ANNALS OF THE NATURAL HISTORY MUSEUM VIENNA
ANNALEN DES NATURHISTORISCHEN MUSEUMS WIEN

Annals of the Natural History Museum Vienna 127 2026, 105–135
DOI 10.3897/anhmw.170849

Bird specimens from Montenegro in the Natural History Museum Vienna

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https://zoobank.org/3F0DB8A2-8159-4B48-865B-5398D3CC2F45

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Academic editor: Nesrine Akkari ♦ **Received** 3 September 2025 ♦ **Accepted** 16 February 2026 ♦ **Published** 30 April 2026

Abstract

The ornithological collection of the Natural History Museum in Vienna (NHMW), established in 1793 at the Hofburg, provides valuable evidence of the early development of ornithological science in Montenegro. Examination of the collections and associated documentation revealed 94 taxa collected in Montenegro, represented by a total of 776 specimens: 206 skins, 11 mounts, 13 osteological specimens and 546 egg specimens. The egg material originates from Dr Othmar Reiser's oological collection and is published here for the first time. Most specimens (43) belong to Eastern Black-eared Wheatear (*Oenanthe melanoleuca* (Güldenstädt, 1776)), while the majority of collected eggs (159) originate from the Short-toed Lark (*Calandrella brachydactyla brachydactyla* (Leisler, 1814)). Particularly significant are specimens of the Eurasian Linnet (*Linaria cannabina mediterranea* Tschusi, 1903), one of the few holotypes of currently valid taxa described from Montenegro, and a mounted specimen of the Spur-winged Lapwing (*Vanellus spinosus*) which represents the oldest preserved specimen of Montenegrin avifauna in European museums to date. The NHMW collection also includes specimens of the Egyptian Vulture (*Neophron percnopterus*), White-tailed Eagle (*Haliaeetus albicilla*) and Lesser Kestrel (*Falco naumanni*) that are now considered as extinct breeding species in Montenegro. Most specimens were collected between 1894 to 1913, during the Austro-Hungarian occupation of the then-province of South Dalmatia. As expected, about 77% of all study skins originate from the Boka Kotorska area. The most prominent collectors were the military officers Ernst Grossmann (123 specimens) and Johann Polatzek (64), while the majority of egg specimens (532) were collected Ludwig Führer.

This paper aims to synthesize evidence on the historical avifauna of Montenegro and to document the contributions of contemporary researchers preserved in archival sources, thereby supporting the continued scientific and museological development of the ornithological collection at the Natural History Museum of Montenegro.

Key Words

Bird collection, catalogue, database, historical sources, museum collaboration

Introduction

In the era of digital networking among museums and large-scale biodiversity data analyses, ornithological collections housed in major institutions represent a valuable resource. Such an effort is even more important considering the richness of the collection-based data and the shared interest in preserving world biodiversity (Roselaar 2003). Besides their cultural, historical and scientific significance for taxonomy and biogeography, museum specimens provide essential insight into long-term natural and anthropogenic changes, thereby helping to clarify the present state of the environment (Schmitt et al. 2018). They also constitute a crucial resource for the establishment of genetic repositories (Wandeler et al. 2007; Yeates et al. 2016; Ruiz-Gartzia et al. 2022). Despite their significance, museum objects are still in the process of being digitised, which is a prerequisite for modern research

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nhm naturhistorisches museum wien

and international collaboration. This study resulted from the digitisation of the Montenegrin material preserved in the NHMW bird collection and represents an ongoing effort to compile data on Montenegrin avifauna preserved in European museum collections (Vizi and Vasić 1980; Vasić 1990; Vrezec and Kačar 2016; Mlíkovský 2016; Stumberger and Ritter 2019).

Despite its small territory, Montenegro hosts about 348 species of birds (Saveljić and Jovićević 2015), representing nearly a third of all Palaearctic species. This remarkable diversity reflects the country's heterogeneous habitats at the junction of Mediterranean, Alpine, and continental faunal elements. Such conditions allow the genetic introgression among closely related breeding species (Lucchini V and Randi E 1998; Pârâu LG, Wink M 2021; Martinez et al. 2023), resulting in the presence of sympatric subspecies, morphs and hybrids that pose considerable taxonomic challenges. In this context, the original determination in NHMW bird collection constitutes an important resource for otherwise scarce taxon-delimitation studies in Montenegro.

The beginning of systematic ornithological research in Montenegro is inextricably linked to Austro-Hungarian naturalists. Most of the continental Balkans, then under the Ottoman rule, remained largely inaccessible to researchers until the late 19th century (Vizi and Vasić 1980; Stumberger and Ritter 2019). At that time, ornithology was still an emerging discipline, and researchers competed to describe new taxa from previously unexplored regions of the monarchy (Matvejev 1986). Biogeographical interpretations were often shaped by political boundaries and interests, whereas aspects such as phenology and habitat were largely overlooked. This era culminated in the publication of the monumental work Ornis Balcanica, by Dr Othmar Reiser, then curator of the natural history collections of the "Bosnisch-hercegovinische Landesmuseum" (now the Zemaljski muzej Bosne i Hercegovine) in Sarajevo. After the publication of Materialen zu einer Ornis Balcanica, Vol. IV – Montenegro, co-authored with Ludwig Führer, Montenegro became one of the ornithologically best-studied countries of the time (Vizi and Vasić 1980). During his work in the Balkans, Reiser collected approximately 10,000 bird specimens and several thousand eggs and published 87 scientific papers, some in the local language (Matvejev 1986; Smole 2010). Much of this material remains preserved in the museum collections of Vienna and Sarajevo (Kotrošan and Lelo 2002) and continues to serve as a valuable resource for advancing museum and ornithological research in Montenegro.

In addition to the well-known work of Reiser and Führer (1896), archival documentation reveals a broader network of contemporary collectors, researchers, and donors who contributed to the study of Montenegrin avifauna. Biographical data are essential for the critical assessment of historical collections, as they provide a complementary spatial and temporal context. In this study, we deliberately included all identified collectors, even those who donated a single specimen, since additional material from these individuals may be preserved in other relevant collections.

Materials and methods

The investigation of the NHMW bird collection was conducted during the first author's research stay in Vienna between 2022–2025. This work was made possible through the courtesy of the curator, PD Dr Swen Renner, who provided the opportunity to contribute to the ongoing digitisation of the collection. Digitisation involved the analysis, standardisation, and entry of original specimen data into the electronic database. Documentation within the NHMW bird collection is preserved in the form of original labels, inventory books, separate collection catalogues, card files, and acquisition records. A comprehensive search for specimens originating from Montenegro was conducted using both the original documentation and the electronic database. The database greatly facilitated the retrieval of specimens and associated documentation, which had already been systematically organised. In addition to the material previously databased, 13 additional bird specimens from Montenegro were identified and digitised. The material belonging to Reiser's oological collection was treated separately. These specimens were analysed based on O. Reiser's original card files (Fig. 1), from which information on the total number of collected eggs, collectors, dates and localities was extracted and incorporated into the catalogue.

All specimens in the NHMW bird collection were originally identified to sub-species level according to the contemporary nomenclature. During digitisation, old taxonomic names were updated in accordance with the latest edition of "Howard and Moore" classification (Dickinson and Remsen, 2013; Dickinson and Christidis 2014), which follows a relatively conservative approach in species delimitation. In some cases, after direct verification of specimens, original identifications were revised according to the current bio-geographical delimitations described in the recent literature (Dickinson and Remsen 2013; Dickinson and Christidis 2014; Shirihai and Svenson 2018a; Billerman et al. 2022; Lepage: Avibase; Gill et al. 2025). The age of specimens was determined based on the original documentation. In this study, the classification conforms to the latest IOC World Bird List v.15.1 (Gill et al. 2025). Taxa are presented in taxonomic order.

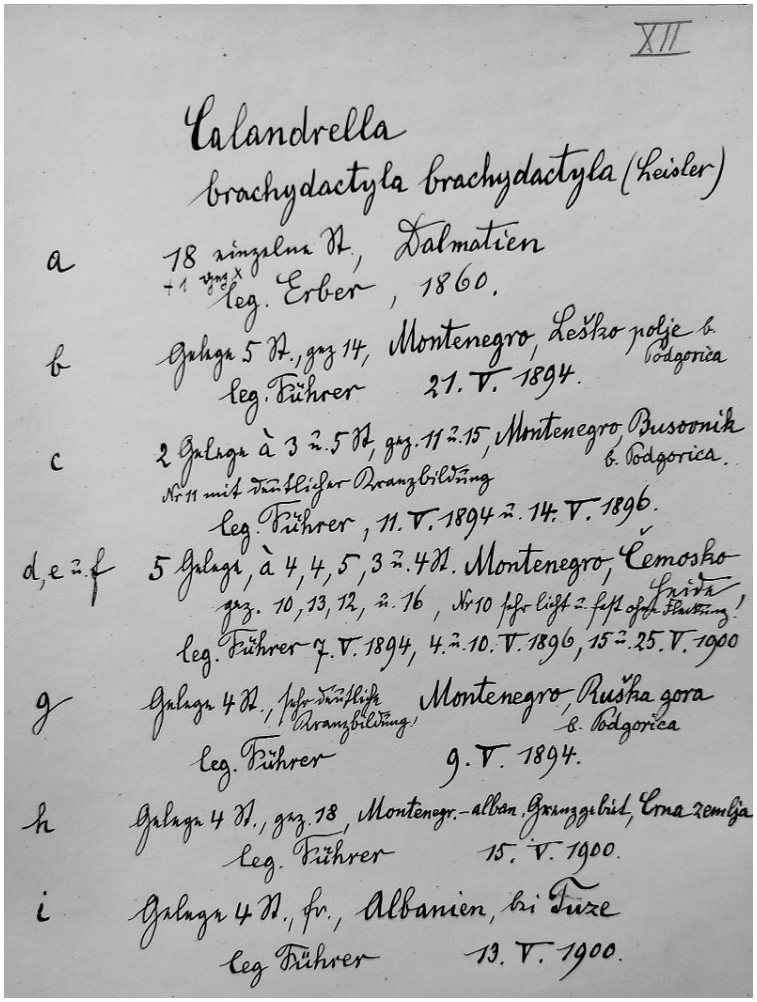
In historical sources, the meaning of the term "collector" is ambiguous, as it may refer not only to the person who physically collected the material, but also to the organiser of an expedition or the owner of a private collection. In NHMW documentation, the names of former owners are frequently recorded. The code "don." (donated by) therefore refers to the last collector or direct donor, irrespective of whether the material was donated, purchased or exchanged.

For each specimen, data has been presented in this order:

- Inventory number for all inventoried objects of the collection (NHMW). Non-inventoried objects were marked with an asterisk, e.g. NHMW*.
- Type of the object: taxidermic mount (Exp.), study skin (B), egg (Ov.), osteological preparation (Os.).
- Number of pieces, presented in brackets for aggregate objects (eggs).
- Gender: male – ♂, female – ♀, undetermined – ○.
- Age: pullus (pull.), juvenile (juv.), immature (imm.), adult (ad.).
- Date of finding presented in format YYYY-MM-DD. When the exact date was unknown, only the year of entry has been specified, with designations "≤" (same year or earlier) or cf. (confere), where appropriate.
- Locality of finding. Toponyms have been presented in contemporary form in the Montenegrin language. When necessary, the localities have been presented hierarchically: field name, locality, municipality. In cases where the exact locality name has not been confirmed, the next wider area is noted. The list of original toponyms is presented and georeferenced to the closest point.
- Name of collector (leg.), respectively the name of person who collected the object, or who managed the activities in the field.
- Name of donor (don.) refers both to the collector or collection owner who donated, sold or exchanged the objects with the NHMW or its predecessors
- Collector's number of the original collection (Coll.), if available
- In case of a hybrid specimen, symbol "×" has been used to indicate hybridization between assessed taxa.

The names and titles of collectors, including intermediate collectors and corresponding collections are given as they appear in the NHMW electronic database. Short biographical data and the scope of their work are presented. When the exact life dates of collectors were not known, the approximations are marked with "c." (circa), "<" – before, and ">" – after certain year.

For most specimens, the precise locality could be determined from the original documentation (Fig. 2). Specimens collected outside the historical borders of Montenegro (for instance, in "Dalmatien" or "Albanien") but confirmed to fall within the present-day territory of


XII

Calandrella
brachydactyla brachydactyla (Leisler)

a 18 einzelne Nr., Dalmatien
+1 zweifl. leg. Erber, 1860.

b Gelege 5 Nr., grz 14, Montenegro, Leško polje b. Podgorica
leg. Führer 21. V. 1894.

c 2 Gelege à 3 u. 5 Nr., grz. 11 u. 15, Montenegro Busovnik b. Podgorica.
Nr 11 mit deutlicher Kranzbildung
leg. Führer, 11. V. 1894 u. 14. V. 1896.

d, e u. f 5 Gelege, à 4, 4, 5, 3 u. 4 Nr. Montenegro, Čemosko
grz. 10, 13, 12, u. 16, Nr 10 sehr licht u. fast ohne Fleckung!
leg. Führer 7. V. 1894, 4. u. 10. V. 1896, 15 u. 25. V. 1900

g Gelege 4 Nr., sehr deutlich Kranzbildung, Montenegro, Ruška gora b. Podgorica
leg. Führer 9. V. 1894.

h Gelege 4 Nr., grz. 18, Montenegr.-alban. Grenzgebiet, Crna zemlja
leg. Führer 15. V. 1900.

i Gelege 4 Nr., fr., Albanien, bei Puze
leg Führer 13. V. 1900.

Figure 1. Facsimile from the card files of oological collection of Othmar Reiser stored in the archive of the NHMW bird collection showing the number of nests, individual eggs, name of the collector, locality and date of finding.

Figure 2. Examples of different labels in bird collection of the NHMW regarding specimens from Montenegro. **A–E** Original collector's labels: **A.** Coll. Ernst Grossmann; **B.** Coll. Oscar Baumann; **C.** Coll. George Smallbones; **D.** Coll. Johann Polatzek; **E.** coll. Viktor von Tschusi zu Schmidhoffen. **F.** Original collector's label reused when the specimen was relocated to another collection: Coll. Paul Kollibay, later in V.v. Tschusi. **G.** NHMW label, old style and **H.** NHMW label, current style.

