

Zoology from 1918 to 1929 in Lithuania: the situation of research and studies

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The paper presents the overview of the situation of zoological science and studies in Lithuania, Kaunas, the provisional capital of the country, from 1919 to 1929. There are also presented conditions and general environment that Prof. Pranciškus Baltrus Šivickis came across upon his return to Lithuania after his studies in the United States and professorship in Philippines when he commenced his work at the University of Lithuania in 1929. The information is presented on the institutions involved in research or studies of zoology and biology: Nature Research Station, Higher Courses, the University of Lithuania. A brief discussion on zoological subjects such as entomology, theriology, hydrobiology, ornithology (including bird migration) and environmental protection which gave rise to modern research is provided. The researchers who contributed to the promotion of zoological research and preparation of high-level specialists in Lithuania mostly are mentioned.

Key words: zoology, University of Lithuania, higher education, Higher Courses, Nature Research Station, Lithuanian zoologists

Following the occupation of czarist Russia, which lasted over a hundred years and that of kaiser Germany which lasted almost four years, on 16 February, 1918 the Lithuanian Council in Vilnius announced the restoration of independent state of Lithuania with its capital Vilnius. The restoration of university in Vilnius had been anticipated, however, in 1919 Vilnius and its region were occupied by Poland. Students who returned to independent Lithuania from various European cities were offered a chance to proceed with their studies in Kaunas (second city in Lithuania by size) then called the provisional capital.

Below the overview of the situation of zoological research and studies in Lithuania or, to be more precise, in Kaunas, the provisional capital, from 1919 to 1929 is presented. The overview highlights the conditions and environment that Prof. P. B. Šivickis came across upon his return to Lithuania when he commenced his work at the University of Lithuania in 1929.

The history of zoological research in Kaunas, the provisional capital of the country, is associated with the establishment of Nature Research Station (15 07 1919), Lithuanian Higher Courses (27 01 1920) and the University of Lithuania (16 02 1922). Until then this city had neither university nor scientific centre. Now Kaunas implemented the idea of the country to restore the old Vilnius University which had been operating from 1579 until 1832. Historian doc. Saulius Kaubrys (1994) wrote that “it was only due to unsettled historical circumstances that Kaunas became a political, cultural, intellectual centre of resurgent Lithuania accumulating the most creative forces of the nation”. **There is a brief history of the establishment of university in Kaunas presented below.**

The establishment of the University of Lithuania. In 1832 the uprising against the iron heel of czarist Russia was suppressed and the closedown of Vilnius University was one turn of repressions. However, the idea of rehabilitation of the university has never faded throughout the entire 19th century. In 1904 upon regaining of Lithuanian

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print which had been banned by Russia in order to denationalize Lithuania, this idea was brought up by the Lithuanian intelligentsia, however, the historical events of 1905 revolution interfered with the realization of this ambition. During the following years two science associations were founded in Vilnius in 1907 and set the scene for the establishment of the university: Lithuanian science association and Polish science friends association which at the time maintained good mutual relations (Kulikauskas, 1994). Restoration of Lithuanian independence in 1918 created political background for rehabilitation of Vilnius University. On 5 December, 1918 the Statute of Vilnius University was announced and the recreation of university from 1 January, 1919 was foreseen. In compliance with the Statute mentioned above, four faculties were anticipated: Theology, Social Sciences, Medicine, Natural Sciences and Mathematics. Institute of Veterinary had to be attached to the Faculty of Medicine and Institute of Agronomy – to the Faculty of Natural Sciences and Mathematics. Violent political events, however, interfered with the implementation of these plans. When Red Army occupied Lithuania at the end of 1918, Vilnius University could not start operating. In 1919 Bolsheviks established Labour University in Vilnius. However, it could not start operating due to the occupation of Vilnius and the whole region by Poland in April 21, 1919. Consequently, in autumn of 1919 Polish University was opened in Vilnius (Jegelevičius, 1994).

