

# Nikolay Stojanov and Daki Jordanov - two great names in the Bulgarian botanical science

Stefan Stanev

Plovdiv, e-mail: stefstan@yahoo.com

**Abstract.** The year 2023 marks the 140<sup>th</sup> anniversary of the birth of Academician Nikolay Stojanov and the 130<sup>th</sup> anniversary of the birth of Academician Daki Jordanov - two great names in the Bulgarian botanical science. It seems a good occasion to show our respect and gratitude to those scholars and university professors, who made the Bulgarian botanical science proud. Along with their concise biographical data, we shall learn about their advancement across the years in education, science, teaching and administration. Their major scientific works are also mentioned, most of which are still preferred as reference books by many Bulgarian botanists. They were our scholars, teachers, founders and first principals of the Institute of Botany with the Bulgarian Academy of Sciences, organizers and chairmen of the Bulgarian Botanical Society. They used to occupy important administrative and management posts at the Bulgarian Academy of Sciences and Sofia University. Today, they are still constantly present with us to judge us by their high standards and enhance our self-confidence.

**Key words:** botany, Bulgaria, Daki Jordanov, history, memories, Nikolay Stojanov

**Citation:** Stanev, S. 2023. Nikolay Stojanov and Daki Jordanov - two great names in the Bulgarian botanical science. -- *Phytologia Balcanica*, 29 (1): 3-14. -- ISSN 1310-7771 (print), 1314-0027 (online).

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Bulgarian botanical science does not have a history of long standing. Floristic studies in the Bulgarian lands begun somewhere in the mid-nineteenth century, marked a very slow progress and were carried out exclusively by foreigners: E. Frivaldszky, V. Janka, J. Pančić, etc. That situation lasted until Bulgaria's liberation from Ottoman bondage and subsequently until 1887, when Stefan Georgiev published *Beitrag zur vergleichenden Anatomie der Chenopodiaceen* (1886) and Anani Yavashiev followed suit with *A contribution to the knowledge of the Bulgarian flora* (1887, in Bulgarian). These were the first botanical articles written by Bulgarian authors.

There were some well-known reasons for that lagging behind of the Bulgarian (and generally of the Balkan) botany in comparison with the development of that science in the scientific centres of Europe. They were simply a specific manifestation of the reasons for the general economic, cultural and scientific backwardness of the enslaved Balkan countries. However, mention deserves the fact that a few decades after the publication of the two above-cited articles, Bulgarian botany had already gained recognition and prestige in the botanical circles of Europe. Stating this now, not without pride, and leaving through its compara-



**Fig. 1.** Academician Nikolay Stojanov (21.11.1883–09.10.1968).



**Fig. 2.** Academician Daki Jordanov (01.9.1893–05.04.1978).

tively short records, we were paying well-deserved respect to the first Bulgarian Prof. Dr Stefan Georgiev, enthusiastic and tireless florists Ivan Urumov and Bozhimir Davidov, long-standing Head of the Sofia University Botanical Department, Prof. Stefan Petkov, brilliant researcher Prof. Nikola Arnaudov, to Sava Kazandzhiev, Vasil Kovatchev, Ivan Neichev, Boris Achtarov, Toma Georgiev, and a host of other more or less known authors, who have contributed to one or another extent to the advancement and establishment of Bulgarian botanical science. Among them, the names of Nikolay Stojanov, Boris Stefanov and Daki Jordanov stood most impressive, Bulgaria's three greatest botanical scholars, with the greatest contribution for the advancement, establishment and international recognition of Bulgarian botany.

The year 2023 marks the 140<sup>th</sup> anniversary of the birth of Nikolay Stojanov and the 130<sup>th</sup> anniversary of the birth of Daki Jordanov - a good occasion to acknowledge our respect and gratitude to those eminent scholars and university professors, who made the Bulgarian botanical science proud.

Nikolay Stojanov was born on 21<sup>st</sup> November 1883 in the town of Grodno, Russia. He was the youngest of the six children born to Andrey Stojanov, a Bulgarian from the town of Voden (now in Greek Macedonia),

who graduated in law at Moscow University and for many years served as Justice of Peace in the town of Belostok (now in Poland), and Sofia Ivanovna Sedova, a Russian woman from Moscow. The family was affluent and already since their early years the children were able to study foreign languages (Nikolay studied French with a governess) and, subsequently, receive a good education.

