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Ornithological collections from the time of the First and Second World Wars at the National Museum of Natural History, National Academy of Sciences of Ukraine S. Tajkova

This study investigates the formation, preservation, and transformation of the ornithological collection of the National Museum of Natural History of the National Academy of Sciences of Ukraine (NMNH) during the First (1914–1918) and Second (1939–1945) World Wars. Based on the analysis of historical sources, inventory books, collection catalogues, and specimen labels, the pathways of accession were reconstructed, the specific features of scientific activity under conditions of social upheaval were identified, and the scientific, cultural, and conservation value of the materials was assessed. The object of the study was the ornithological collection of the NMNH, which comprises more than 40 000 storage units, including study-skins, egg clutches, and exhibited skin-mounts. More than 700 specimens collected during wartime were examined, with detailed breakdowns by year, region, collector, and taxonomic composition. Particular attention was paid to Kyiv Oblast—the only region represented in the collections by a sufficient number of specimens from both wartime periods. In 1919–1933, despite the absence of the museum as an institution, the collections were enriched mainly through donations of private collections and materials from other institutions; more than 89% of specimens originated from Kyiv Oblast and the Crimea. Specimens of 15 species currently listed in the Red Data Book of Ukraine were identified: *Anarhynchus alexandrinus* (3), *Falco naumanni* (2), *Milvus migrans* (2), *Grus virgo* (1), *Asio flammeus* (1), *Bubo bubo* (1), *Circus macrourus* (1), *Glareola nordmanni* (1), *Haematopus ostralegus* (1), *Lanius excubitor* (1), *Podiceps grisegena* (1), *Recurvirostra avosetta* (1), *Pastor roseus* (1), *Tetrao urogallus* (1), and *Tetrastes bonasia* (1). During the Second World War, museum activity was uneven: the peak of collections occurred in 1939–1940, followed by a sharp decline. In total, the collections were enriched with 364 specimens, of which 257 originated from Ukraine, mainly from Kyiv Oblast. Among these gatherings, specimens of 17 species listed in the Red Data Book of Ukraine were identified: *Numenius arquata* (3), *Picus viridis* (3), *Circus cyaneus* (2), *Grus virgo* (1), *Clanga clanga* (1), *Bucephala clangula* (1), *Alaudala rufescens* (1), *Dendrocopos leucotos* (1), *Haematopus ostralegus* (1), *Limosa limosa* (1), *Milvus migrans* (1), *Netta rufina* (1), *Recurvirostra avosetta* (1), *Branta ruficollis* (1), *Sternula albifrons* (1), *Strix uralensis* (1), and *Tringa stagnatilis* (1).

Key words: ornithological collections, world wars, protected birds, National Museum of Natural History

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Introduction

When working with archival records, card catalogues, and specimens of the ornithological collection of the National Museum of Natural History, NAS of Ukraine (NMNH), questions inevitably arise about the researcher who worked on the assembly of the collection. What were the conditions, the motivation, the inner state of these people? Behind each specimen lies not only a piece of biological information, but a personal history—routes, choices, risks, and sometimes silence in which a scientific answer was born. Particularly revealing is the fact that a large part of the specimens was collected in periods of large-scale wars, when the very possibility of scientific work was under tremendous threat. Nonetheless, researchers continued to collect, to describe, and to preserve (Ulyanovsky, 2014; Zagorodniuk, 2022 a; Tajkova, Klochko, 2025). Among them were P. K. Vereshchak, G. S. Kochubey, M. L. Shcherbyna, M. P. Rozanov, E. L. Sviderskyi, V. G. Averin, S. Ya. Paramonov, M. V. Charlemagne, P. P. Orvol, V. A. Antonovych, and Kryvkovych (Karavaev, 1926; Zagorodniuk, 2022 b–c, 2023; Mikhalenok, 2023; Shevchenko, Zagorodniuk, 2025).

The world wars in 1914–1918 and 1939–1945 deeply affected the scientific, cultural, and natural history heritage of not only Kyiv and Kyiv Oblast, but all regions of Ukraine. Yet at the beginning of the First World War, the territories of the modern Lviv, Ivano-Frankivsk, Ternopil, Chernivtsi, Rivne, and Volyn oblasts, as well as part of central Ukraine became active combat zones, which greatly complicated the functioning of scientific institutions and museums. In particular, the Ternopil Museum of Local Lore was

closed and part of its collections were either lost or stolen. The departments and laboratories of the Chernivtsi University also suffered significant losses. At the same time, the scientific collections of the Zoological Museum of Taras Shevchenko National University of Kyiv had been timely evacuated, which prevented their destruction or looting, although active hostilities were not taking place directly in Kyiv at that time (Shydlovsky, 2012; Botushanskyi, 2017).

The Second World War, encompassing all of modern Ukraine, caused even more serious destruction: resources were lost, infrastructure was destroyed, and museum collections suffered significant losses. The exhibition of the Zoological Museum of Ivan Franko National University of Lviv was treated barbarically, which led to losses of specimens and a large number of labels. The Zoological Museum of Taras Shevchenko National University of Kyiv had not been evacuated this time and in 1943 was seriously damaged by fire that occurred in its main building. The zoological collections of the Chernivtsi University were transported to Romania, whereas most specimens in the Nizhyn State Pedagogical University were lost. In 1942, all universities, institutes, and museums were closed. The ornithological collections, similarly to other natural history collections, were robbed or evacuated, and part of the unique materials were either destroyed or lost (Shydlovsky, 2012; Klymyshyn, Shydlovsky, 2014; Zagorodniuk, 2022).