In Lithuania the restoration of Vilnius University was cherished by such eminent representatives of intelligentsia of that time as Jonas Basanavičius, Mykolas Biržiška, Vaclovas Biržiška, Augustinas Janulaitis, Jonas Vabalas-Gudaitis, Pranas Mašiotas, Tadas Ivanauskas, Antanas Purėnas, Eduardas Volteris, Zigmas Žemaitis and others. Following the occupation of Vilnius region by Poland quite a large number of distinguished people retreated from Vilnius to Kaunas.

It was not an easy task to quickly establish a university in Kaunas. Therefore Z. Žemaitis suggested to found a minor unit called **Higher Courses**. Z. Žemaitis, T. Ivanauskas, J. Vabalas-Gudaitis, A. Janulaitis and Liudas Vailionis made an organizational group of these courses. The increasing number of students-to-be evoked establishment of Higher education society for the development and

management of the courses. In January 27, 1920 Higher Courses in Kaunas were officially inaugurated. E. Volteris, A. Janulaitis, Z. Žemaitis, T. Ivanauskas, Motiejus Nasvytis (later Petras Avižonis, Jonas Šimoliūnas) were the authorities of the Higher Courses which included six departments: Humanitarian (Arts), Medicine (with a section of Veterinary), Natural Sciences (with a section of Agronomy), Law, Physics and Mathematics. The Courses operated on a voluntary basis. Financially, they were supported by donations of local and American Lithuanians and partly by the State Government. There was a great shortage of premises, laboratory appliances, tools and devices, textbooks and other literature (Mančinskis, 2002). The courses were in operation for two years but were forced to cease without full support of the Government.

It was high time to establish a university which would proceed the work of Higher Courses.

In February 13, 1922 the Cabinet of Ministers of the Republic of Lithuania “In accordance with the Law on Establishment of Vilnius University <...> decided to inaugurate a university in Kaunas on 16 February 1922” (cited after Kaubrys, 1994). In compliance with Decree of President of the Republic of Lithuania Aleksandras Stulginskis dated 16 February 1922 Rector and Deans of the newly established the **University of Lithuania** were appointed. Mathematician Z. Žemaitis became Dean of the Faculty of Mathematics-Natural Sciences. In March 24, 1922 the Statute of the University was adopted laying down the entire bulk of activities and structure of the University (Kaubrys, 1994).

In accordance with the Statute of the University of Lithuania, six faculties were stipulated: Theology-Philosophy, Arts, Law, Mathematics-Natural Sciences (with divisions of mathematics, physics, chemistry, biology, agronomy), Medicine (with divisions of medicine, veterinary, pharmacy, odontology), Technical Sciences (with divisions of construction, mechanics, chemistry, electrochemistry). The Statute stipulated the establishment of 22 chairs in the Faculty of Mathematics-Natural Sciences. In 1924 the division of Agronomy of the Faculty of Mathematics-Natural Sciences was moved to Dotnuva (middle of Lithuania). The division of Biology had two chairs: the Chair of Botany and the Chair of Zoology, Comparative Anatomy and Embryology (Katilius,

1977a). Scientific personnel consisted of a) senior personnel: ordinary and extraordinary professors, docents and privatdocents, b) junior scientific personnel: lecturers, assistants, laboratory assistants and prosectors (Kaubrys, 1994).

The Faculty of Mathematics-Natural Sciences.

Rules of the University (University of Lithuania, 1922) defined the following aims of the faculty: a) to furnish the students with knowledge in the field of higher mathematics, physics, chemistry and biology; b) to involve the students into individual scientific research in the said fields of research; c) to supply the students with necessary knowledge by offering the workshops in agronomy, forestry, chemistry, to be able to teach these subjects at school; d) to provide an opportunity for the students of other faculties to gain knowledge of the subjects taught at the Faculty of Mathematics-Natural Sciences. In 1922 some slight changes were introduced into the internal structure but on the whole the structure remained quite close to the anticipated one. It consisted of the following divisions: Mathematics-Physics, Physics-Chemistry, Biology, Agronomy-Forestry (University of Lithuania, 1922).

It has already been mentioned that both the University of Lithuania and Higher Courses were founded under severe circumstances, however, high qualification and great intellect of the professors who came back to work in Lithuania from Russia, Poland and Western Europe partially compensated basic shortages of the University. Thanks to lucky coincidences, the specialists who helped to establish the University (including Sector of Biology) were not only highly ranked professionals but also enthusiastic and devoted organizers in the field of science. During this period the importance of an exclusive personality for the development of research and progress of the study process became crucial. The accumulation of distinguished personalities in Kaunas gave rise to a new community associated with science and higher education in this city.

