

Cryptophagidae (Coleoptera) in Volodymyr Lazorko's collection stored at Schmalhausen Institute of Zoology (Kyiv, Ukraine)

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Cryptophagidae (Coleoptera) in Volodymyr Lazorko's collection stored at Schmalhausen Institute of Zoology (Kyiv, Ukraine). — K. Ocheretna. — The article is devoted to the study of beetle collection of the family Cryptophagidae (Coleoptera), part of Volodymyr Lazorko's collection stored at the Institute of Zoology of the National Academy of Sciences of Ukraine, as well as to the estimation of the representation of different species of the family in the collection in general and particularly in relation to the fauna of the Carpathians. The article describes the collection consisting of 263 specimens of 48 species of two subfamilies — Cryptophaginae and Atomariinae, which are stored in two separate boxes and pinned by entomological needles. The main collecting locations of specimens are given, as well as detailed analysis of the collection and annotation for genera presented among the specimens of the collection. Particular attention is paid to Volodymyr Lazorko's biography, which allows decrypting of pieces of information indicated on the labels, especially when the collecting location is specified, and, in some cases, even the collector's name when it is not Lazorko himself. A separate section is devoted to the general review of the collection and its chronological features, which mainly consist of specimens collected in the period from the early 1930s to the mid-1940s. Specimens collected either prior or after this period, in most cases, were conveyed from other European collectors and redefined. While reviewing the material, considerable importance was given to changes in the taxonomy of the family, due to which several genera and species were published and stored under different names, which are currently exclusively synonymous. All such cases are noted in the description of the collection and in brief abstracts to the genera along with information on collection specimens, including the names of the regions and places of collection (in some cases location names are not fully decrypted; in other cases, full decoding or some specifications are given), collecting dates, authors of a specific series or collection, and also notes explaining individual details of the label or clarifications regarding the collector or author of the redefinition. The collection contains a large number of unique specimens of the family that are absent in other academic and university collections of Ukraine.

Key words: Cryptophagidae, natural history museums, species diversity, taxonomy, Volodymyr Lazorko.

Introduction

Cryptophagids are a relatively small group of beetles (Coleoptera), which contains about 700 currently described species belonging to 54 genera (Lyubarsky, 1998; Liashyna, 2018). Currently, 116 species of the family are recorded for Ukraine according to literature information and collection material stored in the collections of natural history museums (Ocheretna, 2015). However, the exact number of species in the Ukrainian Carpathians remains unclear.

The aim of the study is to determine the species composition of Cryptophagidae in the studied region based on the analysis of the author's private collections and collections of natural history museums of Ukraine. Such research will enable the most complete estimation of what kind of species occur in the investigated area and in what amount, since after World War II this group has not been investigated in Ukraine.

Material and Methods

Materials from V. Lazorko's Cryptophagidae collection stored at I. I. Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine (Kyiv) were analyzed. The collection consists of 263 specimens of 48 species belonging to 6 genera. During work with collections, particular attention was paid to specimens collected in the Carpathian region, since the analysis of the fauna of the

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Carpathians in time, especially changes of species composition during the 20th and early 21st century, should be based on museum specimens and also original research. Taxa names are given according to Löbl, Smetana, 2007.

All data presented in this review are part of the database created by the author for all known collections of Cryptophagids. The database is maintained in MS Excel 2003 and contains seven informational fields detailed in the summarized review of the collections (Ocheretna, 2019), and are briefly summarized below. These fields are as follows: “name”, “reg.”, “loc.”, “date”, “n”, “leg.” and “rem.”, details are given further in the text.

The details of the external structure (structures on the surface of elytra, in particular the location of perforations, the edges of pronotum, features of the structure of the terminal segments of the antennae, structural features of the tarsi, etc.) were studied using the MBS-10 microscope. The material was identified using the appropriate keys (Reitter, 1909; Reška, 1994; Otero, 2013).

Table 1 contains information on the volume of V. Lazorko’s collection in comparison with other academic collections of Ukraine.

Table 1. Brief information about V. Lazorko’s collection in comparison with other collections

Таблиця 1. Коротка інформація про колекцію В. Лазорка у порівнянні з іншими колекціями

Acronym	Full name (city)	Volume
SIZK	V. Lazorko’s collection at I. I. Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine (Kyiv) [колекція В. Лазорка, що зберігається у фондах Інституту зоології ім. І. Шмальгаузена НАН України (м. Київ)]	48 species, 263 specimens
SMNH	Collection of the State Museum of Natural History (Lviv) [колекція Державного природознавчого музею НАН України (м. Lviv)]	71 species, 224 specimens
NMNHU	Collection of the National Museum of Natural History, National Academy of Sciences of Ukraine (Kyiv) [колекція Національного науково-природничого музею НАН України (м. Київ)]	49 species, 214 specimens

General description scheme

All species are listed alphabetically by the names of genera and species followed by the number of specimens. Specimens of the same species are separated from one another by the sign “@” as a marker. Each sample or its series is described in seven fields:

- 1) name — valid species names are used, considering synonymy; if the current name differs from the one indicated on the label or the species was reidentified, the label name is indicated in the remark;
- 2) region (reg.) — the abbreviation is used for regions which names are derived from the names of cities or historic regions (e.g., “Bukovina”), the name is given without brackets and in accordance with the modern interpretation;
- 3) location (loc.) — in some cases is not specified on the label;
- 4) date — is indicated by the label, regardless on the method of chronology and the format of the recording; format date guidance: dd.mm.yyyy, for missing or indistinct entries question marks are used. For labels with unknown dates, the period of their probable collection or time intervals are given in brackets;
- 5) number of specimens (n) — in some cases, specimens had been lost, but the label has been retained. In such cases, the author lists the species, but it is not included into the total number of specimens and denoted as n = 0;
- 6) collector (leg.) — in some cases the collector is unknown, then the owner of the collection is specified;
- 7) remark (rem.) — it’s mostly about the original definition of a specimen, if it is different from the valid, and the author of the reidentification, if it is known. The title of the primary identification in this review is not specified only if the name of the species indicated on the label has been changed as a result of reidentification (by the author or a previous researcher).