Today, under conditions of another war, the museums of Ukraine are facing the threat of losing their collections again. The war has already caused large-scale destruction, evacuation, looting, and devastation of Ukraine's cultural heritage. The situation calls for a study the past—to preserve heritage, to reconsider historical lessons, and to develop action strategies in the current reality.

The inventory of museum collections allows not only analysing specimens, but also reading old labels as 'encrypted' messages from the past—about collecting conditions, routes, research priorities, and personal histories. It is not only a technical process, but an act of interpretation and restoration of cultural memory.

The aim of this study was to trace the history of formation, preservation, and transformation of the ornithological collection of the National Museum of Natural History, NAS of Ukraine during the events of the two world wars, as well as to identify the scientific and cultural value of specimens that were collected, transferred, or lost in the times of historical upheavals.

The paper is a continuation of a cycle of publications (Tajkova, Klochko, 2025; Tajkova, 2025; Tajkova, Gavris, 2025) and conference materials devoted to the scientific ornithological collection of the museum and its researchers and curators, particularly M. V. Charlemagne, V. O. Karavaev, O. B. Kistyakivskyi, and O. O. Brauner, who made a significant contribution to its formation and preservation.

Materials and Methods

The study was initiated in the process of revising M. V. Charlemagne's ornithological collection of the National Museum of Natural History, NAS of Ukraine (NMNH) (Tajkova, Klochko, 2025). A deeper interest of the issue appeared, particularly of how war impacts science and how museum collections, despite historical upheavals, continue to be preserved and telling their secrets.

The analysis covers specimens collected during the First (1914–1948) and the Second (1939–1945) World Wars. Materials from Kyiv Oblast were selected for comparison, which are the most representative and most comparable for both periods. Specimens from other regions, which make up a sample insufficient for comparisons, were also included in the discussion.

The list of specimens of species included in the Red Data Book of Ukraine is presented with full label data, including date, record locality, collector's name, and inventory number. The term 'protected species' is used in a national context, i.e. concerns only species that are officially listed in the state registry of rare and endangered animals that require protection in the territory of Ukraine.

Species lists were compiled using Latin names according to the latest ornithological systematics (Gill et al., 2021). The terms 'storage unit' (s.u.), 'collection specimen' and 'specimen' (spec.) are used synonymously.

Results

The ornithological collection of the NMNH has been forming since the museum's establishment and currently is the largest by the number of storage units and taxonomic scope among similar museums of Ukraine. The total number of specimens exceeds 40 000 s.u. and comprises study-skins (36 528 s.u.), egg clutches (2998 s.u.), and exhibited skin-mounts (1449 s.u.). Specimens of over 950 species are present ensuring a significant taxonomic representativeness of the collection (Barabanova et al., 2019).

Due to its volume, structural diversity, and scientific value, the ornithological collection of the NMNH is a unique data source for research—historical, museological, and zoological, as well as for updating knowledge about biodiversity in the context of long-term monitoring and retrospective analysis of the fauna of Ukraine.

Ornithological collections of the period of the First World War (1914–1918)

Despite the difficult socio-political circumstances caused by the First World War, ornithologists continued working in the field and collecting research materials. Although the NMNH had not been officially established yet, we analysed how the ornithological collections it houses were formed in this period and traced the routes of specimens to the future museum collections.

When the museum started to function, many scientists donated their own collections that were amassed yet in the 19th and in the early 20th centuries. Among those donors were O. A. Shummer, V. Yu. Gerhner, P. K. Vereshchak, G. S. Kochubey, M. V. Charlemagne and other researchers whose contribution became the basis of the ornithological collection. Materials were also donated by hunters, enthusiasts, various museums, societies, and biological rooms. In 1921, the museum received 921 study-skins previously housed in the 'Proletarian Museum', which until 1917 operated as the 'Pedagogical Museum' (Tajkova, Klochko, 2019). Now this building is known as the 'Teacher's House' (Volodymyrska Street, Kyiv).

The Pedagogical Museum had natural history rooms housing lots of specimens of plants, animals, and minerals (Zagorodniuk, 2016). In 1926, the large collection of the K. Kessler Ornithological Society comprising 5236 study-skins was transferred to the NMNH (Tajkova, Klochko, 2019).

According to the collection journals, in subsequent years the NMNH received materials collected during the war in territories that are now parts of different countries. These specimens originate from Ukraine (333 s.u.), Russia (249), Azerbaijan (22), Moldova (4), Georgia (1), as well as from beyond Eurasia, particularly Canada (2), Iceland (1), and Ethiopia (1). This geographic scope indicates that Ukrainian ornithologists actively participated in international scientific cooperation even during the war.

Special attention must be paid to specimens collected in the territory of modern Ukraine in 1914–1918. Their total number is 331 s.u., which allows tracing the dynamics of ornithological activities under wartime conditions. Most specimens come from 1914, and their number decreased in following years (fig. 1). This tendency likely reflects the gradual complication of conditions for field research due to the military events in the country.

