Вх. № 1054/НО-05-06/ 18.11.2024 г.

STATEMENT

From

Associate Professor Mihaela Nedyalkova, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, Bulgaria. Sofia

Subject: the candidature of Dr. Heliana Irji Dundarova for the competition for the academic position of Associate Professor in Zoology for the needs of the Department of Ecosystem Research, Ecological Risk and Conservation Biology, Section of Community Ecology and Conservation Biology at IBEI-BAS, announced in the State Gazette, issue 66/06.08.2024.

One candidate - Dr. Heliana Irji Dundarova, Principal Assistant in the Section "Biomonitoring and Ecological Risk" at the Department of Ecosystem Research, Ecological Risk and Conservation Biology participated in the announced competition. The candidate's documents submitted for participation in the competition are in accordance with the ZRASRB and its Implementing Regulations, as well as with the Regulations on the Conditions and Procedure for the Acquisition of Scientific Degrees and Academic Positions at BAS and the Regulations on the Conditions and Procedure for the Acquisition of Scientific Degrees and Academic Positions at IBER - BAS.

1. General information

Assistant Professor Dr. Heliana Jiri Dundarova graduated with a Bachelor's degree in Biology at the Faculty of Biology, Sofia University. Kliment Ohridski" in 2007. In 2011 she received her Master's degree in the field of Chiropterology at the Department of Zoology, Faculty of Natural Sciences, Charles University in Prague, Czech Republic. In 2013 she was enrolled as a full-time PhD student at IBEI-BAS and in 2018 she defended her PhD thesis on "Molecular phylogeny of the morpho-group: Myotis mystacinus (Chiroptera: Vespertilionidae) on the Balkan Peninsula". Since then, she has been working as a senior assistant in the section "Community Ecology and Conservation Biology" at IBER-BAS.

2. Science metrics

According to the submitted reference, the candidate participated in the competition with a total of 23 publications, most of which are refereed and indexed journals with impact factor and impact rank. They are divided into groups 'C' and 'D' as follows: in group 'C' - 6 pcs. of which 3 in Q1, 2 in Q2 and 1 in Q4, thus the candidate fulfils the required 100 points for this indicator, collecting 127 points. The criteria for indicator 'D' are met with 13 publications, of which 5 in Q1, 2 in Q2, 2 in Q3 and 2 in Q4 and 2 with SJR without IF. A total of 239 points were collected against a minimum of 220. The publications submitted are fully sufficient to meet this criterion, and the applicant even exceeds the requirements for this indicator.

38 citations in IF journals have been submitted, which also exceeds the requirements of the Regulations on the Conditions and Procedure for the Acquisition of Scientific Degrees and Academic Positions at IBER - BAS.

3. Main areas of the candidate's research work and most important scientific contributions.

All the publications of the candidate fully correspond to the scientific specialty "Zoology", in which the competition for the academic position "Associate Professor" was announced.

The main thematic areas in which the candidate's research activity is developed cover topical and not yet well-studied areas of chiropterology, mainly focused on cave-loving bat species, their lyssavirus load and associated subterranean and alpine habitats in Bulgaria and Central Asia. The main contributions can be divided into 5 main areas:

1. The role of cave-dwelling bat species as vector and reservoir of European rabies viruses. 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 were detected in populations of cave-loving bat species in Bulgaria, using two ELISA kits.

2. Taxonomic studies of bats in southern Kazakhstan and their ectoparasites. The female, male and protonymph of *Spinturnix otonycterisi* are described for the first time from specimens

collected from the rarely captured Turkestan long-eared bat (*Otonycteris leucophaea*) in southern Kazakhstan. A key to the identification of Spinturnix species reported from Kazakhstan is also presented. To date, only isolated records of the Turkestan Long-eared Bat are known from central Asia and the status of the species has unknown population trends.

3. Subterranean 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 were assessed using the Bat Cave Vulnerability Index (BCVI) in subterranean habitats in southwestern Kyrgyzstan. Two underground sites were found to be highly threatened and in need of conservation. For the first time a breeding colony of *Rhinolophus lepidus* has been found in Kyrgyzstan, which was previously misidentified as *R. hipposideros*.

4. Ecology and taxonomy of bats in the alpine zone of the Pirin Mountains. Out of 33 species of bats in Bulgaria, 20 species have been found in the circus of Banski Sukhodol, which is about 2/3 of the Bulgarian bat fauna. The recording and analysis of ultrasound signals appears to be the best way to identify the diversity of handwings in the alpine zone. *Vespertilio murinus* and *Tadarida teniotis* were found to account for more than 60% of the species diversity of bats in the area. The record of Eptesicus nilssonii represents a significant faunistic success.

5. Phylogeography of bat species duplicates. Multilocus phylogeography was performed in the putative sympatric zone of *M. mystacinus* and *M. davidii*, which are the twin species of the *Myotis mystacinus* morpho-group. *M. mystacinus* and *M. davidii* evolved in allopatry and came into secondary contact during their range expansion after the last glacial period.

4. Additional activities

In addition to the materials for the competition, a list of the candidate's participation in international and national scientific forums is presented, which complement the image of Dr. Dundarova as an established, active and internationally recognized scientist. The candidate's professional skills are also clearly evident from her project activities. Currently, Dr. Dundarova has been the leader of 5 scientific projects.

5. Conclusion

On the basis of the documents submitted by the competition by asst. prof Dr. Heliana Dundarova, I am convinced that she fully meets, and in some indicators exceeds the criteria for the conditions and procedure for the acquisition of scientific degrees and the occupation of academic positions of the ZRASRB, the Regulations of the Bulgarian Academy of Sciences and the Regulations of IBER-BAS. Her research profile fully meets the expectations for the advertised position. The field in which she works is important and promising for the development of IBER - BAS and of great scientific and applied importance. I strongly recommend to the members of the Scientific Jury to support the choice of Asst. 4.3 "Biological Sciences", scientific specialty "Zoology" for the needs of IBER - BAS.

13.11.2024 Prepared the opinion:

Sofia assoc. prof. Michaela Nedyalkova PhD