

## OPINION

by Assoc. Prof. Dr. Borislav Vasilev Georgiev, National Museum of Natural History at the Bulgarian Academy of Sciences (NMNHS-BAS) on a competition for the academic position “Associate Professor”, professional direction 4.3 “Biological Sciences”, scientific specialty “Zoology of Invertebrates - Entomology”, for the needs of the Faculty of Biology of Sofia University “St. Kliment Ohridski”, announced in State Gazette, no. 5 dated 17.01.2025

One candidate has submitted documents in the announced competition – Chief Asst. Dr. Ilija Gjonov. The documents submitted for the competition meet the requirements of Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for its implementation, as well as the Regulations of the Sofia University “St. Kl. Ohridski”. Dr. Gjonov has been working at the Faculty of Biology at Sofia University “St. Kl. Ohridski” (BFUS) since 2016, initially as a biologist, and since 2017 – as a Chief Assistant. Previously, he worked in the private business sector, and in parallel, from 2013 to 2016, he was a doctoral student at the BFUS. The candidate has more than 10 years of work experience as an entomologist, of which more than 8 years as a university lecturer. From July 2017 to the present, he has been working at the same university, where he lectures, exercises and practices for bachelors and masters, and supervises their diploma theses, conducts research and works on projects. The research and teaching experience, the qualification acquired at the BFUS, as well as the research expeditions conducted are testimonial of extensive professional experience and excellent integration into the scientific community.

In this competition, Chief Asst. Gjonov presents a total of 23 scientific papers, all of them published in reputable journal with an impact factor (IF) or SCImago Journal Rank (SJR). Publications are distributed as follows:

**Indicator B4.** Habilitation work – 8 scientific publications in international journals, for which the reference indicates that they carry a total of 145 pts. The corrected number of points for this indicator is **130 pts.**, since according to the Regulations for implementation of the LDASRB, scientific works B1–B3 (Appendix 5b) each carries by 10 pts. (and not 15 pts.) – for publications with SJR, but without IF. Despite this correction, the points cover the required minimum of 100 pts. in the group of indicators B from the table for compliance with national requirements according to the LDASRB.

**Indicator Γ7.** Scientific publications in journals that are referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus), outside the habilitation thesis – 14 items. Summing up the points of papers Γ1–Γ14 (Appendix 5b) indicates that scientific papers under this indicator bring a total of 248 pts. The corrected number of points under this indicator, however, is **228 pts.**, since article Γ2 carries 10 pts. (and not 20 pts.) whereas articles Γ6 and Γ8 – each carries by 10 pts. (not 15 pts.) – for publications with SJR, but without IF.

**Indicator Γ8.** Published chapters of books or collective monographs – 1 paper, which carries **15 pts.**

Despite the correction in indicator Γ7, the sum of **243 pts.** (obtained from collecting Γ7 and Γ8) exceeds the required minimum of 200 pts. **in group of indicators Γ** from the table for compliance with national requirements according to the LDASRB.

Ilia Gjonov's scientific works, a total of 43, have been cited 185 times in scientific publications (Appendix 8b), mainly by foreign authors, which is a serious certificate of international recognition of his scientific developments. Regarding **indicator D11** - citations in scientific publications, monographs, collective volumes and patents, referenced and indexed in world-renowned databases with scientific information (Web of Science and Scopus), the candidate has indicated 80 pts. for 40 citations (Appendix 8a). The corrected number of points under this indicator is **72 pts.**, since the cited D2, D7, D13 and D31, respectively in the monograph *Insect Biodiversity: Science and Society*, the journal *Bulletin de La Société Entomologique de France* and the open access repository for preprint materials for biological sciences bioRxiv, do not concern scientific publications referenced and indexed in the two databases mentioned above. Despite that correction the sum of 72 pts. exceeds the minimum threshold of 50 pts. for group of indicators D of the table for compliance with national requirements according to the LDASRB.

The presented information for the contributions fully and objectively reflects the research work of Dr. I. Gjonov. The reference also includes contributions to the habilitation work, which clearly outline the scientific profile of the candidate, related to the study of the taxonomy, morphology, faunistics and ecology of insects from the infraorder Cicadomorpha (Hemiptera, Auchenorrhyncha), with the application of classical, modern and innovative methods and techniques for research and data collection.

Some of the more significant original scientific contributions of the candidate deserve noting: description of the new to science species *Balcanocerus agapetomyrmices* from Strandzha mountain, with presence of a key for determining the European representatives of the genus and a list of all 23 species known to date with data on their food plants and their geographical distribution; documentation of a Miocene fossil of the genus *Aphrophora*, which is the first find of a fossil of a representative of the suborder Auchenorrhyncha in the country; registration of a new family (Acanaloniidae), 4 genera and 12 species of cicadomorphs and their parasitoids, new to the fauna of Bulgaria; preparation of a list of the species and genera of the family Dryinidae in the country; mapping of the distribution of 18 species of the superfamily Cercopoidea in Bulgaria, based on data for 8722 digitized specimens from 888 localities; revision of the species composition and distribution of singing cicadas (family Cicadidae) in the country using morphological and bioacoustic methods, upon which the presence of 16 species is reliably confirmed (as for all of them oscillograms are prepared), among them 5 species new for the country fauna whereas other 2 species are excluded from the fauna. Contributions outside the habilitation work cover a variety of topics, the main ones being taxonomic, faunistic and ecological in relation to various groups of insects, but mostly Hemiptera order. The more significant original scientific contributions from this group include: the reports of 2 invasive species, new to the fauna of Turkey (one of which is also new to the fauna of Bulgaria, and the other – new to the fauna of Europe); study of the phylogeny

of representatives of the family Aphalaridae, based on sequences of two mitochondrial genes (COI and Cytb) for 25 species, providing additional information for the classification of the species of the family; recording of a new species, genus and tribe of fulgoroid cixiid as well as a new species of psyllid of genus *Agonosцена* for the fauna of the Maltese archipelago; first registrations for the faunas of Bulgaria and the Czech Republic, of 6 and 1 species of psyllids, respectively; publication of a study on planthoppers, in which 15 species and 5 genera were identified for the first time in Bulgaria; study of the mutually beneficial trophic relationships between planthoppers and their associated xenobionts, in which 126 new relationships were documented and it was established that xenobionts in long-term trophobiosis are always being ants.