The square brackets specify the locations or names of the collectors, and in the case of ambiguous clarifications a question mark is placed. In all possible cases, the author reidentified the materials personally. Only when close species had differences that require preparation, the author used the collector's identification.

In all cases where data are not available, we wrote about their absence (e.g., loc. Unknown). If the data is present but not readable, we put the sign "?". If the field has full information, then the field name is not given (for example, "ZAK", but not "reg. Zakarpattia Oblast").

The following codes were used for the administrative regions of Ukraine: CHG — Chernihiv, CHK — Cherkasy, CHV — Chernivtsi, DNI — Dnipropetrovsk, DON — Donetsk, HAR — Kharkiv, HER — Kherson, HME — Khmelnytsky, IFR — Ivano-Frankivsk, KIR — Kirovograd, KRY — Crimea, KYJ — Kyiv, LVI — Lviv, LUH — Luhansk, MYK — Mykolaiv, ODE — Odesa, POL — Poltava, RIV — Rivne, SUM — Sumy, TER — Ternopil, VIN — Vinnytsia, VOL — Volyn, ZAK — Zakarpattia, ZAP — Zaporizhia, ZHY — Zhytomyr Oblast (region). Regions outside Ukraine are given by full names (for example: "Austria").

Annotation scheme for genera

Brief notes were prepared for each genus, including the following information:

- 1) materials — referring to specific research areas, individual specimens sent to the collection after the emigration of the owner and main collector to Austria and, subsequently, to Canada;
- 2) representation in the collection. The presence of the most numerous species in the collection. A separate phrase specifies unique specimens (if present);
- 3) date of collection and location — location details were often compiled by the author of the publication. Also, the author in some cases, compares the collection with other collections or literary information and the characteristics of the transferred materials.

Reference on Volodymyr Lazorko as a scientist and collector

The information is collected from different sources, but the most complete information among all sources can be found in the Encyclopedia of Modern Ukraine (Pundiy, Kozak, 2016).

Brief biographical information

Lazorko, Volodymyr, or Wolodymyr, (13.01.1909, Przemysl, now Poland — 12.01.1990, Vancouver, British Columbia, Canada) was a Ukrainian (later Canadian) doctor and entomologist, specialist on Coleoptera. Son of the famous Ukrainian public figure Mykhailo Lazorko (5.11.1879, Horodenka — 14.12.1958, Vancouver), who was one of the organizers of the Ukrainian merchants in Lviv.

Volodymyr Mykhailovych was a member of the Polish Entomological Society in Lviv (1933), and also received medical education at Lviv University (1935). According to EMU (Pundiy, Kozak, 2016), at that time he was working "in a general hospital, simultaneously preparing his doctoral dissertation in the Department of Bacteriology; at the same time, in the Ukrainian Museum of Natural History under the Shevchenko Scientific Society; later — in the department of entomology of the Academy of Sciences of the Ukrainian SSR in Lviv". Presumably, it is about the Department of Microbiology at the Lviv Medical University and the Department of Entomology at the State Museum of Natural History of the Academy of Sciences of the Ukrainian SSR.

During the Second World War he worked as a medical doctor. After the war he moved to Innsbruck (Austria), where he taught zoology at the Ukrainian Gymnasium. In 1948, he emigrated to Canada, where he worked in St. Paul's Hospital in Vancouver, after nostrification of his diploma, continuing his medical practice until his retirement in 1975. These movings and work in the respective cities are confirmed by available collections, which are described further.

Volodymyr Lazorko was a member of the Entomological Society of British Columbia, and he published his scientific works in its issues. He studied the coleopterofauna, especially Cerambycidae (Lazorko, 1953), the most actively collecting materials in vicinities of Lviv (mostly on *Lysa Hora*), as

well as in Gorgany Mountain range (Ukrainian Carpathians). Based on materials collected in 1939 near Osmoloda (now Rozhniativ Raion of Ivano-Frankivsk Oblast), described the endemic species of Carabids *Leistus ucrainicus* Lazorko, 1954 and endemic subspecies *Carabus fabricii ucrainicus* Lazorko, 1951. He conveyed his own collection of insects to the Institute of Zoology of the Academy of Sciences of the Ukrainian SSR (Kyiv) in the early 1990s, while his private library was transferred to the Ukrainian Catholic University in Rome (Josyf Slipyi in 1974 appointed him an extraordinary professor of entomology at this University). The Department of the Shevchenko Scientific Society in Vancouver in 1963 issued his “Materials to the Taxonomy and Fauna of Beetles of Ukraine” (Pundi, Kozak, 2016). Some biographical details are in letters to V. Dolin (Shapoval, 2013).

Scientific publications and work in Shevchenko Scientific Society

Volodymyr Lazorko became an active member of the Canadian Shevchenko Scientific Society after emigration, which was established next year (1949) after his arrival, as a branch of the Society founded in Lviv in 1873. The Society had a few divisions in Canada and Lazorko entered the “Division of Shevchenko Scientific Society in British Columbia” or “Branch of Shevchenko Scientific Society in Western Canada” established in Vancouver in September 1961. Actually, V. Lazorko became the head of this organization. Scientific conferences and sessions were frequently held in this organization, on which reports on various topics were made: on the session on 12 December 1961 (organizers — M. Hutsuliak, V. Lazorko) M. Hutsuliak (“Historical Era of M. Shashkevych’s Times”) and V. Revutskyi (“M. Shashkevych in the Light of Modern World Literature”) presented their reports. In 1963, V. Lazorko published his work “Materials to the Taxonomy and Fauna of Beetles of Ukraine” in issues of the Canadian Shevchenko Scientific Society (Lazorko, 1963), which is highly cited among coleopterologists even now, particularly in later reviews (Krivoshcheyev, 2015). On 25 September 1965, the Vancouver branch of the Canadian Shevchenko Scientific Society was transformed into an independent scientific institution. Its administration included M. Hutsuliak (head and treasurer) and actual member of Canadian Shevchenko Scientific Society V. Lazorko (secretary).

During his life in Canada, V. Lazorko, despite his medical work, did not cease entomological research and donated many of his collections to the University of British Columbia in the 1950s–1960s, which is evidenced by detailed records in the lists of scholars who transferred their collections to the university (Creative giving, 1953, 1963). V. Lazorko was engaged in the identification of collected material for entomologist and zoologist colleagues, who often acknowledged him in their publications (McLachlin, 1983).

