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Museum of Natural History, University of Wrocław - 200 years of history in two countries

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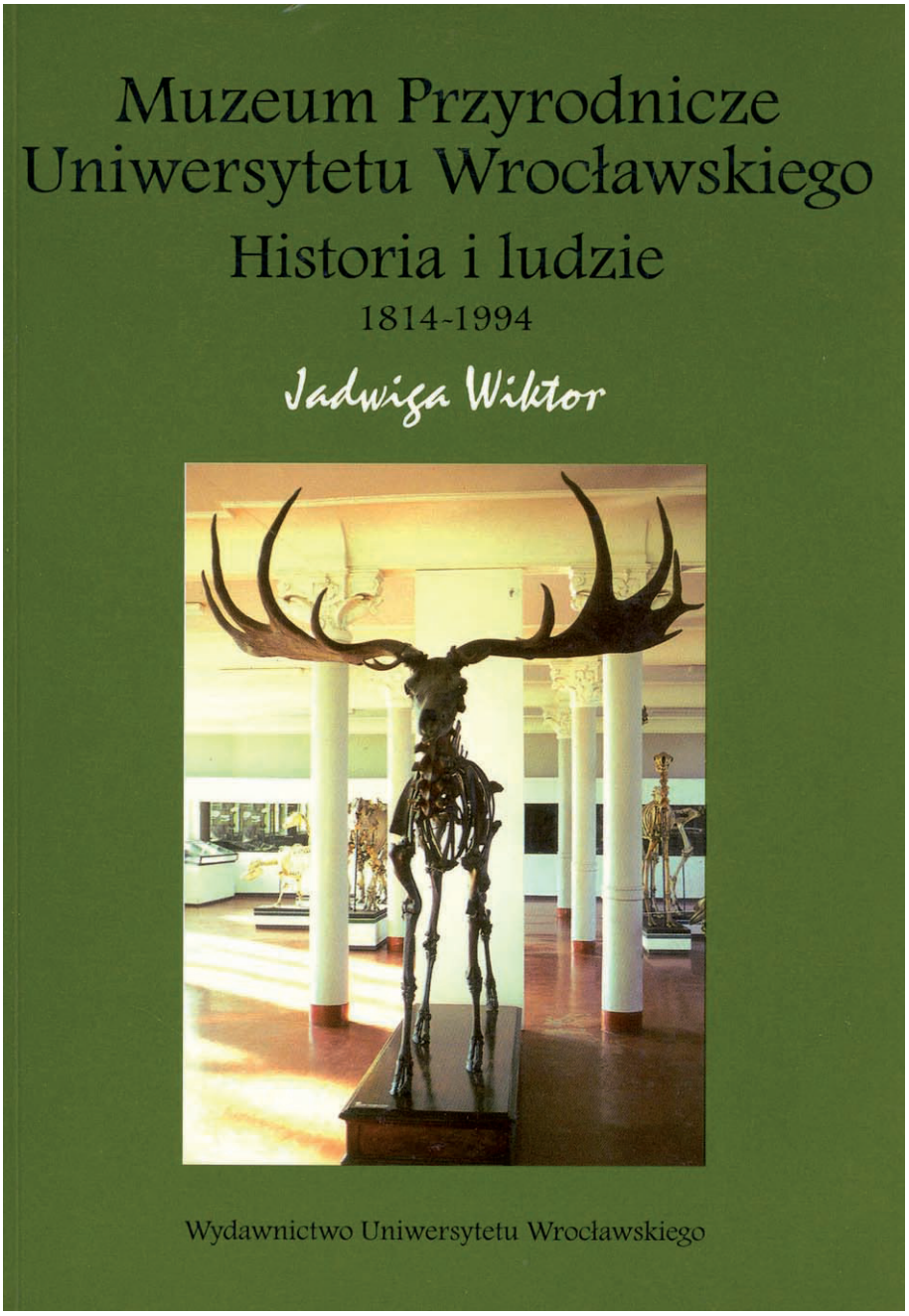
Abstract. The Władysław Rydzewski Museum of Natural History, University of Wrocław (MNHW) is among the oldest museums of its kind in Poland and the largest such museum being part of university in our country. It was established in 1814 as the University's Zoological Museum on the initiative of J. L. C. Gravenhorst, the first zoology professor in Wrocław. 2014 is the Museum's 200. anniversary. During almost half of its history it was located in the halls of the University's Main Building. Since 1904, it occupied its present location at 21 Sienkiewicza street, and additionally, since 2004 it acquired a new Herbarium building where also the entomological collections were transferred. The Museum's biological collections, which were among the richest in Europe, suffered greatly during World War II; in all, half of the zoological collections and nearly two thirds of the herbarium were lost. Despite the losses, the collection is the second largest in Poland. After the war, under the Polish government, the Museum remained part of the University and its significance increased. In 1974 it became the present-day Museum of Natural History, of a rank of research institute. Two years later, having fused with the Herbarium and the former Botanical Museum, and having taken over the old and valuable plant collections, the Museum acquired its present structure and status. The main *spiritus movens* of the organisation changes and post-war scientific development was the Museum's director of 1963-1980, professor W. Rydzewski. In recognition of his merits, since 1985 the Museum bears his name.