In order to elucidate more extensive development of zoological science in Lithuania in the period from 1918 to 1929 we will also briefly describe the scientific potential of other closely related scientific fields: botany and agronomy-forestry because the academic communities of those fields have been closely interconnected. Taken together

they determined the general environment of biology, and thus zoology, at higher education institutions as well as society.

The Sector of Agronomy-Forestry, the Faculty of Mathematics-Natural Sciences, since 1924 as the Academy of Agriculture, had quite a large number of qualified scientists and other specialists. Here are some of them. Prof. Povilas Matulionis (1860–1932), a well-known specialist of silviculture, since 1922 the head of the Sector of Agronomy-Forestry, the University of Lithuania, later the first Rector of the Academy of Agriculture, Head of the Chair of Silviculture. He was the author of numerous scientific works on issues of silviculture. In 1919 as Vice Minister of the Ministry of Agriculture and State Resources of Lithuania he created conditions for T. Ivanauskas to establish the Nature Research Station in Kaunas (more detailed information is given below). Doc. Mikalojus Kvašininas-Samarinas (1887–1935), a graduate from University of St. Petersburg (geology and agronomy, Russia), was also on the staff. He together with doc. Zigmantas Mockus, animal anatomist, carried out a study on the origin of horses based on data from paleontology, archeology, zoogeography. The issue on the so called “Lithuanian horse” also found its place in the study. From 1926 to 1928 five articles on the study were published in journal *Kosmos* (a co-author of a single paper was Prof. Elijošius Nonėvičius, the University of Lithuania).

Professor of the Academy of Agriculture Konradas Juozas Aleksa (1881–1956), a person of varied attainments who published works not only on issues of veterinary, zootechnics but also genetics, inheritance and behaviour (Šveistytė, Apšegaitė, 2009) is worth mentioning. At that period such professionals as Prof. Juozas Tonkūnas (1894–1968), Prof. Viktoras Ruokis (1885–1971), entomologist, specialist of apiculture Prof. Jonas Krikščiūnas (1888–1973), Stanislovas Mastauskis (1880–1978) and others also worked at the Academy of Agriculture. The latter taught zoology and entomology at the Academy of Agriculture and his contribution to Lithuanian entomology has been extensively recognized (Arnastauskienė, Jakimavičius 1997).

Research and studies of zoology and biology (in a broad sense) have been accumulated in the **Sector of Biology** of the Faculty of Mathematics-Natural Sciences. The above-mentioned *Rules*

(University of Lithuania, 1922) indicated the subjects to be taught to the students of this sector: inorganic chemistry, organic chemistry, analytic chemistry, plant anatomy and morphology, zoology, human anatomy, histology, elements of higher mathematics, introduction to biology, plant physiology, mineralogy and crystallography, geophysics (meteorology), dynamic geology, geology with paleontology, special lectures in botany, embryology, entomology, comparative anatomy, animal physiology, phytopathology, genetics, zoogeography, anthropology with geography, ichthyology, microbiology, natural philosophy.

All subjects taught at sectors of the Faculty of Mathematics-Natural Sciences were divided into eight cycles. The Sector of Biology comprised cycles of Botany and Zoology with compulsory and recommended subjects. Many of these subjects were common for both cycles. It is noteworthy that the subject of genetics was included into the curriculum of both Zoology and Botany cycles. The subject, however, was absent in the curriculum of sectors of Medicine, Veterinary and Silviculture.

Eight semesters (in 4 years) had been stipulated, however, for many students their studies lasted longer because of very strict requirements for study level and great number of examinations. Many students were forced to work in order to pay tuition fees. Not all students could boast successful academic results: throughout the period under discussion from University of Lithuania graduated only one biologist in 1927 and six – in 1928 (Mančinskas, 1977 a, b).