Description of Volodymyr Lazorko’s collection

State of preservation

Volodymyr Lazorko transferred his own collection of beetles to the Institute of Zoology of the Academy of Sciences of the Ukrainian SSR (Pundi, Kozak, 2016). It was studied with V. Korneyev’s assistance, and until now it had not been entirely described in scientific publications, particularly, it has not been mentioned in the latest review of collections of the Institute of Zoology of the National Academy of Sciences of Ukraine (Akimov et al., 2016). Lazorko’s collection was briefly described in the author’s review of the collections of cryptophagids in natural history museums of Ukraine (Ocheretna, 2019). This collection of Cryptophagidae is the only one that is stored at the Institute of Zoology of the Academy of Sciences of Ukraine. Specimens are mounted in two large boxes (Fig. 1 b), which contains 263 specimens of 48 species of 6 genera; they are stored together with specimens of other Coleoptera families: Cucujidae, Erotylidae, Languriidae, and Latridiidae (Fig. 1 a).

¹ «A fine collection of one hundred and forty local and Saskatchewan insects» (Creative giving, 1953).

² «A large collection of pinned beetles from Karlsruhe, Germany and pinned and unpinned beetles from Ontario. Collected by Karl Stephen, Tilbury, Ontario; 36 specimens of Corixidae (Insecta)» (Creative giving, 1963).



Fig. 1. General view of Lazorko's collection in SIZK: *a* — external label on box No. 49 with samples of Cryptophagidae (exactly the same label on box No. 50); *b* — a general view of the specimens mounted in the box, top view. Photos by G. Popov.

Рис. 1. Загальний вигляд колекції криптофагід В. Лазорка фондів Інституту зоології НАНУ: *a* — зовнішня етикетка на коробці № 49 з екземплярами криптофагід (точно така ж на коробці № 50); *b* — загальний вигляд екземплярів, змонтованих в коробці, вигляд згори. Фото Г. Попова.

a



b

General description of the collection

In general, the collection consists of 263 specimens of 48 species of beetles of the family Cryptophagidae, included into 158 records (almost the whole collection of cryptophagids of SIZK) in the author's table containing materials from a wide range of regions, including Ukraine, Poland, Austria, and Sweden. In Ukraine, the main collecting localities were the Carpathians and Podilia. Table 2 presents the unique specimens of cryptophagids that are available only in this academic collection and therefore have a high scientific value.

Figure 2 shows an example of mounted specimens (Fig. 2 *a*) and the labels accompanying each specimen (Fig. 2 *b*). Some of the labels are printed, but most of them are handwritten. In Fig. 2 *b*, we can see examples of three different variants of the scheme of labels in this collection.

Table 2. Unique specimens in V. Lazorko's collection (compared with other well-known collections in Ukraine)

Табл. 2. Унікальні екземпляри в колекції В. Лазорка (у порівнянні з іншими відомими в Україні колекціями)

Species	Specimens	Locality, year
<i>Atomaria badia</i> Erichson, 1846	1 (0)	Loc. unknown, 07.06.1945
<i>Atomaria bella</i> Reitter, 1875	0 (1)	Gorgany, 18.04.1938
<i>Atomaria carpathica</i> Reitter, 1875	0 (1)	Vorokhta, 12.06.1941
<i>Atomaria soror</i> Ganglbauer, 1899	0 (1)	Pozhyzhevska polonyna, 25.05.1960
<i>Atomaria rubella</i> Heer, 1841	0 (1)	Zalishchyky, June 1931
<i>Cryptophagus denticulatus</i> Heer, 1841	23 (12)	Diff. localities, 1928–1946
<i>Cryptophagus dilutus</i> Reitter, 1874	1 (0)	Loc. unknown, 1968
<i>Cryptophagus falcozi</i> Roubal, 1927	0 (1)	Mshana polonyna, 28.06.1938
<i>Cryptophagus jakowlewi</i> Reitter, 1888	4 (0)	Karesuando, 04.–11.08.1963
<i>Cryptophagus lysholmi</i> Munster, 1932	0 (1)	Gorgany, 22.06.1938

Note: The number of specimens collected in the Carpathians are given in brackets.



Fig. 2. View of mounted specimens and their labels: *a*, specimens, pinned by entomological needles; *b*, the general view of label records to specimens of the species *Micrambe* (earlier — *Cryptophagus*) *bimaculata* (Panzer, 1798) (then *Cryptophagus bimaculata* Panzer, 1798). Photos by G. Popov.

Рис. 2. Вигляд змонтованих екземплярів та їхніх етикеток: *a*, екземпляри видів родини, наколоті на ентомологічні голки; *b*, загальний вигляд записів на етикетках до екземплярів виду *Micrambe bimaculata* (Panzer, 1798) (тоді *Cryptophagus bimaculata* Panzer, 1798). Фото Г. Попова.

Distribution of specimens in time: locations and dates of collection

The specimens were collected by Lazorko during the 1920s–1970s. Materials collected before 1939 mainly originate from the territory of modern Lviv and Ivano-Frankivsk Oblasts, while specimens after 1944 were collected in Austria, Poland, and Sweden. In 1948, the researcher emigrated to Canada, so there are no later personal collections from Europe. It is unknown how exactly the specimens came to the collection of SIZK after 1944. The collection before 1929 and after 1948, most likely, was transferred to him for identification by anonymous colleagues. Details are given in Table 3.