Key words: University of Wrocław, Museum of Natural History, MNHW, origin, history, structure.

Poland is one of the few European countries without a national natural history museum. The reasons for the situation are numerous, most probably mainly the lack of own statehood in the 19th c., when such museums were established in other countries and additionally, and maybe first of all, because of the lack of possibility to accumulate important natural history collections from the then researched and explored tropics. For the same reasons, the Polish systematic zoology at that time could not be ranked among



1. Cover of the monograph of the history of the Wrocław Museum of Natural History by J. Wiktor (1997). Polish edition

the world's leaders within the discipline. Consequently, after regaining independence by Poland, there was no great incentive to establish such a national museum. Even if there was any, the period between the wars was too short and too tempestuous for such an enterprise to come into being. Thus, after World War II Poland entered the communist epoch with three leading institutions which kept natural history collections: in Warsaw, Wrocław and Kraków. The situation remained unchanged during the next half century, despite the early post-war attempts at centralising zoological data in Warsaw. These attempts finally resulted, and from the present-day perspective we think in a way which was beneficial to the scientific community, in establishing one of the best zoological libraries in Europe, in the present-day Museum and Institute of Zoology, Polish Academy of Sciences. The centralisation of zoological collections never came true and also at present it is not a likely prospect, not only because of the high cost of the enterprise, but also because of the lack of favourable atmosphere and support at various decisive levels – both among the scientists and among the politicians. Now, after so many years of independent functioning of such institutions, it would be difficult to see possible advantages to such a solution. Each such museum has more than 150-200 years of its own, specific history resulting from its regional appurtenance, different organisation character and the nature of collections. Each is an efficient research centre and doing well in the present-day reality of financing scientific studies. It appears that in the 21st c. we should accept the state of affairs and learn to take advantage of the large number of natural history museums of international significance in our country.

The Museum of Natural History, University of Wrocław (international acronym: MNHW), at present bearing the name of its post-war director of long standing, professor Władysław Rydzewski, had certainly the most complex though not the longest history among the Polish natural history museums (the Kraków Zoological Museum, Jagiellonian University, originating from the Natural History Cabinet appointed by the Commission of National Education at the end of the 18th c. has somewhat deeper roots). This resulted, among other things, from the administrative appurtenance to a sequence of countries and political systems, and from the relatively recent merging of zoological and botanical collections and institutions, each with a different history. Another, no less important difference, resided in the organisation status of the Wrocław Museum, which had been part of the University "for ever", practically from the beginnings of the University's existence. The 200. anniversary of founding of the Museum, in 2014, is a good opportunity to recall its complex fates and the names of the people who played important parts in its history. It would not be possible without the long-term, Benedictine project of the late Jadwiga Wiktor who collected all the fragmentary archival data on the fates of our institutions and published a historic monograph (Wiktor 1997, 2002) (Fig.1). It is also an opportunity to reflect on the situation and significance of this and other natural history museums in the world of science of the 21st c.