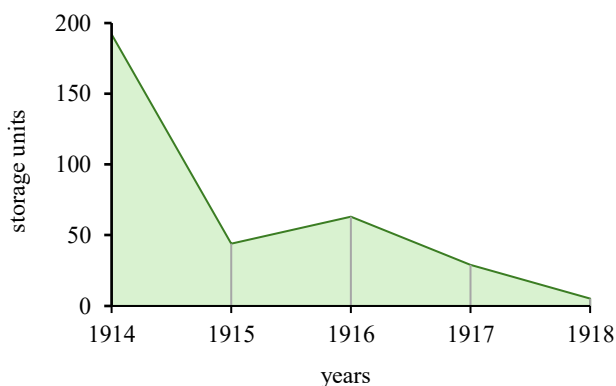


Fig. 1. The enrichment of the ornithological collection with specimens from Ukraine during the First World War (1914–1918)

The geographic scope of the collection covers several regions of modern Ukraine. Most specimens came from Kyiv Oblast (59.2%) and the Crimea (30.0%), together accounting for 89.2% of the materials. Less represented are other regions, such as Volyn (2.7%), Kherson (2.4%), Zhytomyr (1.8%), Poltava (1.5%), Kharkiv (0.9%), Odesa (0.3%), Chernihiv (0.3%), and Chernivtsi (0.3%) oblasts. More detailed information is presented in table 1. The geographic distribution of collecting may reflect both the accessibility of territories for field research and the presence of active collectors in particular regions.

Table 1. Regional distribution of specimen collected in the territory of Ukraine during the First (1914–1918) and Second (1939–1945) World Wars

Oblast	1914	1915	1916	1917	1918	Σ	1939	1940	1941	1943	1945	Σ	Σ
Volyn	9					9							9
Dnipropetrovsk											2	2	2
Donetsk											1	1	1
Zhytomyr			6			6		1				1	7
Zaporizhzhia							91	19				110	110
Ivano-Frankivsk								14				14	14
Kyiv	141	16	38		2	197	56	26	11	12	1	106	303
Crimea	35	27	18	20		100							100
Lviv								16				16	16
Mykolaiv							1					1	1
Odesa				1		1							1
Poltava	4	1				5							5
Kharkiv					3	3							3
Kherson	2		1	5		8	6					6	14
Chernivtsi				1		1							1
Chernihiv	1					1							1
Σ	192	44	63	27	5	331	154	76	11	12	4	257	588

Among the most active collectors of this period were P. K. Vereshchak (118 s.u.), G. S. Kochubey (40), M. L. Shcherbyna (38), M. P. Rozanov (10), and E. L. Sviderskyi (8). Additionally, the names of the collectors of 23 specimens remain unknown, likely due to the incompleteness of archival records. It is rather common when specimen labels or accompanying documents contain only general notes such as 'I'll provide detailed information later', which, unfortunately, were not fulfilled. An even more frequent case is when the label contains only a working ID number given by the collector, while information on date, locality, and the collector's identity was recorded in the field diaries, which were not handed over along with the specimens. Such cases complicate the attribution of materials and require additional archival searches or comparisons with other sources. Similar situations characterise collecting in the field in difficult historical times, when the systematisation of materials gave way to more urgent circumstances.

Of the analysed specimens collected during the First World War, representatives of 15 species that are listed in the Red Data Book of Ukraine were discovered (fig. 2). Their presence in the museum collection indicates that rare species have historically been present in the territory of Ukraine and allows conducting a comparative analysis of changes in faunal distributions. A detailed list of species is presented in table 2, while full label data of these materials are given at the end of this section. The presence of these specimens in the museum collection allows for a retrospective analysis to be conducted concerning the state of populations, changes in species ranges, and general biodiversity dynamics. It is especially relevant in the context of modern ecological challenges, when historical data become an important source to estimate the effectiveness of conservation measures.

- 12879/2, *Tetrao urogallus*, ♀, 31.03.1916, Olevsk, Zhytomyr Oblast, M. L. Shcherbyna
 10511/4, *Tetrastes bonasia*, ♂, 01.04.1916, Olevsk, Zhytomyr Oblast, M. L. Shcherbyna
 12813/32, *Milvus migrans*, ♂, 30.04.1916, Muromets Island, Kyiv Oblast, M. L. Shcherbyna
 12818/37, *Milvus migrans*, ♀, 08.05.1916, Pushcha-Vodytsia, Kyiv Oblast, M. L. Shcherbyna
 6909/18, *Haematopus ostralegus*, juv., 23.07.1915, Kobeliaky Raion, Poltava Oblast, P. I. Bauman
 18348/61, *Lanius excubitor*, ♀, 22.03.1917, Askania-Nova Reserve, Kherson Oblast, leg. ?
 19050/17, *Podiceps grisegena*, 08.1914, Simferopol, Crimea, Sushkin
 18948/69, *Circus macrourus*, 16.05.1915, nearby to Sabla, Crimea, leg. ?
 18914/22, *Falco naumanni*, ♂, 18.05.1914, Perekop, Crimea, leg. ?
 18915/23, *Falco naumanni*, ♀, 28.05.1915, Yevpatoria, Crimea, leg. ?
 26552/7, *Grus virgo*, ♂, 22.05.1915, Kambar, Crimea, leg. ?
 19328/41, *Anarhynchus alexandrinus*, 18.05.1914, Syvash Bay, Crimea, leg. ?
 19329/42, *Anarhynchus alexandrinus*, 28.05.1915, sandbar at Saky, Crimea, leg. ?
 19330/43, *Anarhynchus alexandrinus*, 28.05.1915, sandbar at Saky, Crimea, leg. ?
 19253/25, *Recurvirostra avosetta*, 28.05.1915, sandbar at Saky and Yevpatoria, Crimea, leg. ?
 19281/31, *Glareola nordmanni*, 30.05.1914, Syvash Bay, Crimea, leg. ?
 18871/5, *Bubo bubo*, pull, 30. 04. 1916, nearby to Yany-Sarabuz, Crimea, B. M. Strongin
 18878/76, *Asio flammeus*, 20.09.1914, nearby to Simferopol, Crimea, leg. ?



