

Friedrich von Baumgarten's beetle collection in the 20th century and nowadays

Коллекция жесткокрылых Фридриха фон Баумгартена в XX веке и в настоящее время

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ABSTRACT. The collection of Coleoptera, mainly compiled at the end of the 19th century by Friedrich von Baumgarten (1859–1914), is currently housed at the All-Russian Research Institute of Plant Protection in Saint Petersburg. This collection, containing over 3,500 species of beetles from all biogeographic regions of the world, has undergone restoration from 2021 to 2024. Just as it did a century ago, Friedrich von Baumgarten's beetle collection continues to aid in training entomologists. To improve safety and ease of use, visualization methods have been developed that utilize a QR code on the outer label of a closed box. When scanned, the QR code displays a photo of the box's contents stored on Yandex Disk. <https://disk.yandex.ru/d/XEXdVOeUdG21Qw>

РЕЗЮМЕ. Коллекция жесткокрылых, составленная преимущественно в конце XIX века Фридрихом фон Баумгартеном (1859–1914), в настоящее время хранится во Всероссийском научно-исследовательском институте защиты растений (Санкт-Петербург). В данной коллекции после реставрации, проведенной в 2021–2024 гг., насчитывается свыше 3500 видов жуков, представителей всех биogeографических регионов нашей планеты. Так же, как и 100 лет назад, коллекция жесткокрылых Фридриха фон Баумгартена используется для занятий по повышению квалификации энтомологов. Для увеличения сохранности и облегчения работы с коллекцией разработаны методы визуализации, позволяющие с помощью QR-кода на внешней этикетке закрытой коробки увидеть и открыть ссылку на фотографию содержимого коробки, хранящуюся на Яндекс Диске. <https://disk.yandex.ru/d/XEXdVOeUdG21Qw>

In 1909 Friedrich Baumgarten published a brochure in St. Petersburg in German “Coleopteren-Sammlung Seiner Exzellenz Friedrich von Baumgarten, weiland Präsident der Kaiserlichen Banken von Zartum Polen zu Warschau” [Baumgarten, 1909]. This brochure describes the collection of beetles. Today, it is not available in public libraries and is only known through citations in the pre-revolutionary issue of Entomological Review (1916, III) in the article by N.N. Plavilshchikov titled “Notes on Longhorn Beetles of the Palearctic Region (Coleoptera, Cerambycidae)” [Full text ..., 2024].

Friedrich von Baumgarten and his extensive beetle collection remain relatively unknown within the broader entomological community. Notably, his name and the years of his birth and death are absent from lists of globally recognized entomological collections, appearing only as “Baumgarten, ... (....-....)” [Horn *et al.*, 1990]. This oversight might stem from the widespread practice of russifying German names in the Russian Empire, where official records frequently replaced German names with phonetically similar Russian equivalents.

Friedrich von Baumgarten (1859–1914), also known by his Russified name, “Baumgarten von Fyodor Fyodorovich,” appeared in the pre-revolutionary annual directories “All Petersburg” until 1915. He resided in Saint Petersburg in the early 20th century [Friedrich von Baumgarten ..., 2023; All Petersburg, 2024]. During this time, until his untimely death in 1914, Friedrich Baumgarten, a former banker, was employed at “Zhizn,” the important insurance company at the time [Baumgarten Friedrich ..., 2024].

The fate of Friedrich von Baumgarten's beetle collection in the post-revolutionary period is closely linked to the efforts of Nikolay Nikolayevich Bogdanov-Katkov

Fig. 1. The cabinet with a large systematic collection of Coleoptera, 1923 (photo from the VIZR archive).

Рис. 1. Шкаф с большой систематической коллекцией жесткокрылых, 1923 год (фото из архива ВИЗР).