Nikolay finished high school in Belostok and, in 1903, enrolled in the Agronomy Department of the Kiev Polytechnical School. The clever, freedom-loving and rebellious in spirit young man already at high school took part in some political circles, read prohibited literature, and subsequently, took an active part in the student gatherings, strikes and demonstrations banned by the police. He became member of the fighting squad of the Esers (the Socialist Revolutionary Party), whose tactics was to fight against the autocratic regime, police high-handedness, class inequality, serfdom, and general backwardness of tsarist Russia, by means of terror acts against individual ministers, governors and other high-standing officials. For his activity in that organization (he participated personally in the attempts on the life of the notoriously cruel Minister of the Interior, P.A. Stolypin), Stojanov was arrested, served seven months in prison and was sent

into exile. After three consequent attempts at escaping from his exile and six more month in prison at the end of 1908, he managed to emigrate to Bulgaria. He stayed there with some of his father's relatives in Sofia and immediately, early in 1909, enrolled as a natural history student at Sofia University. He resumed university studies right from the second term of the second year, after the University authorities recognized his three terms at the Kiev Polytechnical School (where he attended the lectures of the great Russian botanists S.G. Navashin and E.F. Votchal), and in 1911, at the age of 28, he completed his higher education. At University, Stojanov was one of the leading students in his specialty and manifested explicit scientific interest in botany. He had impressed

so much his professors, that Stefan Petkov, his Professor of Botany, entrusted him with the verification, further references and translation into Russian of his *Bibliography of the Bulgarian Flora* (1911, in Russian).

In 1911-1912, Stojanov specialized in botany at Munich University under the world-famous anatomist and plants morphologist Prof. Karl Goebel. On the verge of defending his Doctor's Dissertation on the structure and origin of tubers in orchids (a genuine contribution to the world science on that not very clear problem) he interrupted his specialization. The reason was his enlisting as a volunteer and participation in the two Balkan wars (1912-1913), although he was not subject to mobilization as son of a foreign citizen. After returning from the front, Stojanov started



**Fig. 3.** Botanical hiking in the Rila Mountain. From left to right: Boris Stefanov, Nikolay Stojanov, Boris Achtarov, Tsar Boris III, Ivan Buresh. Peak Belmeken, September 6<sup>th</sup>, 1919.



Fig. 4. N. Stojanov on Mt Vitoshka in the environs of Aleko chalet. August 14<sup>th</sup>, 1940.

work as custos Assistant Professor under Prof. S. Petkov at the Botanical Institute of Sofia University (29 October 1913) and, along with his administrative duties, actively engaged in scientific research. When the First World War broke out, he again joined the hostilities, that time for three long years. After the war, on 18<sup>th</sup> August 1918, he was appointed regular Assistant Professor of Botany at the Physics and Mathematics Faculty of Sofia University.

A year later, in the autumn of 1919, Daki Jordanov also resumed his education (interrupted because of his participation in the war) as a student in Natural History. He was ten years younger than N. Stojanov and was born on 1<sup>st</sup> September 1893, in the town of Omurtag, fifth in line of the nine live children of the intervillage courier Jordan Vichev. Jordanov spent his childhood and adolescence in poverty and penury, money was short even for bread and clothes, let alone education. With great privation and difficulties, he graduated first from the free-of-charge two-year agricultural school in the town of Shumen, and then from the high school, also in Shumen. In 1912, as a recalcitrant “little rebel” from the agricultural school, he was expelled from the high school for his vigorous political activity. In the following decade, his partici-

pation in the Balkan wars (1912-1913) alternated with graduation from the high school and enrollment in the University (1914), participation in the First World War (where, again for political reasons, he was put for “correction” under the sternest battery commanders), return to the University and successful graduation from it in 1921 (too “old” like Stojanov), at the age of 28. At his graduation, he defended a seminar thesis (something like the present-day diploma theses) on the flora and vegetation of the former Omurtag district, the first and only instance until 1944 at the Botany and Zoology Department of Sofia University.

Upon his graduation, D. Jordanov worked for a year and a half at the Central Agricultural Experiments Institute in Sofia, and since 18<sup>th</sup> November 1922, at the invitation of Prof. S. Petkov, as Assistant Professor at the Botany Department of the Physics and Mathematics Faculty of Sofia University, where he replaced N. Stojanov, who joined the Agronomical Faculty.

How did the teaching and scientific career of the two botanists develop further?

After his six-year stint as Assistant Professor, in 1922, N. Stojanov was appointed Associate Professor at the newly opened Agronomical Faculty in Sofia and engaged in the organization and administration of

the Agricultural Botany Department. In 1924-1925, he had the opportunity to specialize first in England (the Kew Herbarium), then in Germany (Botanic Garden and Botanical Museum in Dahlem) and Austria (Vienna and Innsbruck). In 1930, he was appointed Full Professor at the above-mentioned Faculty and a year later became its dean. In 1936, after the retirement of Prof. S. Petkov, Stojanov returned to the Physics and Mathematics Faculty and headed the Plants Systematics and Plant Geography Department until 1951.