Fig. 2. Collection specimens of *Haematopus ostralegus* collected in the years 1915 and 1939, and their original labels

Ornithological collections of the period of the Second World War (1939–1945)

In the territory of modern Ukraine, the Second World War began in 1939, which marks the starting point of our analysis of ornithological materials collected during this period. Despite the extremely hard circumstances, museum collections continued to be enriched with new acquisitions indicating that research activity went on even during this global military conflict.

In 1939–1945, a total of 364 bird specimens were included in the NMNH collection. Most of them came from the territory of Ukraine—257 s.u., which make up over 70% of its total scope. Also, many specimens came from Russia (71 s.u.) and Uzbekistan (28), and a lesser amount from Bulgaria (2), Turkmenistan (2), Belarus (1), Kazakhstan (1), Poland (1), and the USA (1). This geographic diversity suggests broad scientific connections and the mobility of particular researchers, even in the period of global unrest.

An analysis of the accession dynamics during the Second World War revealed that most specimens were collected in 1939, which is likely due to the active pre-war expeditions. Beginning from 1941, the number of specimens notably decreased and in 1944 no specimens were collected. The latest recorded acquisitions are dated to June 1941, particularly the specimen No. 16160/190, *Coloeus monedula*, ♂, collected on 02.06.1941 in Kyiv, on Trukhaniv Island of the Dniro River by V. A. Antonovych (fig. 3).

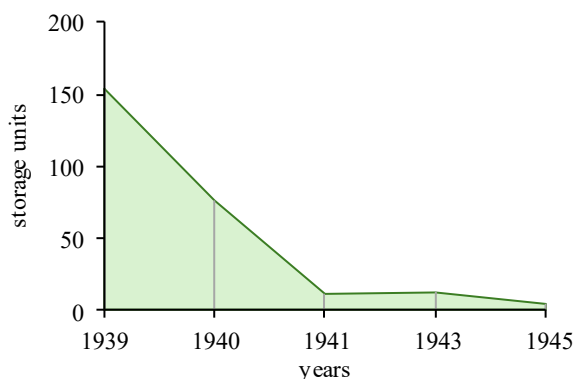


Fig. 3. The enrichment of the ornithological collection with specimens from Ukraine during the Second World War (1939–1945)

The total number of ornithological materials collected during the Second World War (1939–1945) in the territory of modern Ukraine is 255 s.u. The geographic distribution of the specimens demonstrates that collecting mainly took place in two regions, in Zaporizhzhia (43.1%) and Kyiv oblasts (41.6%), which together make up 84.7% of the materials acquired in this period. Less represented are Lviv (6.3%), Ivano-Frankivsk (5.5%), Kherson (2.4%), Dnipropetrovsk (0.4%), Donetsk (0.4%), Zhytomyr (0.4%), and Mykolaiv (0.4%) oblasts. Detailed information on the annual acquisition dynamics between 1939 and 1945 is presented in table 1. Chronological analysis showed that most specimens were collected before 1941, i.e. in pre-war and early-war times. Some specimens were collected during occupation and were preserved thanks to the work of the museum staff during Kyiv's de-occupation. These materials have particular historical value for they reflect not only biological diversity, but the conditions under which scientific institutions operated in the difficult times of war.

Most specimens in 1939–1945 were collected by V. F. Nikolaev (80 spec.), V. A. Antonovych (45), B. M. Popov (41), S. D. Lubkin (15), Kryvkovych (11), M. V. Charlemagne (8), P. V. Olshanskyi (6), I. Bozhovych (5), V. Kozhevnikov (4), and L. A. Przhebylskyi (4). Additionally, 21 specimens were collected by people whose identity remains unknown.

Of these wartime specimens, 28 have scientific and historical value; they were collected by P. P. Orlov in Uzbekistan in 1942–1944, when he was working in a unit battling *Pseudococcus comstocki* (Orlov, 1948; Gavryliuk, 1995). Thanks to him, the collections were enriched with specimens of *Parus major bokharensis*, *Emberiza bruniceps*, *Alauda gulgula*, *Lanius isabellinus*, *Lanius schach*, *Tichodroma muraria* and other species. In 1944, he returned to Ukraine (Gavryliuk, 1995) and collected materials in Dnipropetrovsk Oblast (*Merops apiaster*, *Aegithalos caudatus*). In the same year, specimens collected by Ye. A. Moshkov and G. V. Modin also appeared, indicating that museum work resumed following the cease of hostilities.

Of the analysed specimens collected during the Second World War, there are those that belong to 17 species listed in the Red Data Book of Ukraine (table 2). Their full label data are presented at the end of this section.

