]) alfajainak rendszertani kérdése [Some notes on the taxonomy of Common Moorhen]. – *Állattani Közlemények* 52: 85-88. [In Hungarian.]
- Koblik E.A., Red'kin A.A. & Arhipov V.Û., 2006: Spisok ptic Rossijskoj federacii [A list of birds of the Russian Federation]. – Moskva: Tovarišestvo naučnych izdanij KMK, 281 pp. [In Russian.]
- Kazubski S.L., 1996: The history of the Museum and Institute of Zoology, PAS. – *Bulletin of the Museum and Institute of Zoology PAS* 1: 7-19.
- Naumann J.A., 1811: Naturgeschichte der Land- und Wasservögel des nördlichen Deutschlands und angränzender Länder. Nachtrag 5. – Köthen.
- Naumann J.F., 1836: Johann Andreas Naumann's Naturgeschichteder Vögel Deutschlands. Vol. 8. – Leipzig: Ernst Fleischer, x + 560 pp.
- Neumann O., 1918: [Die ornithologischen Sammlungen Warschau]. – *Journal für Ornithologie* 66: 236-237.
- Nowak E., 2005: Wissenschaftler in turbulenten Zeiten. – Schwerin: Stock & Stein, 432 pp.
- Niethammer G., 1942: Handbuch der deutschen Vogelkunde. Vol. 3. – Leipzig: Akademische-Verlagsgesellschaft, xii + 568 pp.
- Pax F., 1923: Eine Sammlung schlesischer Vögel aus dem Ende des achtzehnten Jahrhunderts. – *Berichte des Vereins Schlesischer Ornithologen* 9 (2): 1-3.
- Pax F., 1925: Sammlungen schlesischer Wirbeltiere. – *Ostdeutscher Naturwart* 1925 (1): 44-51.
- Pelzelin A. von, 1874: Zweiter Beitrag zur ornithologischen Fauna der österreichisch-ungarischen Monarchie. – *Verhandlungen der k. k. Zoologisch-Botanischen Gesellschaft* 1874: 559-568.
- Ripley S.D., 1964: Subfamily Turdinae. – In: Deignan H.G., Paynter R.A. Jr. & Ripley S.D. (eds.). *Check-list of birds of the world*. Vol. 10: 13-227. Cambridge, Mass.: Museum of Comparative Zoology.
- Roselaar C.S., 2003: An inventory of major European bird collections. – In: Collar N., Fisher C. & Feare C. (eds.): *Why museum matter: avian archives in an age of extinction*. – *Bulletin of the British Ornithologists' Club* 123A: 253-337.
- Stepanán L.S., 2003: Konspekt ornitologičeskoj fauny Rossii i sopredel'nych territorij (v granicach SSSR kak istoričeskoj oblasti) [Conspectus of the ornithological fauna of Russia and adjacent territories (within the borders of the USSR as a historic region)]. – Moskva: Akademkniga, 808 pp. [In Russian.]
- Syniawa M., 2000: Biograficzny słownik przyrodników śląskich [Biogeographic dictionary of Silesian naturalists]. Vol. 1. – Katowice: CDPGŚ, 252 pp. [In Polish.]
- Szolcman J., 1921: Aperçu historique concernant le Musée Polonais d'Histoire Naturelle. – *Prace Zoologiczne Polskiego Państwowego Muzeum Przyrodniczego* 1: 1-8.
- Szolcman J. & Domaniewski J., 1927: Les types d'oiseaux au Musée Polonais d'Histoire Naturelle. – *Prace Zoologiczne Polskiego Państwowego Muzeum Przyrodniczego* 6: 95-194.
- Taczanowski W. [Tačanovskij V.K.], 1889: Kollekcii Zoologičeskago kabineta Imperatorskago Varšavskago universiteta. I. Spisok" tipičnych" ěkzemplárov" ptic", po kotorym" byli ustanovleny novye vidy [Collections of the Zoological Museum of the Imperial Warszawa University. I. A list of typical specimens of birds, upon which new species were based]. *Varšavskiiã Universitetskiiã Izvestiiã* 4: 1-40. [In Russian.]
- Taylor B. & Van Perlo B., 1998: *Rails*. – Mountfield, UK: Pica Press, 600 pp.
- Temminck C.J., 1820: *Manuel d'ornithologie*. Vol. 1. – Paris: Gabriel Dufour, cxv + 439 pp.
- Vaurie C., 1954: Systematic notes on Palearctic birds. 11. Sylviinae: the genus *Sylvia*. – *American Museum Novitates* 1692: 1-20.
- Vaurie C., 1959: The birds of the Palearctic fauna. Passeriformes. – London: H. F. & G. Witherby, xii + 762 pp.
- Vaurie C., 1965: The birds of the Palearctic fauna. Non-Passeriformes. – London: H. F. & G. Witherby, xxi + 763 pp.