In the course of his 34-year teaching practice, N. Stojanov had read lectures in Agricultural Botany, Plants Systematics and Plant Geography to thousands of future agronomists, foresters, natural history researchers and geographers. He wrote the manuals *Lectures in Agricultural Botany* (1932, a general course in botany for students of agronomy and forestry) and *Plant Geography. Basics of Plant Geography in the Balkan Peninsula and Bulgaria* (1950). Mention deserves the fact that the section dedicated to plant geography in the Balkan Peninsula and Bulgaria in his manual merited a genuine scientific work because it was based on the personal observations and research of the author. Since 1939, Stojanov had been full member of the Bulgarian Academy of Sciences (Academician), where he occupied a number of important posts: Secretary of the Natural History Branch of BAS (1949-1951), Secretary of the Biological and Medical Sciences Department (1951-1966), and Scientific Secretary-General of BAS (1956-1959). In the period 1947-1962, he served as the first Director of the Institute of Botany with BAS.

Contrary to the quick (but fully deserved!) scientific career of N. Stojanov, D. Jordanov became Associate Professor only in 1944, after working for 22 years as Assistant Professor. The reasons for that delay were his political views and activities, which ran contrary to the then policy of Bulgaria. In 1925, he was even arrested, expelled from the University and served and prison stint of a month and a half. The official motive for delaying his habilitation that the number of his research works was insufficient was not true. In the first ten years as an Assistant Professor (1922-1932) alone, he penned 19 research works, including *Über die Phytogeographie des Westlichen Balkans* (1924, in Bulgarian), *Ein interessanter Fundort von Abies alba*

*Mill. in Bulgarien* (1926, in Bulgarian), *Pflanzengeographische Studien der Sümpfe Bulgariens in ihrer Beziehung zur höheren Vegetation* (1931, in Bulgarian), *Materialien zur Kenntnis der Moos-Vegetation in den West-Rhodopen (Dospat-Gebirge)* (in co-authorship with B. Stefanov, 1931), *Topographische Flora von Bulgarien* (in co-authorship with B. Stefanov, 1932), etc. Meanwhile, in 1928, he specialized at the Plants Physiology Institute in Berlin under the eminent botanist Prof. H. Knipp, and in 1935, defended a Doctor's Dissertation entitled *Über die Verbreitung der Steppevegetation in Bulgarien*, which was printed next year under the same title (1936, in Bulgarian).

In 1951, D. Jordanov habilitated as Professor and took from N. Stojanov over the Plants Systematics and Plant Geography Department at the Physics and Mathematics Faculty. For more than half a century he supervised the exercises and read lectures in Plants Systematics, Paleobotany and other botanical disciplines to thousands of natural history students, biologists, pharmacists, veterinarians, etc. Between 1947 and 1950, he served as Dean of the Physics and Mathematics Faculty of Sofia University; between 1950 and 1956 was Deputy Rector, and from 1956 to 1962 Rector of Sofia University. In 1947, he became Academician and held membership in the Bureau of the Biological Sciences Department of BAS and Presidium of the Union of Scientific Workers, while in the period 1962-1973 he served as Director of the Institute of Botany, BAS.

The first scientific studies by N. Stojanov were published in the period between the two Balkan wars (1912-1913) and after the end of the First World War (1918), when he worked as custos at Sofia University. These were *Notes on the Spring-Time Flora of Tekirdağ and the Coastline around It* (1913-1914, in Bulgarian), the materials for which he had collected as soldier during lulls of the hostilities, and *Über die vegetative Fortpflanzung der Ophrydineen* (1915, in Bulgarian; 1916, in German), which was the theme of his Doctor's Dissertation still undefended because of the wars.

After publication of the above-cited and some other scientific studies by N. Stojanov, any person familiar with the Bulgarian botanical literature of that time could have easily assumed that a very talented young

scholar had emerged as a qualitatively new phenomenon in the Bulgarian botany. And the future would justify that assumption. The name of N. Stojanov, soon to be followed by the name of another exceptionally gifted young man, Boris Stefanov, marked a new stage in the development of that science. I would hasten up here to say that in the course of his nearly 60-year research career Stojanov had published about 190 research works in floristics, phytogeography, taxonomy, phytocoenology, paleobotany, and other botanical fields, for many of which he blazed the trail in Bulgaria. These works ensured for him the place of one of the greatest and most eminent botanists on the Balkans and in Europe and strongly raised the development level and prestige of Bulgarian botany. No botanist engaged in researching the flora and vegetation in Bulgaria and the Balkan Peninsula could have made any progress without reading most of these works.