Montenegro, were included in the catalogue. For the specimens labelled with locality "Dalmatia", remarks on possible Montenegrin origins are provided where supporting evidence exists. The locality "Knežpolje" could not be definitely identified and likely represents an archaic toponym within the geographically known area of Piperi, near of Podgorica. Similarly, the locality "Ruška gora" is most probably a mistranscription of "Grudska gora" near the present-day Albanian border, as referenced in the literature (Führer 1901). For certain specimens, (e.g. Egyptian Vulture), the original locality data were not preserved and are recorded only as "Montenegro".

Results

The bird collection of the NHMW contains 776 objects collected in Montenegro between 1857 and 2012. These comprise representatives of 34 families, 69 genera, 84 species, 71 subspecies, and two hybrids, corresponding to 94 distinct taxa. This material represents approximately one third of all bird species recorded in Montenegro. The NHMW bird collection contains two type specimens from Montenegro: a holotype of *Linaria cannabina mediterranea* (Tschusi, 1903) and a syntype of *Accentor collaris reiseri* Tschusi, 1905, a junior synonym of the Alpine Accentor. The taxidermy collection includes 206 study skins and 11 mounted specimens, while the osteological collection comprises ten skulls, one complete skeleton, and two partial skeletons. The egg collection includes 546 specimens originating from Reiser's oological collection; these have not previously been fully inventoried and are published here for the first time (Table 1).

Table 1. Composition of object types from Montenegro in NHMW bird collection.

Type of object	Number of specimens	Number of taxa
Balg	206	70
Egg	546	20
Skull	10	7
Skeleton	1	1
Mount	10	5
Dismantled mount	1	1
Partial skeleton	2	2
Overall number	**776**	**94**

The families most represented by species number are Muscicapidae and Motacillidae, whereas the highest number of specimens belongs to the family Alaudidae (Table 2). The largest number of skins (38) belongs to Eastern Black-eared Wheatear (*Oenanthe melanoleuca* (Güldenstädt, 1775)), while most other species are represented by one to eight skins. The highest number of eggs (159) belongs to the Greater Short-toed Lark (*Calandrella b. brachydactyla* (Leisler, 1814)), which is also the species with the highest total number of specimens (163). The most taxonomically variable species in the NHMW material from Montenegro are Yellow Wagtail (*Motacilla flava* spp.) represented by five taxa and Reed Bunting (*Emberiza schoeniclus* spp) represented by three taxa.

The geographic distribution of collection localities reflects a particular interest of Austrian ornithologists in Mediterranean avifauna (Kralj and Tutiš 1996), as well as the duration of collectors' presence in specific regions (Fig. 3). Most of the study skins (199) originate from southern Montenegro, particularly the wider area of Boka Kotorska and the Adriatic coast. In contrast, egg specimens were collected predominantly in the surroundings of Podgorica and Tuzi (523). A complete list of georeferenced localities, including original toponyms, centroid coordinates (DDM format), and total numbers of specimens is provided in Table 3.

Table 2. Taxonomic composition of specimens from Montenegro in NHMW by families.

Families arranged according to the latest IOC World Bird List v.15.1	Number of taxa	Number of specimens
Phasianidae	1	3
Caprimulgidae	2	2
Apodidae	1	3
Charadriidae	3	6
Scolopacidae	2	2
Glareolidae	1	5
Laridae	2	3
Phalacrocoracidae	2	4
Ardeidae	4	5
Pelecanidae	1	3
Accipitridae	3	14
Strigidae	2	4
Alcedinidae	1	1
Falconidae	2	6
Laniidae	3	97
Corvidae	2	58
Paridae	4	9
Alaudidae	5	217
Hirundinidae	4	6
Cettiidae	1	3
Aegithalidae	1	2
Phylloscopidae	1	1
Acrocephalidae	4	9
Sylviidae	5	67
Troglodytidae	1	1
Sittidae	2	11
Tichodromidae	1	3
Certhiidae	1	2
Muscicapidae	8	57
Cinclidae	1	3
Passeridae	1	73
Prunellidae	2	6
Motacillidae	8	36
Fringillidae	6	12
Emberizidae	7	42
Total	**94**	**776**

Most specimens were collected by the officers of the Austro-Hungarian Army Ernst Grossmann and Johann Polatzek, who primarily collected for the Tschusi collection during their service in Boka Kotorska. Grossmann collected the highest number of taxa (51) and a total of 126 specimens, including the forementioned type specimens.

The oological material was collected almost entirely by Ludwig Führer between 1894 and 1900. Führer collected 532 egg specimens across 28 localities, mainly in central Montenegro, whereas a smaller number obtained along the Adriatic coast. Ernst Grossmann collected four specimens, while Reiser and Wutte (sen. or jun., see Reiser 1925) collected five specimens each. A complete list of collectors and their contributions is presented in Table 4.

Table 3. List of georeferenced localities and total number of specimens per locality.

Locality	Coordinates	Number of specimens
Ada Flussinsel, Bojana Delta	41°51.768'N, 19°21.538'E	10
Bar (=Antivari)	42°5.608'N, 19°8.123'E	1
Beri	42°26.308'N, 19°10.454'E	1
Bucht von Kotor (=Bocche di Cattaro)	42°26.350'N, 18°39.674'E	33
Busovnik	42°26.357'N, 19°9.033'E	35
Ćemovsko polje	42°25.232'N, 19°17.133'E	95
Cijevna	42°24.073'N, 19°19.318'E	9
Ćirova pećina	43°7.710'N, 19°2.107'E	2
Dečić	42°21.948'N, 19°21.003'E	12
Dinoša	42°24.769'N, 19°20.440'E	5
Doljani	42°27.840'N, 19°18.462'E	5
Fundina	42°26.651'N, 19°21.865'E	18
Goveđi brod	42°18.126'N, 19°16.621'E	70
Granica Mne-Alb	42°21.862'N, 19°19.561'E	22
Herceg Novi (=Castelnuovo)	42°27.170'N, 18°32.261'E	92
Knežpolje, Piperi	42°29.867'N, 19°16.600'E	9
Kosmač (=Cosmac)	42°18.086'N, 18°54.029'E	1
Kosovi lug	42°30.945'N, 19°8.749'E	99
Kotor (=Cattaro)	42°25.425'N, 18°46.364'E	28
Krivošije	42°35.282'N, 18°41.210'E	4
Kurilo	42°17.894'N, 19°10.964'E	5
Lastva bei Kotor (=Cattaro)	42°18.686'N, 18°47.800'E	1
Lješkopolje	42°25.487'N, 19°12.414'E	19
Mala Rijeka	42°31.829'N, 19°21.916'E	56
Mataguži	42°19.467'N, 19°16.699'E	17
Podgorica	42°26.533'N, 19°18.224'E	2
Presjeka	42°52.872'N, 18°52.517'E	2
Ribnica	42°26.262'N, 19°16.088'E	1
Rudine	42°44.819'N, 18°42.107'E	1
Ruška gora bei Podgorica	42°25.909'N, 19°15.186'E	4
Šipčanik	42°22.439'N, 19°19.120'E	31
Skutarisee (=Skutari-See)	42°12.023'N, 19°14.875'E	16
Sutomore	42°8.443'N, 19°2.692'E	34
Sutorina	42°29.961'N, 18°27.771'E	2
Tivat (= Teodo)	42°26.160'N, 18°41.743'E	9
Tuzi	42°21.862'N, 19°19.561'E	9
Vranjina	42°16.573'N, 19°8.055'E	1
Zelenika	42°26.949'N, 19°11.384'E	4
Zeta	42°33.205'N, 19°6.983'E	1
Zogaj See (=Zogai)	41°55.262'N, 19°17.696'E	4
Montenegro	42°0.000'N, 19°0.000'E	6
Total		**776**

Catalogue

PHASIANIDAE Horsfield, 1821
Alectoris Kaup, 1829
Alectoris graeca (Meisner, 1804)

Alectoris graeca graeca (Meisner, 1804)

Examined material. NHMW 12148; (B); ○ juv.; ≤ 1894; Montenegro; leg. Führer, L.; don. Reischek, A. NHMW 12149; ○ juv.; Montenegro; leg. Führer, L.; don. Reischek, A. NHMW 52787; (B); ♀; 1913-11-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 673.

Common names. Rock Partridge, jarebica kamenjarka, Steinhuhn.

Table 4. List of collectors in alphabetical order, with number of taxa, collected specimens, and the collecting period.

Collectors:	Number of distinct taxa	Number of specimens	Collecting period
Baumann, Oscar	1	2	1883
Finger, Julius	1	1	1857
Führer, Ludwig	20	543	1892-1901
Grossmann, Ernst	51	126	1898-1913
Hacker, Aemilius	1	1	1895
Harrison Institute (coll.)	1	2	1911
Neunteufel, Adolf	1	1	1898
Polatzek, Johann	29	64	1891-1901
Reiser, Othmar	4	8	1895-1896
Roháček, Franz	2	2	1913-1914
Smallbones, George	4	4	1906
Šoti, Josip	8	12	1974-1978
Sziemer, Peter	1	1	2012
Thanner, Rudolf	1	1	1913
Tschusi, Viktor von	2	2	1908-1917
Worafka, Alexander (Arthur)	1	1	1898
Wutte, Alois	2	5	1895
Overall:	**94**	**776**	**1857-2012**

CAPRIMULGIDAE Vigors, 1825
Caprimulgus Linnaeus, 1758
Caprimulgus europaeus Linnaeus, 1758

Caprimulgus europaeus europaeus Linnaeus, 1758

Examined material. NHMW 57418; (B); ♂; 1899-08-28; Humsko blato, Skadarsko jezero, Tuzi; leg. Führer, L.; don. Tschusi, V.; Coll. 4250.

Caprimulgus europaeus meridionalis Hartert, 1896

Examined material. NHMW*; Ov. (1); 1896-07-25; Rudine, Nikšić; leg. Führer, L.; don. Reiser, O.

Common names. European Nightjar, leganj, Ziegenmelker.

Comments. One skin specimen (NHMW 57418), assigned to the subspecies *europaeus* and collected at Skadar Lake in late August (Fig. 4), was examined to assess its possibility of reassignment to *meridionalis*, which inhabits the southern part of the European range (Dickinson and Remsen 2013; Cleere et al. 2021). The comparison with reference specimens in the NHMW collection revealed no diagnostic morphological characters supporting a change in subspecific determination. The specimen is therefore best referred to the nominate subspecies *europaeus* and was most likely collected during migration.

APODIDAE Hartert, 1897
Apus Scopoli, 1777
Apus apus (Linnaeus, 1758)

Apus apus apus (Linnaeus, 1758)

Examined material. NHMW 57583; (B); ♂; 1912-05-26; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.;

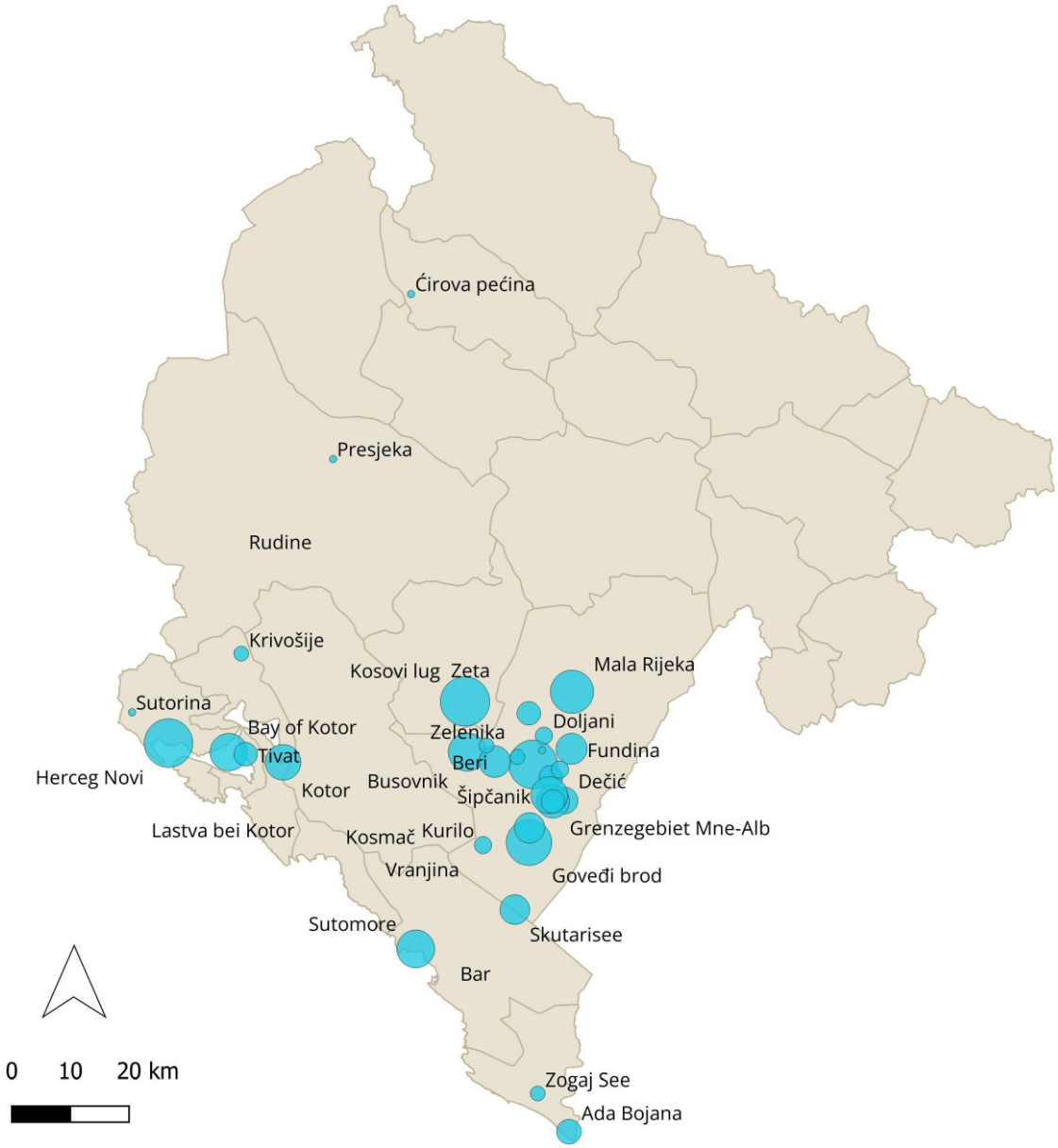


Figure 3. Localities of findings from Montenegro in the NHMW collection showing a majority of objects collected in southern and central Montenegro. The size of dots indicates the overall number of specimens collected at a respective location.