The Chair of Botany, Sector of Biology was headed by Prof. Constantin Andreas von Regel (1890–1970). He was the founder and head of **Botanical Garden** in Kaunas which had divisions of systematics, agriculture and drug plants as well as Museum of Botany. In the latter division Kazimieras Grybauskas (1886–1953), a graduate of University of Moscow, specialist in the field of pharmacy and botany was employed, later he became a professor. Moreover, in this Chair Marija Janušauskaitė-Lukaitienė, Jurgis Kuprevičius and future professor phytopathologist Antanas Minkevičius (1900–1998) got positions. Also, from the very establishment of Higher Courses in this division as a laboratory assistant worked doc. Liudas Vailionis (1886–1939) who later headed the

Cabinet of Plant Anatomy and Morphology, the University of Lithuania. The staff members of the Chair of Botany delivered lectures on botanical subjects to future zoologists and vice versa (Katičius, 1997 b). The records of the period from 1922 to 1927 of the University of Lithuania indicated that research at the Chair of Botany was focussed on plant systematics, plant geography, phytosociology, phytopathology and on gathering the material for all Lithuanian flora description.

Development of zoological research. In Lithuania during the period under discussion zoological research has been carried out in the following institutions established in Kaunas: the Nature Research Station, Higher Courses and the Chair of Zoology, the Faculty of Mathematics-Natural Sciences, the University of Lithuania.

In different reports the name of the **Chair of Zoology** established at the Sector of Biology in 1922 varied a lot: sometimes it was called the Chair of Zoology, Comparative Anatomy and Embryology, sometimes only the Chair of Zoology and Comparative Anatomy or simply the Chair of Zoology. Some reports also mentioned the former Chair of Comparative Anatomy and Histology. The Chair was headed by Prof. Tadas Ivanauskas (1882–1971).

Irrespective of the lack of the staff at the Chair of Zoology, i. e. zoologists with higher education in the field of zoology, the situation was better compared to other units of the Faculty of Mathematics-Natural Sciences. This was due to the establishment of the **Nature Research Station** in Kaunas as early as in 1919, i. e. prior to Higher Courses and the University of Lithuania. The establishment of the Station is related to the beginning of modern zoological research in Lithuania, and Tadas Ivanauskas, the initiator of the establishment of the Nature Research Station and its head, is considered to be the pioneer of modern zoological science in Lithuania. He had excellent education (as a graduate from the University of Sorbonne (France) and the University of Petersburg (Russia)) and was also known as a very strenuous organizer. In his letter addressed to T. Ivanauskas (27 09 1936), Rector, Prof. of Physics Vincas Čepinskis wrote: “Since the very beginning of the University of Lithuania I have highly appreciated Your performance. I have always considered that our University would have never afforded such Sector of Biology and

well-managed Museum without Your dedication to the matters of our country, without Your personal sacrifice and without Your highly-valued competence in zoology and biology on the whole” (citation after Vanagienė, 1976).

The establishment of the Nature Research Station was supported by Prof. P. Matulionis. In a position of Vice Minister of the Ministry of Agriculture and State Resources he provided the premises for the Station in Vilnius street, Kaunas. It was there that biologists and medical students of Higher Courses and the University had lectures on zoology, comparative anatomy, and animal collections of T. Ivanauskas and his father Leonardas Ivanauskas were harboured. Following the establishment of the University of Lithuania the Nature Research Station was handed over to the Chair of Zoology of the University.

The papers published by T. Ivanauskas himself (1920) and by both T. **Ivanauskas** and L. **Vailionis** in journal *Kosmos* (1922–1923) revealed the tasks and aims stipulated for the Nature Research Station. In 1920 T. Ivanauskas in his reference to the works of the researchers of the first half of the 19th century on live nature Jan Krzysztof Kluk, Konstanty Tyzenhauz, **Stanisław Bonifacy Jundziłł**, Jarocki (in our opinion Feliks Paweł Jarocki (1790–1865)) wrote: “The uprising¹ of 1863 has totally uprooted the very outset of cultural work in our country. Consequently, except for some minor monographs, the period from 1863 to the present day can be defined as a blank gap in the field of natural studies” (Ivanauskas, 1920).