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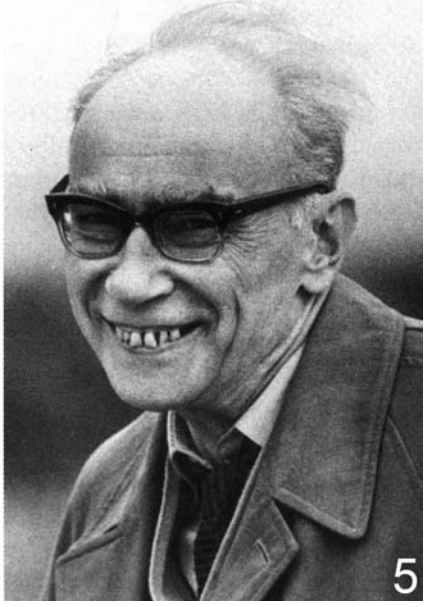
The founder of the Zoological Museum in Wrocław was Johann Ludwig Christian Gravenhorst (1777-1857), the first zoology professor at the University (Fig. 2).

Quite rightly regarding collections as indispensable when educating students, three years after taking over the chair in Wrocław he established the Zoological Museum located in the University's huge main building, in today's Uniwersytecki Square. Its holdings initially included the collection of the Leopoldine Natural History Cabinet (Naturwissenschaftlicher Kabinett der Leopoldiner), University in Frankfurt an der Oder (Viadrina), and most of all professor GRAVENHORST's own zoological collection which he had accumulated since his student times and then increased considerably due to purchase of specimens and whole collections from collectors. The collection was then purchased by the University for a lifetime annual pension. Besides the zoological specimens, professor GRAVENHORST transferred to the Museum and University his huge natural history library with numerous, now priceless volumes dealing with early development of systematic zoology. He also bequeathed a considerable sum to the University in his will, for further development of the zoological collections and the library. The first preserved information on the holdings of the then Museum dates from 1832 when it had more than 55 000 exhibits.

After the death of professor GRAVENHORST who had been the Museum's director for more than 40 years, his successors till World War II were professors Adolf GRUBE (1857-1880), Anton SCHNEIDER (1881-1890), Carl CHUN (1891-1898), Willy KÜKENTHAL (1898-1917) and Ferdinand PAX jr. (1917-1945). Except for A. SCHNEIDER, who hampered the Museum's development and neglected the collection, allocating most of the Museum's funds to teaching and equipping teaching rooms, all the directors contributed greatly to the enlargement of the collections and the organisation development of the Museum. Already at the time of A. GRUBE, the Museum's collections were among the richest in Central Europe, and became enriched, among others, due to the numerous expeditions to the Mediterranean region. Also during that period Benedykt DYBOWSKI cooperated with the Museum; one of the most outstanding Polish zoologist, professor GRUBE's student, he participated in one of GRUBE's expeditions in search of marine fauna in Croatia, and after his death sentence for his participation in the January Uprising he owned his salvation indirectly to GRUBE's pleading. An even greater development of the Museum's collections fell on the end of the 19th c. when the Museum's director was C. CHUN who had come from Königsberg. Being a specialist in marine fauna, he organised Museum expeditions in order to acquire specimens from the Mediterranean Sea and the Atlantic (region of the Canary Islands), and – most of all - in 1898-1899 took part in the famous German expedition "Deutsche Tiefsee-Expedition" on the ship Valdivia, in order to explore and acquire countless specimens of deep sea and pelagic fauna of the Atlantic and Indian Oceans. During his directorship the Museum started regular cooperation with the Wrocław Zoological Garden from where it bought dead animals; skeletons and histological slides were also acquired. It was then that, among other exhibits, a complete skeleton of the fossil giant deer *Megaloceros giganteus* (BLUMENBACH) was purchased. In 1898 professor CHUN transferred to Leipzig, to be replaced by an outstanding scientist from Jena - W. KÜKENTHAL, phylogeny specialist and Ernst HAECKEL's student. Soon he turned out to be a very able organiser who succeeded in erecting the new, spectacular building for the Museum, at the present 21 Sienkiewicza street (Fig. 8). The building started to be used in 1904; besides two exhibition halls, it