Coll. 170. NHMW 57586; (B); ♀; 1912-05-26; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V. NHMW 57587; (B); ○ juv; 1912-08-02; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 172.

Common names. Common Swift, crna čiopa, Mauersegler.

CHARADRIIDAE Leach, 1820
***Charadrius* Linnaeus, 1758**
***Charadrius dubius* Scopoli, 1786**

***Charadrius dubius curonicus* Gmelin, 1789**

Examined material. NHMW 2784; Ov. (4), 1895-06-27; Ada Bojana, Ulcinj; leg. Wutte, A.; don. Wutte, A.

Common names. Little Ringed Plover, žalar sljepić, Flussregenpfeifer.

***Anarhynchus* Quoy & Gaimard, 1832**
***Anarhynchus alexandrinus* (Linnaeus, 1758)**

***Anarhynchus alexandrinus alexandrinus* (Linnaeus, 1758)**

Examined material. NHMW 2755; Ov. (1); 1895-06-27; Ada Bojana, Ulcinj; leg. Wutte, A.; don. Wutte, A.

Common names. Kentish Plover, morski žalar, Seeregenpfeifer.

***Vanellus* Brisson, 1760**

***Vanellus spinosus* (Linnaeus, 1758)**

Examined material. NHMW 22163; Exp.; ♂; 1857-05; Cetinje; leg. Finger, J.; don. Finger, J.

Figure 4. Nominal subspecies of Eurasian Nightjar (*Caprimulgus europaeus europaeus*) occurring in Montenegro along with the southern subspecies "*meridionalis*". Photo: C. Potter, 2025.

Common names. Spur-winged Lapwing, vivak ostrugaš, Spornkiebitz.

Comments. The oldest preserved museum specimen with proven origin from Montenegro in the NHMW is a Spur-winged Lapwing (*Vanellus spinosus*) (Fig. 5). This specimen has an interesting history, preserved in the original papers and letters from the collector, Julius Finger (1857, 1894), which testifies to the pitfalls of museum work. There was an uncertainty about both the date and location of this finding, which led Reiser (1896) and subsequent authors (Vizi and Vasić 1980) to suspect the actual presence of this species in Montenegro. The specimen was donated to NHMW in 1874; and the label shows that the bird was caught in May 1859 in Kotor. Apparently, the year of finding is wrong, which can be concluded from the date of the conference of the Zoological-Botanical Society in Vienna in December 1857, when Finger himself reported that this bird was found in Kotor that same year. Furthermore, Finger also reported the presence of this unmistakable bird at the banks of the River Crnojevića, where it was observed by prince Danilo himself (Finger 1857). It can be readily concluded that the error occurred later, during the transcription of the acquisition book. However, in his later correspondence with von Tschusi, Finger again indicates 1859 as the year of finding, and he also mentions a different site along the road to Cetinje, between the famous Kotor serpentines and Prince Danilo's residence (Finger 1894). Although Reiser argued in "Ornis Balcanica IV" that Finger may have simply forgotten the exact details about Spur-winged Lapwing, and even questioned its origin, the aforementioned documents and letters point to a plausible explanation that this bird was collected in May 1857 at Njeguši, which fits both the itinerary description and species' habitat preferences. For a long time, this was the only finding of Spur-winged Lapwing in Montenegro, until it was recently spotted at Ulcinj saline (Borut Stumberger, pers. comm.).

Figure 5. Spur-winged Lapwing (*Vanellus spinosus*) caught in 1857 nearby Kotor, presumably the oldest preserved museum specimen of Montenegro's avifauna. Photo: A. Schumacher, 2023.

SCOLOPACIDAE Rafinesque, 1815
***Actitis* Illiger, 1811**

***Actitis hypoleucos* (Linnaeus, 1758)**

Examined material. NHMW 98682; (B); ♀; 1906-04-23; Tivat; leg. Smallbones, G.; don. Smallbones, G.

Common names. Common Sandpiper, polojka, Flussuferläufer.

***Limosa* Brisson, 1760**
***Limosa limosa* (Linnaeus, 1758)**

***Limosa limosa limosa* (Linnaeus, 1758)**

Examined material. NHMW 2022, Os.; ♀; 1975-03-19; Skadarsko jezero, Bar; leg. Šoti, J. P.; don. Šoti, J.

Common names. Black-tailed Godwit, muljača, Uferschnepfe.

GLAREOLIDAE Brehm, 1831
***Glareola* Brisson, 1760**
***Glareola pratincola* (Linnaeus, 1766)**

***Glareola pratincola pratincola* (Linnaeus, 1766)**

Examined material. NHMW 3135; Ov. (3); 1895-06-27; Ada Bojana, Ulcinj; leg. Reiser, O.; don. Reiser, O. NHMW 3136; Ov. (2); 1895-06-27; Ada Bojana, Ulcinj; leg. Reiser, O.; don. Reiser, O (Fig. 6).

Common names. Collared Pratincole, zijavac, Rotflügel-Brachschwalbe.

Figure 6. Collared Pratincole (*Glareola pratincola*) eggs from former Zogaj Lake, Reiser's collection. Photo: C. Potter, 2025.

LARIDAE Rafinesque, 1815
***Gelochelidon* Brehm, 1830**
***Gelochelidon nilotica* (Gmelin, 1789)**

***Gelochelidon nilotica nilotica* (Gmelin, 1789)**

Examined material. NHMW 53512; (B); ♂ ad; 1895-06-25; Zogajsko blato, Ulcinj; leg. Reiser, O.; don. Tschusi, V.; Coll. 1726.

Common names. Gull-billed Tern, debelokljuna čigra, Lachseeschwalbe

Comments. Although Reiser and Führer (1896) indicate a large colony at Zogaj Lake near Ulcinj, the actual breeding site of the Gull-billed Tern was never found. This specimen of a male in breeding plumage (Fig. 7) also confirms this species as a former breeder in Montenegro. Later authors (e.g. Matvejev and Vasić 1977; Vasić 1990) regarded the Gull-billed Tern as a non-breeding species in Montenegro. Presently, it is observed in small numbers at Ulcinj saline, the same area of former Zogaj Lake (Wetlands International).

***Larus* Linnaeus, 1758**
***Larus michahellis* Naumann, 1840**

***Larus michahellis michahellis* Naumann, 1840**

Examined material. NHMW 2018; Os.; ♂; 1974-04-27; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J. NHMW 2019; Os.; ♀; 1974-04-27; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J.

Common names. Yellow-legged Gull, sinji galeb, Mittelmeermöwe.

Figure 7. Gull-billed Tern (*Gelochelidon nilotica*) caught at former Zogaj Lake near Ulcinj in 1895. Photo: C. Potter, 2025.

PHALACROCORACIDAE Reichenbach, 1850
***Microcarbo* Bonaparte, 1856**

***Microcarbo pygmaeus* (Pallas, 1773)**

Examined material. NHMW 2026; Os.; ♂ juv.; 1975-07-16; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J.; Coll. 2397. NHMW 2027; Os.; ♂ juv.; 1975-07-16; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J.; Coll. 2398. NHMW 2028; Os.; ○; 1975-07-16; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J.

Common names. Pygmy Cormorant, fendak, Zwergscharbe.

***Phalacrocorax* Brisson, 1760**
***Phalacrocorax carbo* (Linnaeus, 1758)**

***Phalacrocorax carbo sinensis* (Staunton, 1796)**

Examined material. NHMW 2025; Os.; ♂ ad.;1978-05-10; Skadarsko jezero, Bar; leg. Šoti, J.; don. Šoti, J.

Common names. Great Cormorant, vranac, Kormoran.

ARDEIDAE Leach, 1820
***Ardea* Linnaeus, 1758**
***Ardea cinerea* Linnaeus, 1758**

***Ardea cinerea cinerea* Linnaeus, 1758**

Examined material. NHMW 2023; Os.; ♀; 1975-03-20; Skadarsko jezero; leg. Šoti, J.; don. Šoti, J.

Common names. Grey Heron, siva čaplja, Graureiher.

***Ardeola* Boie, 1822**
***Ardeola ralloides* (Scopoli, 1769)**

***Ardeola ralloides ralloides* (Scopoli, GA 1769)**

Examined material. NHMW 2017; Os.; ♂; 1974-04-27; Skadarsko jezero; leg. Šoti, J.; don. Šoti, J. NHMW 2024; Os.; ♀ juv; 1975-07-15; Skadarsko jezero; leg. Šoti, J.; don. Šoti, J.

Common names. Squacco Heron, žuta čaplja, Rallenreiher.

***Egretta* Forster, 1817**
***Egretta garzetta* (Linnaeus, 1766)**

***Egretta garzetta garzetta* (Linnaeus, 1766)**

Examined material. NHMW 2020; Os.; ♂; 1974-08-02; Skadarsko jezero; leg. Šoti, J.; don. Šoti, J.

Common names. Little Egret, mala bijela čaplja, Seidenreiher.

***Nycticorax* Forster, 1817**
***Nycticorax nycticorax* (Linnaeus, 1758)**

***Nycticorax nycticorax nycticorax* (Linnaeus, 1758)**

Examined material. NHMW 2021; Os.; ♂; 1974-10-11; Skadarsko jezero; leg. Šoti, J.; don. Šoti, J.

Common names. Night Heron, gak, Nachtreiher.

PELECANIDAE Rafinesque, 1815
***Pelecanus* Linnaeus, 1758**

***Pelecanus crispus* Bruch, 1832**

Examined material. NHMW 432; Ov. (2); 1895-03-07; Zogajsko blato, Ulcinj; leg. Führer, L.; don. Führer, L. NHMW 433; Ov. (1); 1895-03-07; Zogajsko blato, Ulcinj; leg. Führer, L.; don. Führer, L.

Common names. Dalmatian Pelican, kudravi pelikan, Krauskopfpelikan.

Comments. Besides the presented specimens, additional 4 specimens (NHMW 430, 431, 425 and 20829) are thought to originate from either Albania or former Dalmatia, albeit without precise data on locality. The oldest specimen is collected by Prof. Franz Lanza from Split at the latest in 1839, arguably at Neretva delta.

In 1832, the German ornithologist Carl Friedrich Bruch (1789–1857) described a new pelican species, *Pelecanus crispus* Bruch, 1832 ("krausköpfiger Pelekan"), based on two specimens: one collected in Dalmatia in March 1831, now preserved in the Natural History Museum in Leiden, and another immature bird from Cairo of the same period, illustrated by F. H. v. Kittlitz (Bruch 1832; van der Mije et al. 2023). At the time, Bruch corresponded with Baron Feldegg (cf. Niethammer 1966), who was collecting in Dalmatia. Thus, it is possible that the Dalmatian syntype of *P. crispus* originated from Montenegro, a region that partly overlapped with historic Dalmatia.

The Dalmatian Pelican in Montenegro currently breeds exclusively at Skadar Lake. The former breeding colony at Zogaj Lake was permanently abandoned after the natural lagoon was drained in 1934. The first draining attempt in 1885 resulted in the conversion of the freshwater lake into a brackish system (Kahari 2016). Notably, this change in salinity did not prevent Dalmatian Pelicans from breeding, as evidenced by eggs preserved in the NHMW collection, that were collected ten years later (Fig. 8).

Figure 8. Dalmatian Pelican (*Pelecanus crispus*) eggs from a former colony at Zogaj Lake near Ulcinj. Photo: C. Potter, 2025.

ACCIPITRIDAE Vieillot, 1816
***Tachyspiza* Kaup, 1844**

***Tachyspiza brevipes* (Severtsov, 1850)**

Examined material. NHMW 1554; Ov. (4); 1900-06-06; Kosovi lug, Danilovgrad; leg. Führer, L.; don. Reiser, O. NHMW 1555; Ov. (3); 1900-08-06; Kosovi lug, Danilovgrad; leg. Führer, L.; don. Reiser, O. NHMW 44095; Exp.; ♀ ad.; 1894-06-04; Beri, Podgorica; leg. Führer, L.; don. Tschusi, V.; Coll. 847. NHMW 44096; Exp.; ♂ ad.; 1895-06-22; Stari Bar, Bar; leg. Reiser, O.; don. Zemaljski muzej BiH; Coll. 848 (Figs 9, 10),

Common names. Levant Sparrowhawk, kratkoprsti kobac, Kurzfangsperber.

Figure 9. A pair of Levant Sparrowhawks (*Tachyspiza brevipes*) collected in Montenegro and displayed at the NHMW exhibition. Photo: C. Potter, 2025.

***Haliaeetus* de Savigny, 1809**
***Haliaeetus albicilla* (Linnaeus, 1758)**

***Haliaeetus albicilla albicilla* (Linnaeus, 1758)**

Examined material. NHMW 1395; Ov. (3); 1894-02-02; Skadarsko jezero; leg. Führer, L.; don. Führer, L.

Common names. White-tailed Eagle, orao bjelorepan, Seeadler.