(1894–1955). He played a pivotal role in founding the Institute of Applied Zoology and Phytopathology (rus. “Institut Prikladnoy Zoologii i Fitopatologii”, IZIF) in the fall of 1922, located at the Northern Plant Protection Station in Petrograd. The institute was established to develop the expertise of applied zoologists (entomologists) and phytopathologists [Bogdanov-Katkov, 1924]. Under his leadership, the insect systematics department amassed extensive collections, largely thanks to the involvement of leading Petrograd entomologists, including A.P. Semenov-Tyan-Shansky, the President of the Russian Entomological Society, contributing significantly to IZIF's operations. By 1923, IZIF boasted a substantial systematic collection of approximately 4,000 beetle species [Bogdanov-Katkov, 1924], which also served as a valuable educational resource (Fig. 2).

While compiling more modern systematic collections for specific groups of beetles, the IZIF staff partially used material from the large systematic collection in original boxes, initially placed in a special locker (Fig. 1). The specimens received additional typographic labels marked “coll Baumgarten” (Fig. 3A), enabling their identification as belonging to Friedrich von Baumgarten's collection [Baumgarten, 1909]. However, some



Fig. 2. Classes at the IZIF, 1923 (photo from the VIZR archive).

Рис. 2. Занятия в ИЗИФ, 1923 год (фото из архива ВИЗР).



Fig. 3. Labels. A — additional labels from the IZIF collection; B — labels from the F. Baumgarten collection.

Рис. 3. Этикетки. А — дополнительные этикетки из коллекции ИЗИФ; В — этикетки из коллекции Ф. Баумгартена.

of the original boxes from this collection were disassembled. Later, Baumgarten's beetle collection was included in the list of globally recognized entomological collections [Horn *et al.*, 1990]. This list indicated that the collection was housed at the Plant Protection Station in Leningrad: "Baumgarten, ... (....-....) Coleoptera an Pflanzenschutz-Station Leningrad". Following the closure of IZIF, which was based at the Plant Protection Station, the main collections were transferred to the All-Union Research Institute of Plant Protection, now known as the All-Russian Research Institute of Plant Protection (VIZR, Saint Petersburg).

Currently, 98 boxes from Baumgarten's collection have been restored, containing over 3,500 beetle species. Additionally, 6 original boxes with beetles from this collection still require restoration. However, part of Baumgarten's collection has been lost over the past 100 years. Medium-sized beetles with soft coverings, such as members of the Cantharidae family, were particularly affected by dermestid beetles. The original cabinet, specially made for this collection, has not survived to the present day. Some boxes from Baumgarten's collection are housed at the Zoological Institute in Saint Petersburg.



Fig. 4. Modern labels with QR codes on boxes from the collection of F. Baumgarten.

Рис. 4. Современные этикетки с QR-кодами на коробках из коллекции Ф. Баумгартена.

In assembling Baumgarten's collection, the labels (Fig. 3B) show that he enlisted the services of the renowned Austrian company Reitter & Leder. This company was a reliable source of accurately identified beetles [Coleoptera, 1889], allowing Baumgarten to include specimens from all zoogeographic regions of the world. Each species in the collection comes with a label that includes its name, along with details about its distribution and the region where it was collected. Australia and Oceania are marked with a red frame, Europe with black, Asia with orange, Africa with blue, and America with green. Photos of the boxes are uploaded to the Yandex Disk <https://disk.yandex.ru/d/XEXdVOeUdG21Qw> file-sharing service.

The Baumgarten collection harbors several exceptionally rare species. Notably, it includes the only specimen of the *Carabus* genus in Russia currently classified as critically endangered — *C. gebleri* Fischer von Waldheim. It is known from only two locations in the Western Altai region. The most recent sightings of *C. gebleri* within Russian territory date back to the first quarter of the 20th century [Red Data Book, 2021].

Currently, the boxes from Baumgarten's collection at VIZR are stored in plastic bags to protect them from dermestid beetle infestations. Each box is labeled with the family and genus of the beetles it contains (Fig. 4). The labels on these boxes include a QR code that links to a photograph of the open box, which is stored on the Yandex Disk. This setup allows users to view a photo of an open box by scanning the outer label of a closed box with a smartphone. Each QR code is generated using the QR Code Generator (QR Coder.ru).

This visualization significantly facilitates work and increases the preservation of the collection, which, as it was 100 years ago, is used for advanced training of entomologists.

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