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REVIEW STATEMENT

by

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regarding the scientific contributions and qualifications of **Borislav Yasenov Naumov**, PhD, a candidate in the competition for the academic position of "Professor" in the scientific field of "Ecology and ecosystems conservation" for the needss of the section "Community Ecology and Conservation Biology" under the Department of Ecosystem Research, Ecological Risk, and Conservation Biology at IBER-BAS.

In the competition for the academic position of "Professor," announced in the State Gazette, issue No. 44/09.05.2025, one candidate has applied – Associate Professor Dr. Borislav Yasenov Naumov. The candidate is participating in the competition with 49 publications, 33 of which are with impact factor, in prestigeous ecological and zoological journals, 15 are with SJR index, and 1 is a book chapter. The candidate also presents a total of 180 citations in journals indexed in Web of Science and Scopus. The total number of points presented by Dr. Naumov is 1267, which significantly exceeds the national scientometric legal requirements.

Dr. Borislav Yasenov Naumov has over 19 years of professional experience at IBER-BAS in the fields of herpetology and the ecology of amphibians, reptiles, and birds. His work focuses on the distribution, faunistics, and ecology of amphibians and reptiles, as well as research on birds in Bulgaria.

The candidate's contributions, as derived from the submitted publications, can be grouped into five scientific fields: „Ecology and Faunistics", „Taxonomy and Phylogeny", „Morphology and Methodology", „Chemical Communication", and „Pathology". The contributions in the field of ecology and faunistics are related to clarifying the distribution of certain species of amphibians and reptiles in the country and in Europe, including: *Lissotriton vulgaris* s.l., *L. montandoni, Triturus cristatus, T. dobrogicus, T. ivanbureschi, Ichthyosaura alpestris, B. bombina u B. variegata, Hyla arborea, Testudo graeca, T. hermanni, Elaphe quatuorlineata, Podarcis muralis, P. tauricus, Lacerta agilis, L. viridis, Ophisops elegans, Zootoca vivipara, Darevskia praticola, Ablepharus kitaibelii, Zamenis situla, Natrix natrix, N. tessellata, Telescopus fallax, Dolichophis caspius, Malpolon insignitus, Xerotyphlops vermicularis, Eryx jaculus, Vipera ammodytes* and others. Original results have been presented regarding habitat preferences, seasonal and diurnal activity dynamics, and other important aspects of their ecology and biology, as well as the impact of various anthropogenic factors on their populations. The first verified records in Bulgaria of two non-native gecko

species have been reported: the Moorish gecko (*Tarentola mauritanica*) and the Turkish gecko (*Hemidactylus turcicus*). Based on current data on the exact nesting locations of three raptor species (*Aquila chrysaetos, Buteo rufinus*, and *Falco peregrinus*) in the Balkan Mountains, environmental factors that likely play a key role in territory selection for nesting have been identified.

The candidate's contributions in the field of taxonomy and phylogeny include research on the genetic differentiation of the Red whip snake (*Platyceps collaris*) based on cytochrome b sequences, revising the subspecific taxonomy of the species and proposing a new combination for the Balkan–Asia Minor clade (including Bulgarian populations), namely *Platyceps collaris rubriceps*. Additionally, a comprehensive library of species-specific DNA barcodes for amphibians from the Western Palearctic has been created, based on mitochondrial DNA sequencing. This includes verified barcodes for 133 species, representing over 90% of the current amphibian species diversity in the region.

In the field of morphology and methodology, the candidate's contributions include a comparison between the documented maximum body sizes of snake species in Bulgaria and those in other parts of their respective ranges. Changes in body proportions and coloration were tracked in sexually mature individuals of the Danube crested newt (*Triturus dobrogicus*) in under laboratory conditions, revealing allometric growth of the body and a decrease in the Wolterstorff index with increasing age, as well as a clearly observable change in ventral coloration, expressed as a gradual expansion and merging of black spots. A newly developed method for marking and individual identification of the Horned viper (*Vipera ammodytes*).

In the field of chemical communication, for the first time, the chemical composition of the skin secretions of the nose-horned vipers (*Vipera ammodytes*) was studied, identifying a total of 59 chemical compounds, six of which were ketones. The chemical composition of the skin secretions of 13 snake species from Europe, North Africa, and Western Asia was determined based on the analysis of samples from 171 specimens using gas chromatography and mass spectrometry.

Finally, but no less significantly, the candidate's contributions in the field of pathology include the description of a case of pathological swelling of the body and head in Buresh's crested newt (*Triturus ivanbureschi*) under laboratory conditions, with the hypothesis proposed that such swelling may be caused by hormonal imbalance. A case of abnormal pregnancy in the Horned viper (*Vipera ammodytes*) has also been documented.

The candidate has made a significant contribution to the conservation of endangered and rare species from Bulgaria's herpetofauna and ornithofauna through his work on various ecological and conservation projects, environmental assessments, and expert evaluations. Dr. Naumov is a respected specialist at the international level, as evidenced by the substantial number of citations in prestigious journals and a high h-index (10) in the Scopus database.

The candidate has successfully supervised two PhD students, both of whom completed their doctoral dissertations in the field of reptile ecology.

Conclusion

Dr. Borislav Yasenov Naumov has a scientific output that fully meets and exceeds both the minimum national scientometric requirements for holding the academic position of “Professor” and the specific criteria of IBER-BAS.

Given the candidate’s scientific achievements and his authority as a specialist in the ecology of amphibians, reptiles, and birds of international standing, I consider that Dr. **Borislav Yasenov Naumov** meets the requirements of the Law on the Development of the Academic Staff for appointment to the academic position of “Professor” in Higher Education Area 4. Natural Sciences, Mathematics, and Informatics, Professional Field 4.3. Biological Sciences, in the scientific specialty “Ecology and Ecosystems Conservation,” for the needs of the "Community Ecology and Conservation Biology" section within the Department of Ecosystem Research, Ecological Risk, and Conservation Biology at IBER-BAS.

I therefore confidently give my **POSITIVE** evaluation of his work and recommend to the esteemed Scientific Council that he be elected to the academic position of Professor.

Reviewer: .....

(Asscoc. Prof. I. Mollov, PhD)

21.06.2025.