Table 3. The main collecting localities of specimens in V. Lazorko's collection (by years)

Табл. 3. Основні точки збору матеріалу в колекції В. Лазорка (по роках)

Year	Rec.	Localities	Year	Rec.	Localities	Year	Rec.	Localities
1914	1	Carlheus?	1934	9	Znesinnya, Lviv	1944	11	LVI, Zolochiv Raion
1915	1	Nohmplipp.?	1935	15	Zolochiv (Lviv); Pohulianka (Lviv)	1945	8	Innsbruck (Austria)
1917	2	loc. unknown	1936	5	Holosko (Lviv)	1946	9	Innsbruck (Austria)
1924	2	Mykulychyn	1937	8	Zboriv	1947	6	Innsbruck (Austria)
1928	2	Beskydy	1938	5	Gorgany	1950	1	Borgholen (Sweden)
1929	2	Zhebeniv?	1939	6	Strilnytsia (Lviv)	1960	2	Pozhyzhevska polonyna
1930	2	Lviv	1940	21	Bilohorshcha (Lviv)	1963	1	Karesuando (Sweden)
1931	4	Zalishchyky	1941	8	Holosiivskyi forest (Kyiv)	1965	1	Uppsala (Sweden)
1932	3	Lviv	1942	3	Strilnytsia (Lviv)	1968	1	loc. unknown
1933	4	Velyka Vilshanytsia; Pohulianka (Lviv)	1943	4	Lviv	1972	1	Bilohorshcha (Lviv)

Table 3 shows the main collecting locations of specimens from V. Lazorko's collection. Obviously, given the fact that he conducted his scientific work in the 1930–1940's, specimens dated earlier than 1929 were explicitly collected by other scientists, but identified by V. Lazorko. Specimens older than 1944 (45)–1947 were given him by other collectors for identification. However, it remains unknown how exactly these specimens ended up in the collections of SIZK, since in 1948 V. Lazorko was in Canada and earlier (from 1945) he was living in Austria.

Thure Palm (1894–1987), a Swedish entomologist, whose main collections are currently stored at the University of Lund, collected most of the specimens from the territory of Sweden (Karesuando, Uppsala, etc.), and he is mentioned on the labels, besides the creator of the collection for the period of 1950–1965. Albert Winkler (1881–1945), an Austrian entomologist, a specialist in Carabidae and Bothrideridae, collected one dateless specimen from Vienna noted in the collection.

This entomological collection was transferred to Ukraine near 1992 due to the concerns of B. Bilyashivskyi, the then First Secretary of the Embassy of Ukraine in Canada. He conveyed V. Lazorko's collection to V. Dolin, the researcher of Schmalhausen Institute of Zoology, NAS of Ukraine on the entomologist's request noted in his last will (M. Bilyashivskyi, pers. comm.; Shapoval, 2013).

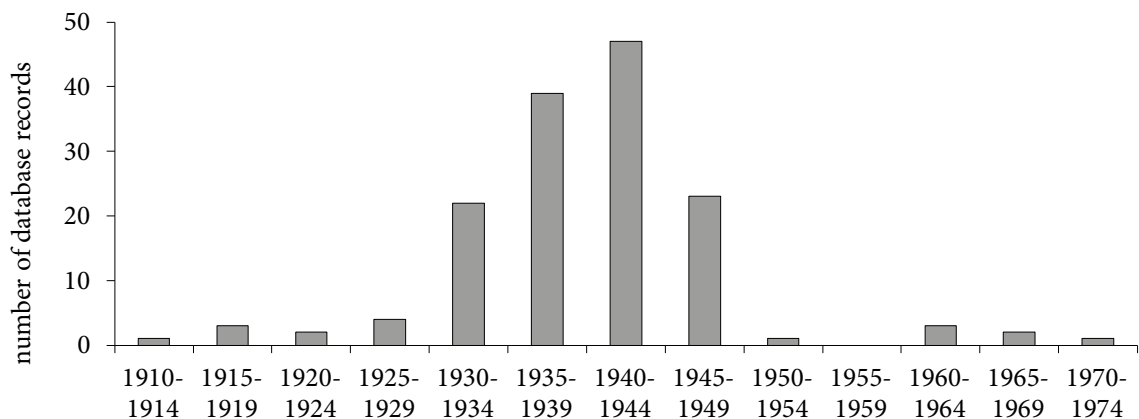


Fig. 3. Chronology of the collection of specimens of cryptophagids in V. Lazorko's collection for 1914–1972 years.

Рис. 3. Хронологія зборів екземплярів криптофагид у колекції В. Лазорка за 1914–1972 рр.

³ Borys Bilyashivskyi in 1992–1993 held the post of the First Secretary of Culture, Information and Public Affairs at the Embassy.

⁴ Volodymyr Dolin — Corresponding Member of the National Academy of Sciences of Ukraine, President of the Ukrainian Entomological Society (1993–2005).

The author analysed the chronology of V. Lazorko's collection (Fig. 2), from which it follows that the largest number of specimens this researcher collected in the period 1930–1940.

Description of collections

Genus *Atomaria* Stephens, 1829

The collection includes 47 specimens of 17 species of this genus. Most specimens were collected in the territory of modern Lviv, Ivano-Frankivsk and Ternopil Oblasts. Such species as *Atomaria* (*Agathengis*) *badia* Erichson, 1846, A. (A.) *bella* Reitter, 1875, A. (A.) *carpathica* Reitter, 1875, A. (A.) *soror* Ganglbauer, 1899, and *Atomaria* (*Atomaria*) *rubella* Heer, 1841 are represented exclusively in this collection among the others, while the last four species are represented by specimens collected in the Carpathian region. Presumably, the specimens were collected in the mid-1930's to the early 1940's.

Atomaria (*Agathengis*) *badia* Erichson, 1846 (n = 1): @ reg. unknown; loc. unknown; 07.06.1945; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria sahlbergi*".

Atomaria (*Agathengis*) *bella* Reitter, 1875 (n = 1): @ [IFR]; Gorgany; 18.04.1938; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Agathengis*) *carpathica* Reitter, 1875 (n = 1): @ [IFR]; Vorokht., Prut (Vorokhta); 12.06.1941; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Agathengis*) *fimetarius* (Fabricius, 1792) (n = 1): @ Galicia [LVI]; Bryukhovychi [Shevchenkivskiy District, Lviv]; 16.06.1940; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria* (*Grobbernia*) *fimetarii*".

