

STATEMENT

of Prof. Dr. Roumiana Panayotova Metcheva, retired,
Institute of Biodiversity and Ecosystem Research, BAS

Subject: For participation Dr. Heliana Irzhi Dundarova in the competition for the academic position of Associate Professor at IBEI-BAS in the scientific specialty "Zoology" for the needs of the Section "Community Ecology and Conservation Biology, Department of Ecosystem Research, Ecological Risk and Conservation Biology", announced in SG 66/06.08.2024.

In the competition for Associate professor of "Zoology" Dr. Heliana Irji Dundarova was the only candidate who submitted documents.

Dr. Heliana Dundarova obtained her Bachelor's degree in Zoology at the Faculty of Biology of Sofia University in 2007. She obtained her Master's degree in Zoology at the Faculty of Natural Sciences, Department of Zoology, Charles University in Prague, Czech Republic. She completed her PhD in 2018 on "Molecular phylogeny of the morpho-group *Myotis mystacinus* (Chiroptera: Vespertilionidae) on the Balkan Peninsula" at the Institute of Biodiversity and Ecosystem Studies - BAS.

Since 2012 she has been employed at IBEI-BAS, first as a specialist, then as a senior assistant professor in the Section: Community Ecology and Conservation Biology, Research Group: Conservation Biology. He has been making continuous efforts to improve his professional qualifications since he was a student. He participated in Winter monitoring of bats and control of *P. destructans* infestation levels by sampling cave walls and bat fur in the Bohemian Karst area, in Radio-tracking of *M. mystacinus*, *M. alcaho* and *M. brandtii*, and determining roost parameters using heat sensitive transmitters as well as in Winter monitoring of bats in the Moran Mountains, Slovakia.

Specializes in Molecular analysis of tissue samples from bats belonging to the group of "Mustacata noctuids Natural History Museum in Berlin. He did a specialized course in Molecular Approaches, Methods and Techniques in Animal Ecology at the University of the Basque Country in San Sebastian.

Scientific production

Dr. Dundarova is the author or co-author of 29 scientific publications, 23 of which are subject to analysis in groups B and D, of which 6 are attributed to the habilitation thesis (grouped in Indicator C), of which (according to the attached reference): 3 articles in Q1, 2 articles in Q2 and 2 articles in Q4.

Articles outside the habilitation thesis (grouped in Indicator D) that are referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus) are attributed as follows: 5 articles in Q1, 2 articles in Q2, 3 articles in Q3 and 2 articles in Q4. 4 articles that are attributed as not referenced and indexed in world-renowned databases. An indicator of research complexity and teamwork skills is the fact that most of the publications are co-authored with colleagues at home and abroad.

In terms of meeting the minimum number of points for the criteria:

Group A "Dissertation" 50 points out of the required 50 points; Group C "Habilitation" 127 points out of the required 100 points; Group D "Scientific Publications" 239 points out of the required 220 points; Group E "Citations" - 76 points out of the required 60 points. The total points for the competition is 492.

This condition is fulfilled and the scientific production and realization of Dr. Heliana Dundarova, exceed the necessary criteria for obtaining the title of "Associate Professor" under the legislation of the Republic of Bulgaria. Bulgaria.

Out of the 6 publications classified as "habilitation" (grouped in Indicator C), Dr. Dundarova is the first author in 4 of them, and in 1 of them she participates as the second author (Publication 3 - 8 authors, Publication 4 -20 authors).

In the publications outside the habilitation thesis (grouped in Indicator D), which are 13 in number, she participated as first author in 2 and as second author in 2.

For the most part, the submitted articles have a large number of co-authors due to the complexity of the research and in them it is difficult to determine the individual contribution of the candidate. (Publ. 2 - 6 authors, 4 - 16 authors, 5 - 17 authors, 6 - 7 authors, 7 - 7 authors, 9 - 6 authors, 10 - 7 authors, 12 -10 authors and 13 -10 authors).

The research direction and scientific production are mainly focused on cave-loving bat species, their lyssavirus load and associated subterranean and alpine habitats in Bulgaria and Central Asia.