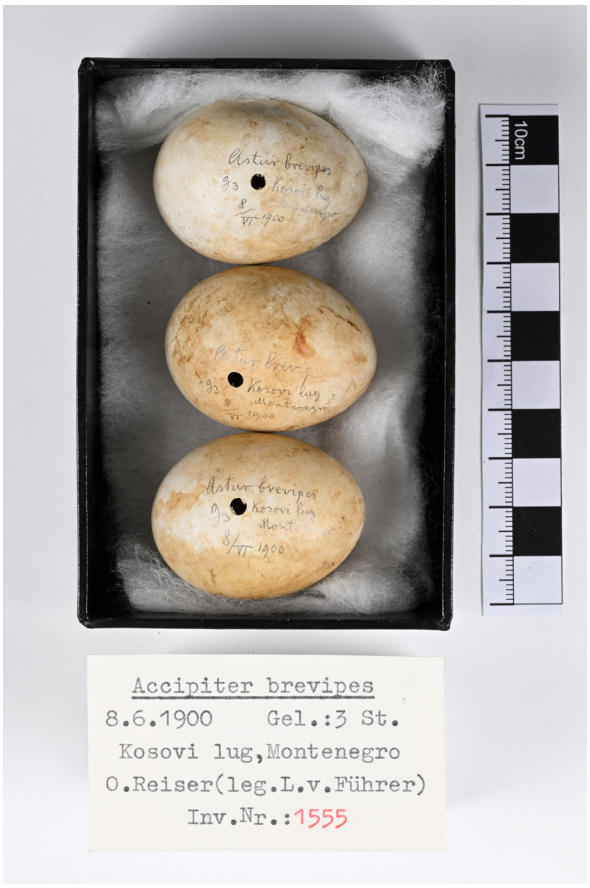


Figure 10. Levant Sparrowhawk (*Tachyspiza brevipes*) eggs collected near Danilovgrad. Photo: C. Potter, 2025.

Comments. During the late 19th century, the White-tailed eagle was a common breeder at the Skadar Lake basin (Fig. 11), which provided abundant food and nesting habitats (Reiser and Führer 1896). By the end of the 20th century, the species was rarely observed in this area (Vizi 1981). Today, it is regarded as an extinct breeder (Rubinić et al. 2019).

***Neophron* de Savigny, 1809**
***Neophron percnopterus* (Linnaeus, 1758)**

***Neophron percnopterus percnopterus* (Linnaeus, 1758)**

Examined material. NHMW 12152; (B); ○ ad., 1892-08, Montenegro, leg. Führer, L., don. Führer, L. NHMW 12153; (B); ○ juv., ≤ 1894, Montenegro, leg. Führer, L., don. Führer, L.

Common names. Egyptian Vulture, bijela kanja, Schmutzgeier.

Comments. According to Reiser and Führer (1896), the Egyptian Vulture used to be a frequent species in Montenegro, inhabiting inaccessible canyons and cliffs, where it bred colonially with the Griffon Vulture. Today, it is considered as an extinct breeder in Montenegro, while it still occurs in neighbouring Albania, now regarded as the westernmost extent of the species' eastern range (Dobrev et al. 2023). Two specimens in the NHMW (Fig. 12) provide rare evidence of the species' historical occurrence in Montenegro.

Figure 11. White-tailed Eagle (*Haliäetus albicilla*), common in Montenegro in 19th century, particularly in the basin of Skadar Lake and Bojana River. Photo: C. Potter, 2025.

Figure 12. Egyptian vulture (*Neophron percnopterus*): two specimens collected by Führer in 1892 and 1894 without a precise locality. Photo: C. Potter, 2025.

STRIGIDAE Leach, 1819
***Bubo* Duméril, 1805**
***Bubo bubo* (Linnaeus, 1758)**

***Bubo bubo bubo* (Linnaeus, 1758)**

Examined material. NHMW 53813; (B); ♂ ad; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 556.

Common names. Eurasian Eagle-Owl, velika ušara, Uhu.

***Otus* Pennant, 1769**
***O. scops* (Linnaeus, 1758)**

***Otus scops scops* (Linnaeus, 1758)**

Examined material. NHMW 53831; (B); ♂ ad; 1913-05-22; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 187. NHMW 53833; (B); ♀ ad; 1903-06-15; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V. NHMW 53839; (B); ○; 1901-08-21; Boka Kotorska; leg. Polatzek, J.; don. Polatzek, J.

Common names. Eurasian Scops-Owl, ćuk, Zwergohreule.

ALCEDINIDAE Rafinesque, 1815
***Alcedo* Linnaeus, 1758**
***Alcedo atthis* (Linnaeus, 1758)**

***Alcedo atthis ispida* Linnaeus, 1758**

Examined material. NHMW 56963; (B); ♂ juv; 1901-08-30; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4870.

Common names. Common Kingfisher, vodomar, Eisvogel.

Comments. The only specimen of the Common Kingfisher, identified as the northern subspecies *Alcedo atthis ispida*, was examined through a comparison with typical specimens in the NHMW collection. The assessment aimed to evaluate a possible determination as the nominate subspecies *A. a. atthis*, which typically inhabits south-eastern Europe. However, due to the specimen's juvenile plumage (Fig. 13) and the date of collection (late August), the subspecific assessment remained inconclusive.

FALCONIDAE Leach, 1819
***Falco* Linnaeus, 1758**

***Falco naumanni* Fleischer, 1818**

Examined material. NHMW 1906; Ov. (4).; 1909-05-14; Herceg Novi; leg. Grossmann, E.; don. Grossmann, E.

Common names. Lesser Kestrel, bjelonokta vjetruška, Rötefalke.

Figure 13. The only specimen of Common Kingfisher from Montenegro in NHMW collection, belonging to the northern subspecies "*ispida*". Photo: C. Potter, 2025.

Comment. The species was a regular breeder (Fig. 14) in 19th century around the area of Ulcinj (Reiser and Führer 1896) and southern Montenegro (Matvejev 1986) but is now regarded as an extinct breeder (Saveljić and Jovićević 2015) although recent observations are occasionally reported (GBIF).

***Falco subbuteo* Linnaeus, 1758**

***Falco subbuteo subbuteo* Linnaeus, C 1758**

Examined material. NHMW 1760; Ov. (2); 1894-07-08; Duga Pass, Presjeka, Nikšić; leg. Führer, L.; don. Führer, L.

Common names. Eurasian Hobby, soko lastavičar, Baumfalke.

LANIIDAE Rafinesque, 1815
***Lanius* Linnaeus, 1758**

***Lanius collurio* Linnaeus, 1758**

Examined material. NHMW*; Ov. (86); 1900-06-07; Kosovi lug, Danilovgrad; leg. Führer, L.; don. Reiser, O.

Common names. Red-backed Shrike, rusi svračak, Neuntöter.

***Lanius senator* Linnaeus, 1758**

***Lanius senator senator* Linnaeus, 1758**

Examined material. NHMW 32748; (B); ♀ ad; 1913-08-08; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 129. NHMW*; Ov. (5); 1894-05-30; Kurilo, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (5); 1900-06-18; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O.

Common names. Woodchat Shrike, riđoglavi svračak, Rotkopfwürger

CORVIDAE Leach, 1820
***Garrulus* Brisson, 1760**
***Garrulus glandarius* (Linnaeus, 1758)**

***Garrulus glandarius albipectus* Kleinschmidt, 1920**

Examined material. NHMW 22952; (B); ♂ ad; 1903-12-01; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5288. NHMW 22953; (B); ♂ ad; 1903-09-20; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5289.

Common names. Eurasian Jay, sojka, Eichelhäher.

Figure 14. Lesser Kestrel (*Falco naumanni*) eggs collected in Herceg Novi, with the label from Reiser's egg collection. Photo: C. Potter, 2025.

***Corvus* Linnaeus, 1758**
***Corvus monedula*, Linnaeus, 1758**

***Corvus monedula soemmeringii* Fischer, 1811**

Examined material. NHMW*; Ov. (56); 1894-04-30; Mala Rijeka, Podgorica; leg. Führer, L.; don. Reiser, O.

Common names. Eurasian Jackdaw, čavka, Dohle.

***Poecile* Kaup,1829**
***Poecile lugubris* (Temminck, 1820)**

***Poecile lugubris lugubris* (Temminck, 1820)**

Examined material. NHMW 33346; (B); ○ juv.; 1913-09-21; Donja Lastva, Kotor; leg. Rohaček, F.; don. Tschusi, V.; Coll. 505. NHMW 33347; (B); ○ juv.; 1912-05-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 674. NHMW 33351; (B); ♂; 1895-04-18; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 33344; (B); ○ juv.; 1903-03-05; Kavač, Tivat; leg. Kollibay, P.; don., Tschusi, V.; Coll. 5181.

Common names. Sombre Tit, mrka sjenica, Balkanmeise.

PARIDAE Vigors, 1825
***Poecile palustris* (Linnaeus, 1758)**

***Poecile palustris palustris* (Linnaeus, 1758)**

Examined material. NHMW 32151; (B); ♀; 1917-10-28; Montenegro; leg. Tschusi, V.; don. Kleinschmidt, O. NHMW 33320; (B); ♀; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 431. NHMW 33321; (B); ♂; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 430.

Common names. Marsh Tit, siva sjenica, Sumpfmeise.

Comments. Three specimens of Marsh Tit (*Poecile palustris*), which were initially identified as a subspecies *stagnatilis* are now placed under the nominal subspecies *palustris*, according to new data on the geographical variation and range (Shirihai and Svenson 2018b; Gosler et al. 2020).

***Cyanistes* Kaup, 1829**
***Cyanistes caeruleus* (Linnaeus, 1758)**

***Cyanistes caeruleus caeruleus* (Linnaeus, 1758)**

Examined material. NHMW 33830; (B); ♀; 1901-10-26; Boka Kotorska, Tivat; leg. Polatzek, J.; don. Polatzek, J.

Common names. Eurasian Blue Tit, plava sjenica, Blaumeise.

***Parus* Linnaeus, 1758**
***Parus major* Linnaeus, 1758**

***Parus major major* Linnaeus, 1758**

Examined material. NHMW 33607; (B); ♂ ad.; 1901-09-21; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 33634; (B); ♂; 1903-09-26; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5294.

Common names. Great Tit, velika sjenica, Kohlmeise.

ALAUDIDAE Vigors, 1825
***Melanocorypha* Boie, 1828**
***Melanocorypha calandra* (Linnaeus, 1766)**

***Melanocorypha calandra calandra* (Linnaeus, 1766)**

Examined material. NHMW*; Ov. (5); 1900-05-01; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (1); 1900-05-04; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O., NHMW*; Ov. (5); 1900-05-14; Tuzi, leg. Führer, L.; don. Reiser, O.

Common names. Calandra Lark, velika ševa, Kalanderlerche.

***Calandrella* Kaup, 1829**
***Calandrella brachydactyla* (Leisler, 1814)**

***Calandrella brachydactyla brachydactyla* (Leisler, 1814)**

Examined material. NHMW 61354; (B); ♂; 1901-04-30; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4649. NHMW 61355; (B); ♀; 1901-04-30; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4650. NHMW 61357; (B); ♂; 1912-05-12; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 66. NHMW 61359; (B); ♀; 1912-05-12; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 67. NHMW*; Ov. (19); 1894-05-21; Lješkopolje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (14); 1894-05-11; Busovnik, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (20); 1894-05-14; Busovnik, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (14); 1894-05-07; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (17); 1896-05-04; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (17); 1896-05-10; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (3); 1900-05-15; Ćemovsko polje, Podgorica, leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (25); 1900-05-25; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (4); 1894-05-09; Ruška gora, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (22); 1900-05-15; Granica MNE-ALB, Tuzi; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (4); 1900-05-13; Tuzi; leg. Führer, L.; don. Reiser, O.

Common names. Greater Short-toed Lark, kratkoprsta ševa, Kurzzehenlerche.

Comments. The Short-toed Lark has the highest number of egg specimens (159) in the NHMW collection, donated by Othmar Reiser. The probable reason for his increased interest in this species is the variability of the clutch appearance, with eggs differing in size, shape and colour (Reiser and Führer 1896).

Lullula **Kaup, 1829**
Lullula arborea **(Linnaeus, 1758)**

Lullula arborea arborea **(Linnaeus, 1758)**

Examined material. NHMW 61759; (B); ♂; 1912-12-06; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5086.

Common names. Wood Lark, šumska ševa, Heidelerche.

Comments. The only specimen of Woodlark from Montenegro in NHMW bird collection, originally determined as subspecies *pallida*, is now placed under the nominal subspecies *arborea*, according to the new range delimitation (Shirihai and Svenson 2018b).

Alauda **Linnaeus, 1758**
Alauda arvensis **Linnaeus, 1758**

Alauda arvensis cantarella **Bonaparte, 1850**

Examined material. NHMW 61271; (B); ♀; 1903-04-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5171. NHMW 61274; (B); ♀; 1901-11-14; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 61275; (B); ♀; 1901-11-17; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 61276; (B); ♀; 1901-11-12; Kotor; leg. Polatzek, J.; don. Polatzek, J.

Common names. Eurasian Skylark, poljska ševa, Feldlerche.

Galerida **Boie, 1828**
Galerida cristata **(Linnaeus, 1758)**

Galerida cristata meridionalis **Brehm, 1841**

Examined material. NHMW 61642; (B); ♂; 1913-04-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 69. NHMW 61648; (B); ♂; 1903-09-18; Herceg Novi; leg. Grossmann, E.; don. Tschusi V.; Coll. 5290. NHMW 61651; (B); ♀; 1906-04-23; Tivat; leg. Smallbones, George; don. Smallbones, G. NHMW*; Ov. (18); 1900-05-21; Fundina, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (17); 1900-05-10; Mataguži, Zeta; leg. Führer, L.; don. Reiser, O.

Common names. Crested Lark, ušata ševa, Haubenlerche.

HIRUNDINIDAE Rafinesque, 1815
Delichon **Moore, 1854**
Delichon urbicum **(Linnaeus, 1758)**

Delichon urbicum urbicum **(Linnaeus, 1758)**

Examined material. NHMW 8735; Os.; 2012-04-27; Vranjina, Podgorica; leg. Sziemer, P.; don. Sziemer, P.

Common names. Northern House-Martin, gradska lasta, Mehlschwalbe.

Hirundo **Linnaeus, 1758**
Hirundo rustica **Linnaeus, 1758**

Hirundo rustica rustica **Linnaeus, 1758**

Examined material. NHMW 57989; (B); ♂; 1906-05-28; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 165.

Common names. Barn Swallow, seoska lasta, Rauchschwalbe.