It is noteworthy that until the beginning of the 20th century the data gathered on Lithuanian fauna was rather fragmentary, therefore, the aim of the Nature Research Station was to investigate, describe and compile full lists of Lithuanian fauna and flora, to establish the Museum of Nature, to preserve natural resources and promote the ideas of nature conservation as well as to create relevant terms in the Lithuanian language. In order to attain these goals, the assistance of society became essential, too. One of the tasks of the Nature Research Station was to disseminate knowledge of natural science via publications, lectures

and demonstrations of animal collections systematically (Ivanauskas, 1920). The collection of material and information on Lithuanian fauna in order to enable scientific work was considered to be one of the major goals. In most cases the material was of a faunistic character, usually it was a registration of observations and object collection in various localities of Lithuania (Ivanauskas, Vailionis, 1922–1923). The collections were accumulated at the **Museum of Zoology** which was established at the Nature Research Station in 1919. The establishment and operation of this Museum were depicted by Elena Gaidienė (1999). Based on the statement of T. Ivanauskas (1920) stressing that the material at the Nature Research Station had to be displayed under natural conditions, likewise the British Museum, it may be presumed that he had such type of a museum in mind. Accordingly, the Museum had to be not only an institution of raising public awareness and students’ instruction and training, but also a scientific institution.

Faunistic collections of T. Ivanauskas and his father Leonardas were the first items of the Nature Research Station. Konstantinas Aris and J. **Vaitiekaitis** presented their personal entomological collections. The collection of K. Aris contained insects from Turkestan (Central Asia) (Skuodis, 1976). In 1923 P. **B. Šivickis** forwarded a collection of marine fauna from Manila (Ivanauskas, Vailionis, 1922–1923; Lietuvos universiteto <...>, 1922–1924).

The Nature Research Station had a high-flying goal to register all Lithuanian fauna and very limited staff, merely two employees, namely Prof. T. Ivanauskas and his assistant Feliksas Jomantas, who was a very skillful preparator of animals. Their cooperation started long ago during their studies in Petersburg.

It stands to reason that the operation of the Nature Research Station was in need of public assistance. Thanks to Prof. T. Ivanauskas’ notable capability to inspire people to learn more about nature study, quite a number of teachers, pupils, foresters, students (biologists) of Higher Courses and students (zoologists) of the University of Lithuania got involved into the research of Lithuanian fauna. Students participated in expeditions and were instructed on how to observe and collect faunistic material.

¹ In 1863 Polish and Lithuanians revolted against the oppressors – Russian tsarist rule; the uprising has been severely suppressed.

The first generalization of faunistic research results based on material collected in Lithuania was presented in the records of the Nature Research Station for 1920–1921 (Ivanauskas, Vailionis, 1922–1923). The authors of the records consisting of 26 pages were a zoologist and a botanist, however, the majority of the material was related to fauna, with merely one page for flora. The focus was on vertebrates (except fish): information was supplied on 11 amphibian and 7 reptilian species. The latter taxonomic groups of animals were not extended later in Lithuania (Maldžiūnaitė, Prūsaitė, 1976). Additionally, the records held some ornithological and entomological data (more information is given below). In the Nature Research Station from the very beginning of its establishment, zoological specimens were collected for the Museum, student teaching and exchange with scientific institutions of other countries. For instance, the records of 1920–1921 indicated the acquirement of specimens for subspecies analysis of Lithuanian birds.

The situation of zoological research in Lithuania during the 18th and early 20th centuries. In order to get a more extensive view, a brief outline of the most outstanding authors of that time and their zoological publications are presented.

Professor of Vilnius University Ludwig Heinrich Bojanus (1776–1827). He published an important monography on the anatomy of turtles “*Anatome Testudinis Europaeae*”, discovered organ in molluscs that is now known as organ of Bojanus, revealed anatomical distinctions between the aurochs and the European bison. As outstanding researcher he was elected as corresponding member of the Imperial Academy of Sciences in St. Petersburg (Russia), member of the Imperial Leopold-Caroline Academy of Natural Sciences in Bonn (Germany), and a foreign member of the Royal Swedish Academy of Sciences.