Atomaria (*Agathengis*) *linearis* Stephens, 1830 (n = 7): @ Zolochiv [LVI, Zolochiv Raion]; Vilshanytsia [Velyka Vilshanytsia]; 13.07.1934; n = 1; leg.: Lazorko V.; rem.: no; @ Podilia [TER, Zboriv Raion]; Zboriv; 12.05.1937; n = 1; leg.: Lazorko V.; rem.: no; @ H. Beskyd [Beskydy]; loc. unknown; 11.05.1924; n = 1; leg.: Lazorko V.; rem.: no; @ [TER, Zolochiv Raion]; Zolochiv; 13.07.1931; n = 1; leg.: Lazorko V.; rem.: no; @ Zolochiv [LVI, Zolochiv Raion]; Vilshanytsia [Velyka Vilshanytsia]; 13.07.1934; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Innsbruck, Ter. Bor.; 22.05.1946; n = 1; leg.: Lazorko V.; rem.: no; @ [IFR]; Ukr. Nyz. Beskydy [Skolivski Beskydy]; 01.06.1944; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Agathengis*) *nigrirostris* Stephens, 1830 (n = 7): @ Galicia [LVI]; Bilohorshcha (outsk. of Lviv); 20.08.1942; n = 2; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*"; @ [LVI]; Pohulianka, Lviv; date: unknown; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*"; @ [LVI]; Pohulianka, Lviv; 27.04.1941; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*"; @ Beskyd [Beskydy]; loc. unknown; 27.05.1944; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*"; @ [LVI]; Mariivka (outsk. of Lviv) [Mlynivtsi, as a part of Vynnyky town]; 24.10.1943; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*"; @ Podilia [TER, Zboriv Raion]; Zboriv; 15.05.1937; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria fuscicollis*".

Atomaria (*Agathengis*) *pulchra* Erichson, 1846 (n = 1): @ [IFR]; Pol. Pozhyzhevs'ka [Pozhyzhevs'ka polonyna]; 25.05.1960; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Agathengis*) *soror* Ganglbauer, 1899 (n = 1): @ [IFR]; Pol. Pozhyzhevs'ka [Pozhyzhevs'ka polonyna]; 25.05.1960; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Agathengis*) *umbrina* (Gyllenhal, 1827) (n = 1): @ [IFR]; Mykulychyn; 22.07.1924; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Atomaria*) *analisis* Erichson, 1846 (n = 3): @ reg. unknown; loc. unknown; 21.09.1945; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Znesinnya near Lviv [Lychakivskiy District, Lviv]; 28.02.1935; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 01.12.1932; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (*Atomaria*) *apicalis* Erichson, 1846 (n = 8): @ [LVI]; Kupevchytsi, Lviv; 18.12.1934; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Pohulianka, Lviv; 29.04.1935; n = 1; leg.: Lazorko V.; rem.: no; @ Podilia [TER?]; loc. unknown; ??.10.1936; n = 1; leg.: Lazorko V.; rem.: no; @ Galicia [LVI];

Bilohorshcha (outsk. of Lviv); 15.11.1940; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; ??.06.1941; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Znesinnya, Kravch. Lviv [Lychakivskiy District, Lviv]; 18.12.1934; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI, Skole Raion]; Chovt. Skole [Skole]; ??.06.1931; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI, Zolochiv Raion]; Novosilky, Holohory, Zolochiv Raion; 13.07.1933; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (Atomaria) atra Herbst, 1793 (n = 2): @ [LVI, Zolochiv Raion]; Vilshan. near Zolochiv [Vilshanytsia]; 17-18.08.1934; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Znesinnya near Lviv [Lychakivskiy District, Lviv]; 01.12.1934; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (Atomaria) fuscata (Schonherr, 1808) (n = 7): @ [LVI, Zolochiv Raion]; Zolochevo, Lysa Hora; 28.08.1940; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 15.04.1932; n = 1; leg.: Lazorko V.; rem.: no; @ Ukrainian Carpathians [IFR]; Dilok; 17.06.1936; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Znesinnya near Lviv [Lychakivskiy District, Lviv]; 18.12.1934; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Pohulianka, Lviv; 29.04.1935; n = 1; leg.: Lazorko V.; rem.: no; @ Podilia [TER?]; loc. unknown; ??.07.1931; n = 1; leg.: Lazorko V.; rem.: no; @ KYJ; Kyiv, Holosiivskiy forest; 11.05.1941; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (Atomaria) gutta Newman, 1834 (n = 1): @ [LVI]; Lemenivtsi near Lviv; 17.10.1943; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (Atomaria) peltata Kraatz, 1853 (n = 1): @ [LVI]; Znesinnya near Lviv [Lychakivskiy District, Lviv]; 26.02.1935; n = 1; leg.: Lazorko V.; rem.: no.

Atomaria (Atomaria) rubella Heer, 1841 (n = 1): @ Podilia [TER, Zalishchyky Raion]; Zalishchyky; ??.07.1931; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria berlinensis*".

Atomaria (Atomaria) testacea Stephens, 1830 (n = 3): @ [LVI]; Mariivka (outsk. of Lviv) [Mlynivtsi, as part of Vynnyky]; 09.11.1940; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria ruficornis*"; @ [LVI]; Znesinnya near Lviv [Lychakivskiy District, Lviv]; 25.02.1935; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria ruficornis*"; @ Galicia [LVI]; Bila Skala, Bilohorshcha (outsk. of Lviv); 20.04.1972; n = 1; leg.: Lazorko V.; rem.: as "*Atomaria ruficornis*".

Genus *Caenoscelis* Thomson, 1863

There are two species in the collection represented by one specimen each — *Caenoscelis ferruginea* (Sahlberg, 1820), and *C. sibirica* Reitter, 1889. Detailed information such as date, location, etc., the labels do not contain.

Caenoscelis ferruginea (Sahlberg, 1820) (n = 1): @ reg. unknown; loc. unknown; date: unknown; n = 1; leg.: Lazorko V.; rem.: no.

Caenoscelis sibirica Reitter, 1889 (n = 1): @ reg. unknown; loc. unknown; date: unknown; n = 1; leg.: Lazorko V.; rem.: as "*Caenoscelis grandis*".