Ptyonoprogne **Reichenbach, 1850**

Ptyonoprogne rupestris **(Scopoli, 1769)**

Examined material. NHMW 57948; (B); ♂; 1913-05-18; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll.167. NHMW 57950; (B); ♀; 1913-05-08; Herceg Novi; leg. Grossmann, E.; coll. Tschusi, V.; Coll. 168.

Common names. Eurasian Crag-Martin, gorska lasta, Felsenschwalbe.

Riparia **Forster, 1817**
Riparia riparia **(Linnaeus, 1758)**

Riparia riparia riparia **(Linnaeus, 1758)**

Examined material. NHMW 57943; (B); ♂; 1913-05-05; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 166. NHMW 12977; (B); ♂; 1894-04-28; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.

Common names. Sand Martin, bregunica, Uferschwalbe.

CETTIIDAE Alström, Ericson, Olsson & Sundberg, 2006
Cettia **Bonaparte, 1834**
C. cetti **(Temminck, 1820)**

Cettia cetti cetti **(Temminck, 1820)**

Examined material. NHMW 60215; (B); ♀; 1902-12-01; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5084. NHMW 60218; (B); ♂; 1902-12-12; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5083.

NHMW 60219; (B); ♀; 1913-12-24; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; 434.

Common names. Cetti's Warbler, svilorepi cvrčić, Seidensänger.

AEGITHALIDAE Reichenbach, 1850
***Aegithalos* Hermann, 1804**
***Aegithalos caudatus* (Linnaeus, 1758)**

***Aegithalos caudatus* cf. *caudatus* (Linnaeus, 1758)**

Examined material. NHMW 34131; (B); ♂ ad; 1902-11-04; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5086.

***Aegithalos caudatus macedonicus* (Salvadori & Dresser, 1892)**

Examined material. NHMW 34132; (B); ♀ ad; 1913-02-18; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 93.

Common names. Long-tailed Tit, dugorepa sjenica, Schwanzmeise.

Comments. The Long-tailed Tit occurs in Western Palearctic with numerous subspecies showing great variability in both plumage and movements (Shirihai and Svensson 2018b). According to Matvejev and Vasić (1973, 1977), Montenegro is inhabited by the subspecies *macedonicus* and a hybrid *macedonicus* × *europaeus*. However, the specimens in the NHMW are determined to belong to subspecies *macedonicus* and *caudatus*. The nominate subspecies specimen was identified based on morphological characters (clean white plumage on the head and breast, no markings). This also supported by the occurrence date (early November), suggesting a specimen on winter migration. The occurrence of white-headed individuals in Montenegro was also noted by Reiser and Führer (1896), indicating the historical presence of either the nominate subspecies or its hybrids.

PHYLLOSCOPIDAE Alström, Ericson, Olsson & Sundberg, 2006
***Phylloscopus* Boie, 1826**
***Phylloscopus trochilus* (Linnaeus, 1758)**

***Phylloscopus trochilus trochilus* (Linnaeus, 1758)**

Examined material. NHMW 60069; (B); ♂; 1901-09-30; Tivat; leg. Polatzek, J.; don. Polatzek, J.

Common names. Willow Warbler, brezov zviždak, Fitis.

ACROCEPHALIDAE Salvin, 1882
***Acrocephalus* Naumann & Naumann, 1811**

***Acrocephalus schoenobaenus* (Linnaeus, 1758)**

Examined material. NHMW 59512; (B); ○, 1901-10-02, Kotor, leg. Polatzek, J., don. Polatzek, J..

Common names. Sedge Warbler, trstenjak rogožar, Schilfrohrsänger.

***Hippolais* Baldenstein, 1827**

***Hippolais icterina* (Vieillot, 1817)** .

Examined material. NHMW 59643; (B); ○, 1891-08-22, Kotor, leg. Polatzek, J., don. Polatzek, J.

Common names. Icterine Warbler, žuti voljić, Gelbspötter.

***Hippolais olivetorum* (Strickland, 1837)**

Examined material. NHMW 59666; (B); ♂ ad.; 1901-07-05; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4729. NHMW 59669; (B); ○ juv.; 1901-06-29; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 473. NHMW 59670; (B); ♀ ad.; 1901-06-26; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4730. NHMW 59671; Exp.; ♂ ad.; 1913-05-01; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 432. NHMW 59672; (B); ○ juv.; 1913-07-30; Herceg Novi; leg. Grossmann, E., don. Tschusi, V.; Coll. 115.

Common names. Olive-tree Warbler, voljić maslinar, Olivenspötter.

Comments. The Olive-tree Warbler inhabits the entire south-eastern Adriatic coast, from Croatia to Albania (Svensson 2020). All specimens in the NHMW were collected in Boka Kotorska area after 1900. Previous research by Reiser and Führer (1896) did not confirm its presence along southern Montenegro's coast despite the availability of suitable habitats.

***Iduna* Keyserling & Blasius, 1840**
***Iduna pallida* (Hemprich & Ehrenberg, 1833)**

***Iduna pallida elaeica* (Lindermayer, 1843)**

Examined material. NHMW 59692; (B); ♂ ad.; 1913-06-02; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 438. NHMW 59721; (B); ○ juv.; 1913-08-08; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 114.

Common names. Eastern Olivaceous Warbler, sivi voljić, Blaßspötter.

SYLVIIDAE Leach, 1820
***Sylvia* Scopoli, 1769**
***Sylvia atricapilla* (Linnaeus, 1758)**

***Sylvia atricapilla atricapilla* (Linnaeus, 1758)**

Examined material. NHMW 59974; (B); ♂; 1901-04-15; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5085.

Common names. Blackcap, crnoglava grmuša, Mönchsgrasmücke.

***Curruca* Bechstein, 1802**
***Curruca crassirostris* (Cretzschmar, 1830)**

***Curruca crassirostris crassirostris* (Cretzshmar, 1830)**

Examined material. NHMW 12984; (B); ♂; 1895-06-16; Sutomore; leg. Polatzek, J.; don. Polatzek, J. NHMW 59748; (B); ♂; 1902-06-07; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 3804. NHMW 59759; (B); ♂; 1901-05-22; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4752. NHMW*; Ov. (4); 1898-04-28; Knežpolje, Piperi, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (5); 1900-06-05; Knežpolje, Piperi, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (12); 1900-05-21; Dečić, Tuzi; leg. Führer, L.; don. Reiser, O.

Common names. Eastern Orphean Warbler, istočna velika grmuša, Nachtigallengrasmücke.

***Curruca cantillans* (Pallas, 1764)**

***Curruca cantillans albistriata* Brehm, 1855**

Examined material. NHMW 13003; (B); ♀ ad.; ≤ 1895; Sutomore; leg. Polatzek, J.; don. Polatzek, J. NHMW 59951; (B); ○ juv.; 1901-08-17; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4751. NHMW 59953; (B); ♀; 1901-04-24; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4750. NHMW 59955; (B); ○ juv. 1911-07-14; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 151. NHMW 59956; (B); ♂; 1912-05-16; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 148. NHMW 59957; (B); ♀; 1912-09-12; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 150. NHMW 59958; (B); ♂; 1913-04-27; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 149. NHMW 72248; Exp.; ♂; 1901-03-25; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4749.

Common names. Eastern Subalpine Warbler, grmuša crvenovoljka, Balkan-Bartgrasmücke.

***Curruca melanocephala* (Gmelin, 1789)**

***Curruca melanocephala melanocephala* (Gmelin, 1789)**

Examined material. NHMW 59999; (B); ○; 1901-11-15; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4844. NHMW 60000; Balg: ♂; 1913-04-06; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 53. NHMW 60004; (B); ♀; 1901-12-06; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4845.

Common names. Sardinian Warbler, sredozemna crnoglava grmuša, Samtkopf-Grasmücke.

***Curruca communis* (Latham, 1787)**

***Curruca communis communis* (Latham, 1787)**

Examined material. NHMW*; Ov. (31); 1901-05-15; Šipčanik, Tuzi; leg. Führer, L.; don. Reiser, O.

Common names. Common Whitethroat, obična grmuša, Dorngrasmücke.

TROGLODYTIDAE Swainson, 1832
***Troglodytes* Vieillot, 1809**
***Troglodytes troglodytes* (Linnaeus, 1758)**

***Troglodytes troglodytes troglodytes* (Linnaeus, 1758)**

Examined material. NHMW 22882; (B); ○; 1901-10-22; Kotor; leg. Polatzek, J.; don. Polatzek, J.

Common names. Eurasian Wren, carić, Zaunkönig.

SITTIDAE Lesson, 1828
***Sitta* Linnaeus, 1758**
***Sitta europaea* Linnaeus, 1758**

***Sitta europaea caesia* Wolf, 1810**

Examined material. NHMW 32001; (B); ○ juv.; cf. 1883; Montenegro; leg. Baumann, O; don. Hacker, A. NHMW 32027; (B); ♀ ad.; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 436. NHMW 32028; (B); ♂ ad; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 435.

Common names. Wood Nuthatch, brgljez, Kleiber.

***Sitta neumayer* Michahelles, 1830**

***Sitta neumayer neumayer* Michahelles, 1830**

Examined material. NHMW 13001; (B); ♂; 1895-03-20; Sutomore; leg. Polatzek, J.; don. Polatzek, Johann. NHMW 13002; (B); ♀; 1895-03-29; Sutomore; leg. Polatzek, J.; don. Polatzek, Johann. NHMW 32070; (B); ♀ ad; 1901-01-10; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4728. NHMW 32071; (B); ♀; 1901-02; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5507. NHMW 32072; (B); ♂ ad; 1901-01-10; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4727. NHMW 32073; (B); ♀ ad; 1913-11; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 640. NHMW 32074; (B); ♂ ad; 1913-11; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 88. NHMW 32075; (B); ♂; 1912-12-20; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 87.

Common names. Western Rock-Nuthatch, brgljez lončar, Felsenkleiber.

TICHODROMIDAE Swainson, 1827
***Tichodroma* Illiger,1811**
***Tichodroma muraria* (Linnaeus, 1766)**

***Tichodroma muraria muraria* (Linnaeus, 1766)**

Examined material. NHMW 36898; (B); ♀; cf. 1883; Bobotov Kuk, Žabljak; leg. Baumann, O.; don. Baumann, O. NHMW 36899; (B); ♀; cf. 1883; Bobotov Kuk, Žabljak; leg. Baumann, O.; don. Baumann, O. NHMW

36906; (B); ♂ ad; 1902-02-28; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4956 (Fig. 15).

Common names. Wallcreeper, puzgavac, Mauerläufer.

Figure 15. Two specimens of Wallcreeper (*Tichodroma muraria*) collected at Bobotov kuk, Durmitor in 1883. Photo: C. Potter, 2025.

CERTHIIDAE Leach, 1820
***Certhia* Linnaeus, 1758**
***Certhia brachydactyla* Brehm, 1820**

***Certhia brachydactyla brachydactyla* Brehm, 1820**

Examined material. NHMW 36868; (B); ♂ ad.; 1903-11-02; Herceg Novi; leg. Grossmann, E.; don: Tschusi, V.; Coll. 5090 NHMW 36869; (B); ♂; 1903-09-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5929.

Common names. Short-toed Tree-Creeper, dugokljuni puzić, Gartenbaumläufer.

MUSCICAPIDAE Fleming, 1822
***Cercotrichas* Boie, 1831**
***Cercotrichas galactotes* (Temminck, 1820)**

***Cercotrichas galactotes syriaca* (Hemprich & Ehrenberg, 1833)**

Examined material. NHMW 59522; (B); ○ juv.; 1901-07-05; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4732. NHMW 59525; (B); ♂; 1896-06-18; Sutorina, Herceg-Novi; leg. Reiser, O.; don. Tschusi, V. NHMW 72249; Exp.; ♂; 1900-05-31; Kotor, leg. Grossmann, E.; don. Tschusi, V.; Coll. 4556.

Common names. Rufous-tailed Scrub-Robin, žbunjar, Heckensänger.

Comments. Rufous-tailed Scrub Robin was not found during Reiser and Führer sampling expedition in 1895 and was therefore not included in the Ornis Balcanica IV (Reiser and Führer 1896). The oldest specimen of this species from Montenegro in the NHMW was collected by Reiser himself in 1896 (Fig. 16). This species is a rare but extant breeder in Montenegro, as reported in recent literature (Vujović 2012; Raković 2010).

Figure 16. Rufous-tailed Scrub-Robin (*Cercotrichas galactotes*), a rare breeder in Montenegro. Photo: C. Potter, 2025.

***Luscinia* Forster, 1817**
***Luscinia megarhynchos* Brehm, 1831**

***Luscinia megarhynchos megarhynchos* Brehm, 1831**

Examined material. NHMW 12983; (B); ♂; 1895-04-18; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 59019; (B); ○ ad.; 1913-08-16; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.

Common names. Common Nightingale, slavuj, Nachtigall.

***Monticola* Boie, 1822**

***Monticola saxatilis* (Linnaeus, 1766)**

Examined material. NHMW 12978; (B); ♀, 1895-04-28; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 58650; (B); ♂; 1898-05-24; Krivošije, Kotor; leg. Worafka, A.; don. Tschusi, V.; Coll. 4688.

Common names. Rufous-tailed Rock Thrush, kos kamenjar, Steinrötel.

***Monticola solitarius* (Linnaeus, 1758)**

***Monticola solitarius solitarius* (Linnaeus, 1758)**

Examined material. NHMW 12985; (B); ♂; 1895-03-28; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J (Fig. 17).

Common names. Blue Rock-Thrush, modrokos, Blaumerle.

Figure 17. Blue Rock-Thrush (*Monticola solitarius*) collected near Sutomore in 1895. Photo: C. Potter, 2025.

