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Statement

by prof. Dr. Snezhana Mihailova Grozeva, Institute of Biodiversity and Ecosystem Research (IBER), BAS

Concerning: competition for the occupation of the academic position "docent" in professional field 4.3. Biological sciences, scientific specialty "Hydrobiology", for the needs of the Bioindicators, monitoring and ecological classification of freshwater ecosystems RG in Section „Division of Biodiversity and Functioning of Freshwater Ecosystems, Department of Aquatic Ecosystems, IBER-BAS.

In the competition for the academic position "associate professor" in professional direction 4.3. Biological Sciences, scientific specialty "Hydrobiology for the needs of the Bioindicators, monitoring and ecological classification of freshwater ecosystems RG in Section „Division of Biodiversity and Functioning of Freshwater Ecosystems, Department of Aquatic Ecosystems, IBER-BAS, announced in no. 48/07.06.2024 2023 of the State Gazette, only one candidate appeared – chief assistant professor Dr. Violeta Georgieva Tyufekchieva - employee at the same institute.

Violeta Tyufekchieva was born on 05.08.1967. In 1990, she graduated from the Faculty of Biology of SU "St. Kliment Ohridski" as a biologist specializing in Fisheries and Ichthyology. In 2014, she successfully defended her PhD Thesis on "Composition, distribution and ecology of the order Plecoptera (Insecta) in Bulgaria". Dr. Tyufekchieva's main scientific interests are related to the study of taxonomy, fauna, zoogeography, ecological requirements and the conservation significance of pearls (Insecta, Plecoptera).

For participation in the announced competition on paper and electronic version, Dr. Tyufekchieva has submitted all the required documents, carefully prepared.

Dr. Tyufekchieva participated in the competition with 29 publications, distributed as follows - according to the indicator A 50 points for the defence of her PhD thesis; according to the indicator B: Scientific publications, referenced and indexed in the world-famous databases with scientific information (Web of Science and Scopus) with the equivalent of a habilitation work - 9 publications and 141 points (out of the required 100); by the Indicator G: Scientific publications that are referenced and indexed in world-renowned databases with scientific information (Web of Science and Scopus), outside of the habilitation work – 12 publications and 8 book chapters – 303 points (out of 220); by indicator D: Citations – 126 citations in the articles published in world-renowned databases with scientific information (Web of Science and Scopus) – 252 points (out of 60). According to the information submitted by the candidate, 5 articles are published in Q1, 5 in Q3, 7 in Q4, 4 in journals with SJR.
Among 29 articles presented for the competition 17 has impact factor, 4 are with SJR and other 8 are book chapters. As well the candidate presents a list of other 12 publications out of the competition.
Additionally, a list of 30 participations in scientific forums at home and abroad, as well as an impressive list of almost 40 more important projects in the development of which Dr. Tyufekchieva took part as an expert or member of the research team. In four of the presented publications, Dr. Tyufekchieva is the first author, in another 6 she is the second author, and in 7 - the third author. An indicator of research complexity and teamwork skills is the fact that

her publications are co-authored with colleagues both from IBEI and from other units of BAS, SU, with colleagues from abroad.
Dr. Violeta Tyufekchieva not only meets, but also significantly exceeds the minimum national requirements, the requirements of BAS and IBEI-BAS: with the required 20 articles, the candidate presents 29, of which with the required 10 with IF, 17 are presented, and 126 citations in editions with IF (if 10 are required).
The study of Plecoptera is important as a model object of the alpha-diversity of river bottom communities (macrozoobenthos) and an objective indicator of the ecological state of aquatic ecosystems. As a recognized expert on this group of insects, the candidate for the competition, Dr. Tyufekchieva, has studied the group representatives from almost the entire river network in Bulgaria, and has published a large volume of valuable knowledge both on the taxonomy and fauna of pearls, as well as zoogeographical and ecological analyzes of the group for different regions and in different communities.
The main contributions of many years of research on the plecopteran fauna and river and lake bottom communities in the framework of numerous scientific and applied projects for different regions and different aspects of research are summarized in several main groups:

Taxonomic and faunistic studies - the first checklist of Plecoptera in Bulgaria was published, applying the IUCN criteria at the national level, which includes 109 species of pearls. Three species new to the country have been identified and the taxonomic status of 2 genera, 6 species and 3 subspecies of pearls has been clarified. New original faunistic data have been added for numerous reservoirs of different types on the territory of the Eastern White Sea, West White Sea, Black Sea and Danube basin water management areas. The taxonomic diversity and structure of the benthic communities of 7 rivers were studied; data on the Plecoptera order in Bulgaria have been provided for the European TREAM database on population dynamics of specific taxa, very valuable for taking informed management measures to restore ecosystems.

Zoogeographic studies - 31 endemic plecoptera taxa were established, the zoogeographical affiliation of pearls in 22 mountain and semi-mountain rivers in Bulgaria and 16 in the Republic of North Macedonia was determined.