Stojanov's merits as a florist became obvious already in his first strictly floristic study, *Für die Flora Bulgariens neue Pflanzen* (1921). In it, he reported 35 species, 21 varieties and one new form for the flora of Bulgaria! Particularly fruitful for his future floristic work at the time proved a closer acquaintance with Tsar Boris III, who was an ardent admirer of Bulgarian Nature and champion of its studying and protection, as well as with the young botanists Boris Stefanov and B. Achtarov, and the Director of the Royal Natural History Institutes, Dr Ivan Buresh. In the years upon the end of the First World War, they all went hiking in the Rila, Stara Planina, and Strandzha mountains, Kresna Gorge and other places all over the country. That was a good chance for Stojanov to had first-hand encounters with the flora of the visited places, to collect a great number of interesting plants, and broaden his own ideas about Bulgaria's Nature. The same period also marked the start of his extremely fruitful cooperation with another highly promising botanical scholar, Boris Stefanov, who had recently graduated from the University. In the course of 10-15 years, the two of them published in co-authorship more than 20 articles, with a lot of new data about the floristic composition and distribution of various plants occurring in Bulgaria. In those articles were described some new for science and some of the rarest endemics

of Bulgaria, including: *Scabiosa rhodopensis*, *Centaurea parilica*, *Geum rhodopeum*, etc.; there were also reported scores of new for the country genera (*Erica*, *Centranthus*, *Hymenocarpus*, *Ligularia*, *Sida*, etc.), species (*Arenaria graeca*, *Astragalus testiculatus*, *Celsia rupestris*, *Iberis saxatilis*, *Orchis provincialis*, etc.), subspecies, varieties and forms. In less than two years, they penned collectively and in succession some of their bigger works, *List des plantes croissant spontanément en Bulgarie* (1921, in Bulgarian), *Les graminées de la Bulgarie avec tableaux pour la détermination des espèces* (1921, in Bulgarian) and *Papilionaceae of Bulgaria* (1922, in Bulgarian), which preceded the most important result of their cooperation, the *Flora of Bulgaria* (1924-1925, in Bulgarian). It is quite surprising even now, how in a matter of three or four years the two young authors had managed to write such a major work in the former and even in the later history of Bulgarian botany, without ever stopping teaching and other research work. Along with that, they had published another 10 or 15 (some collectively) articles and thus had laid the foundations for academic botany in the newly opened Agronomic Faculty at Sofia University.

Besides the *Flora of Bulgaria*, which by 1967 had underwent four editions (the last in 1966-1967, and with participation of B. Kitanov), Stojanov had published alone or in co-authorship with B. Stefanov, D. Jordanov, B. Kitanov, etc. over 40 floristic studies and communications. In them, there were described more than 340 species, subspecies, varieties forms, and hybrids as new for science; more than 340 taxa as new for Bulgaria; six species as new for Europe (e.g., *Scilla bithyunica*, *Ornihtogalum wiedemannii*, *Tunica olympica*, etc.), and 13 species as new for the Balkan Peninsula (*Androsace obtusifolia*, *Fagus orientalis*, *Potentilla fruticosa*, etc.). For hundreds of other species, Stojanov had added further or critical data for their distribution in Bulgaria, or in the neighbouring countries. Reports of such vast floristic information could be shouldered only by a very great botanist, a botanist who was well familiar with the Bulgarian and the European flora, and was able to "see" and orientate himself fast in the vast diversity of plant forms in Nature.

The latter was particularly important in the taxonomic developments of some of the most difficult

polymorphic genera in Bulgaria (*Anthemis*, *Dianthus*, *Trifolium*) made by N. Stojanov, and completed independently or in co-authorship with Boris Achtarov. Along with his theoretical studies on the problems of species, speciation and taxonomic methods, they also merit highest appraisal. Such are his articles, *Über der Artbegriff und Aussichten der modernen Systematik* (1935), *Kritische Studien über die Nelken Bulgariens* (B. Achtarov, 1935), *Studien über die Centaureen Bulgariens* (B. Achtarov, 1935), etc. In them, he showed himself as a consistent evolutionist, supporter of the dynamic method in taxonomy, i.e., by accepting the existence of generic relations within the framework of species, section and genus, he strove to identify those relations and unify the great variety of forms according to the degree of their relationship within the respective taxonomic units, and not to categorize and classify such variety on the basis of the existing morphological differences.