Thematically, the scientific contributions are grouped into five main areas:

- *The role of cave-loving bat species as vector and reservoir of European rabies viruses (lyssaviruses);*

For the first time, a hypothesis for the spread of lyssaviruses of phylogroup II in Europe, through the contact zone of two zoogeographic areas: the Palearctic and Ethiopia, has been proposed.

Antibodies to rabies have been detected in populations of cave-dwelling bat species in , with positive results indicating that casual contact with bats should be considered as a potential rabies risk in underground refuges.

- *Taxonomic studies of bats in southern Kazakhstan and their ectoparasites;*

The female, male and protonymph of *Spinturnix otonycterisi* Dundarova & Orlova, sp. nov. (Acari: Spinturnicidae) are described for the first time from specimens collected from the enigmatic and rarely captured Turkestan long-eared bat (*Otonycteris leucophaea*) (Severtsov, 1873) in southern Kazakhstan. The study also presents a key to identify species of the genus *Spinturnix* reported from Kazakhstan.

- *Underground habitats as a key conservation unit for vulnerable bat colonies in southwestern Kyrgyzstan;*

For the first time outside the tropics, bat abundance, species diversity and conservation priority are assessed using the Bat Cave Vulnerability Index (BCVI) in underground habitats in southwestern Kyrgyzstan. Significant summer colonies of *Rhinolophus ferrumequinum*, *R. lepidus*, *Myotis blythii* and *M. emarginatus*. For the first time a breeding colony of *Rhinolophus lepidus* was found.

- *Ecology and taxonomy of bats in the alpine zone of Pirin Mountain;*

- *Phylogeography of bat twin species.*

The scientific contributions are scattered and rather broadly spelled out, which is probably due to the great desire of the candidate to present us as rich as possible the content of the research carried out.

Citations

From the attached list of citations, they total 43, with 38 in Scopus or WoS journals and 5 in other journals.

Participation with papers in international scientific forums and research projects

Although the scientific and administrative position of associate professor does not require the indication of participation and leadership of scientific projects Dr. Dundarova has participated and participates as a leader in a total of 5 international and national projects and in 3 as a contractor

I believe that the candidate has undoubted potential to expand her participation in research projects in the European scientific area. The efforts of dr. H. Dundarova's efforts to present and publish her results in various scientific forums. She has presented her work in 11 national and international scientific forums.

She has participated in 6 cave expeditions as an expert on bats and in 4 methodological scientific seminars and field work.

Recommendations and critical notes

I recommend that when presenting the candidate's scientific contributions when participating in collective publications, emphasis should be placed on personal contributions and those that are most significant to the candidate, because not every publication or published paper is of a contributory nature. Cite as contributory the numbers of articles that are listed (No. 14)

I believe that this recommendation will not affect the overall positive evaluation and does not diminish the candidate's scholarly accomplishments. Rather, these comments are intended as a guide for future submissions.

Personal impressions of the candidate

I know Heliana Dundarova to be responsible, thorough, hard-working, precise and dedicated in her work and in her research, with responsibility for her commitments, initiative and a drive to increase her range of competences.

Broad research interests, leadership and participation in national and international projects represent a good testimonial for the future growth of the candidate.

Conclusion

The review of the documents and the analysis of the scientific production of Dr. Dundarova leads to the generalization that her activity combines scientific interests and active work in research projects, successful appearance at scientific forums. The subject matter of the articles shows her consistent interest in her chosen field of research making her an established expert in the field of chiropterology, study of the ecology of bat communities.

Dr. Heliana Dundarova fully meets the mandatory national requirements, the requirements of BAS and IBEI-BAS for holding the academic position of Associate Professor. These are the reasons for me to give a positive assessment of the candidate's scientific results and to recommend to the Scientific Council of IBEI to elect As. Dr. Heliana Dundarova to the academic position of Associate Professor in Zoology.

Sofia, 11.11.2024

Signature:

(Prof. Dr. Roumiana Metcheva)