Table 2. Specimens of bird species listed in the Red Data Book of Ukraine collected during the First (1914–1918) and Second (1939–1945) World Wars and housed in the NMNH collections

Species	1914–1918	1939–1945	Σ	Species	1914–1918	1939–1945	Σ
<i>Alauda rufescens</i>	–	1	1	<i>Lanius excubitor</i>	1	–	1
<i>Anarhynchus alexandrinus</i>	3	–	3	<i>Limosa limosa</i>	–	1	1
<i>Asio flammeus</i>	1	–	1	<i>Milvus migrans</i>	2	1	3
<i>Branta ruficollis</i>	–	1	1	<i>Netta rufina</i>	–	1	1
<i>Bubo bubo</i>	1	–	1	<i>Numenius arquata</i>	–	3	3
<i>Bucephala clangula</i>	–	1	1	<i>Pastor roseus</i>	1	–	1
<i>Circus cyaneus</i>	–	2	2	<i>Picus viridis</i>	–	3	3
<i>Circus macrourus</i>	1	–	1	<i>Podiceps grisegena</i>	1	–	1
<i>Clanga clanga</i>	–	1	1	<i>Recurvirostra avosetta</i>	1	1	2
<i>Dendrocopos leucotos</i>	–	1	1	<i>Sternula albifrons</i>	–	1	1
<i>Falco naumanni</i>	2	–	2	<i>Strix uralensis</i>	–	1	1
<i>Glareola nordmanni</i>	1	–	1	<i>Tetrao urogallus</i>	1	–	1
<i>Grus virgo</i>	1	1	2	<i>Tetrastes bonasia</i>	1	–	1
<i>Haematopus ostralegus</i>	1	1	2	<i>Tringa stagnatilis</i>	–	1	1

- 15919/5, *Strix uralensis*, ♀, 14.10.1940, Ilemnia, Ivano-Frankivsk Oblast, B. M. Popov
 16157/8, *Limosa limosa*, ♂, 30.05.1941, Trukhaniv Island, Kyiv, Kyiv Oblast, V. A. Antonovych
 15794/42, *Sternula albifrons*, ♂, 06.05.1939, Kyiv, Kyiv Oblast, S. D. Lubkin
 Експозиція, *Picus viridis*, ♂, 30.04.1939, Spartak station, Kyiv Oblast, leg. ?
 15853/33, *Picus viridis*, ♂, juv, 08.1939, forestry, Nyzhcha Dubechnia, Kyiv Oblast, B. M. Popov
 15896/35, *Picus viridis*, ♂, juv, 17.08.1940, Nyzhcha Dubechnia, Kyiv Oblast, B. M. Popov
 15819/58, *Dendrocopos leucotos*, ♀, 05.08.1939, Svamoria, Kyiv Oblast, B. M. Popov
 15802/51, *Milvus migrans*, ♂, 09.06.1939, mouth of the Irpin River, Kyiv Oblast, V. A. Antonovych
 15762/23, *Circus cyaneus*, ♂, 06.04.1939, forest, Brovary, Kyiv Oblast, S. D. Lubkin
 15937/2, *Branta ruficollis*, ♂, 16.10.1939, nearby to Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
 15938/7, *Netta rufina*, ♂, 20.10.1939, Obtichna Spit, Zaporizhzhia Oblast, V. F. Nikolaev
 15922/25, *Bucephala clangula*, ♂, 13.08.1939, Solodkyi Estuary, Zaporizhzhia Oblast, I. Bozhovych
 15944/20, *Circus cyaneus*, ♂, 15.01.1940, nearby to Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
 15920/16, *Clanga clanga*, ♂, 06.10.1939, Berdiansk, Zaporizhzhia Oblast, P. V. Olshanskyi

38856/2, *Grus virgo*, ♀, 25.04.1939, Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
15932/32, *Haematopus ostralegus*, juv, 20.08.1939, Solodkyi Estuary, Zaporizhzhia Oblast, I. Bozhovych
15960/26, *Tringa stagnatilis*, ♀, 23.08.1939, Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
15939/29, *Numenius arquata*, ♀, 25.04.1939, Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
15940/30, *Numenius arquata*, ♂, 25.04.1939, Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
15941/33, *Numenius arquata*, ♀, 02.09.1939, Berdiansk, Zaporizhzhia Oblast, I. Bozhovych
16126/3, *Alaudala rufescens*, ♂, 24.11.1939, Berdiansk, Zaporizhzhia Oblast, V. F. Nikolaev
15856/34, *Recurvirostra avosetta*, 10.07.1939, Syvash Bay, Kherson Oblast, B. M. Popov

Discussion

Scientific activity during wartime has always been accompanied with an ambiguous perception by society. At different historical moments, scientists could be perceived as enemies, especially when their work took place in occupied territories or during political instability. At the same time, these same researchers often became examples of perseverance, professional dedication, and a deep belief in the value of scientific knowledge. Their work—often quiet and devoid of recognition—ensured the preservation of heritage, formed the foundations for future research, and allowed science to survive when everything else was collapsing.

A thorough study of collection materials allows not only to reconstruct the history of the collections, but also to trace how scientific activity and museum heritage were formed together, how collections are inextricably linked to the personal paths of the researchers. The materials collected during the wars reflect not only the state of the bird fauna of those times, but also the level of organisation of research work, the accessibility of territories, and the mobility of scientists.

Analysing the impact of the First and Second World Wars on the formation of the ornithological collection of the NMNH is difficult given the various ways of acquisition. In 1914–1918, the museum had not yet existed as an institution, and the specimens collected in that period were transferred to the museum later, in 1919–1933 (Tajkova, Klochko, 2019). It means that we deal with a retrospective material that was collected under different circumstances. At the same time, these specimens are an important data source in reconstructions of ornithological research that was conducted during the wars.

When comparing the quality of collections from the periods of the two world wars, notable differences were found. Most specimens collected during the First World War have detailed labels with measurements, live weight, and subspecies indicated. As the museum staff notes, 'these are old school', meaning that the specimens demonstrate a high level of preparation and attention to detail. In contrast, materials collected during the Second World War often come with minimum label information, occasionally with only a number written on a piece of paper of low-quality. Additional data are preserved only in card catalogues or field diaries, which complicates access to the full information.