Among the rich and varied botanical works by N. Stojanov, special mention deserves his research into the historical phytogeography of Bulgaria and the Balkan Peninsula. His merits as a great and exceptionally gifted botanist stand out with particular clarity in them. Some of his articles in this domain speak for themselves: *On the xerothermic plant element in Bulgaria* (1925, in Bulgarian), *Die Verbreitung der mediterranen Vegetation in Südbulgarien* (1926), *Versuch einer Analyse des relikten Elementes in der Flora der Balkanhalbinsel* (1930), *Zur Frage über die Herkunft des arktischen Elements in der Flora der Balkanhalbinsel* (1940), etc. These are some of the most frequently read and quoted articles by Bulgarian and foreign authors.

Close in character to the phytogeographical works by Stojanov, in which he had analyzed the contemporary phytogeographical conditions and relationships between the plants in some regions of the country (e.g., *Über die Vegetation des Ali-Botusch-Gebirges* (1922, in Bulgarian), *Phytogeographische und floristische Charakteristik des Pirin-Gebirges* (B. Stefanov, 1922, in Bulgarian), are also his predominantly phytocoenological works. Among those, mention deserves in the first place *Versuch einer phytozoologischen Charakteristik Bulgariens* (1941, in Bulgarian),

in which he for the first time had offered phytocoenological characteristics of the phytocoenological regions in Bulgaria identified by him; also *Über die am Küstenland des Balkangebirges vorkommende Waldvegetation* (1927, in Bulgarian), *The beech woods of the Balkan Peninsula* (1932), „*Vegetationsverhältnisse in Sofia-Tale*” (1932–1937, in Bulgarian), etc. Mention also deserves the fact that Stojanov was the first Bulgarian botanist, who introduced phytocoenological methods in the study of the plant cover of Bulgaria.

Nikolay Stojanov founded the paleobotanical and palynological studies in Bulgaria. Their start was marked by his publication *Beitrag zur Kenntnis der Pliozänflora der Ebene von Sofia (Fossile Pflanzenreste aus den Ablagerungen bei Kurilo)* (B. Stefanov, 1929) and by *Pollenanalytische Untersuchungen auf dem Vitoša-Gebirge* (T. Georgiev, 1934).

The scores of interesting and original articles written by N. Stojanov on the flora and vegetation of Bulgaria and the Balkan Peninsula quickly won him international renown. He commanded several foreign languages and maintained personal contacts with many outstanding botanists of his time, enjoying great prestige and respect among them. His papers read at the international botany congresses in Cambridge in 1930 (*The beech woods of the Balkan Peninsula*, 1932) and in Amsterdam in 1935 (*Über der Artbegriff und die Aussichten der modern Systematik*) aroused great interest and provoked lively discussions. International acknowledgement of N. Stojanov as high-class botanist was supported by his appointment to a number of international botanical committees, commissions, etc. Some of them were: the International Commission for Plant and Geographical Mapping of Europe, International Commission on the Nomenclature of Botanical Systematics, International Commission for the Research of Beech Forests in Europe, etc. That was followed by his election as member of a number of foreign scientific societies: the All-Union Botanical Society of the former Soviet Union, Zoological and Botanical Society in Vienna, Czech Botanical Society, etc. Bulgarian and foreign botanists honoured his name by calling after him more than 20 plants, including *Crepis stojanovii*, *Galium stojanovii*, *Ranunculus stojanovii*, *Viola stojanowii*, etc.

It is difficult to describe the research lifework of that great botanist in several pages, or to highlight all his scientific contributions to botany. Nevertheless, mention deserves the fact that as Director of the Institute of Botany with BAS, along with his administrative duties, he did find time to head the teams engaged in researching the meadows and pastures in Bulgaria, in studying the flora and vegetation in the field-protection forest belts in Dobrudzha, and in the study of plants, which could be used for fortification of strongly eroded terrains in the basin of river Arda. Stojanov participated personally in the field studies preceding the writing of the publications: *Vegetation of meadows and pastures in Bulgaria* (author's unit, 1964, in Bulgaria), *Botanische Studien in der S.-Dobruudscha* (B. Kitanov, V. Velshev, 1955, in Bulgarian), etc.