Ecological studies - a complex ecological evaluation of the Plecoptera species and their indicator value in determining the ecological condition of lotic water bodies in terms of the macrozoobenthos was made.

The conservation significance and conservation status of the order Plecoptera - as one of the most significant biological components of running waters worldwide and due to their high ecological demands, the order Plecoptera are one of the most threatened groups of insects (many species are now found only in small isolated groups threatened with extinction or already extinct). Therefore, the information collected and published by the applicant about the conservation status of the plecopteran fauna is very valuable, which makes it possible to take adequate measures for the protection and preservation of the rare and endemic species of pearls in our country.

Analysis of the composition, structure and dynamics of benthic organisms in surface continental waters - as a result of a large-scale study on the species diversity and distribution of the macrozoobenthos in 51 of the largest dams and natural lakes on the territory of Bulgaria, the first complete faunal list of benthic macroinvertebrates was compiled animals, including 297 taxa from 22 systematic groups, in which the data from Dr. Tyufekchieva's research made a significant contribution.

Biodiversity and ecosystem functions - the candidate's contribution with time series data on benthic invertebrates from Bulgaria in a large-scale pan-European study aimed at quantifying temporal trends in the taxonomic and functional diversity of freshwater

macroinvertebrate communities and their responses to pressure factors is also highly valued of the external environment.

Characterization of the water qualities and assessment of the ecological state of the water bodies - the specific reaction of the macrozoobenos in model river systems was also analyzed. The abundance of macrozoobenthic communities was found to be positively correlated with altitude, shading and biochemical oxygen demand (BOD); that under undisturbed aquatic conditions, in drying rivers, invertebrate communities are characterized by high taxonomic richness and a dominant presence of Ephemeroptera, Chironomidae and Trichoptera; that in addition to drastic changes in hydrological characteristics, anthropogenic activity in the watersheds of the studied lotic water bodies adversely affects the integrity of highly vulnerable aquatic ecosystems.

Methodology for the quality of continental surface waters - the methods for assessing the ecological condition of the Danube tributaries have been calibrated using the BEK "Macrozoobenthos" in the study of 43 river sections of type R7 and R8 (Danube tributaries); the indicator potential of aquatic invertebrates and their reaction to different types of anthropogenic pressures was analyzed; as the limits of ecological conditions and the reference value of the "Biotic index" metric for these two river types have been determined. The information obtained about the invasive foreign species of macroinvertebrates in 47 rivers, 33 dams and 6 lakes in Bulgaria is important. The invasive potential of the Maritsa River and 6 adjacent dams was assessed by determining the two indices: abundance contamination index (ACI) and ordinal richness contamination index (RCI).
A generally accepted criterion for the recognition and significance of research is their citation in publications by other researchers - the competition materials present 126 citations in articles published in WoS/Scopus, of a total of 39 publications by Dr. Tyufekchieva.
Dr. Tyufekchieva is a participant and expert in an impressive number of scientific projects funded by various sources. She has long proven her skills as an irreplaceable organizer, and therefore she was involved in the preparation of 12 international scientific forums as a member of their organizational and scientific committees. He is also actively and responsibly involved in the organizational life of IBEI as a member of various committees (e.g. the Committee for evaluation and selection of candidates for participation in the NNP "Young scientists and postdoctoral fellows").
The candidate has a clearly established profile of research work in the fields of entomology (not only as an expert on pearls, but also on all insects in the macrozoobenthos), hydrobiology, and ecology. She constantly imparts her knowledge and skills to all colleagues who have sought her competent help. Her (belated in my opinion) habilitation will strengthen the group of researchers in the field of entomology and hydrobiology at IBEI and take it to a higher level.

Conclusion

I have had the pleasure of knowing Violeta Tyufekchieva for years as a precise, responsible, correct and competent colleague, a wonderful friend, ready to help anyone and always. She is an erudite specialist, valued and sought after both by colleagues in the scientific community at home and abroad - she is a sought-after and desired partner in field and laboratory work, for publishing joint results, in organizing scientific forums, as well as for developing on multiple projects. The original scientific contributions in the field of taxonomy, fauna, zoogeography, ecology and conservation significance of pearls, the ability to work in a team and to train personnel, the recognition of colleagues at home and abroad, as well as my excellent personal impressions of the candidate's qualities give me reason with full confidence to recommend to

the members of the National Academy of Sciences to propose to the Scientific Council of IBEI to support the election of Dr. Violeta Georgieva Tyufekchieva as an associate professor in the scientific specialty HYDROBIOLOGY for the needs of the IG "Bioindicators, Monitoring and Ecological Classification of Freshwater Ecosystems", Biodiversity Section and functioning of freshwater ecosystems', Department of Aquatic Ecosystems.

Sofia, 16.09.2024 prof.Dr Snejana Grozeva