Zoologists Stasė Maldžiūnaitė ir Janina Prūsaitė (1976) pointed out that data on Lithuanian mammals, reptiles and amphibians was presented in the works of naturalists published in the 18th and early 19th centuries: Gabriel Rzączyński (1721) on natural history of the Great Duchy of Poland and Lithuania, Stanisław Ładowski (1804) on the natural history of Poland (the work includes a brief indication of beasts, plants, minerals found not only in Poland but in Lithuania as well), S. B. Jundziłł’s

book “*Zoologia krótko zebrana*” (Zoology in Brief) (1807, volume I) provides data on mammals. Adam Plater-Broel (1852) comprised the lists of mammals, birds and fish of the country. Of course, the information available in these works did not provide a full picture of Lithuanian fauna (Maldžiūnaitė, Prūsaitė, 1976). In their survey of ornithological publications Logminas et al. (1976) also made reference to S. B. Jundziłł who wrote about birds and bird migration (1807) and Konstanty Tyzenhauz’s “*Zasady ornitologii*” (Global Ornithology) (1843–1846, 3 volumes) with some information on Lithuanian birds. One of the most important European zoologists of the 19th century Władysław Taczanowski published a book on Birds of Poland (1882) and provided some data on ornithofauna of southern Lithuania. A small book by Friedrich Lindner and Curt (Kurt) Floericke gave information about birds passing over the Curonian Spit, whereas Friedrich Tischler’s “*Die Vögel Ostpreußens und seiner Nachbargebiete*” (Birds of Eastern Prussia) (1914) dealt with birds of the Lower Nemunas. These works were considered as the primary sources for the study of Lithuanian ornithofauna (Ivanauskas, Vailionis, 1922/1923).

During the late 19th and early 20th centuries Mykolas Kazimieras Girdvainis (Michał Kazimierz Girdwoyń, 1841–1925), an ichthyologist recognized all over Europe, was among the first pioneers in aquatic fauna investigations in Lithuania. The scholar published his works on fish, fish diseases, fishery, bees in French, German and Polish. In 1876 he issued a monograph “*Anatomy of Bee*” (Arnastauskienė, Jakimavičius, 1997).

In a biographical handbook *Lietuvos zoologai XVII–XX a.* (Arnastauskienė, Jakimavičius, 1997) the data was presented on entomological studies carried out at that time in Lithuania. Entomological studies were carried out by naturalist Stanislovas Batys Gorskis (Stanisław Batys Górski, 1802–1864). In 1852, a part of his works was issued in “*Analecta <...>*” which elucidated the entomological studies of the northern-southern provinces of Russia (Lithuania was a part of it). Here it is noteworthy to mention science promoters in the late 19th and early 20th centuries Laurynas Ivinskis (1810–1881), Jonas Balvočius (Gerutis) (1842–1915), Juozas Adomaitis-Šernas (1859–1922). For more detailed information see Arnastauskienė, Jakimavičius, 1997.

The research trends of personnel of the **Chair of Zoology**, Sector of Biology, the University of Lithuania during the period under discussion were indicated by the names of the three cabinets – zoology, entomology and comparative anatomy.

The Chairs' personnel was basically engaged with students: lectures, field studies, collection and description of faunistic material and making of preparations. The load of pedagogical work was large and the number of staff insufficient. All lectures on zoological subjects (zoology, entomology and ornithology) were delivered by Prof. T. Ivanauskas. Comparative anatomy was introduced by Prof. Karolis Vagneris who came to Lithuania in 1923. On his departure in 1925 and before the arrival of Prof. P. B. Šivickis to Lithuania this course was alternately delivered by assistant Aldona Vaškevičaitė and doc. Jurgis Elisonas. Subjects of botany were delivered by doc. Liudas Vailionis from the Chair of Botany. Other subjects were delivered by the staff members of sectors in the Faculty of Mathematics-Natural Sciences: experimental physics by Prof. Vincas Čepinskis, inorganic chemistry by Prof. Antanas Purėnas, geology, paleontology and mineralogy, cristology by doc. Mykolas Kaveckis, geophysics by Prof. Kazys Sleževičius. To zoology students Prof. Vladas Lašas from the Faculty of Medicine delivered lectures in physiology, Prof. Eber Landau in histology, embryology, Jurgis Žilinskas in human anatomy, Zigmas Mokus in anatomy of domestic animals (Lietuvos universiteto Paskaitų apžvalga, 1927).