Genus *Cryptophagus* Herbst, 1792

The genus is represented by 28 species collected mainly in Ukraine (Lviv, Ternopil and Ivano-Frankivsk Oblasts), Poland, and Austria. The most numerous species is *Cryptophagus denticulatus* Heer, 1841 (36 spec.). There are few specimens from Sweden — *Cryptophagus corticinus* Thomson, 1863, *C. jakowlewi* Reitter, 1888, *C. lapponicus* Gyllenhal, 1827, *C. populi* Paykull, 1800, and *C. quercinus* Kraatz, 1852, which were collected by the Swedish entomologist Thure Palm during the 1950s–1960s. Species *Cryptophagus denticulatus* Heer, 1841, *C. dilutus* Reitter, 1874, *C. falcozi* Roubal, 1927, *C. jakowlewi* Reitter, 1888, and *C. lysholmi* Munster, 1932 are unique specimens, which are not presented in any academic and educational collections studied by the author.

Cryptophagus acutangulus Gyllenhal, 1828 (n = 15): @ [Austria]; Innsbruck, Ter. Bor.; 14.01.1946; n = 4; leg.: Lazorko V.; rem.: no; @ [Austria]; Innsbruck, Ter. Bor.; 05.02.1946; n = 3; leg.: Lazorko V.; rem.:

⁵ Here and further "spec." = "specimen".

- no; @ [LVI]; Lviv; 24.09.1932; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Bor. Pfaffenhoffen; 12.10.1945; n = 1; leg.: Lazorko V.; rem.: no; @ Pidkarpattya [LVI, Sambir Raion]; Sambir; 10.04.1944; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 01.03.1943; n = 2; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv (Striln.) [Strilnytsia, Lychakivskiy District, Lviv]; 13.12.1942; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Hal[ytskyi] forest near Lyzova cave; 26.05.1940; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv, Lychakiv [Lychakivskiy District, Lviv]; 12.12.1940; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus badius* Sturm, 1845 (n = 3): @ [Poland]; L. Beskydy, Zhegestiv, Zhyvets [Żegiestów]; 03.05.1944; n = 2; leg.: Lazorko V.; rem.: no; @ [Poland]; Zhegestiv, Palenytsia [Żegiestów]; 14.05.1944; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus cellaris* (Scopoli, 1763) (n = 9): @ [Austria?]; Bor. Tor. [Innsbruck?]; 08.12.1947; n = 2; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 01.03.1943; n = 3; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv, Stratysk cemetery; 26.11.1940; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Bor. [Innsbruck?]; 13.01.1946; n = 3; leg.: Lazorko V.; rem.: no.
- Cryptophagus corticinus* Thomson, 1863 (n = 2): @ [Sweden]; Lpl. Abisko; 25.06.-04.07.1947; n = 2; leg.: Palm T.; rem.: no.
- Cryptophagus croaticus* Reitter, 1879 (n = 3): @ [Austria]; Ter. Bor. [Innsbruck?]; 12.08.1945; n = 1; leg.: Lazorko V.; rem.: no; @ reg. unknown; loc. unknown; 19.05.1938; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Alp. Innsbruck; 17.01.1933; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus dentatus* (Herbst, 1793) (n = 2): @ [Austria]; Ter. Bor. [Innsbruck?]; 07.12.1947; n = 2; leg.: Lazorko V.; rem.: no.
- Cryptophagus denticulatus* Heer, 1841 (n = 36): @ [Austria]; Ter. Bor. [Innsbruck?]; 29.03.1945; n = 2; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ reg. unknown; loc. unknown; 17.08.1946; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Lviv; 29.03.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 19.07.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Bilohorshcha (outsk. of Lviv); 15.11.1940; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Chorna Skala near Lviv; 13.06.1941; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 19.07.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Lviv; ??05.1930; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Pohulianka, Lviv; 24.06.1933; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Strilnytsia, Lviv [Lychakivskiy District, Lviv]; 22.01.1939; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Lviv, Znesynya; 25.02.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Brukhovychi, Lviv; 14.06.1941; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 19.07.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Holosko near Lviv; 03.05.1936; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 19.07.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 04.05.1937; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [Beskydy]; Vys. Beskyd, crest; 07.07.1930; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ Galicia [LVI, Zolochiv Raion]; Vilshanytsia near Zolochiv; 25.09.1937; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [TER, Zboriv Raion]; Zboriv; 28.07.1937; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa Hora; 28.08.1940; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Lysynychi near Lviv; 19.08.1940; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Lviv, Kaizervald [Lychakivskiy District, Lviv]; 18.04.1935; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Kryvchytsi, Lviv [Velyki Kryvchytsi, Lychakivskiy District, Lviv]; 09.12.1934; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ Ukr. Beskydy [Poland]; Zhegestiv [Żegiestów]; 07.08.1944; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI]; Strilnytsia, Lviv [Lychakivskiy District, Lviv]; 13.12.1942; n = 1; leg.: Lazorko V.; rem.: as "*C. pseudodentatus*"; @ [LVI, Zolochiv Raion]; Zolochiv, Lysa