These general observations are especially notable when analysing regional collections, particularly from Kyiv Oblast, which during both wars was characterised by a high research activity and a significant number of acquisitions. During the First World War, Kyiv Oblast remained beyond the zone of military operations, which allowed systematic studies to be carried out without restrictions. In 1914–1915, 157 specimens were collected, whereas in 1916 and 1948 another 40, mainly by P. K. Vereshchak, G. S. Kochubey, M. L. Shcherbyna, and S. D. Lubkin. Their collections represent over 60 bird species, with carefully documented record localities, dates, and morphometric parameters.

During the Second World War, despite the occupation of Kyiv and difficult circumstances, research activity did not cease fully. In 1939–1940, 360 specimens were collected, of which 83 in Kyiv Oblast. In 1941, collecting continued until June and resumed only in 1943, particularly thanks to M. V. Charlemagne and another researcher by the surname Kryvkovych. These data demonstrate a scientific resilience and the desire to preserve biological heritage even during occupation.

It should also be considered that the territory of Kyiv Oblast was not directly involved in hostilities during the First World War, which allowed scientific activities to continue without direct obstacles. However, during the Second World War, Kyiv was under occupation, and museum staff were under pressure, which is covered in detail in the memoirs and publications dedicated to M. V. Charlemagne and E. G. Reshetnyk (Ulyanovsky, 2014; Korobchenko, 2016; Tajkova, Klochko, 2025).

This complicates the assessment of the impact of military events on regional collections, but at the same time allows tracing the ways of museum acquisitions under relatively stable conditions. This approach cannot be generalised for the whole of Ukraine, but it allows identifying individual trends in the preservation of scientific heritage during periods of crisis.

As already noted above, the fighting of the First World War practically did not affect the territory of Kyiv Oblast region, which created favourable conditions for regular field research without significant obstacles. In 1914–1915, 157 bird specimens were collected, and monthly activity was recorded. The main

collectors of this period were P. K. Vereshchak (118 spec.) and G. S. Kochubey (35 spec.); some specimens were received without indicating the name of the collector (table 3).

Most specimens were collected by P. K. Vereshchak in the village of Danylivka, Fastiv Raion, as well as in Pushcha-Vodytsia and Zhornivka. G. S. Kochubey, a physician by profession, collected mainly in Pushcha-Vodytsia and in the outskirts of Kyiv, recording representatives of 15 species (see table 3).

In 1916 and 1918, the collection received another 40 specimens coming from Kyiv Oblast. Most of them were donated by M. L. Shcherbyna—35 specimens representing 18 species. In total, his contribution includes a personal ornithological collection donated to the museum in 1921 (350 study-skins) (Tajkova, Klochko, 2019). In addition, he actively collaborated with the Kyiv Ornithological Society, whose collection was later also integrated into the NMNH (Karavaev, 1926; Zagorodniuk, 2023) (see table 3).

Other researchers who contributed to the ornithological collection were S. D. Lubkin (nearby to Kyiv) and P. K. Vereshchak (on the Irpin River, in the village of Shevelivka). In 1917, no specimens were collected in Kyiv Oblast, which is probably due to political instability and a general decline in field activity (see table 3).

The materials collected during the Second World War (1939–1945) entered the NMNH collection unevenly, which reflects the difficult political and military situation in the territory of Ukraine. In 1939–1940, field collections were carried out in accordance with the usual annual plan of museum work: throughout 1939 (January–December) and from January to November in 1940. During this period, the collection was enriched with 360 specimens of 160 bird species. The most numerous are specimens of *Alauda arvensis* (12 spec.), *Emberiza schoeniclus* (11), *Passer montanus* (11), *Nucifraga caryocatactes* (10), *Sturnus vulgaris* (9), *Dendrocopos major* (8), and *Garrulus glandarius* (6). In Kyiv Oblast, 83 specimens of 49 species were collected during these two years.

After the outbreak of hostilities on 22 June 1941, field research was effectively suspended. In 1941, only 11 specimens were collected, the last of which on the 2nd of June on Trukhaniv Island in Kyiv—symbolically marking the completion of the pre-war phase of collections before the occupation of the city.

In 1943, after the partial resumption of scientific activity in occupied Kyiv, another 12 specimens were collected, one of them by M. V. Charlemagne (Tajkova, Klochko, 2025) and the rest by an unknown collector by the surname Kryvkovych. Despite the lack of biographical data on the latter, these specimens belong to a number of species and come from Kyiv and its surroundings, from March to July (table 4).

In the context of enriching the museum collection during the wars, one should not forget the difficult conditions under which scientists worked. It is known that during periods of famine and lack of resources, the meat of animals that later became museum specimens often served as a means of survival. Although there is little direct documentary evidence of this, according to senior museum staff who worked in the post-war decades, the use of meat from collection objects as a means of survival was a common practice. In this context, it cannot be ruled out that individual specimens collected in 1943 could have been obtained not only for scientific purposes, but also as a source of food.

