

OPINION

From **Prof. Dr. Plamen Genkov Mitov**,

Faculty of Biology, SU "St. Kliment Ohridski",

member of the Scientific Jury, determined by Order No. 66 of 04.10.2024. of the Director of IBER-BAS

Regarding: the candidacy of Dr. Simona Georgieva Georgieva in the competition for the academic position of "associate professor" in the scientific specialty "Parasitology and Helminthology" (professional direction 4.3. Biological sciences), for the needs of the research group "Taxonomy, evolution and ecology of helminths", section "Biodiversity and ecology of parasites", department "Animal diversity and resources", of IBER-BAS, announced in State Gazette No. 66/06.08.2024 and on the IBER website: www.iber.bas.bg

In the competition for associate professor in the scientific specialty "Parasitology and Helminthology" (professional direction 4.3. Biological Sciences), only one candidate - Dr. Simona Georgieva Georgieva, from the Institute of Biodiversity and Ecosystem Research - BAS, has declared participation and submitted the necessary documents.

The documents submitted by the candidate in connection with the competition have been prepared in accordance with the requirements of the RASRB and the Regulations for the terms and conditions for acquiring scientific degrees and for occupying academic positions at the BAS. From the certificate of compliance with the minimum legal scientometric requirements submitted by the applicant, it is clear that they also exceed the additional minimum requirements of the BAS. I have no joint publications with the candidate.

The candidate, Dr. Simona Georgieva, graduated from SU "St. Kliment Ohridski" as a bachelor in 2006, and in 2008 graduated as a Biologist - Master of Parasitology with excellent success. In the period 2011-2015 is a full-time PhD student at the University of South Bohemia in Ceske Bidejovice, Czech Republic, where he is developing and defending a dissertation on "An integrative taxonomic approach to the study of trematode diversity and life-cycles in freshwater ecosystems".

In the period 2007-2024 participated in 20 expeditions in Europe (Bulgaria, Greece, Italy, Iceland, Czech Republic), Asia (Turkey, Iran, Israel, South Korea), America (USA, Canada, Mexico, Brazil) and Africa (Zambia), where terrain of different types of habitats collects rich scientific material from different groups of hosts and parasites, mainly helminths, and based on this material actively published the obtained results in collective scientific works.

Doctor Simona Georgieva in the period 2004-2024 participated in 27 scientific and scientific-applied projects, financed by international and national scientific funds and organizations, related to the study of parasitic zoonoses, their hosts and the biodiversity of individual groups of parasites in different habitats and parts of the World.

Dr. Georgieva's scientific output includes 37 scientific publications. For the competition, the candidate submitted a total of 34 publications, of which 11 are related to the dissertation work and 23 are related to the current competition for "docent". In almost half of the publications (18), Dr. Georgieva is the first or second author, which speaks of confidence and initiative in formulating scientific hypotheses, conducting scientific experiments and structuring scientific works. Of the 23 publications with which the candidate participates in the competition for associate professor, 21 articles are in refereed and indexed journals with an impact factor

(IF) according to Journal Citation Reports on Web of Science and (SJR) according to Scopus, 1 article in a journal without SJR and IF, and 1 – book chapter. Of these, 9 publications are in publications from the first quartile, 3 are in publications from the second quartile, 8 - from the third quartile and one - from the fourth quartile.

The citation list contains a total of 670 citations, to 33 of the candidate's publications, of which only 17 are not in IF or SJR journals, which is evidence of the significance of the candidate's work, and which significantly exceeds the requirements for an Associate Professor (20/10 citations).

Dr. Georgieva's scientific interests, research and achievements are in the area of species diversity, distribution and evolution of helminths from different habitats, and revealing their life cycles using an integrative taxonomic approach, with a focus on the class Trematoda.

Some of her publications concern important topics such as parasites of species of priority importance - invasive species and the co-introduction of parasites, species of conservation importance, as well as revealing the parasite diversity in poorly studied habitats, incl. polar and sub-polar ecosystems, hypersaline and/or highly anthropogenically influenced, intertidal wetlands. Overall, her research to date has addressed current issues from various perspectives in parasitology, using comparative and interdisciplinary approaches.

The candidate's contributions are expressed in the study and description of a large number (16 in total) of new taxa (2 genera, 14 species) from the group of flatworms, which has a long history of study.