His more than 160 popular science books, articles and communications are another part of the numerous and diverse botanical writings contributed by N. Stojanov. Their number tells what a great store he was setting on the promotion of scientific knowledge. Moreover, that he was not your standard promoter. Besides a lively and highly readable style, easily understandable and pleasant language, occasionally interspersed with intellectual humor so typical of him, Stojanov's popular science publications possess other properties, which merit attention. In the first place, it is their originality. They are based mostly on his scientific studies, reflect his ideas and views on some theoretical issues, or result from his personal observation and impressions. Second comes their topicality. Often, they are connected to some important scientific inventions, or thoughtless actions in relation to Nature, or aim to outline ways for the correct solution of some practical problems in the domain of agriculture, forestry, environment protection, etc. Third, mention deserves the impressive botanical and general biological culture of his popular science books and articles. This makes them especially valuable and equally useful both to a wide circle of readers and to specialists.

Our ideas about N. Stojanov's creativity in the field of popular science would not be complete, if we fail to mention the scores of lectures and other non-printed events carried out by him. They would fill up the audi-

toriums and arouse great interest. His great botanical erudition and extensive knowledge in other scientific spheres, his expert speaking skills, and attractive personality would enchant the listeners and deeply impress them. His lectured used to be remembered and discussed for a long time. N. Stojanov's versatile popular science works offered to his readers and listeners interesting popular science facts, taught them to love Nature, to regard with concern its beauty and creations, which is a most noble and useful popular science achievement few scholars can boast of. That is why, we should be deeply grateful to N. Stojanov for his rich and varied popular science heritage, and take pride in the fact that one of our greatest botanists was one of our best advocates of Nature.

Dwelling now on the scientific works of Daki Jordanov, I would like to mention from the start that he had not left behind such big and generalizing works like *Versuch einer phytozoologischen Charakteristik Bulgariens* by N. Stojanov, or *Phytogeographische Elemente in Bulgarien* by B. Stefanov (with the exception of the multivolume *Flora of the Republic of Bulgaria*, of which he was Chief Editor and on which I shall dwell further on). But again from the very beginning, I would like to emphasize that without his numerous all-round studies and in-depth contributions to the Bulgarian flora and vegetation, our ideas of the composition of that flora and the distribution of plant species in Bulgaria would have been incomplete, while our knowledge of the plant cover and relationships between the plants in many regions of Bulgaria would have been deficient. He made also important contributions to paleobotany, taxonomy and other botanical fields, and had published, alone or in co-authorship, a total of nearly 120 research articles, studies, monographs and books, about 80 surveying, specific and popular science articles, introductions, information and other kindred materials, several university and high school manuals. He also used to edit books, scientific series, periodical journals, collection works, etc. His remarkable in volume creative heritage is a valuable contribution to the general history of Bulgarian botany, and sets a special place for its author among the most prominent figures in botany. Everything written by D. Jordanov bears the stamp





**Fig. 5.** D. Jordanov on a paleobotanical hiking tour with biology students specializing in botany. In the environs of Podgumer village, Sofia district. October 24<sup>th</sup>, 1962.

of his industriousness, precision, deep love for botany and honestly fulfilled duty to science.

Daki Jordanov's research work corresponded in time to the writing of *Flora of Bulgaria* by N. Stojanov and B. Stefanov. Expected eagerly by the Bulgarian botanists, that book rendered a strong impetus to the many-sided future botanical studies in Bulgaria. By summarizing everything known so far about the Bulgarian flora, it laid paved the way for specifying and supplementing the composition of that flora and for subjecting to critical reassessment the available chorological and taxonomic data. The greatest credits along those lines go to Daki Jordanov. He reported 10 genera as new for Bulgaria (*Aldrovanda*, *Cicuta*, *Imperata*, *Leontice*, *Stratiotes*, etc.), as well as more than 180 species, subspecies, varieties and forms (*Artemisia chamaemelifolia*, *Convolvulus persicus*, *Galium boreale*, *Spiraea crenata*, etc.), some of which were also new for the Balkan Peninsula (*Asperula cretica*, *Ligularia sibirica*, etc.), or generally for Europe (*Polygala alpestre*, *Saxifraga sibirica*, etc.). He recorded new locations for hundreds of other species, or had criti-

cally analyzed their distribution within the country. Alone or in co-authorship, Jordanov had described more than 60 new for science taxa, including: *Arabis olympica*, *Saponaria stranjensis*, *Centaurea managettae* var. *pirinica*, etc. Some plants were named in his honour: *Anthemis jordanovii*, *Brassica jordanovii*, *Galium jordanovii*, *Oedogonium jordanovii*, and a number of others.