Table 3. Ornithological collections from Kyiv Oblast (1914–1918): species composition, quantity, and collectors

Species	Collector					Σ
	P. K. Vereshchak	G. S. Kochubey	S. D. Lubkin	M. L. Shcherbyna	Unknown	
<i>Linaria cannabina</i>	2	1				3
<i>Acanthis flammea</i>	2			1		3
<i>Aegithalos caudatus</i>	3	1				4
<i>Alauda arvensis</i>	4			1		5
<i>Spatula querquedula</i>				2		2
<i>Anthus pratensis</i>	1					1
<i>Anthus trivialis</i>		1				1
<i>Carduelis carduelis</i>					1	1
<i>Certhia familiaris</i>	2	4				6
<i>Charadrius dubius</i>				2		2
<i>Chlidonias niger</i>				6		6
<i>Chloris chloris</i>	1					1
<i>Coccothraustes coccothraustes</i>				2		2
<i>Corvus cornix</i>	1				1	2
<i>Corvus frugilegus</i>	1				1	2
<i>Cuculus canorus</i>				1		1
<i>Dendrocopos major</i>	3			1		4
<i>Emberiza calandra</i>	3					3
<i>Emberiza citrinella</i>	18				1	19
<i>Emberiza schoeniclus</i>	1	13				14
<i>Falco subbuteo</i>				1		1
<i>Galerida cristata</i>	5					5

Species	Collector					Σ
	P. K. Vereshchak	G. S. Kochubey	S. D. Lubkin	M. L. Shcherbyna	Unknown	
<i>Garrulus glandarius</i>	2					2
<i>Lanius collurio</i>				1	1	2
<i>Chroicocephalus ridibundus</i>				1		1
<i>Lullula arborea</i>	2					2
<i>Lymnocyptes minimus</i>	1					1
<i>Milvus migrans</i>				2		2
<i>Motacilla alba</i>	3					3
<i>Motacilla flava</i>				1		1
<i>Oriolus oriolus</i>				2		2
<i>Periparus ater</i>	2					2
<i>Cyanistes caeruleus</i>	5	1				6
<i>Lophophanes cristatus</i>	2	3				5
<i>Parus major</i>	11	1				12
<i>Poecile montanus</i>		1				1
<i>Poecile palustris</i>	2	1				3
<i>Passer domesticus</i>	17	1				18
<i>Passer montanus</i>	8	1				9
<i>Calidris pugnax</i>				6		6
<i>Prunella modularis</i>	2					2
<i>Pyrrhula pyrrhula</i>	1					1
<i>Perdix perdix</i>					1	1
<i>Regulus regulus</i>	6	2				8
<i>Saxicola rubetra</i>				2		2
<i>Sitta europaea</i>	4	3				7
<i>Spinus spinus</i>	2					2
<i>Tringa totanus</i>				2		2
<i>Troglodytes troglodytes</i>			1			1
<i>Turdus merula</i>					1	1
<i>Turdus philomelos</i>	1			1	1	3
<i>Turdus viscivorus</i>		1				1
Σ	118	35	1	35	8	197

Table 4. Ornithological collections from Kyiv Oblast (1939–1945): species composition, quantity, and collectors

Species	Collector											Σ
	V. A. Antonovych	B. I. Biliskyi	V. Yu. Gerhner	Krywkovych	S. D. Lubkin	G. V. Modin	B. M. Popov	L. A. Prizhebyl'skyi	M. V. Charlemagne	Shakov	Unknown	
<i>Actitis hypoleucos</i>									1			1
<i>Aegithalos caudatus</i>	1											1
<i>Alauda arvensis</i>	2								1			3
<i>Anas acuta</i>	1											1
<i>Anas crecca</i>	1											1
<i>Anser albifrons</i>									1			1
<i>Apus apus</i>									1			1
<i>Athene noctua</i>				1								1
<i>Aythya ferina</i>							1					1
<i>Calidris pugnax</i>	3				1				2			6
<i>Carduelis carduelis</i>	1											1
<i>Charadrius dubius</i>					2							2
<i>Chlidonias leucopterus</i>	1				1							2
<i>Chlidonias niger</i>				2	1							3
<i>Chloris chloris</i>											1	1
<i>Chroicocephalus ridibundus</i>	1											1
<i>Circus cyaneus</i>					1							1
<i>Coloeus monedula</i>	1											1
<i>Corvus corax</i>			1									1
<i>Corvus cornix</i>	2											2
<i>Corvus corone</i>											1	1
<i>Corvus frugilegus</i>									1			1
<i>Crex crex</i>	3											3
<i>Cuculus canorus</i>							1					1

Species	Collector											Σ
	V. A. Antonovych	B. I. Biliskyi	V. Yu. Gerhner	Крыжовых	S. D. Lubkin	G. V. Modin	B. M. Popov	L. A. Przhebylskyi	M. V. Charlemagne	Shakov	Unknown	
<i>Dendrocopos leucotos</i>							1					1
<i>Dendrocopos major</i>	2							1				3
<i>Dendrocopos medius</i>							1					1
<i>Dendrocopos minor</i>	2				1		1					4
<i>Lanius collurio</i>					1		1					2
<i>Lanius minor</i>					1						1	2
<i>Limosa limosa</i>	1											1
<i>Lophophanes cristatus</i>	1											1
<i>Lullula arborea</i>	1											1
<i>Lymnocyptes minimus</i>									1			1
<i>Milvus migrans</i>	1											1
<i>Motacilla alba</i>					1							1
<i>Motacilla flava</i>	2			1								3
<i>Oenanthe oenanthe</i>	1											1
<i>Parus major</i>	1							1				2
<i>Passer montanus</i>		2		3							6	11
<i>Picus canus</i>	1											1
<i>Picus viridis</i>							2				1	3
<i>Prunella modularis</i>	1											1
<i>Rallus aquaticus</i>							1					1
<i>Remiz pendulinus</i>					2							2
<i>Sitta europaea</i>	1											1
<i>Spatula querquedula</i>	2			1								3
<i>Sterna hirundo</i>					1							1
<i>Sternula albifrons</i>					1							1
<i>Sturnus vulgaris</i>	2				1						1	4
<i>Tringa nebularia</i>	1											1
<i>Tringa ochropus</i>				1								1
<i>Tringa totanus</i>	3					1						4
<i>Turdus iliacus</i>								1				1
<i>Turdus merula</i>										1		1
<i>Turdus philomelos</i>								1				1
<i>Turdus pilaris</i>	2											2
<i>Turdus viscivorus</i>	1											1
<i>Vanellus vanellus</i>				2								2
Σ	43	2	1	11	15	1	9	4	8	1	11	106