Oenanthe Vieillot, 1816

Oenanthe melanoleuca (Güldenstädt, 1775)

Examined material. NHMW 12987; (B); ♂ ad.; 1895-04-07; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12988; (B); ♂ ad.; 1895-04-27; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 43595; Exp. ♂ ad; 1904-07-09; Kotor; leg. Grossmann, E.; don. Grossmann, E. NHMW 43596; Exp.; ♂ ad; 1905-06-26; Herceg Novi; leg. Grossmann, E.; don. Grossmann, E. NHMW 43597; Exp.; ○ juv.; 1903-07-06; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5295. NHMW 46863; Exp. ♂ ad.; 1902-08-15; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5082. NHMW 46865; Exp.; ♂ ad.; 1902-08-04; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5081. NHMW 59378; (B); ♀; 1903-07-06; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5553. NHMW 59379; (B); ♂ ad.; 1903-04-18; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5299. NHMW 59380; (B); ♀ ad.; 1912-06-12; Herceg Novi, leg. Grossmann, E.; don. Tschusi, V.; Coll. 139. NHMW 59381; (B); ♂ imm.; 1912-05-05; Herceg Novi, leg. Grossmann, E.; don. Tschusi, V.; Coll. 141. NHMW 59382; (B); ♂ ad.; 1912-05-04; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll.135. NHMW 59383; (B); ♂ imm.; 1912-05-05; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 140. NHMW 59384; (B); ♂ ad.; 1912-05-22; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 134. NHMW 59385; (B); ♂ imm.; 1912-04-26; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 138. NHMW 59386; (B); ♂ ad; 1913-05-20; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 136. NHMW 59387; (B); ♂ ad; 1912-06-02; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 145. NHMW 59388; (B); ♂ imm.; 1903-06-28; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5298. NHMW 59389; (B); ♂ ad.; 1908-04-12; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5297. NHMW 59390; (B); ♂ ad; 1898-06-18; Krivošije, Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4554. NHMW 59391; (B); ♂ ad.; 1899-05-08; Kotor; leg. Grossmann, E.; Tschusi, V.; Coll. 4555. NHMW 59399; (B); ♂ imm.; 1906-04-23; Tivat; leg. Smallbones, G.; don. Smallbones, G. NHMW 59411; (B); ♂ imm.; 1912-09-02; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 146. NHMW 59435; (B); ○ juv.; 1891-08-20; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59436; (B); ○ juv.; 1896-08-26; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59437; (B); ♂ imm.; 1891-08-19; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59438; (B); ♂ imm.; 1891-07-20; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59439; (B); ♂ imm.; 1901-08-14; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59440; (B); ♀ juv.; 1891.08-26; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59441; (B); ♂ imm.; 1901-09-14; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59442; (B); ♀ imm.; 1891-09-08; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 59443; (B); ○ juv.; 1901-09-08; Herceg Novi; leg. Polatzek, J.; don. Polatzek, J. NHMW 104711; (B); ♂ ad.; 1911-05-10; Boka Kotorska, Kotor; don. Harrison Zool. Museum; Coll. 4.4618. NHMW 104715; (B); ♀ ad.; 1911-05-02; Boka Kotorska, Kotor; don. Harrison Zool. Museum; Coll. 2.4616. NHMW 12989; (B); ♂; 1895-04-16; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12990; (B); ♂ juv.; 1895-04-03; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12991; (B); ♀; 1895-04-04; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12992; (B); ♀; 1895-04-04; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW 12993; (B); ♂ juv.; 1895-04-25; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12994; (B); ♂ juv.; 1895-04-01; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12995; (B); ♂ imm.; 1895-04-16; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12996; (B); ♀; 1895-04-04; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12997; (B); ♀; 1895-04-09; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.

Common names. Eastern Black-eared Wheatear, istočna sredozemna bijelka, Mittelmeer-Steinschmätzer.

Comments. The Eastern Black-eared Wheatear specimens were in the original documentation first identified as *Saxicola albicollis* and later as *Oenanthe hispanica melanoleuca*. The difficulty to distinguish between the Black-eared Wheatear subspecies *hispanica* and *melanoleuca* persisted for more than 100 years. Reiser (1908, 1910) was among the first to emphasize that these two subspecies and their eggs from the Balkans are impossible to distinguish. These observations were confirmed by Grossman (1908c, 1908d), who studied their nesting at the Prevlaka Peninsula. A biometric study by Kralj et al. (2017), based on museum specimens of Black-eared Wheatear, including material from Montenegro, showed that the eastern Adriatic coast is inhabited exclusively by the eastern subspecies *melanoleuca*. This result is supported by recent genetic analyses (Schweizer et al. 2018). These analyses indicate that the western subspecies (*O. h. hispanica*) represents a distinct lineage from the eastern group, which includes the Eastern Black-eared Wheatear (*O. h. melanoleuca*), Pied Wheatear (*O. pleschanka*), and Cyprus Wheatear (*O. cypriaca*). Therefore, the Western and Eastern Black-eared Wheatears are not sister taxa, and the likelihood of hybridization between them is low. Consequently, the IOC World Bird List version 10.1 (Gill et al. 2020) elevated the Black-headed Wheatear to full

species status as *Oenanthe melanoleuca*. Based on the examined material (Fig. 18–20), nine specimens of Eastern Black-eared Wheatear collected at Sutomore by Johann Polatzek, previously identified as the nominal subspecies *O. h. hispanica*, are here reassigned to *O. melanoleuca*.

Figure 18. Mounted specimen of Eastern Black-eared Wheatear (*Oenanthe melanoleuca*) collected by Ernst Grossmann in Kotor in 1904. Photo: C. Potter, 2025.

Figure 19. Eastern Black-eared Wheatear, the species with the most skins in NHMW collection. Photo: C. Potter, 2025.

***Oenanthe oenanthe* (Linnaeus, 1758)**

***Oenanthe oenanthe oenanthe* (Linnaeus, 1758)**

Examined material. NHMW 12998; (B); ♂; 1895-04-08; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12999; (B); ♀; 1895-04-04; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 13000; (B); ♀; 1895-04-06; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.

Common names. Northern Wheatear, obična bijelka, Steinschmätzer.

***Phoenicurus phoenicurus* (Linnaeus, 1758)**

***Phoenicurus phoenicurus phoenicurus* (Linnaeus, 1758)**

Examined material. NHMW 58812; (B); ♂ juv.; 1901-09-28; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 58813; (B); ♀; 1901-09-28; Kotor; leg. Polatzek, J.; don. Polatzek, J.

Common names. Common Redstart, obična crvenrepka, Gartenrotschwanz.

***Phoenicopterus* Linnaeus, 1758**
***Phoenicurus ochruros* (Gmelin, 1774)**

***Phoenicurus ochruros gibraltariensis* (Gmelin, 1789)**

Examined material. NHMW 58879; (B); ♀; 1901-11-27; Boka Kotorska, Tivat; leg. Polatzek, J.; don. Polatzek, J.

Common names. Black Redstart, crna crvenrepka, Hausrotschwanz.

CINCLIDAE Sundevall, 1836
***Cinclus* Borkhausen, 1797**
***Cinclus cinclus* (Linnaeus, 1758)**

***Cinclus cinclus aquaticus* Bechstein, 1797**

Examined material. NHMW 31396; (B); ♂; 1902-01-12; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4869. NHMW 31397; (B); ♂; 1893-10-15; Ribnica (Podgorica); leg. Führer, L.; don. Tschusi, V.; Coll. 2434. NHMW 31398; (B); ♀; 1893-10-16; Zeta (Danilovgrad); leg. Führer, L.; don. Tschusi, V.; Coll. 2437.

Common names. White-throated Dipper, vodenkos, Wasseramsel.

PASSERIDAE Rafinesque, 1815
***Passer* Brisson, 1760**
***Passer domesticus* (Linnaeus, 1758)**

***Passer domesticus domesticus* (Linnaeus, 1758)**

Examined material. NHMW 62303; (B); ♂; 1893-10-16; Kakaricka gora, Podgorica; leg. Führer, L.; don. Tschusi, V. NHMW 62306; (B); ♂; 1903-07-20; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5293. NHMW 62370; (B); ♀; 1893-10-16; Kakaricka gora, Podgorica; leg. Führer, L.; don. Tschusi, V. NHMW*; Ov. (70); 1900-03; Goveđi brod, Zeta; leg. Führer, L.; don. Reiser, O.

Common names. House Sparrow, vrabac, Haussperling.

PRUNELLIDAE Richmond, 1908
***Prunella* Vieillot, 1816**
***Prunella collaris* (Scopoli, 1769)**

***Prunella collaris subalpina* (Brehm, 1831)**

Examined material. NHMW 42211; (B); ♂ ad.; 1899-02-22; Kosmač, Brajići, Budva; leg. Grossmann, E., don. Tschusi, V., Coll. 4557; SYNTYPE. NHMW 58724; (B); ♂; 1913-01-14; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 160. NHMW 58725; (B); ♀; 1913-02-08; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 161. NHMW 58727; (B); ♂ ad.; 1901-02-20; Kotor; leg. Grossmann, E.; don. Tschusi, V.

Common names. Alpine Accentor, planinski popić, Alpenbraunelle.

Figure 20. The specimen of Alpine accentor, collected at Kosmač near Budva, a syntype (*Accentor collaris reiseri* Tschusi, 1901, 1905). Photo: C. Potter, 2025.

Comments. Another taxonomic case concerns a specimen of Alpine Accentor (*Prunella collaris subalpina*) collected at Kosmač near Budva (Fig. 21) and originally labelled as a type specimen of *Accentor collaris reiseri* Tschusi. The specimen represents a syntype used by Tschusi (1901, 1905) in the description of a new subspecies. Tschusi later attributed this taxon to Brehm (Tschusi 1905), who had described it earlier as *Accentor subalpinus*, based on specimens from "Dalmatia" (Brehm 1831). However, Brehm did not designate a holotype. This was later resolved by Hartert (1918: 34), who designated a specimen from Dalmatia from the Brehm collection as the lectotype of *subalpina* (AMNH 455679; cf. LeCroy 2005: 4).

Specimens of Alpine Accentor from Montenegro were historically involved in a taxonomic dispute between two prominent ornithologists of the time, Viktor v. Tschusi and Curt Floericke. The disagreement, documented in "Ornithologisches Jahrbuch", centred on the authenticity of a record from Kotor, initially misidentified as Siberian Accentor (*Prunella montanella*) (Tschusi et al. 1903).

***Prunella modularis* (Linnaeus, 1758)**

***Prunella modularis modularis* (Linnaeus, 1758)**

Examined material. NHMW 58744; (B); ♂ ad.; 1901-11-15; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4841. NHMW 58752; (B); ♀; 1901-11-09; Boka Kotorska, Kotor; leg. Polatzek, J.; don. Polatzek, J.

Common names. Hedge Accentor, obični popić, Heckenbraunelle.

MOTACILLIDAE Horsfield, 1821
***Anthus* Bechstein, 1805**
***Anthus trivialis* (Linnaeus, 1758)**

***Anthus trivialis trivialis* (Linnaeus, 1758)**

Examined material. NHMW 12979; (B); ♂; 1895-03-31; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW 12980; (B); ♀; 1895-04-29; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW 12981; (B); ♀; 1895-05-01; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW 32163; (B); ♀; 1901-10-10; Boka Kotorska; leg. Polatzek, J.; don. Polatzek, J. NHMW 32164; (B); ♀; 1901-10-03; Tivat, Boka Kotorska; leg. Polatzek, J.; don. Polatzek, J. NHMW 32165; (B); ♂; 1901-10-15; Tivat, Boka Kotorska; leg. Polatzek, J., don. Polatzek, J.

Common names. Tree Pipit, šumska trepteljka, Baumpieper.

***Anthus pratensis* (Linnaeus, 1758)**

Examined material. NHMW 32343; (B); ○; 1901-11-21; Kotor; leg. Polatzek, J.; don. Polatzek, J.

Common names. Meadow Pipit, livadska trepteljka, Wiesenpieper.

***Anthus campestris* (Linnaeus, 1758)**

Examined material. NHMW 32231; (B); ○; 1895-04-28; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 12982; (B); ♀; 1895-04-18; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW*; Ov. (9); 1894-05-29; Cijevna, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW* Ov. (4); 1900-06-08; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW* Ov. (4); 1900-06-10; 1900-06-10; Ćemovsko polje, Podgorica; leg. Führer, L.; don. Reiser, O.

Common names. Tawny Pipit, stepska trepteljka, Brachpieper.

***Motacilla* Linnaeus, 1758**
***M. flava* Linnaeus, 1758**

***Motacilla flava flava* Linnaeus, 1758**

Examined material. NHMW 60773; (B); ♂ imm.; 1913-05; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 81. NHMW 60776; (B); ♀; 1895-04-29; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 60777; (B); ♀; 1895-04-09; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 60778; (B); ♂; 1895-04-09; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.; NHMW 60780; (B); ♂; 1895-04-09; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J. NHMW 60782; (B); ○ juv.; 1901-09-28; Kotor; leg. Polatzek, J.; don. Polatzek, J.

***Motacilla flava cinereocapilla* Savi, 1831**

Examined material. NHMW 61051; (B); ♂ ad.; 1911-04-21; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 83.

***Motacilla flava thunbergi* Billberg, 1828**

Examined material. NHMW 12986; (B); ♂; 1895-04-28; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.

Motacilla flava flava

Motacilla flava cinereocapilla

Examined material. NHMW 61045; (B); ♂; 1895-04-09; Sutomore, Bar; leg. Polatzek, J.; don. Polatzek, J.

Motacilla flava flava

***Motacilla flava feldegg* ("*superciliaris*")**

Examined material. NHMW 70672; (B); ♂; 1907-05-04; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 81; 1914

Common names. Western Yellow Wagtail, žuta pliska, Schafstelze.

Comments. The Black-headed Yellow Wagtail (*Motacilla flava feldegg* Michahelles, 1840), a regularly seen subspecies in Montenegro today, was not represented in the collection. The assessment of well-preserved material (n = 10) showed that none of the specimens had the characteristic head coloration (Alström et al. 2003). Most of the specimens were identified as the nominate *flava* subspecies. Two specimens were identified as *thunbergi* and *cinererecapilla.* Two remaining specimens were identified as *flava* × *cinereocapilla* and *flava* × *feldegg* hybrids (Fig. 22). It is interesting to note that historical changes in breeding range for both *feldegg* and *cinereocapilla* subspecies (Ferlini 2015, 2016) coincide with the collection period of the specimens.

