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SCIENTIFIC OPINION

by Prof. Georgi Sashev Popgeorgiev, PhD

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Member of the Scientific Jury for the competition for the academic position of Associate Pro fessor at the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences.

Regarding the competition for the academic position of Associate Professor, announced in the State Gazette, Issue No. 69 of 31 July 2026, in professional field 4.3, Biological Sciences, scientific specialty Ecology and Ecosystem Conservation, for the needs of the Community Ecology and Conservation Biology Section within the Department of Ecosystem Research, Environmental Risk and Conservation Biology at IBER–BAS.

Candidate: Chief Assistant Professor Emiliya Dimitrova Vacheva, PhD

I have co-authored scientific publications with the candidate, including publications submitted for this competition.

General Information about the Candidate

Dr Emiliya Vacheva graduated from the Faculty of Biology at Sofia University "St. Kliment Ohridski", where she obtained a Bachelor's degree in Biology and a Master's degree in Vertebrate Zoology. Between 2016 and 2018, she pursued her doctoral studies at the National Museum of Natural History, Bulgarian Academy of Sciences, in the scientific specialty Vertebrate Zoology.

From 2019 to 2021, she worked as a researcher at NMNH–BAS, after which she joined IBER–BAS as an Assistant Professor. Since July 2022, she has held the academic position of Chief Assistant Professor. Her research focuses on the ecology, biology and conservation of amphibians and reptiles. She has participated in nine research projects and has presented results at national and international scientific meetings.

Scientometric Indicators

According to the submitted self-assessment, the candidate meets the minimum national requirements and the applicable requirements of BAS and IBER–BAS:

Group	Indicator	Minimum	Achieved
A	Doctoral dissertation	50	50
B	Habilitation publications – 10 papers	100	145

G	Other publications – 21 papers	220	299
D	Citations	60	166
Total		430	660

The overall score of 660 points exceeds the required minimum of 430 points by approximately 53%. A total of 31 publications have been submitted: 18 with an indicated quartile ranking (Q1 – 3, Q2 – 4, Q3 – 9, Q4 – 2) and 13 in journals with an SJR indicator. In the habilitation publication group, the candidate is first author of eight out of ten papers. A total of 83 citations have been declared, corresponding to 166 points.

Main Research Areas and Most Significant Scientific Contributions

Dr Vacheva's research encompasses six principal areas:

1. Ecology and faunistics. The most extensively represented area includes studies of lizard trophic ecology, dietary preferences, the thermal ecology of syntopic species, reproductive biology, seasonal activity, and the distribution of amphibians and reptiles. A substantial proportion of the findings are based on quantitative comparisons.

2. Genetic research. As a member of international research teams, the candidate has contributed to studies of the genetic diversity and origins of populations of the genus *Podarcis*, helping to clarify phylogeographic relationships and possible human-mediated introductions.

3. Karyological research. A comparative cytogenetic study of representatives of the genus Anguis broadens the candidate's scientific profile.

4. Chemical communication. The chemical composition of snake skin secretions and their role in communication have been investigated, including experimental behavioural responses of *Vipera ammodytes* to specific ketones.

5. Gut microbiome. Comparative analyses of microbial communities in free-ranging reptiles and studies of potentially pathogenic microorganisms broaden the interdisciplinary scope of the candidate's publications.

6. Pathology. A separate descriptive observation of a pathological condition in *Triturus ivanbureschi* has been presented.

From an applied scientific perspective, the studies of the invasive species *Trachemys scripta* and the spatial analyses identifying priority areas for the conservation of threatened reptiles in the

Kresna Gorge deserve particular attention. Overall, the contributions demonstrate thematic continuity in reptile ecology, while some of the findings have direct applications in conservation practice.

Critical Remarks

A comparison of the competition documents reveals a discrepancy in the wording of the title of the publication in Molecules (2020) between the publication list and the self-assessment. This bibliographic inconsistency should be corrected by checking the original publication. No effect on the declared scientometric indicators has been identified.

Conclusion

Dr Emiliya Dimitrova Vacheva is an established researcher with a clearly defined scientific profile in vertebrate zoology, specialising in the ecology and biology of amphibians and reptiles. Her submitted publications demonstrate consistent development of her research activities. Her participation in interdisciplinary teams and projects complements this profile and demonstrates her ability to undertake a range of research tasks.

The candidate exceeds the minimum national requirements and the applicable requirements of BAS and IBER–BAS for the academic position of Associate Professor, with a declared scientometric score of 660 points against the required minimum of 430 points. The substantial proportion of publications with leading authorship, the thematic continuity of her research and her participation in scientific projects provide grounds for a positive assessment of her scientific development.

I have known Dr Emiliya Vacheva for more than ten years, during which we have worked together on scientific projects, field studies and other professional activities. This has allowed me to observe her development as a researcher directly. Based on my personal experience, I can state unequivocally that during this period she has established herself as a competent and reliable specialist with in-depth knowledge of zoology and herpetology. She is distinguished by her solid training, extensive practical experience and ability to apply scientific knowledge to specific research and conservation challenges.

On these grounds, I give a positive assessment of the scientific and professional achievements of Dr Emiliya Dimitrova Vacheva and strongly recommend that the Scientific Jury propose to the Scientific Council of IBER–BAS that she be elected to the academic position of Associate Professor in professional field 4.3, Biological Sciences, scientific specialty Ecology and Ecosystem Conservation.

Plovdiv: 18.11.2026 Prepared by: ..... /G. Popgeorgiev/