Thus, Kyiv Oblast acts as a key region for the comparative analysis of ornithological collections during the First and Second World Wars. The relative stability during the First World War allowed for systematic collecting with a detailed documentation, which ensured the scientific completeness and geographical representativeness of the materials. However, during the Second World War, despite the occupation, restrictions, and the threat of loss of institutional support, scientific activity did not stop completely—individual specimens of important historical and scientific significance were preserved.

Conclusions

Ornithological collections formed during the First and Second World Wars are not only a source of biological information, but also evidence of scientific resilience, cultural memory, and personal dedication of researchers. Analysis of materials collected during these difficult historical periods allows reconstructing the conditions of scientific work, tracing the dynamics of collections, assessing the level of documentation, and identifying regional features of the formation of museum collections.

A comparison of the two war periods showed that the specimens from the time of the First World War have more complete label information, which indicates a high level of training of the collectors and stable working conditions. In contrast, the materials from the Second World War, although less documented in detail, demonstrate the preservation of scientific activity even under conditions of occupation and limited access to resources. Kyiv Oblasts acts as a key region for comparative analysis, ensuring the representativeness of the data and the stability of the collections in both periods.

The discovery of specimens of species listed in the Red Data Book of Ukraine emphasises the conservation value of the museum collection and opens up opportunities for retrospective monitoring of biodiversity. Historical data recorded in museum collections acquire special importance under conditions of the currently ongoing war, when the preservation of scientific heritage is again under threat.

Thus, the ornithological materials of the NMNH collected during the two world wars are not only a scientific resource, but also a cultural artifact, testifying to the ability of science to survive, adapt, and preserve values even in the most difficult times. The experience of the past should become the basis for developing strategies for protecting museum collections, supporting scientific activities, and rethinking the role of collections in preserving national memory.

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Орнітологічні колекції часів Першої та Другої світових воєн у Національному науково-природничому музеї Національної академії наук України

С. Тайкова

Ця робота присвячена дослідженню процесу формування, збереження та трансформації орнітологічної колекції Національного науково-природничого музею НАН України у контексті подій Першої (1914–1918) та Другої (1939–1945) світових воєн. На основі аналізу історичних джерел, інвентарних книг, фондової картотеки та етикеток здійснено реконструкцію шляхів надходження екземплярів, виявлено особливості наукової діяльності в умовах соціальних потрясінь, а також оцінено наукову, культурну й природоохоронну цінність матеріалів. Об'єктом дослідження є орнітологічна колекція ННПМ, яка налічує понад 40 000 одиниць зберігання, включаючи музейні тушки, кладки яєць та експозиційні зразки. У межах роботи опрацьовано понад 700 екз., зібраних у роки воєн, із деталізацією за роками, регіонами, колекторами та таксономічним складом. Особливу увагу приділено Київській області — єдиному регіону, представленому у фондах з достатньою кількістю екземплярів за обома воєнними періодами. У 1919–1933 рр., попри відсутність музею як інституції, фонди поповнювалися переважно за рахунок особистих колекцій та матеріалів інших установ; понад 89% екземплярів походять з Київської області та Криму. Виявлено 15 видів, нині занесених до Червоної книги України: *Anarhynchus alexandrinus* (3), *Falco naumanni* (2), *Milvus migrans* (2), *Grus virgo* (1), *Asio flammeus* (1), *Bubo bubo* (1), *Circus macrourus* (1), *Glareola nordmanni* (1), *Haematopus ostralegus* (1), *Lanius excubitor* (1), *Podiceps grisegena* (1), *Recurvirostra avosetta* (1), *Pastor roseus* (1), *Tetrao urogallus* (1), *Tetrastes bonasia* (1). У роки Другої світової війни музейна діяльність була нерівномірною: пік зборів припав на 1939–1940 рр., після чого відбувся різкий спад. Загалом фонди поповнилися 364 екземплярами, з яких 257 походять з України; ключовим регіоном знову виступає Київщина. Виявлено 17 видів, занесених до Червоної книги України: *Numenius arquata* (3), *Picus viridis* (3), *Circus cyaneus* (2), *Grus virgo* (1), *Clanga clanga* (1), *Bucephala clangula* (1), *Alaudala rufescens* (1), *Dendrocopos leucotos* (1), *Haematopus ostralegus* (1), *Limosa limosa* (1), *Milvus migrans* (1), *Netta rufina* (1), *Recurvirostra avosetta* (1), *Branta ruficollis* (1), *Sternula albifrons* (1), *Strix uralensis* (1), *Tringa stagnatilis* (1).

Ключові слова: орнітологічні колекції, світові війни, птахи Червоної книги, Національний науково-природничий музей

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