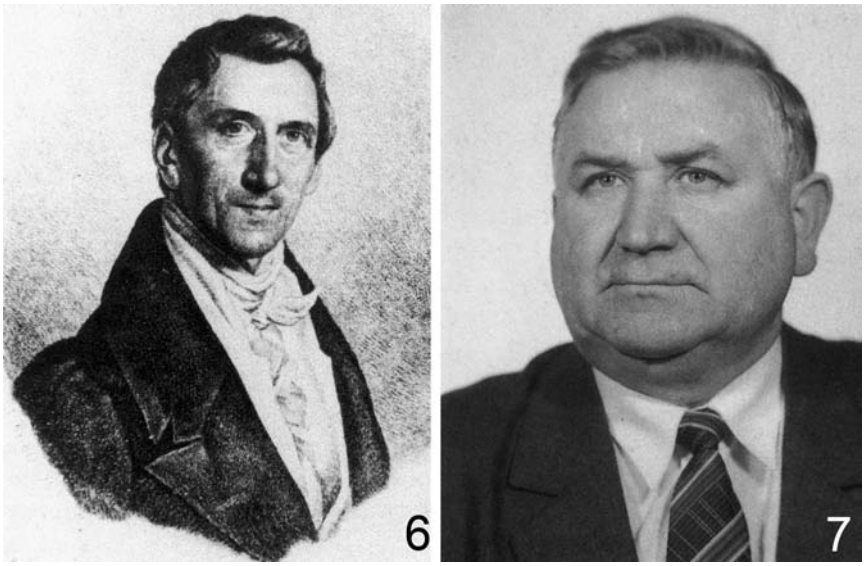
2-5. Participants of the history of the Wrocław Museum of Natural History: 2 – professor Johann Ludwig Christian Gravenhorst (1777-1857), the founder and first director of the Zoological Museum; 3 – professor Ferdinand Pax jr. (1885-1964), Museum's director before and during World War II; 4 – doc. Jan Kinel (1886-1950), the first post-war curator of the Museum; 5 – professor Władysław Rydzewski (1911-1980), the Museum post-war director of long standing; now the Museum's patron

housed numerous laboratories, library, lecture halls and four large storage rooms for scientific collections which occupied most of the building's right wing. The Museum collections were divided into three parts, besides the exhibits in the permanent exhibitions and the largest scientific collection; the collection for teaching purposes was also kept separately. The division into exhibition and scientific materials was also practiced in the invertebrate, and especially insect, collection. This had a negative effect on the scientific value of the "exhibition" specimens which, as a rule, lacked precise information on their origin. At that time the Museum was practically self-sufficient with respect to preservation of specimens (including large vertebrates) and preparing exhibitions; it had its own metal worker's shop, tannery, maceration shop and carpentry shop. It also had a marine aquarium with the necessary equipment, housed in a separate extension. With respect to technical equipment, the whole building was very modern, with electric lighting, central heating, lifts, and even automatically blinded windows in the exhibition halls. From the very start the Museum shared the new building with the Zoological Institute which was established at roughly the same time, also on the initiative of professor Kükenthal, who was director of both these institutions till 1917, when he transferred to Berlin to become director of the Humboldt Museum. His successor was F. Pax jr. (Fig. 3) who had worked at the Museum since 1908, and had been curator since 1912; he held the position till the end of World War II. During his directorship the Museum enriched its holdings, among other things, with the valuable collection of exotic butterflies of W. Niepelt; it also employed more researchers.

The end of World War II was a very dramatic event in the Museum's history, and was fraught with consequences. Especially the defence of Festung Breslau in 1945 was a great catastrophe: the building itself, hit by a bomb (Fig. 9), and the zoological collections and exhibitions contained in it, became destroyed. The damage was contributed to by the German soldiers who threw a part of the specimens out of the windows when organising their defence positions, and later by the Soviet soldiers who looted the collection in search of alcohol-preserved specimens. Great losses were caused by explosions of aerial bombs and the ammunition stores located in the nearby Botanic Garden; they caused breaking of windows and glass panes in the cabinets, specimen jars and even blown bird eggs. Many collections suffered also later, under the effect of atmospheric conditions before they could be protected; a part may have been lost as a result of looting. Before the expected arrival of the Red Army, a part of valuable collections, mainly entomological, was evacuated to nearby villages and hidden in attics and cellars of offices and schools on the order of the German civil defence administrators. In the war conditions the process was not well planned and chaotic and, as indicated by later accounts of professor Pax (1949), executed without consulting the Museum's authorities. Not all of those valuable insect collections could be retrieved later; among others, a part of Gravenhorst's collection became irretrievably lost, including all of his beetle collection and a quarter of the collection of parasitic hymenopterans with hundreds of types, a part of Polentz's beetle collection and possibly a part of Niepelt's butterfly collection. Those fortunately re-found, for example in Kąty Wrocławskie, such as the major part of Gravenhorst's ichneumonid collection, Dittrich's hymenopteran collection or most of Polentz's collection of Silesian beetles, had been kept in inadequate