The candidate's scientific contributions lead to obtaining new data on the distribution, morphology, phylogeny and ecology of over 200 insect taxa, the majority of them planthoppers, cicadas, leafhoppers and aphids. The bulk of the new data contribute to the clarification of the biodiversity, systematics and biology of the representatives of the suborder Auchenorrhyncha. The submitted scientific papers convincingly demonstrate the candidate's personal contribution in the experimental development, analysis, interpretation and publication of the scientific results. The authorship reference of the scientific papers shows that the candidate is in first or second place in the authorship team in 16 out of 23 papers (or in 70%) submitted for the competition.

Two contributions of an applied nature in the field of curation of entomological scientific collections also worth mentioning: (1) a proposal for an innovative model of a block for mounting cardboards for sticking insects and labels, with the possibility of controlling and regulating the height of individual cardboards and labels on the needle; and (2) a method for significantly more efficient cutting of labels for dry insects. Both proposals are to save time for curators in their work with entomological collections.

The teaching activity of Chief Asst. Iliа Gjonov is significant and is related to the delivery of lecture courses in mandatory and elective disciplines in both levels of education in the BFUS. For the period 2020-2024, his total teaching workload is an average of 460 hours, and the classroom workload is 248 hours, which exceeds the requirements at Sofia University. In the Bachelor's Degree, for the program in "Biomangement and Sustainable Development", he lectures on "Invertebrate Zoology" (IVZ) - a mandatory course, and for various programs of the Bachelor's Degree - he conducts exercises in IVZ and "Entomology", as well as teaching-research practice in IVZ. In the Master's Degree, for students in the program in Entomology, he conducts a lecture course in "Methods of Entomological Research", conducts exercises in "Methods of Entomological Research" and "Large Practicum in Entomology", and conducts teaching-research practice in "Entomology". At the same time, Dr. Gjonov is intensively involved in the training of young professionals. He is the supervisor of 8 students from bachelor's and master's programs, most of them have successfully defended their theses. For the period 2018-2023, there were 6 students, and for the period 2024-2025, respectively, 2. The topics of all graduates are related to the topic of the competition. The topics of all graduates are related to the topic of the competition. Nearly 1/3 of the scientific publications submitted for the competition were published with the participation of his graduates, which shows the active role of Dr. Gjonov in the development of young professionals. It should also be noted that the candidate is the founder and mentor of the

current Student Entomology Club at the BFUS. Considering the above, I highly appreciate the candidate's teaching and educational activities and believe that is significant in scope, covers important areas in the field of the announced competition and fulfills the mission of a teacher at the University.

Also impressive is his participation in scientific forums – a total of 49, of which 34 international and 15 national, as well as Dr. Gjonov's intensive project activities. The candidate has participated or is participating in a total of 30 educational and research projects, including 2 international, 19 national and 9 intra-university, of which he was (or is) the leader of 5.

The skills acquired in the field of bioinformatics - working with various databases (MySQL, PostgreSQL), programming languages (Python), data analysis programs (OpenRfine), digital archive management skills and professional use of software for managing scientific collections and biodiversity data (Specify 6, Specify 7, Scratchpads, TaxonWorks), etc., are excellent attestation of innovative spirit and entrepreneurship. Dr. Gjonov applies these skills both in scientific developments and in the maintenance and management of automated systems for inventorying data related to biodiversity.

I have known Chief Asst. Ilia Gjonov since 2019, when our cooperation began on the preparation of a project for the National Roadmap for Research Infrastructure of the Republic of Bulgaria, which was later approved and developed into the construction of the first national digital database for biological collections in the country. My personal impressions are excellent. During our joint work, I have had the opportunity to see for myself his qualities as an experienced entomologist, an expert in bioinformatics, as well as his motivation for the development of young researchers in the field of entomology.

From the above, it is obvious that **Chief Asst. Ilia Gjonov fully meets and largely exceeds the requirements for holding the academic position of “Associate Professor”** according to the LDASRB as well as the relevant Regulations of the University of Sofia: a defended doctoral degree, sufficient in volume and quality of scientific production, supervision of scientific projects, supervision of eight defended graduates and, most importantly, significant scientific and scientific-applied contributions. The candidate is a very capable and productive scientist, who in a relatively short time as a researcher managed to establish himself as a specialist entomologist with high expertise in the group of cicadas. This is due to his great diligence, passion for science and his ability to work in a team. All this gives me reason to give a positive assessment of his candidacy for the academic position of “Associate Professor” and to recommend to the esteemed members of the Faculty Council of the Faculty of Biology to elect Chief Asst. Ilia Vladimirov Gjonov to the specified position.

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Author of the opinion:

/Assoc. Prof. Dr. Borislav Georgiev/