

STATEMENT

Assoc. Prof. Dr. Tsenka Georgieva Chasovnikarova

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Subject: The materials submitted for the competition for the academic position of Associate Professor at the Institute of Biodiversity and Ecosystem Studies, BAS in the field of higher education 4.3 "Biological Sciences", subject area: "Ecology and Ecosystem Conservation"

In the competition for "Associate professor", announced in the State Gazette, issue 38 of 28.04. 2023 and on the internet page of the Institute of Biodiversity and Ecosystem Research, BAS for the needs of the section "Biomonitoring and ecological risk" of the department "Ecosystem research, ecological risk and conservation biology", as the only candidate participated Dr. Yordan Spasov Koshev from the Section "Biomonitoring and Ecological Risk", Department "Ecosystem Research, Ecological Risk and Conservation Biology" at the Institute of Biodiversity and Ecosystem Research at BAS.

1. General presentation of the procedure and the applicant

The proposal submitted by Dr. Koshev's set of materials is in accordance with the state requirements (the Law on the Development of Academic Staff in the Republic of Bulgaria), the requirements of the BAS, and the Regulations for the conditions and procedure for the acquisition of scientific degrees and the occupation of academic positions at the Institute of Biodiversity and Ecosystem Research at the BAS. The candidate participated in the competition with 30 scientific papers, including 20 publications and 10 book chapters. Twente scientific papers and 2 book chapters are accepted for review. According to the Law on the Development of Academic Staff in the Republic of Bulgaria, a book chapter is defined as a "distinct subdivision of the main text of a scientific work, which has a scientific editor and/or scientific reviewers, and which deals with a separate problem or issue of the general topic defined in the title or designated by a number, published in a non-periodical scientific publication having an ISSN or ISBN, respectively". I, therefore, accept the material presented as the 9 chapters of the Atlas of Invasive Alien Species of European Union Importance as a single chapter, as indicated in the table of contents, 'Mammals', from page 126 to page 163 (37 pages in total), which corresponds to the idea of a book chapter. The distribution of the scientific papers according to

the relevant headings is as follows: 5 publications in Q1, 6 publications in Q2, 4 publications in Q3, 3 in Q4, and 2 scientific papers from conferences not refereed in WoS and Scopus. Dr. Koshev's research papers have been published in authoritative scientific journals such as Molecular Ecology (IF 6.494), Diversity (IF 3.031), Journal for Nature Conservation (IF 2.831), etc. Dr. Koshev's scientific work has received recognition among the international scientific community, reflected in a total of 124 citations (<https://www.scopus.com/results/results.uri?cc=10&sort=cpf&src=s&st1=Koshev&st2=Yordan&n&nlo=1&nlr=20&nls=countf&sid=62394cdbaee922c6d4c429d8cd9972f7&sot=anl&sdt=aut&sl=38&s=AUID%28%22Koshev%2c+Yordan+S.%22+55797150300%29&ss=cpf&ps=rf&editSaveSearch=&origin=resultslist&zone=resultslist>). Of the 100 citations submitted for the competition, 82% were in IF journals and the remainder were Scopus refereed. The candidate's overall h-factor is 6 (<https://www.scopus.com/authid/detail.uri?authorId=55797150300>). The candidate's scientific metrics comply with the minimum requirements set by Article 26 of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations on the Conditions and Procedure for Acquiring Scientific Degrees and Titles and for Holding Academic Positions at the Bulgarian Academy of Sciences (2018): indicator A - 50 pts./out of 50 pts., indicator C - 117 pts./out of 100 pts., indicator D - 244 pts./out of 220 pts., indicator E - 200 pts./out of 60 pts.

The candidate's scientific output is accompanied by impressive project activity and active participation in scientific research forums. Dr. J. Koshev has participated in 24 scientific projects, 4 of which were international, and he was the leader of 2 of them and was responsible for specific tasks in the other 2 projects. Dr. Koshev has led 1 project with the National Science Foundation and participated in 18 other national projects with ministries and other agencies. He has participated in 18 international and 14 national scientific forums. The candidate has been a supervisor of one successfully defended Ph.D. student, one graduate student, and three interns. Dr. Koshev is a member of 5 national expert bodies in the field of environmental protection.