conditions and partly damaged by pests. Some were found after the War by pure accident, for example nearly 300 valuable bird skins of Otto Nathorp, found by professor K. Szarski in one of Wrocław pet shops and retrieved with the aid of militia. It is very difficult to assess the scale of global losses to the Museum collections as a result of military operations of 1945, most of all because of the lack of reference pint. As a result of these operations neither the Museum nor the University's central archives held up-to-date inventories from before the war, or any other significant documentation of the Museum's history between the wars. In this respect we can only base our conclusions on the necessarily superficial estimates of professor Pax, who had the opportunity to have a short and cursory glimpse of the destroyed Museum after his return to Wrocław from the field station Hofeberg in the Sudetes, after the city had been occupied by the Red Army (Pax 1949), and on the report of the first Polish collection curator, doc. dr. Jan Kinel (Kinel 1957) who arrived in 1946 from the Dzieduszycki Museum in Lviv. Their accounts differ slightly in the details and fates of individual collections, but both indicate that the losses in the zoological scientific collections were at least 50%, and the losses in the exhibitions were much larger, even up to 90% (Wiktor 1997).

The post-war years were difficult for the Museum, as they were for the whole country which was busy trying to deal with the war damage. Despite the staff's care and devotion, ensuring adequate housing for the collections took a few years which resulted in further damage to some collections. Reconstruction of the building's left wing, completely destroyed as a result of bombing (Fig. 10), took even longer, and



6-7. Participants of the history of the Wrocław Museum of Natural History: 6 – professor Ludolph Christian Treviranus (1779-1864), the first director of the Wrocław Botanic Garden and the Herbarium's founder; 7 – professor Krzysztof Rostański (1930-2012), the Herbarium's post-war curator and restorer. All photos from J. Wiktor's monograph (1997, 2002)

was ultimately completed in 1957. Also from organisation point of view, in the post-war conditions the Museum had to start almost from scratch, being incorporated in the Chair of General Zoology, Zoological Institute and thus becoming in a sense provider of teaching materials. After doc. J. Kinel's, entomologist and experienced curator who had been head of the Museum since 1946, premature death, the care of the collections was entrusted for a few months to an ichthyologist, doc. dr. hab. Zofia Kozikowska, and then in 1951-1962 – to a parasitologist professor Janina Janiszewska. In that period the initially very small staff was increased with 7 persons. After professor Janiszewska left in 1962 for the Department of Parasitology established by her, and the few months period during which the Museum's head was the arachnologist doc. S. Pilawski, in 1963 professor Władysław Rydzewski took over; he had been head of the Department of Ornithology for three years, after his return from England. Due to his efforts and organisation skills, the status of the Zoological Museum within the structure of the Faculty and University changed radically. Already in 1963 the Museum became an independent structure within the Zoological Institute, with its own budget and staff. On the strength of a decree of the Minister of Science, Technique and Higher Education of September 9th 1974, the Museum of Natural History was appointed as a separate unit of institute rank within the then Faculty of Natural Sciences.

The history of the Herbarium and Botanical Museum, University of Wrocław is even more complex and nearly as long; after the war it was described for the first time by professor Krzysztof Rostański (1963). Their founder was professor Ludolph Christian Treviranus, in 1815-1830 director of the University Botanic Garden (Fig. 6). The Herbarium Horti Botanici Universitatis Wratislaviensis was initially to document vascular plants imported and cultivated in the Garden; it developed gradually thanks to donations and purchases, to achieve the number of 26 different collections of higher and lower plants and fungi in 1884. Also subsequent directors of the Botanic Garden were at the same time Herbarium directors. L. C. Treviranus' successors were professors Christian Gottfried Daniel Ness von Essenbeck (1830-1850) and Heinrich Robert Göppert (1850-1884). The latter extended the range of accumulated specimens to include, among other things, fruits, seeds, trunk sections, roots, resins and other materials of plant origin. Based mainly on those, he established two museums: in 1853 the Botanical Museum located in the Auditorium Chemicum of the University, and in 1878 the Museum of the Botanic Garden, enriched among others with a collection of amber and palaeobotanical exhibits, such as fossil trunks of sigillariae and calamites. After his death the two museums started to live "their own lives" and even compete in acquiring new collections; they were headed by professors Heinrich Engler (Museum of Botanic Garden and Herbarium) and Ferdinand Cohn (Botanical Museum). They joined forces and in 1888 succeeded in erecting the building which till recently was the Institute of Plant Biology (Kanonia str. 6/8), where all the botanical collections were moved, but preserving the division into two museums. The collections were merged into one Botanical Museum by professor Ferdinand Pax sr., who became its head in 1893. He held the post during 33 years, and achieved a considerable development of the collection due to the rich materials from German expeditions to Africa and south-eastern Asia, exchange, donations and purchases. During his directorship