- Hora; 04.05.1937; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Lviv, Lychakiv [Lychakivskiy District, Lviv]; 27.07.1940; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Holosko, Lviv; 03.05.1936; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Lviv; 20.08.1940; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Lviv, Pohulianka; 19.03.1935; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Lviv, Lysynychi; 29.04.1936; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Lviv, Strilnytsia, Lviv [Lychakivskiy District, Lviv]; 22.01.1939; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ Podilia [TER, Zboriv Raion]; Zboriv; 13.04.1937; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [LVI]; Bilohorshcha (outsk. of Lviv); 15.11.1940; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”; @ [Beskydy]; Beskydy; 03.07.1928; n = 1; leg.: Lazorko V.; rem.: as “*C. pseudodentatus*”.
- Cryptophagus dilutus* Reitter, 1874 (n = 1): @ reg. unknown; loc. unknown; 1968; n = 1; leg.: Lazorko V.; rem.: as “*Cryptophagus hexagonalis (polonicus)*”.
- Cryptophagus distinguendus* Sturm, 1845 (n = 2): @ [LVI]; Lviv, Stryj cemetery; 26.11.1940; n = 1; leg.: Lazorko V.; rem.: no; @ [Poland]; L. Beskyd, Zhegestiv [Żegiestów]; 25.07.1944; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus dorsalis* C. R. Sahlberg, 1819 (n = 12): @ reg. unknown; Faron; 03.-06.10.1945; n = 1; leg.: Lazorko V.; rem.: as “*Cryptophagus angustus*”; @ [LVI]; Bilohorshcha (outsk. of Lviv); 15.11.1940; n = 10; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv, Vysh.; 04.03.1935; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus falcozi* Roubal, 1927 (n = 1): @ [IFR]; Ukr. Mshana, Gorgany [Mountain valley Mshana]; 28.06.1938; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus fallax* Balfour-Browne, 1953 (n = 5): @ Zolochiv [LVI, Zolochiv Raion]; Vilsh. [Velyka Vilshanytsia]; 25.09.1937; n = 4; leg.: Lazorko V.; rem.: no; @ [Poland]; Beskydy, Zhegestiv [Żegiestów]; 30.05.1944; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus jakowlewi* Reitter, 1888 (n = 4): @ [Sweden]; Karesuando; 04.-11.08.1963; n = 4; leg.: Palm T.; rem.: as “*Cryptophagus archangelicus*”, in some literature this species is named as *Cryptophagus archangelicus* J. R. Sahlberg, 1926 (Esser, 2018).
- Cryptophagus lapponicus* Gyllenhal, 1827 (n = 4): @ [Sweden?]; Borgholen; 17.05.1950; n = 4; leg.: Palm T.; rem.: no.
- Cryptophagus laticollis* P.H.Lucas, 1846 (n = 2): @ [Switzerland?]; Lizern [Luzern?]; 02.06.1946; n = 2; leg.: Lazorko V.; rem.: як: “*Cryptophagus affinis (laticollis)*”.
- Cryptophagus lycoperdi* (Scopoli, 1763) (n = 4): @ reg. unknown; loc. unknown; date: unknown; n = 4; leg.: Lazorko V.; rem.: no.
- Cryptophagus lysholmi* Munster, 1932 (n = 1): @ [IFR?]; Gorgany pereh.; 22.06.1938; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus pallidus* Sturm, 1845 (n = 2): @ reg. unknown; loc. unknown; 02.05.1928; n = 1; leg.: Lazorko V.; rem.: no; @ reg. unknown; loc. unknown; 21.05.1929; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus pilosus* Gyllenhal, 1827 (n = 13): @ reg. unknown; loc. unknown; date: unknown; n = 2; leg.: Lazorko V.; rem.: no; @ Ukrainian Carpathians [IFR]; Carpathians, Dilok; 02.07.1939; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Bor.; 08.12.1947; n = 2; leg.: Lazorko V.; rem.: no; @ [Poland]; Beskydy, Zhegestiv [Żegiestów]; 25.07.1944; n = 2; leg.: Lazorko V.; rem.: no; @ [Poland]; Beskydy, Zhegestiv [Żegiestów]; 27.05.1944; n = 2; leg.: Lazorko V.; rem.: no; @ Zolochiv [LVI, Zolochiv Raion]; Vilshanytsia [Velyka Vilshanytsia]; 01.12.1938; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv, Zhilnytsia; 22.01.1939; n = 2; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 19.11.1940; n = 1; leg.: Lazorko V.; rem.: no.

- Cryptophagus populi* Paykull, 1800 (n = 1): @ [Sweden]; Strömsholm; date: unknown; n = 1; leg.: Palm T.; rem.: no.
- Cryptophagus pubescens* Sturm, 1845 (n = 2): @ KYJ; Kyiv, The Holosiivskiy forest; 11.05.1941; n = 2; leg.: Lazorko V.; rem.: no.
- Cryptophagus quercinus* Kraatz, 1852 (n = 1): @ [Sweden]; Strömsholm; date: unknown; n = 1; leg.: Palm T.; rem.: no.
- Cryptophagus saginatus* Sturm, 1845 (n = 16): @ [LVI]; Lviv; 19.11.1940; n = 10; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 16.11.1940; n = 2; leg.: Lazorko V.; rem.: no; @ [LVI]; Strilnytsia, Lviv [Lychakivskiy District, Lviv]; 22.01.1939; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Ber. Innsbruck; 05.02.1946; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Ber. Innsbruck; 08.12.1947; n = 2; leg.: Lazorko V.; rem.: no.
- Cryptophagus scanicus* (Linnaeus, 1758) (n = 6): @ [Austria]; Tizov, Innsbruck; 21.09.1945; n = 2; leg.: Lazorko V.; rem.: no; @ [Poland]; L. Beskyd, Zhegestiv [Żegiestów]; 14.05.1944; n = 1; leg.: Lazorko V.; rem.: no; @ Zolochiv [LVI, Zolochiv Raion]; Vilsh. [Velyka Vilshanytsia]; 04.04.1933; n = 1; leg.: Lazorko V.; rem.: no; @ KYJ; Kyiv, The Holosiivskiy forest; 11.05.1941; n = 1; leg.: Lazorko V.; rem.: no; @ [Austria]; Ter. Ber., Innsbruck; 11.08.1945; n = 1; leg.: Lazorko V.; rem.: as “*Cryptophagus scanicus (patrualis)*”.
- Cryptophagus schmidti* Sturm, 1845 (n = 5): @ Zolochiv [LVI, Zolochiv Raion]; under the Lysa Hora; 31.07.1934; n = 5; leg.: Lazorko V.; rem.: no.
- Cryptophagus scutellatus* Newman, 1834 (n = 40): @ [LVI]; Lviv; 16.11.1940; n = 27; leg.: Lazorko V.; rem.: no; @ [LVI]; Lviv; 11.11.1940; n = 11; leg.: Lazorko V.; rem.: no; @ [LVI]; Strilnytsia, Lviv [Lychakivskiy District, Lviv]; 22.01.1939; n = 1; leg.: Lazorko V.; rem.: no; @ [LVI]; Brukhovychi, Lviv; 06.04.1941; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus setulosus* Sturm, 1845 (n = 1): @ reg. unknown; loc. unknown; date: unknown; n = 1; leg.: Lazorko V.; rem.: no.
- Cryptophagus subfumatus* Kraatz, 1856 (n = 8): @ [LVI]; Lviv; 11.11.1940; n = 4; leg.: Lazorko V.; rem.: no; @ [Austria]; Innsbruck; 05.02.1946; n = 4; leg.: Lazorko V.; rem.: no.