All the above scientific-metric indicators are evidence of two important conclusions: 1. The candidate has a varied, rich, and fully satisfying scientific activity for the post of Associate Professor; 2. He is a well-known researcher, nationally and internationally recognized for his work in the field of study and reintroduction of the European ground squirrel, as evidenced by the significant number of projects and citations of his scientific works.

The general impression from the documentation submitted for the competition after the detailed analysis is that the overall scientific activity of Dr. Koshev can be characterized as diverse and with the necessary scientific-metric indicators.

2. Evaluation of the candidate's scientific and applied activity

Contributions of fundamental nature

- **Phylogeographic, molecular genetics, and cytogenetic studies of *S. citellus*** - genetic diversity and variability of *S. citellus* throughout its range were analyzed; the phylogeography of the species was reconstructed based on 915 individuals analyzed by mtDNA sequences (cytochrome b) and 12 nuclear microsatellite markers; the subdivision into two main geographic groups - northern and southern - was demonstrated; the pattern of variation of sex chromosomes was characterized; Bulgaria was shown to be the center of speciation for the species and here the species has the highest genetic diversity.
- **Study of behavior and interspecific relationships of *S. citellus*** - forms of interspecific behavior of *S. citellus* with representatives of other classes of vertebrates and mammals are described, and aggressive and predatory behavior as well as symbiosis with invertebrates (ants) is documented.
- **Small mammals - model objects for ecological studies** - the influence of environmental factors (car traffic) on the mortality of different classes of vertebrates have been studied and the different degrees of vulnerability of the studied groups have been proved; the frequency of albinism in small mammals has been examined and the presence of the steppe polecat in Bulgaria has been proved by photo traps.

Contributions of scientific and applied nature

- **Study of the distribution and impact of alien invasive species in Bulgaria** - the expansion of the range of the muskrat, nutria, and the raccoon dog in Bulgaria has been established; predation of the raccoon dog on the dalmatian pelican, which left its breeding habitat, as a result, has been proven; the negative impact of escaped nutria on the biodiversity and economy of the regions concerned is analyzed; the current status of alien invasive species in Bulgaria (as of 2016) is examined and outlined the possible pathways of entry of 9 mammal species into the country.
- **Adaptation of *S. citellus* during translocation of individuals for conservation purposes** - a multidisciplinary study was conducted, accompanying a real conservation activity during the reinforcement of an *S. citellus* colony - stress levels and parasite transmission were measured, spatial behavior during and after the release of reintroduced individuals was studied by radio-telemetry, the key period for the establishment of new individuals was established. As a result, a higher success rate of reintroduction was recorded in Bulgaria

compared to Central Europe, and specific guidelines for successful reintroduction were developed.

3. Summary comments and personal impressions

The analysis of the professional development of Dr. Koshev shows that he is a researcher with a distinct profile and high qualifications, fully corresponding and coinciding with the subject of the announced competition for "Associate Professor". His active publication activity in terms of volume, content, and quality meets and exceeds the requirements for the position. I assess the candidate's research activity as highly complex. He has developed essential problems in mammalian biology and ecology and addresses them in a multidimensional way.

I have had personal impressions of Dr. Koshev since 2001. He works actively, purposefully, and constructively, supporting his students. I believe that he has found his niche in zoological research and persistently strives to expand it in the direction of participation in scientific projects and collaboration with foreign scientists.

CONCLUSION

After familiarizing myself with the materials and scientific works presented in the competition, analyzing their significance and the scientific and applied contributions contained in them, I find it justified to give my positive assessment and to recommend the Scientific Jury to prepare a report-proposal to the Scientific Council of IBEL, BAS Dr. Yordan Spasov Koshev to be elected at the academic position of " Associate Professor " at the Institute of biodiversity and ecosystem research in the professional field "Ecology and Ecosystem Conservation", the field of higher education 4.3 "Biological sciences".

Sofia, 06.08.2023

Reviewer:

(signature)

Assoc. Prof. Dr. Tsenka Chassovnikarova