Research into Lithuanian fauna (systematics of animals, distribution, assessment of habitats, behavioural patterns, migration) was an essential field of scientific activities of personnel from the Chair of Zoology.

In the **Cabinet of Comparative Anatomy**, the Chair of Zoology, during the first decade following establishment no scientific activities were carried out due to absence of tutor professor. For a time Prof. T. Ivanauskas was Head of the Cabinet but he did not deliver lectures. T. Ivanauskas (1920) indicated that the aim of comparative anatomy collections was to demonstrate that from the morphological viewpoint the same organs undergo evolution – from the lowest to the highest forms. The Cabinet of Comparative Anatomy housed quite abundant collection of blood vessels, nervous system and osteology pre-

parations. Also, initial steps towards collection of embryological material were made. At that time the Cabinet of Comparative Anatomy performed only tuition function, however, with the arrival of Prof. P. B. Šivickis to the University the start of research was expected.

The Cabinet of Entomology headed by Prof. T. Ivanauskas was also established. It comprised an abundant entomological collection (approx. 100 000 specimens) significant for agriculture and forestry. In 1924 T. Ivanauskas issued a handbook for collection of insects (Ivanauskas, 1924).

In 1925 Alfonsas Palionis (1905–1957) entered the University of Lithuania and became one of the staff members from the very first days of his studies. Thus, the Cabinet of Entomology had two entomologists researchers: T. Ivanauskas and A. Palionis. A. Palionis took an interest in beetles and moths. With time he became a famous Lithuanian entomologist, his collections made the foundation for the entomological collection of modern Zoological Museum in Kaunas (Skuodis, 1976).

Aldona Vaškevičaitė (1893–1981), an employee of the Chair of Zoology, was also an entomologist engaged into ant fauna research. She started her research at the University of Tomsk (Russia, Siberia) and described a variety of one species of ants from Siberia which she also found in Lithuania upon returning in 1925. At the University she taught comparative anatomy and zoogeography. In Lithuania A. Vaškevičaitė described 26 species of ants in Kaunas, Alytus, Marijampolė, Trakai, Utena and Zarasai localities and published the data in the proceedings of the Faculty of Mathematics-Natural Sciences, the University of Lithuania as well as in journal *Kosmos* (Vaškevičaitė, 1928; 1929). A. Vaškevičaitė described another new form of ant which was given the name of *Basanavičius*² (Bižiulevičius, 1999).

Other Lithuanian education institutions also had entomologists. As has been already mentioned, Stanislovas Mastauskis who taught at Agricultural College and later at the Academy of Agriculture also studied insects and published materials on plant pests (Arnastauskienė, Jakimavičius, 1997).

² Jonas Basanavičius (1851–1927), a Lithuanian public figure, one of the key promoters of Independence of Lithuania, scientist, physician.

In 1923, in journal *Kosmos* he published the material on the works of the Cabinet of Entomology of Dotnuva Agricultural College from 1921 to 1922 and presented a list of Lithuanian insect pests as well as their control measures.

The Cabinet of Zoology, the Chair of Zoology, was headed by Prof. T. Ivanauskas. Leonas Čeraška, Kazys Grybauskas, Steponas Jankauskas worked as laboratory assistants and Alfonsas Palionis was a taxidermist.

During the period under discussion the personnel of the Cabinet developed several scientific trends although with different intensity.

Hydrobiological research at the Cabinet of Zoology was carried out by L. Čeraška (1896–1934). In 1923 he went on internship to the Marine Animal Research Station in France. He investigated aquatic mites (Acari, Hidrachnidia) and in 1930 prepared diploma work „*Idėlis Lietuvos hidrakarinologijai*“ (Input to hydroacarology in Lithuania). The paper gave a description of 68 species of Hidrachnidia (Acari, Hidrachnidia) found in Lithuania, in the following years the list was supplemented up to 108 species (Čeraška, 1931–1932). Some of his research was performed in Poland and relevant publications were issued. L. Čeraška got involved in politics, was imprisoned which brought disturbance into his scientific activities. In 1934 his early death ended the work of this very gifted and perspective zoologist (Arnastauskienė, Jakimavičius 1997; Biziulevičius, 1999). Speaking about hydrobiological studies, the first large complex expedition headed by T. Ivanauskas and arranged for lake research in 1926 is worth mentioning, too (Maniukas, 1976). The report contained the data on the research into fauna, flora, limnology, plankton, benthos, water, ground mineralogy and geography (Ivanauskas, 1927–1928).