Using an integrative taxonomic approach, 27 species of trematodes have been characterized. An important contribution is the revision of the structure of the *Echinostoma "revolutum"* species complex, as a result of which 6 species have been identified, of which 2 are new to science, and a key has been prepared for determining the cercariae and adult stages of the respective species. A large-scale study was conducted to reveal the species diversity of the problematic genus *Diplostomum* in Europe, with species identification keys for the individual stages of their development being prepared, as well as the species diversity of the genus *Plagiorchis* in lymneid snails in freshwater systems in Central Europe being studied for the first time. Of extreme importance and interest are the large-scale studies to reveal the parasite diversity in extreme ecosystems: polar and sub-polar, deep-sea, hypersaline and highly anthropogenically influenced and intertidal wetlands. Trematode diversity in endemic latid perch in Lake Tanganyika, which represent an important commercial target for the local fishery, was studied for the first time. An important contribution to the consequences of vertebrate introductions and the concomitant co-introduction of parasites, which can have serious consequences at the ecosystem level, is research related to studies of trematodes from introduced game birds and the co-introduction of allochthonous fish pathogens from Northern America. Also valuable are studies of the parasites of species of conservation importance - such as the endangered East Asian porpoise; Magellanic penguin and pinnipeds from the coasts of Brazil and Argentina. As a result, "host-switching" from marine pinnipeds to penguin-like birds was established in one species of *Acanthocephala*; Important contributions have also been made to the fauna, taxonomy and evolution of monogeneans.

I accept the reference for the scientometric indicators presented by Dr. Simona Georgieva for the participation in the competition as well. I think they fully cover the national criteria as well the criteria of the Bulgarian Academy of Sciences and IBER.

Dr. Simona Georgieva is an accomplished scientist-parasitologist with a clearly defined thematic and methodological profile of her work. Her scientific activity and production characterize her as an outstanding specialist parasitologist in the group of digeneans.

I have no personal impressions of the candidate, but from the submitted documentation for the competition, I am impressed by her active and consistent research activity, dedication to her work and her desire to specialize, getting to know a variety of methods and interdisciplinary approaches to the study of different parasite groups (microparasites and helminths) by various groups of invertebrates (marine and freshwater snails, decapods) and vertebrates (marine and freshwater fish, fish-eating birds, toothed whales, pinnipeds) and thus develop in the field of Parasitology, respectively Helminthology. Her desire to publish in quality specialized journals and actively participate in various scientific forums with reports and posters also makes an excellent impression. For the period 2009-2024 she has an impressive 67 participations in scientific forums (European and international congresses and conferences, colloquiums, scientific workshops, helminthological days), where she presents her scientific developments and achievements.

In addition, she also has experience as a teacher, which is important for her future academic activity as a qualified teacher. In the tender documentation provided, it is stated that at the University of South Bohemia in České Bidejovice, she gave practical exercises to undergraduate and graduate students within the course "Biology of Helminths"; she took part in a field practice in "Parasitology". As a post-doctoral fellow at the University of Valencia, Spain, she led practicums for MSc students in Ichthyology and Biodiversity: Conservation and Evolution. She was also supervisor/co-supervisor of 2 doctoral theses, 4 master's and one bachelor theses.

Dr. Georgieva contributes significantly to the scientific output of the scientific unit, where she worked for nearly 9 years, as in the period 2012-2024 a serious and stable growth of her scientific output is noticeable (a total of 37 quality publications or an average of 3 publications per year), which is why I consider the candidate a valuable scientific staff. I believe that IBER-BAS will greatly benefit from the selection of a qualified parasitologist/helminthologist in the person of Dr. Simona Georgieva.

I have no critical comments on the submitted materials for the competition.

Conclusion: The candidate is the author of a high-quality scientific production that meets and exceeds the requirements for holding the academic position of "docent". Doctor Georgieva's contributions are at a high international scientific level and of importance to both the fundamental and the applied spheres of science. At the same time, she also participates in large scientific teams and collaborates with established specialists from different countries, and is repeatedly invited to give reports at scientific forums, which shows that she is a known, sought-after and recognized scientist in the international scientific community.

Based on the above, I give a high assessment of the candidate's scientific results and strongly recommend the Scientific Jury and the Scientific Council of IBER to approve the selection of Dr. Simona Georgieva Georgieva for the academic position of associate professor in the specialty "Parasitology and Helminthology".

02.XII.2024

City of Sofia

Prepared the opinion:

(Prof. Dr. Plamen Genkov Mitov)