Genus *Micrambe* C. G. Thomson, 1863

Collections of *Micrambe* species differ from the general list of species, since they relate to the period between 1914 and 1917, when V. Lazorko was not working. Therefore, we can assume that these specimens have either been transferred to the collection of the Institute of Zoology earlier, and were composed together with Lazorko’s collection, or he received them from an unknown person for identification and added to the collection. The genus is represented in the collection by two species — *Micrambe abietis* (Paykull, 1798) and *M. bimaculata* (Panzer, 1798). The specimens originate mainly from Austria and Sweden. All Swedish specimens were collected and identified by Thure Palm. One of the specimens of *M. bimaculata* was collected by Albert Winkler in Vienna (Fig. 2 b).

Micrambe abietis (Paykull, 1798) (n = 5): @ reg. unknown; loc.: unknown; date: unknown; n = 1; leg.: [Palm T.] Fors sn. Palm; rem.: as “*Cryptophagus abietis*”; @ reg. unknown; Carlheus; 07.10.1914; n = 1; leg.: Lazorko V.; rem.: no; @ reg. unknown; Nohmplipp.; 11.10.1915; n = 1; leg.: Lazorko V.; rem.: no; @ reg. unknown; loc. unknown; 28.07.1917; n = 1; leg.: Lazorko V.; rem.: no; @ reg. unknown; loc. unknown; 18.08.1917; n = 1; leg.: Lazorko V.; rem.: no.

Micrambe (Micrambinus) bimaculata (Panzer, 1798) (n = 6): @ [Austria]; Wien; date: unknown; n = 4; leg.: Winkler A.; rem.: as “*Cryptophagus bimaculatus*”; @ [Sweden]; Uppsala; 27.05.1965; n = 1; leg.: Palm T.; rem.: as “*Cryptophagus bimaculatus*”; @ [Sweden]; Uppsala; 27.05.1935; n = 1; leg.: Palm T.; rem.: as “*Cryptophagus bimaculatus (scutellatus)*”.

Genus *Paramecosoma* Curtis, 1833

The monotypic genus is represented in the collection by one specimen of the species *Paramecosoma melanocephalum* (Herbst, 1793). The specimen is designated as collected by V. Lazorko in 1929, but most likely it was obtained for identification and added to V. Lazorko's collection.

Paramecosoma melanocephalum (Herbst, 1793) (n = 1): @ reg. unknown; Zhebeniv; ??.07.1929; n = 1; leg.: Lazorko V.; rem.: no.

Genus *Pteryngium* Reitter, 1877

The genus is presented by one specimen of *Pteryngium crenatum* (Fabricius, 1798) from Croatia, date of collection is unknown.

Pteryngium crenatum (Fabricius, 1798) (n = 1): @ [Croatia]; Capella Croatia; date: unknown; n = 1; leg.: Lazorko V.; rem.: no.

Discussion

V. Lazorko's collection should be considered due to collection values, as well as the evidence of materials from the Carpathians, which was one of the priorities because of the scientific interest of the researcher, since it helps to compare the author's Carpathian specimens with collection materials.

Collection value

The collection was considered by the following features, which are compared with the information about other collections mentioned in table 1:

- 1) number of specimens — this collection contains 263 specimens of the family; for comparison, the collection of the State Museum of Nature of V. N. Karazin Kharkiv National University contains 341 spec. and the collection of the Zoological Museum of Taras Shevchenko National University of Kyiv — 304 spec.;
- 2) number of species and genera — there are 48 species of 6 genera belonging to two subfamilies: Atomariinae and Cryptophaginae (for comparison, the largest number of Cryptophagidae species among academic and educational collections is represented in the State Museum of Natural History, NAS of Ukraine (SMNH, Lviv) and in the collection of the Zoological Museum of Taras Shevchenko National University of Kyiv (ZMKU, Kyiv) — both contain 12 genera);
- 3) the number of unique species — the number of species represented only in this collection, in comparison to other analysed collections, is 10, in particular, these are the Carpathian specimens that should be noted: *Atomaria soror* (1 spec.), *A. carpathica* (1 spec.), *Cryptophagus falcozi* (1 spec.), *Cryptophagus lysholmi* (1 spec.);
- 4) presence of type specimens is an important indicator; however, in V. Lazorko's collection, such specimens are absent; the same concerns other analysed collections.

Carpathian segment of the collection

Collections with a large amount of Carpathian specimens are very important, because the Carpathian region has a unique diversity of natural landscapes and biotopes, which also affects the large variety of fauna, including Cryptophagidae. Therefore, this collection, and mainly specimens collected before 1939, have a significant scientific value.

According to the number of species from the Carpathian region, Lazorko's collection is quite rich: it contains 17 Carpathian species, out of 48 in total. By this indicator, it ranks second after the collection of ZMKU (23 species).

Such Cryptophagidae species as *Atomaria carpathica* Reitter, 1875, *A. soror* Ganglbauer, 1899, *Cryptophagus denticulatus* Heer, 1841, *C. falcozi* Roubal, 1927, and *C. lysholmi* Munster, 1932 are represented only in this collection.

⁶ We proceed from this assumption due to the fact that V. Lazorko became a member of the Lviv Entomological Society only in 1933 (at the age of 24).

Conclusions

1. Volodymyr Lazorko's collection includes 263 specimens of 48 species of 6 genera, which is a rather significant collection of Cryptophagidae. This collection is equivalent in its entirety to other academic collections that were studied by the author, i.e. the collections of the State Museum of Natural History, NAS of Ukraine (Lviv) and the National Museum of Natural History, NAS of Ukraine (Kyiv), which include 71 and 49 species, respectively.
2. The Cryptophagidae collection mainly concerns the territory of Ukraine, in particular the Carpathians, Austria, Poland, and Sweden. Most of the specimens were collected by V. Lazorko, but some of them by other researchers, in particular, Thure Palm (1950–1960s). The collection includes a significant number of specimens from the Carpathians, which belong to 17 species. Among other collections, it takes second place in the number of Carpathian species and after the Zoological Museum of Taras Shevchenko National University of Kyiv, which contains 23 species from the Carpathians.
3. By the number of unique specimens, V. Lazorko's collection is second among other academic collections — it has 10 species, which are the only factual confirmation of these species for the fauna of Ukraine and the Ukrainian part of the Carpathians in particular.

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