Convinced that diffuse studies of the flora, i.e., visiting a maximum large territory in a short period of time is rife with many omissions, D. Jordanov engaged in long-term local studies, i.e., visiting a given area many times in succession, across all vegetation seasons, in the course of several years, and thus "catching" all plants occurring there. Moreover, most of his floristic contributions resulted indirectly from his studies of the vegetation and phyto-geography of different, poorly known regions of Bulgaria. That brought to light his articles: *Über die Phytogeographie des Westlichen Balkans* (1924, in Bulgarian), *Phlangezogeographische Studien der Sümpfe Bulgariens in ihrer Beziehung zur höheren Vegetation* (1931, in Bul-



**Fig. 6.** D. Jordanov (endmost left) with Prof. S.S. Stankov, lady journalist Zhana Avishay and Prof. N.A. Prozorovski at the Jubilee Scientific Session for the 200<sup>th</sup> Centenary of Moscow University, May 1955.

garan)], *Über die Verbreitung der Steppenvegetation in Bulgarien* (1936, in Bulgarian), *Die Vegetationsverhältnisse im bulgarischen Teile des Strandja-Gebirges* (1938–1939, in Bulgarian), etc., each preceded by several contributions and materials about their flora, with all floristic news identified in the course of the studies.

The long years of systematic floristic studies by D. Jordanov practically resulted in accumulation of vast amounts of herbarium materials, now constituting half the herbarium of the Biological Faculty of Sofia University. N. Stojanov and B. Stefanov had also contributed along these lines by creating the Herbarium of the Agronomy and Forestry Faculty (now part of the Agrarian University in Plovdiv). These herbaria are particularly valuable for storing samples of many rare Bulgarian plants and type samples of the newly described for science taxa during the active field studies of the Three Great in the Bulgarian botany. Thousands of their herbarium samples used to render invaluable help and still do in the floristic studies of Bulgaria and to those who write dissertations and monographs, and especially during the work on the multivolume *Flora of the Republic of Bulgaria*.

The above-mentioned works published by D. Jor-

danov during his most active period (1922–1944), plus his joint developments with N. Stojanov, *Botanische Studien auf dem Thesalischen Olymp. I. Floristische Ergebnisse* (1938), and B. Stefanov, *Materialien zur Kenntnis der Moos-Vegetation in den West-Rhodopen (Dospat-Gebirge)* (1931, in Bulgarian), *Topographische Flora von Bulgarien* (1932), *Studies upon the Pliocene flora of the Plain of Sofia (Bulgaria)* (1935), etc. won him a far-reaching international renown and ranked him among the most outstanding names in the history of Bulgarian botany.

After the sociopolitical changes in Bulgaria in 1944, D. Jordanov occupied important administrative posts: Dean of the Physics and Mathematics Faculty, Deputy Rector and Rector of Sofia University, Head of the Plants Systematic and Plant Geography Department, Director of the Institute of Botany of BAS, Chairman of the Bulgarian Natural History Society, Chairman of the Bulgarian Botanical Society, etc. He read lectures on the Plants Systematics and Paleobotany, supervised young researchers who sat for their university diplomas and Doctor's Degrees. Irrespective of his preoccupation, he found time to proceed with his scientific studies by publishing alone or in co-authorship

a number of new works. He was one of the authors and heads of the collective work *Vegetation of Meadows and Pastures in Bulgaria* (1964, in Bulgarian); author of the botanical section in the *Phytotherapy (Treatment with Herbs)* (1963, in Bulgarian), which was in great demand and underwent several editions in a very short period of time, including in Russian; co-author of the finely printed for that time (the credit for which goes to him alone!) edition *Fungi in Bulgaria*, (in co-authorship with S. Vanev & V. Fakirova, 1978, in Bulgarian), editor of the *Excursion Flora of Bulgaria* (1960), etc.

Generally acknowledged as one of Bulgaria's top florists and a scholar able to organize and unite scientific experts from different generations, D. Jordanov headed in 1958 the preparation for print of the most important work in the history of Bulgarian botany, the multivolume *Flora of the Republic of Bulgaria*. Since then and up to 1979 (a year after his death), seven volumes of that series had been published under him as Chief Editor, with his participation as author in the development of a number of families and genera.

*Flora of the Republic of Bulgaria*, with one more volume to complete the series, defends worthily the traditionally good name of Bulgarian botany and enhances further its international prestige. A prestige exemplified by the following events headed by D. Jordanov: First Symposium on the Problems of the Balkan Flora and Vegetation (Varna, 1973), First International Meeting for Mapping the Flora of the Balkan Peninsula (Sofia, 1976), participation of Bulgarian botanists in the development of some genera for the multivolume *Flora Europaea*, as well as their active participation in international botanical congresses, symposia, conferences, international research projects, etc.