the Botanical Museum's holdings became doubled, to reach 540 000 herbarium sheets in 1914. Just before the war, in 1938, the Museum was bequeathed the most valuable botanical collection of Karl LAUTERBACH of 50 000 sheets, from south-eastern Asia, with numerous types.

Till the end of World War II the so called Silesian Herbarium (Herbarium Silesiacum) functioned independently. It was established in the first half of the 19th c. by the Silesian Society of Native Culture (Schlesische Gesellschaft für vaterländische Kultur), associated with the University, on the initiative of the Society's secretaries: dr. Friedrich WIMMER and dr. Henryk GRABOWSKI. During all the period of the activity of the Society and Silesian Herbarium its seat was one of the university buildings on the Tamka, an island on the Odra near the University's main building. Among successive curators of the Silesian Herbarium were, among others, university professors such as F. COHN (1858-1864) or F. PAX sr. (1886-1890). The collections of the Silesian flora came mainly from donations of members and sympathizers of the Society and were often older and more valuable than the collection of the Botanic Garden Herbarium. Besides the herbaria of H. G. MATTUSCHKA and A. J. KROCKER from the 18th c., professor A. HENSCHEL's donation was especially noteworthy. The Herbarium Henschelianum, donated to the Society in 1858, included more than 90 000 sheets with both European and tropical plants (according to the owner's index more than 46 000 plant taxa!). HENSCHEL's herbarium, valuable but containing a small number of plants from Silesia, was later, on the initiative of professor F. PAX, exchanged with the University Botanical Museum for the typically Silesian herbarium of R. VON UECHTRITZ. Another unique acquisition of the Society was Silvio BOCCONE's bound herbarium, dated 1674. Special merits for the development and curating of the Silesian Herbarium, and the knowledge of Silesian flora in general, were due to the many-years curator and teacher in one of the Wrocław gymnasia, Theodor SCHUBE. Due to his work and the extensive network of provincial collaborators who sent in materials, the holdings became almost doubled during his term (1890-1929). His work was successfully continued by Emil SCHALOW, curator of the Silesian Herbarium till World War II.

As in the case of the Zoological Museum, there is almost no record of the holdings and acquisitions of the Botanical Museum between the wars, and it is difficult to estimate the size of the collections before World War II. ROSTAŃSKI (1963) estimated it as 600 000 herbarium sheets, excluding other botanical exhibits of which there were certainly thousands. Unlike the zoological collections which were mostly left in the Zoological Museum building, the Germans removed all the botanical collections from Wrocław in the autumn of 1944. As a result, the partial destruction of the Botanical Institute building at Kanonia 6/8 during bombing (both buildings are located within the Botanic Garden, less than 100 m apart) caused no damage to the collections. On the other hand, the Silesian Herbarium which then included more than 80 000 sheets, was moved and placed without any safety precautions in the attic of one of the schools in the southern part of Wrocław. Regretfully, as it turned out later, the evacuation failed to prevent losses in the botanical collections. On the contrary, the losses were proportionally greater than in the case of the zoological collections. Despite the efforts and the search supervised by professor Stanisław TOŁPA, the collections were found only

after 1-2 years and only in a small part. A large part was burnt with the garrison church in Oleśnica where they were kept. The retrieved parts included a considerable fraction of the main university herbarium (castle in Piotrowice near Kąty Wrocławskie), LAUTERBACH's herbarium (Siedlęcin near Jelenia Góra), and also, after 3 years, the Silesian Herbarium which then became the University's property and was merged with the remaining surviving botanical collections. Following reconstruction of the building at Kanonia 6/8, in 1950, the botanical collections returned to their original location and could be properly curated. The work was started by mgr Józef PANEK, acting curator of the Herbarium in 1950-1956. His work was continued by the late professor K. ROSTAŃSKI (Fig. 7), since 1971 staff member and then head of the Chair

8. Museum building in 1904 (photo L. POHL)

of Systematic Botany, Silesian University. He was the first to assess more precisely the size of war losses to the Wrocław herbarium collections (Rostański 1963). The total of about 200 000 sheets retrieved after the war constitutes only one third of the original University collection; one small bit of luck was only the saving of the whole of the most valuable Lauterbach's herbarium. Likewise, 60% of the Silesian Herbarium were destroyed and only 30 000 sheets remained. Regretfully, these did not include the oldest Silesian collections of Mattuschka and Krocker, but Boccone's valuable herbarium was saved.