Ornithological studies at the Cabinet of Zoology were carried out by T. Ivanauskas assisted by other staff members of the Nature Research Station, foresters, teachers, pupils. 198 bird species were registered by T. Ivanauskas in Lithuania. A full list of bird species was presented in the report for the period from 1920 to 1921. Apart from bird species information was given on the finding place, abundance, and names of localities where these species of birds were not found. Additionally, a list of 63 bird species compiled

by other authors was presented. Moreover, there was a brief discussion about the authors who previously wrote on ornithological issues in their books: W. Taczanowski, K. Tyzenhauz, F. Lindner and C. Floericke and Anton Reichenow.

Both in scientific and popular publications T. Ivanauskas tackled the topic of birds, their biology and protection. During the period from 1920 to 1929 over 50 publications were issued in national and international periodicals (Peikštenienė, 1976). Because of his talent and skill to write a lot and in an excellent style T. Ivanauskas was well-known to a very wide circle of Lithuanian people: peasants, citizens, schoolchildren and intellectuals. In the public, he spread various nature protection ideas by arranging annual festivals of tree planting and elevation of bird nesting-boxes. T. Ivanauskas was an organizer of the establishment of Zoological Museum in Kaunas (1919), Ornithological Station in Ventės ragas (1929) and years later Zoological Garden (1935). For investigation of migrations, in 1925 he was an initiator of bird ringing with aluminium rings inscribed: *Université, Kaunas, Lithuanie* (Likevičienė, Vengrienė, 1976). With time quite a large number of people have been involved into this work and bird ringing in the Station has been continuing up to the present day. The above mentioned activities made Prof. T. Ivanauskas the most popular naturalist in Lithuania.

In 1918 the independent state of Lithuania was restored, but in 1919 Vilnius, its historical and cultural capital, was lost and Kaunas city became the provisional capital of Lithuania. Very rapidly Kaunas shook off its provinciality. Quite soon the University of Lithuania was established. At the University, like in many other scientific institutions, many highly qualified researchers (both fellow-countrymen and foreigners) who returned to Lithuania or were invited from Russia, Poland and Western Europe were employed and started their research and tuition. The University made a marked impact on the public by involving amateurs and laymen into the activities of nature studies, environmental protection, into discussions on the issues of world outlook, natural evolution which at the time were very popular topics in many countries (Vitkus, Siudikas, 2003; Būda, Šveistytė, 2008).

To summarize the situation of zoological science in Lithuania during the period from 1918 to 1929, it might be stated that despite relatively insufficient number of zoologists, during that period many of the modern scientific branches, such as entomology, ornithology, theriology, hydrobiology and environmental protection were restarted or initiated in Lithuania.

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ZOOLOGIJOS MOKSLO RAIDA LIETUVOJE 1918–1929 METAIS

Santrauka

Apžvelgiama 1918–1929 m. periodo zoologijos mokslo raida Lietuvoje, sostinę laikinai perkėlus į Kauną. Taip pat apžvelgtos tuo metu įkurtos ir veikusios mokslo ir studijų institucijos: Gamtos tyrimo stotis, Aukštieji kursai, Lietuvos universitetas, kuriose buvo vykdomi zoologiniai tyrimai. Aptartos zoologijos mokslo kryptys – entomologija, teriologija, hidrobiologija, ornitologija (įskaitant paukščių migraciją) bei gamtosauga – vystytos senajame Vilniaus universitete ir davusios pradžią šiuolaikiniams tyrimams Lietuvoje. Įvardyti zoologai, kurie vystė zoologijos mokslą bei dalyvavo pedagoginėje veikloje.

Raktažodžiai: zoologija, Lietuvos universitetas, aukštasis mokslas, Aukštieji kursai, Gamtos tyrimų stotis, Lietuvos zoologai