However, a scholarly contribution is not judged by creative writing alone, but also by bringing up of new specialists and creation of schools, by tutorship of those who sat for their scientific degrees, by heading of sections, departments and institutes, participation in scientific societies, etc. Along these lines, N. Stojanov and D. Jordanov had done much for Bulgarian botany.

Nikolay Stojanov tutored the first doctorands in botany in Bulgaria, was the first to head the Botanical Society, and initiated diploma works for biology stu-

dents. He offered advice and consulted not only the botanists, but also researchers in forestry, agronomy, pharmacy, and many others who headed scholarly groups and teams. He was founder and for many years head of the Agricultural Botany Department at the Agronomy (subsequently of Agronomy and Forestry) Faculty at Sofia University, Head of the Plants Systematics and Plant Geography Department of the Physics and Mathematics Faculty of the University, research leader of the Botany Department of the Royal Natural History Museum in Sofia, founder and first Director of the Institute of Botany with BAS, and Chairman of long standing of the Bulgarian Botanical Society. Sometimes they say that, with the exception of B. Kitanov, N. Stojanov had left no other disciples and followers. I think such an assessment rather superfluous and partial. Because with his numerous valuable scientific works, his great erudition, his appeal as a human being, teacher and first-degree scholar he had influenced indirectly all generations of botanists of the 1920s and ever since. They had all started their botanical career by regarding his works as ABC of Bulgarian botany, by reading and rereading them, and using them as reference books. In terms of this, all Bulgarian botanists are more or less followers of N. Stojanov. Even now, 55 years after his death, he is constantly present among us to judge us by his high standards and inspire our confidence.

Nevertheless, for the sake of objectivity and viewing the meaning of "teacher" and "student" in the narrow sense of the word, we should say that N. Stojanov and B. Stefanov were the great scholars (for whom teaching was a necessity need and responsibility), while D. Jordanov (without underestimating his scientific contributions and bearing in mind his typically modest words "Stojanov and Stefanov are my betters in botany") was the great teacher and educator of specialists.

With his extensive botanical knowledge and great experience, with his big and kind heart, always ready to respond to the pain and worries of others, with his encouraging smile and patience, with his serenity and boundless optimism, with his typical Daki Jordanov's magnetism, for many years he was a leading figure in Bulgarian botany, had become its symbol and support,



Every science has its peaks and top names to take pride in. Bulgarian botany also has such names: N. Stojanov and D. Jordanov rank among the worthiest and most outstanding of them\*.

**Fig. 7.** Excursion to the Mountain Natural History Station on Mt Vitosha. From left to right: Prof. P.A. Genkel, Assoc. Prof. Georgi Georgiev, Acad. N. Stojanov (sitting) and Acad. D. Jordanov. Late 1950s.

and inspired everybody with serenity and confidence. His trust in and support of the young were fabulous, the door of his Director's and Professor's study was always open for them. He discussed scientific problems with graduates, doctorands, assistant professors and research associates; he listened patiently to their pains and worries, and rejoiced in their success, he took care to help them start suitable work and showed eager interest in their further development and advancement. In short, he helped them genuinely and selflessly, and was their botanical father. Daki Jordanov did not leave any written bequests, but more than once he had repeated his human and scientific credo: "Love what you have chosen, follow it unswervingly, burn with it, even burn out in it, but live with the thought that you should always be useful!"

\*More about the life and work of N. Stojanov and D. Jordanov see in:

**Kitanov, B. & Velinova, L.** 1955. Nikolay Andreev Stojanov. Biobibliography. Bulg. Acad. Sci., Sofia (Китанов, Б., Велинова, Л. 1955. Николай Андреев Стоянов. Биобиблиография. БАН, София).

**Stanev, S.** 1968. Daki Jordanov. Biobibliography. Bulg. Acad. Sci., Sofia (Станев, С. 1968. Даки Йорданов. Биобиблиография. БАН, София).

**Stanev, S.** 2010. History of Botany in Bulgaria. P. Hilendarski Univ. Press, Plovdiv (Станев, С. 2010. История на ботаниката в България. Унив. изд. „П. Хилендарски“, Пловдив).

**Stanev, S.** 2008. Trailblazers of Bulgarian Botany. P. Hilendarski Univ. Press, Plovdiv (Станев, С. 2008. Първостроители на българската ботаника. Унив. изд. „П. Хилендарски“, Пловдив).

**Stanev, S.** 2015. Trailblazers of Bulgarian Botany. Little Known Names in Bulgarian Botany. P. Hilendarski Univ. Press, Plovdiv (Станев, С. 2015. Първостроители на българската ботаника. Малко познати имена от българската ботаника. Унив. изд. „П. Хилендарски“, Пловдив).