Establishing of the University Natural History Museum in 1974, and the indifference of the then authorities of the Botanical Institute to the collection and disastrous housing situation of the Herbarium which was crammed into one tall room, filled to the ceiling with shelves of collection boxes, quickly brought about natural fusion of the two institutions. The Botanical Department of the Museum of Natural History was established in 1976, next to the departments of Invertebrates, Insects, Lower Vertebrates, Higher Vertebrates and Exhibitions established one year earlier based on the former Zoological Museum. The Herbarium's collections and staff as a whole became part of the Botanical Department whose head, after K. Rostański's transfer to Katowice, became a slime-mould specialist dr. Wanda Stojanowska. After establishing the Museum Library in 1975, and inclusion of the Herbarium, the staff of the Museum headed by professor Rydzewski included 22 persons, 9 of them being research workers. Five years after professor Rydzewski's death, in recognition of his merit in organising the Museum and restoring its rank, in 1985 the Museum was officially named in his honour. He was succeeded by professor Andrzej Wiktor, who was the Museum's director during subsequent 22 years. His most important task was to solve the problem of lack of adequate housing for the scientific collections, especially the herbarium specimens, which after the organisation changes were still kept at the Institute of Botany, at Kanonia 6/8. The insect collection was then kept in a room partitioned off one of the exhibition halls, with no possibility of further development. Due to the efforts of professor Wiktor and the then head of the Botanical Department, professor Jerzy Hrynkiewicz-Sudnik, greatly supported by the University authorities, funds for a new Herbarium building were obtained from the Ministry of Science and Higher Education. The new building was to be built on a University plot at Sienkiewicza str. 5, less than 150 m from the Museum's main building (Fig. 11). The building was constructed not without difficulties (argument with the city architect about the rather ultramodern design, unstable soil and, finally, the famous bankruptcy of the building company) in 2003, already during the directorship of professor Tadeusz Stawarczyk. Next year all the botanical and entomological collections were gradually moved to it. This made it possible to reorganise and enlarge those collections and free potential area for further development of exhibitions. Gradually even the slow general renovation of the Museum's main building, more than 100 years old, housing the exhibitions and laboratories, and of some other buildings of the Faculty of Biological Sciences, was completed (Fig. 12).

9. Museum building in 1945 – left wing destroyed by aerial bomb (photo E. Zubik)

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Apart from organising exhibitions which is their obvious and well known function, and thereby contributing to public education within natural history, natural history museums play another very important role. They keep and maintain collections of zoological and botanical specimens which are not destined for public display, but which provide the basis for studying biodiversity. This is especially important at present, when a part of this biodiversity has already gone extinct while another part is endangered. They are repositories of data, in the form of preserved biological specimens, and thus the source of information about life's diversity and evolution. A very good example is the use of museum specimens for extracting DNA for phylogenetic studies done with recently invented techniques. The collections kept at the museums are essential to studying the diversity and history of life on earth, and to planning its conservation.

The present staff of the MNHW includes 22 people, and the number, despite some fluctuations in the intervening period, is the same as it was in 1975, when the Museum gained its present organisational form. The Museum has its own library, at present comprising 6500 books and over 11700 volumes of journals, including a permanent deposit of ornithological literature of the Polish Zoological Society. Half of the staff are research workers who are subject to the same legal regulations and obligations as all academic teachers, only with didactic duties largely replaced with work in the collections and exhibitions. For a long time the research staff has included ornitho-