Figure 21. Three specimens of Yellow Wagtail in NHMW bird collection. From left to right: *s*sp. *cinereocapilla*, hybrid *flava* × *feldegg*, hybrid flava × cinereocapilla. Photo: C. Potter, 2025.

FRINGILLIDAE Leach, 1819
***Fringilla* Linnaeus, 1758**
***Fringilla coelebs* Linnaeus, 1758**

***Fringilla coelebs coelebs* Linnaeus, 1758**

Examined material. NHMW 35951; (B); ♂; 1912-04-30; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 31.

Common names. Common Chaffinch, zeba, Buchfink.

***Chloris* Cuvier, 1800**
***Chloris chloris* (Linnaeus, 1758)**

***Chloris chloris muelhei* Parrot, 1905**

Examined. material. NHMW 35727; (B); ♂; 1906-04-23; Tivat; leg. Smallbones, G.; don. Smallbones, G.

Common names. European Greenfinch, zelentarka, Grünfink.

Comments. Single Greenfinch (*Chloris chloris*) specimen from NHMW bird collection was originally determined as *muehlei*, i.e. East Mediterranean subspecies. According to different sources (Beretzk et al. 1969; Dickinson and Christidis 2014., Matvejev and Vasić 1973), both *muehlei* and West-Mediterranean subspecies *aurantiiventris* are correct in the Western Balkans, being inseparable due to introgression.

***Linaria* Bechstein, 1802**
***Linaria cannabina* (Linnaeus, 1758)**

***Linaria cannabina mediterranea* (Tschusi zu Schmidhoffen, 1903)**

Examined material. NHMW 23098; (B); ♂; 1901-06-21; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4842; HOLOTYPE. NHMW 23099; (B); ♂; 1901-06-21; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4843. NHMW 23100; (B); ♂ ad; 1902-05-31; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5087. NHMW 23101; (B); ♀; 1903-04-08; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5175. NHMW 23102; (B); ♂; 1903-04-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5172. NHMW 23103; (B); ♂ ad; 1903-04-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5174. NHMW 23104; (B); ♂ ad; 1903-04-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5173.

Common names. Eurasian Linnet, konopljarka, Bluthänfling.

Comments. The NHMW bird collection includes a holotype of Eurasian Linnet, which is the most significant object from Montenegro, caught nearby Kotor in 1901. Based on this specimen, a new subspecies, *Linaria cannabina mediterranea* Tschusi, 1903 was described. According to the original description, this subspecies is smaller and darker than nominate form, and its range extends from the Balearic Islands and Iberian Peninsula (including north-western Africa) on the west, to the coast of the Aegean Sea and Turkey on the east. This is one of few accepted bird taxa described in Montenegro (Vasić 1995) which are still valid today.

Notably, this is not the only holotype of species decribed by Tschusi originating from Montenegro. Another holotype, the Pallid Swift (*Apus pallidus illyricus* (Tschusi, 1907)), collected near Herceg Novi, is currently housed the natural history collection of the Munich Museum (Stumberger and Ritter 2019). These findings highlight the need for further investigation of Montenegrin bird specimens preserved in natural history museums collections worldwide.

Figure 22. Holotype of Eurasian Linnet (*Linaria cannabina mediterranea* Tschusi, 1907) caught near Kotor in 1901. Photo: C. Potter, 2025.

***Carduelis* Brisson, 1760**
***Carduelis carduelis* (Linnaeus, 1758)**

***Carduelis carduelis balcanica* (Linnaeus, 1758)**

Examined material. NHMW 61864; (B); ♂; 1902-11-14; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 5088.

***Carduelis carduelis carduelis* Sachtleben, 1919**

Examined material. NHMW 61853; (B); ♂; 1902-11-06; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.

Common names. European Goldfinch, štiglić, Stieglitz.

***Serinus* Koch, 1816**

***Serinus serinus* (Linnaeus, 1766)**

Examined material. NHMW 37424; (B); ♀; 1913-02-02; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 38.

Common names. European Serin, žutarica, Girlitz.

EMBERIZIDAE Vigors, 1831
***Emberiza* Linnaeus, 1758**

***Emberiza melanocephala* (Scopoli, 1769)**

Examined material. NHMW 63140; (B); ○ juv; 1898-08-13; Krivošije (Kotor); leg. Grossmann, E.; don. Tschusi, V.; Coll. 4560. NHMW 63144; (B); ♂; 1913-06-04; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 53. NHMW 63145; (B); ♂; 1913-05-16; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 52. NHMW 63147; (B); ○ juv; 1913-07; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 54. NHMW 63148; (B); ♀; ≤ 1914; Sutorina (Herceg Novi); leg. Grossmann, E.; don. Tschusi, V.; Coll. 618. NHMW 63149; (B); ♂; 1894-05-10; Busovnik (Podgorica); leg. Führer, L.; don. Tschusi, V.; Coll. 2988. NHMW 83541; (B); ♂; 1908-05-16; Herceg Novi; leg. Tschusi, V.; don. Seilern, F.; Coll. 1043. NHMW*; Ov. (5); 1901-06-05; Dinoša, Tuzi; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (5); 1900-06-10; Doljani, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (4); 1900-06-08; Zelenika, Podgorica; leg. Führer, L.; don. Reiser, O. NHMW*; Ov. (6); 1900-06-06; Kosovi lug, Danilovgrad; leg. Führer, L.; don. Reiser, O.

Common names. Black-headed Bunting, crnoglava strnadica, Kappenammer.

***Emberiza cia* Linnaeus, 1766**

***Emberiza cia cia* Linnaeus, 1766**

Examined material. NHMW 37814; (B); ♂; 1913-03-04; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 60. NHMW 37815; (B); ♂; 1914-03-15; Lastva (Kotor); leg. Rohacek, F.; don. Tschusi, V.; Coll. 504. NHMW 37816; (B); ♀; 1901-10-30; Kotor; leg. Polatzek, J.; don. Polatzek, J. NHMW 75451; (B); ○ juv; 1898-07-23; Krivošije (Risan), leg. Neunteufel, A.; don. Schiebel, G.

Common names. Rock Bunting, strnadica kamenjarka, Zippammer.

***Emberiza cirlus* Linnaeus, 1766**

Examined material. NHMW 63249; (B); ○ juv; 1900-01-05; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4559. NHMW 63250; (B); ♂; 1910-04-10; Kotor; leg. Grossmann, E.; don. Tschusi, V.; Coll. 4753. NHMW 63251; (B); ♂; 1913-01-03; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 58. NHMW Br. 63252; (B); ♀, 1913-04-26; Herceg Novi; leg. Thanner, R.; don. Tschusi, V.; Coll. 59.

Common names. Cirl Bunting, crnogrla strnadica, Zaunammer.

***Emberiza schoeniclus schoeniclus* (Linnaeus, 1758)**

Examined material. NHMW 63010; (B); ♂; 1913-10; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 36. NHMW 63013; (B); ♂; 1901-11-11; Kotor; leg. Polatzek, J.; don. Polatzek, J.

***Emberiza schoeniclus stresemanni* Steinbacher, 1930**

Examined material. NHMW 63017; (B); ♀; 1913-03-13; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 44. NHMW 63019; (B); ♂; 1913-03-23; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 43.

***Emberiza schoeniclus intermedia* Degland, 1849**

Examined material. NHMW Br. 63100; (B); ♀; 1913-03-13; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 42. NHMW 63110; (B); ♀; 1900-01-14; Kotor; leg. Grossmann, E.; Tschusi, V.; Coll. 4558. NHMW 63032; (B); ♂; 1913-01-24; Herceg Novi; leg. Grossmann, E.; don. Tschusi, V.; Coll. 41.

Common names. Reed Bunting, barska strnadica, Rohrammer.

Comments. The Reed Bunting is one of the most polymorphic Palearctic birds comprising 20 currently recognized subspecies (Copete and Christie 2021). According to the original labels, three subspecies from Montenegro are represented in the NHMW collection. The subspecies *intermedia*, which occurs in Italy and along the eastern Adriatic coast, was described by Côme-Damien Degland in 1849, based on a specimen reported simply as originating from "Dalmatia". This locality may also include present-day Montenegro as part of the *terra typica*, but no further details on the type locality are available (Degland 1849).

Discussion

The study of the NHMW bird collection yielded taxonomically interesting species from Montenegro that are characteristic of the Balkan region. Valid type specimens represent the highest level of scientific importance, whereas original material, although not nomenclaturally decisive, documents the historically important ornithological research conducted in this region. Conspicuous absence of water birds (Anatidae) and forest birds (Picidae) suggests a specific interest among collectors in the avifauna for Mediterranean biotopes.

Five species represented in the collection are currently listed with a global Red List status, and 21 species are included in the Annex 1 of EU Birds Directive. The complete list of species and their respective conservation statuses is provided in Table A1.

The NHMW bird collection, as well as old literature resources dating back to the Austro-Hungarian period, are testimony to a long-term biodiversity change in Montenegro. Three species (Egyptian Vulture, White-tailed Eagle and Lesser Kestrel), which were frequent at the end of the 19th century are now regarded as extinct breeders. Furthermore, over a time span of more than 150 years, range-shift patterns can be observed in certain taxa, such as the *feldegg* subspecies of Yellow Wagtail. Preserved bird specimens serve as valuable evidence of the characteristics of the original ecosystems, which may have since been altered or destroyed by human activities (Schmitt et al. 2018; Gropp 2018; Hedrick et al. 2020; Salvador and Cunha 2020). Conservation priorities for such localities can therefore be assessed in the light of recent composition of species.

Evidence of specimens' country of origin in different collections is sometimes obscured by changes in political borders. In addition to the Reed Bunting and Dalmatian Pelican, whose type localities remain ambiguous, there may be other specimens from Montenegro in the NHMW collection that originated from the collection of Christoph Baron Fellner von Feldegg (1779–1845). Feldegg was stationed at various locations in the Austrian Monarchy, including southern Dalmatia, and was known for his interest in ornithology. He owned a substantial collection of at least 4,500 bird specimens (Anonymous 1845; Pelzeln 1889). Following Mlíkovský (2007), it is plausible that some of the "Dalmatian" specimens in his collection originated from present-day Montenegro. This may also apply to two syntypes of *Sitta orientalis* Brehm (= *Sitta neumayer* Michahelles) donated by Feldegg in 1831 to the Imperial collection in Vienna (NHMW 32076 and 43776).

Furthermore, other major 19th century collections containing specimens from Montenegro are kept in different museums around the world. Continued research in relevant museums' collections is required to achieve a more comprehensive understanding of the historical avifauna of Montenegro.

Acknowledgements

The first author most sincerely thanks the staff of the bird collection of the Natural History Museum in Vienna for their hospitality and generous support during this study, including the provision of workspace, literature, archive materials, collection access, and invaluable expertise.

Special thanks are extended to Ms. Chloe Potter for the excellent photographs and to Ms Viola Winkler for conducting insightful CT scans. The authors are grateful to Emma and Ben Heywood for English proofreading, as well as to colleagues Borut Stumberger (SLO) and Dražen Kotrošan (BIH) for their useful suggestions. The authors also thank Mario Riedl-Dorn (NHMW) and Dr Josef Feldner (Villach) for their assistance in tracing the biographical data of collectors.

Particular gratitude is expressed to the collection's curator, Dr Swen Renner, for his continuous support, willingness to cooperate, and for providing the opportunity for the first author to contribute to the work of one Europe's most important natural history collections.

Finally, the authors thank the reviewers for their constructive comments and suggestions, which substantially improved the manuscript.

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Appendix 1

Short biographical data of contemporary ornithological researchers, collectors and donators whose items from Montenegro are kept in the NHMW bird collection

Baumann, Dr. Oscar (1864–1899)

Vienna-born geographer, explorer and author. Probably the youngest Austrian researcher to collect birds from Montenegro, he began his ornithological activity with an expedition to Durmitor mountain in 1883 at the age of 19. He was also among the first explorers of the Congo basin during the Congo expedition 1885-1887 (Meyer 1902). Two specimens of Wallcreeper he collected near Bobotov kuk are preserved in the NHMW collection (the locality is recorded under the historical name "Ćirova pećina"), in addition to one specimen donated by Aemilius Hacker.

Finger, Julius (1826–1894)

Accounting clerk by profession, Finger was a passionate bird collector who skilfully prepared specimens himself. Besides collecting in the vicinity of his hometown Vienna, his passion also took him to Lake Neusiedl and, in 1857 [sic], to Dalmatia, including Montenegro. He donated his collection of birds to the NHMW in 1874. Finger is credited with the oldest preserved museum specimen from Montenegro in the NHMW collection, a Spur-winged Lapwing.

Führer, Ludwig von (1866–1937)

Ornithologist and collector from the former Austro-Hungarian province of Bukovina. Führer, who lived in Montenegro for about ten years since 1894, is considered the founder of Montenegrin ornithology, although his legacy is often overlooked (Vasić 1980). He co-authored Reiser's fourth volume of the "Materialien zu einer Ornis Balcanica" (1898) dedicated to the avifauna of Montenegro. In 1923, he emigrated to Pittsburgh/Pennsylvania (USA), where he died. The NHMW bird collection includes 11 taxidermy specimens and 532 egg specimens collected by Führer in Montenegro, primarily for the Tschusi and Reiser collections. Additional material from Montenegro is preserved in St Petersburg, Tring, and Pittsburgh (Vizi and Vasić 1980).

Grossmann, Ernst (c.1850– > 1913)

A k.k. Austro-Hungarian k.k. Army Officer Ernst Grossmann collected the largest number of specimens from Montenegro (126) between 1898 and 1913. After retiring in 1902, he resided for several years in Herceg Novi and collected mainly in the Bay of Kotor region. Most of his specimens were obtained for Tschusi's collection before they were acquired by the NHMW. Grossman also published several contributions on Montenegrin ornithofauna in the journal "Ornithologisches Jahrbuch" (Großmann 1908a,1908b, 1908c, 1908d, 1909, 1910a, 1910b).

Hacker, Dr. Aemilius (1870–1912)

Biographical data on Hacker are scarce. According to the Austrian Biographical Lexicon (ÖBL 2025), he was a judge by profession, but also a famous alpinist, skiing-pioneer, photographer and expedition participant. He died in an avalanche. He spent 6 months mountaineering on Durmitor and in Hercegovina by 1894 at the latest. Several Balkan specimens he donated to the NHMW originate from that period, including one specimen from Montenegro collected by O. Baumann (locality unspecified).