10. Museum building in 1948 – left wing with top floor exhibition halls devoid of walls (photo S. Bednarz)

logists, ichthyologists, malacologists, entomologists, botanists and a mycologist, all conducting their own research and participating in scientific projects of their respective specialities. In all, the topical scope of studies conducted at the MNHW is very wide and comprises, among others, systematics, biology and biogeography of beetles (Staphylinoidea, Curculionoidea) and terrestrial gastropods, ecology and ethology of birds, fish ecology and systematics, faunistics of various groups of animals and floristics of Poland, phytosociology, taxonomic and ecological studies on Macromycetes, and nature conservation problems. The staff members participate in the University's teaching; the Museum offers courses, among others, in entomology, malacology, ornithology and fish biology. However, the primary duty implied in employment at any natural history museum is collection curating: our staff is responsible for the second largest biological collection in Poland which now contains ca. 2.5 mln of zoological specimens and 0.5 mln herbarium sheets, and for organising exhibitions. The collections are being gradually catalogued and digitised, and the data are made available in the internet. Animal (especially invertebrate) and plant specimens are regularly loaned for examination to specialists worldwide. For a long time the MNHW has been a member of the KSIB (Krajowa Sieć Informacji o Bioróżnorodności – Polish Biodiversity Information Network) and made the information about its collections available through the GBIF (Global Biodiversity Information Facility) portal. In the

11. Herbarium building completed in 2004

21st c. the Museum resumed the tradition of organising field expeditions to the parts of the world with little known invertebrate fauna. The expeditions are aimed at collecting specimens for research, describing new taxa and enriching the collections. Since 2004 eight such expeditions have been organised, among other places to New Caledonia, Australia and RSA, and the resulting material is in total ca. 100 000 specimens of insects, mostly beetles, representing hundreds of species new to science. Each year taxonomic publications based on this material appear all over the world. Likewise, as a result of malacological expeditions to the Caucasus, Crimea, Australia, Atlantic Islands and Eastern Carpathians, about 70 thousand snail and slug specimens have been added to the collections, and several papers published. Following contemporary trends in taxonomy and biodiversity studies, the MNHW develops also the collection of frozen specimens preserved suitably for DNA sequencing.

Since 1820 the Museum had permanent zoological exhibitions open to the public. Before World War II they were housed in two exhibition halls: a smaller one to show Silesian fauna and a large three-level hall where world animals and many biological problems were displayed and explained. Regretfully it was the large hall that was completely ruined in 1945 as a result of bomb explosion. After a long break and war damage the Museum resumed organising exhibitions already in the 1960s. The first to open, in 1965, was a small exhibition presenting animals in various habitats; it was kept till 1986. Further permanent exhibitions were opened in 1974 (Insects and Man), 1979 (Vertebrate Skeletal System) and 1985 (Animal World). The latter is the largest, located

12. Museum of Natural History, University of Wrocław – main building today, after façade renovation

in a two-level hall, with a complete skeleton of the blue whale *Balaenoptera musculus* (Linnaeus) in the centre. It is one of only few such exhibits in European museums and the only such an exemplar in Poland, brought to Wrocław by W. Kükenthal from one of his marine expeditions on whaling ships. In 1992 the traditionally zoological exhibitions were extended to include plants and fungi – the exhibition Plant World. These four exhibitions are open in the Museum until today, with the total area of ca. 1000 m^2, and the total number of exhibits of 3740 (3140 zoological, 600 botanical), which makes it the largest natural history exhibition in Poland. All the exhibitions were modernised in the meantime (the insect exhibition, the last to be modernised, in 2014). More details about our exhibitions can be found at the MNHW home page (http://www.muzeum-przyrodnicze.uni.wroc.pl/en/index.php?go=exhibitions). As a kind of extension of the exhibitions we offer practical workshops and lectures to school parties who visit the Museum. They can not only see our exhibitions but also learn to identify insect, gastropod and fish species, or get to know the problems of international nature conservation activities.

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Museums with long and rich traditions should be provided with adequate means to play the part of repositories of all biological collections, including those of amateurs, from all over the country. Especially in the case of invertebrates, amateurs' collections are often the source of very valuable scientific data. In many natural history museums of the world, also those which are the oldest and the largest, such as the Natural History Museums in London, Paris or Washington, some of the amateurs' collections are among the most valuable. Even some of the articles in this celebratory issue of the Genus, dedicated to the MNHW, convey the message that during the nearly 250 years of history of natural sciences since the times of Linnaeus, the passion and observation abilities of the researcher were much more important than his profession. Natural history collections are part of the national heritage of Poland, equal to the testimony of our national history, development of civilisation or works of art, and as such deserve exactly the same care and attention.

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