Harrison Institute Collection

The Harrison Institute was founded in 1930 by the British physician, ornithologist and taxidermist James Maurice Harrison (1892–1971). Originally focused on birds, it now houses more than 50.000 zoological specimens from over 30 countries. In 2022, approximately 20.000

bird specimens from the Harrisson Zoological Museum Trust were donated to the NHMW. Among them were two specimens from Montenegro.

Kleinschmidt, Dr. Otto (1870–1954)

German pastor, ornithologist, theologian, taxidermist and author. His work combined science, religion, and art, and lead him to become a prominent opponent of Darwinian evolution (Beleites 2020). Kleinschmidt challenged Darwin's concept, e.g. by demonstrating that two closely related Tit species (Marsh Tit and Willow Tit) do not hybridize. One specimen of Marsh Tit from Montenegro collected by Kleinschmidt is found in the NHMW collection.

Kollibay, Paul R. (1863–1919)

German ornithologist and lawyer. Initially focused on Silesian avifauna, he later turned to Palearctic ornithology and undertook field trips to the Mediterranean, which resulted in contributions to Montenegrin ornithology (Kollibay 1903, 1904a, 1904b). Most of his several thousand European bird skins are held in the Museum in Wroclaw. One specimen from Montenegro is preserved in the NHMW collection.

Neunteufel, Adolf (1909–1979)

Austrian animal dealer, taxidermist, illustrator, author and zoo director. He spent much of his life in Paraguay and later Argentina, where he died. His book Yasí-Yateré (1941) describes his experiences as a hunter in Paraguay. Parts of his primarily Paraguayan bird collection were transferred from the Universalmuseum Joaneum (Graz) to the NHMW between 1981 and 2001. Additional further specimens are preserved in museums in Munich, Salzburg and eventually in Buenos Aires (cf. Steinbacher 1980). One specimen from Montenegro, originally acquired for Dr Guido Schiebel, was purchased by the NHMW in 1957.

Polatzek, Johann (1839–1927)

Austrian military officer and ornithologist who collected extensively in the Balkans between 1894 and 1900. He later focused on the avifauna of the Canary Islands and the Pityuses. Polatzek collected 64 specimens in Montenegro, mainly coastal songbirds between Kotor to Bar. He died in Vienna in 1927.

Reiser, Dr. Othmar (1861–1936)

Probably the most important researcher on the birds of the Balkans, Reiser was born in Vienna to a family of German descent but also maintained strong ties to Slovenia, where his family was prominent in Maribor (Smole 2010). He served for many years as curator at the National Museum in Sarajevo and authored the most significant work on Montenegrin birds, Materialien zu einer Ornis Balcanica, Vol. IV – Montenegro (Reiser and Führer 1896).

Reiser visited Montenegro on multiple occasions, exploring the mountains of Lovćen and Durmitor, the Morača Valley, Lake Skadar, and the coastal region. He was the first to systematically study Montenegro's ornithofauna and documented numerous species previously unrecorded in the country (Lorenz-Liburnau 1937).

His prolific scientific work was interrupted by the outbreak of war in 1914, when he was forced to leave the museum in Sarajevo (Matvejev 1986). The NHMW bird collection contains two mounted specimens collected by Reiser and 532 oological items from his collection of 12,000 specimens, which he donated to the NHMW in 1912 (Matvejev 1986).

Reischek, Andreas (1845–1902)

Austrian naturalist, ornithologist, and collector, best known for his research in New Zealand between 1877 and 1889. His collection of bird specimens from New Zealand has been donated to the NHMW by Carl von Auspitz in 1891. Among Reischek's acquisitions, there are four Montenegrin specimens obtained from Ludwig Führer, including the Egyptian Vulture specimens mentioned above.

Roháček, Franz (1887–1963)

Captain F. Roháček contributed specimens to Tschusi's collection during his military service in Dalmatia. Two Montenegrin specimens are preserved in th NHMW. He also published on breeding birds of the Bocche di Cattaro (Roháček 1917).

Rosenberg, William H.F. (1868–1957)

English naturalist, explorer, and entrepreneur. He is listed as the supplier of two items from Montenegro in the Ticehurst collection, acquired by the NHMW through the Harrison Zoological Museum Trust.

Schiebel, Dr. Guido (1881–1956)

Schiebel was born in Czechia, then part of the Austro-Hungarian monarchy. A secondary school teacher by vocation, he developed a strong interest in bird taxonomy. His collecting activities focused on Austria, Slovenia and the Mediterranean islands of Crete, Sicily and Corsica. Based on the material he collected, Schiebel named 15 subspecies of Palearctic birds, the type specimens of which are preserved in museums in Vienna, Bonn and Berlin (Schifter and van den Elzen 1986). He is recorded here as the donor of one specimen from Montenegro.

Seilern und Aspang, Josef Graf von (1883–1939)

Austrian-Czech nobleman and owner of one of Europe's largest private bird collections. The NHMW acquired a smaller part of his collection in 1986/87, with specimens from around the world, including one specimen from Montenegro. The majority of his collection is housed in the National Museum of Prague and in the Moravian Museum in Brno.

Smallbones, George (1881–1944)

British-Austrian landowner, estate manager and military officer in the k. k. Austrian Army, interested in ornithology and bird collecting. Approximately 100 of his specimens are preserved in the NHMW, four of which were collected near Tivat, Montenegro. Smallbones worked at the mammal and bird collections of the NHMW between 1904 and 1907. Biographic data on him is scarce; according to Deutsches Bundesarchiv, he passed away not earlier than 1944.

Sziemer, Dr. Peter (1962)

Austrian zoologist and freelancer who contributed one specimen from the island of Vranjina to the NHMW collection.

Šoti, Josip P. (1945–1988)

Serbian ornithologist of Hungarian origin and researcher at the Institute of Biology, Faculty of Sciences in Novi Sad. The NHMW collection holds 12 osteological items he collected at Lake Skadar between 1974 and 1978.

Thanner, Rudolf von (1872–1922)

Austrian ornithologist, son of V. v. Tschusi zu Schmidhoffen. Well known for his interest in birds of the Canary Islands, where he lived between 1902 and 1919. He collected one specimen near Herceg Novi, Montenegro.

Ticehurst Collection

Brothers Norman (1873–1969) and Claude Ticehurst (1881-1941) were English surgeons, ornithologists, and owners of one of the largest collections of the time. Most of their collection is held in the Natural History Museum in Tring, England. Two items from Montenegro, obtained from the dealer William Rosenberg were added to the NHMW in 2022 as a part of the Harrison Institute collection.

Tschusi zu Schmidhoffen, Dr Victor Ritter von (1847–1924)

Distinguished Austrian ornithologist, collector, and publisher of the influential journal Ornitologisches Jahrbuch (1890–1918). Based on material from Montenegro, he described two new subspecies which are still considered valid. The holotype of the Mediterranean subspecies of Eurasian Linnet (*Linaria cannabina mediterranea*) is preserved in Vienna, while the holotype of the Adriatic subspecies of Pallid Swift (*Apus pallidus illyricus*) is housed in the Munich Museum. Tschusi's collection in the NHMW includes 133 specimens from Montenegro.

Worafka, Alexander Ritter von (1857–1924)

Austrian naturalist and ornithologist who lived primarily in Graz (Styria). He owned a relatively small bird collection focused on species of the monarchy. This collection was acquired in 1933 by the Styrian Landesmuseum Joanneum (Graz) from Arthur [sic] von Worafka (Hausl-Hofstätter. 2022, D. Nayer in litt.). It remains unclear whether the name "Arthur" represents a confusion with Alexander von Worafka or refers to a descendant who acted as the seller. One specimen from Montenegro collected by Worafka is preserved in Tschusi's collection, which was purchased by the NHMW in 1906.

Wutte, Alois Sen./Jun. (active c. 1895)

Both Alois Wutte Senior and Junior were Slovenian foresters, hunters, and collectors born in Maribor. It remains uncertain which of the two was responsible for collecting the two egg specimens from the Ulcinj area of Montenegro. The bibliographic record is incomplete and partly complicated by inconsistencies in Reiser's Die Vögel von Marburg an der Drau (Reiser 1925). According to this source, Wutte Senior was buried on 26 September 1890 (p. 138). If accurate, this would indicate that Wutte Junior collected the Little Ringed Plover eggs in 1895. However, the same publication also states that Wutte Senior shot an Eagle Owl in 1902 (p. 88), which suggests that he may still have been active at that time and therefore could also have been the collector of the Ulcinj specimens.

Table A1. Species from Montenegro in NHMW bird collection by conservation status.

Scientific name	English name	EUBD[1]	IUCN Red List[2]	CMS Annex[3]
Acrocephalus schoenobaenus	Sedge Warbler		LC	II
Actitis hypoleucos	Common Sandpiper		LC	II
Aegithalos caudatus	Long-tailed Tit		LC	II
Alauda arvensis	Eurasian Skylark	II/B	LC	
Alcedo atthis	Common Kingfisher	I	LC	
Alectoris graeca	Rock Partridge	I, II/A	NT	
Anarhynchus alexandrinus	Kentish Plover	I	LC	II
Anthus campestris	Tawny Pipit	I	LC	II
Anthus pratensis	Meadow Pipit		LC	II
Anthus trivialis	Tree Pipit		LC	
Apus apus	Common Swift		LC	
Ardea cinerea	Grey Heron		LC	
Ardeola ralloides	Squacco Heron	I	LC	
Bubo bubo	Eurasian Eagle-owl	I	LC	
Calandrella brachydactyla	Greater Short-toed Lark	I	LC	
Caprimulgus europaeus	Eurasian Nightjar	I	LC	
Carduelis carduelis	European Goldfinch		LC	II
Cercotrichas galactotes	Rufous-tailed Scrub-robin		LC	
Certhia brachydactyla	Short-toed Treecreeper	I*	LC	II
Cettia cetti	Cetti's Warbler		LC	II
Charadrius dubius	Little Ringed Plover		LC	II
Chloris chloris	European Greenfinch		LC	
Cinclus cinclus	White-throated Dipper		LC	
Corvus monedula	Eurasian Jackdaw	II/B	LC	
Curruca cantillans	Subalpine Warbler		LC	II
Curruca communis	Common Whitethroat		LC	II
Curruca crassirostris	Eastern Orphean Warbler		LC	II
Curruca melanocephala	Sardinian Warbler		LC	II
Cyanistes caeruleus	Eurasian Blue Tit		LC	
Delichon urbica	Northern House Martin		LC	
Egretta garzetta	Little Egret	I	LC	
Emberiza cia	Rock Bunting		LC	
Emberiza cirlus	Cirl Bunting		LC	
Emberiza melanocephala	Black-headed Bunting		LC	
Emberiza schoeniclus	Reed Bunting		LC	
Falco naumanni	Lesser Kestrel	I	LC	I/II
Falco subbuteo	Eurasian Hobby		LC	II
Fringilla coelebs	Common Chaffinch	I*	LC	
Galerida cristata	Crested Lark		LC	
Garrulus glandarius	Eurasian Jay	II/B	LC	
Gelochelidon nilotica	Common Gull-billed Tern	I	LC	II
Glareola pratincola	Collared Pratincole	I	LC	II
Haliaeetus albicilla	White-tailed Sea-eagle	I	LC	I/II
Hippolais icterina	Olive-tree Warbler		LC	II
Hippolais olivetorum	Olivaceous Warbler	I	LC	II
Hirundo rustica	Barn Swallow		LC	
Iduna pallida	Olivaceous Warbler		LC	II
Lanius collurio	Red-backed Shrike		LC	
Lanius senator	Woodchat Shrike		NT	
Larus michahellis	Yellow-legged Gull	II/B*	LC	
Limosa limosa	Black-tailed Godwit	II/B	NT	II
Linaria cannabina	Common Linnet		LC	
Lullula arborea	Woodlark	I	LC	
Luscinia megarhynchos	Common Nightingale		LC	II
Melanocorypha calandra	Calandra Lark	I	LC	
Microcarbo pygmaeus	Pygmy Cormorant	I	LC	II

Scientific name	English name	EUBD[1]	IUCN Red List[2]	CMS Annex[3]
Monticola saxatilis	Rufous-tailed Rock-thrush		LC	II
Monticola solitarius	Blue Rock-thrush		LC	II
Motacilla flava	Western Yellow Wagtail		LC	II
Neophron percnopterus	Egyptian Vulture	I	EN	I/II
Nycticorax nycticorax	Black-crowned Night-heron	I	LC	
Oenanthe melanoleuca	Eastern Black-eared Wheatear		LC	II
Oenanthe oenanthe	Northern Wheatear		LC	II
Otus scops	Eurasian Scops-owl		LC	
Parus major	Great Tit		LC	
Passer domesticus	House Sparrow		LC	
Pelecanus crispus	Dalmatian Pelican	I	NT	I/II
Phalacrocorax carbo	Great Cormorant		LC	
Phoenicurus ochruros	Black Redstart		LC	II
Phoenicurus phoenicurus	Common Redstart		LC	II
Phylloscopus trochilus	Willow Warbler		LC	II
Poecile lugubris	Sombre Tit		LC	
Poecile palustris	Marsh Tit		LC	
Prunella collaris	Alpine Accentor		LC	
Prunella modularis	Dunnock		LC	
Ptyonoprogne rupestris	Eurasian Crag Martin		LC	
Riparia riparia	Collared Sand Martin		LC	
Serinus serinus	European Serin		LC	
Sitta europaea	Eurasian Nuthatch		LC	
Sitta neumayer	Western Rock Nuthatch		LC	
Sylvia atricapilla	Eurasian Blackcap		LC	II
Tachyspiza brevipes	Levant Sparrowhawk	I	LC	II
Troglodytes troglodytes	Northern Wren	I*	LC	
Vanellus spinosus	Spur-winged Lapwing	I	LC	II

[1] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds
[2] IUCN Red List of Threatened Species™.
[3] Convention on the conservation of migratory species of wild animals