Вх. № 580-НО-05-06/27.06.2025 г.

REVIEW

regarding the competition for the academic position of Professor in professional field 4.3. Biological Sciences, scientific specialty "Ecology and Ecosystem Conservation", for the needs of the Community Ecology and Conservation Biology section, Department of Ecosystem Research, Ecological Risk and Conservation Biology at the Institute of Biodiversity and Ecosystem Research – Bulgarian Academy of Sciences (IBER–BAS)

Candidate: Assoc. Prof. Dr. Borislav Yasenov Naumov

Reviewer: Assoc. Prof. Dr. Simeon Petrov Lukanov, IBER–BAS

The announced competition for the academic position of Professor in professional field 4.3. Biological Sciences, scientific specialty "Ecology and Ecosystem Conservation", for the needs of the Community Ecology and Conservation Biology section, Department of Ecosystem Research, Ecological Risk and Conservation Biology at the Institute of Biodiversity and Ecosystem Research – Bulgarian Academy of Sciences (IBER–BAS), published in State Gazette No. 44 of 09.05.2025, attracted one applicant:

- Borislav Yasenov Naumov, Associate Professor in the Community Ecology and Conservation Biology section.

I have co-authored 14 of the total 49 publications submitted by the candidate as part of the competition portfolio.

The documents submitted by Assoc. Prof. Borislav Naumov demonstrate that the procedure for announcing and opening the competition has been duly followed and complies with the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria and its Implementing Regulations, as well as with the Regulations for the Conditions and Procedures for Acquiring Academic Degrees and Occupying Academic Positions at both BAS and IBER–BAS.

1. General Information on the Candidate's Career and Research Development

Borislav Naumov was born on February 22, 1971. In 1995, he graduated with a Master's degree in Biology from the Faculty of Biology at Sofia University "St. Kliment Ohridski," obtaining both a specialization and a professional qualification in Biology. During

his master's studies, under the supervision of the distinguished Bulgarian herpetologist Dr. Vladimir Beshkov, he completed a thesis entitled "Ecological and Ethological Studies on the Agile Frog – Rana dalmatina Bonaparte, 1840 – in the Lozen Mountain."

In 2007, Borislav Naumov was appointed as a biology specialist at the Central Laboratory of General Ecology at the Bulgarian Academy of Sciences, which was later integrated into the Institute of Biodiversity and Ecosystem Research (IBER–BAS) in 2010. Between 2009 and 2012, he pursued doctoral research at the same institute, developing a dissertation on "Taxonomy and Distribution of Species of the Genus Triturus Rafinesque, 1815 (Amphibia: Salamandridae) in Bulgaria," within professional field 4.3. Biological Sciences (Ecology and Ecosystem Conservation), under the supervision of Assoc. Prof. Dr. Valko Biserkov. Since 2012, he has held the position of Assistant Professor, and in 2017, he was promoted to Associate Professor. Since 2019, he has served as Head of the Community Ecology and Conservation Biology section.

In addition to the English language, which is essential for contemporary scientific work, the candidate has a good command of Russian, studied as an elective during his Master's degree. Of particular note is his early academic interest in quantitative approaches, as evidenced by his choice of the elective course "Mathematical Methods in Biology" at a time when such topics were not yet widely adopted in Bulgarian biological education. He has since continued to develop his expertise in this field and demonstrates strong competencies in statistical software and geographic information systems.

The candidate's scientific interests are focused on batrachology and herpetology, with particular emphasis on the taxonomy, distribution, and ecology of amphibians and reptiles in Bulgaria, as well as their conservation. He is a co-author of publications describing taxa new to science and has contributed to initiatives aimed at establishing new protected areas specifically focused on the conservation of amphibian species in the country. Throughout his academic career, the candidate has demonstrated a clear commitment to his chosen research domains, supported by a substantial body of publications and active participation in both scientific and conservation-oriented projects.

2. Scientometric Indicators and the Significance of Research Results

In the current competition, the candidate participates with 49 scientific publications, excluding those related to his PhD dissertation and those submitted during his appointment as Associate Professor. All submitted publications are in peer-reviewed scientific journals and

correspond to the scientific specialty "Ecology and Ecosystem Conservation." Of these, 33 articles have been published in journals with an impact factor, thus exceeding both the national minimum requirements and the internal criteria set by the IBER–BAS regulations for acquiring academic positions and scientific degrees.

A summary of the candidate's compliance with the minimum scientometric criteria for appointment to the academic position of Professor has been prepared according to the official guidelines. His fulfillment of the national minimum requirements is as follows:

Group A indicator is fulfilled through the completion of a PhD dissertation.

Group B indicator is not applicable, as the candidate has not defended a Doctor of Science (DSc) thesis.

Group C indicators are met with a total of 153 points (the national minimum is 100 points).

Within this group, 11 publications are in journals ranked as follows (according to the year of publication): Q2 – 2 articles, Q3 – 3 articles, Q4 – 4 articles, and SJR – 2 articles. Two of these are co-authored with leading international scientists, and in six of them, Dr. Naumov is the first author, which reflects positively on his scientific leadership.

Group D indicators are fulfilled with a total of 511 points (compared to the 220 points required under BAS regulations, which are stricter than national criteria).

This group includes 38 publications, distributed as follows: Q1 – 2, Q2 – 2, Q3 – 12, Q4 – 8, SJR – 13, and 1 book chapter. Three of the publications are co-authored with internationally recognized researchers; Dr. Naumov is the first author of six and the senior (last) author of 19, many of which involve his PhD students and early-career colleagues. This demonstrates his active mentorship and commitment to developing the field.

However, it should also be noted that over one-third of these publications are in journals without an impact factor (SJR-ranked only). Nine of these are published in just two journals—Ecologia Balkanica and Historia Naturalis Bulgarica—which specialize in data of regional importance. While such publications are valuable for documenting local biodiversity patterns and national species distributions, their relatively high proportion suggests a certain fragmentation of research focus, favoring quantity over depth. This impression is reinforced by the fact that only 6 of the 49 submitted publications fall within Q1 or Q2 journals. Additionally, one publication diverges from the candidate's herpetological focus, dealing with birds of prey; nevertheless, it still aligns with the competition's declared scientific specialty.

Group E indicators are met with a total of 360 points (the BAS requirement is 120,

again exceeding national standards).

The candidate presents a total of 180 citations of 48 of his publications, all from journals indexed in Scopus and Web of Science, which attests to the impact and visibility of his work. Of these, 102 citations are from impact factor journals, fulfilling the internal requirements of IBER–BAS (a minimum of 80 citations, with at least 40 from impact factor journals). Notably, 50 citations originate from a single source: the 2011 monograph Die Amphibien und Reptilien Bulgariens (published by Chimaira, a Frankfurt-based zoological press). The most cited scientific article is a 2010 study on atypical amplexus in anurans in Bulgaria and Greece, with 19 citations; Dr. Naumov is a co-author (led by Mollov). These two publications account for 69 of the citations, with the remaining 111 distributed among 46 other papers. This should not be viewed as a weakness but rather as evidence of the exceptional impact of these two key works.

No errors or inconsistencies were identified in the citation data. According to Scopus, Dr. Naumov has an h-index of 10, which reflects a solid balance between publication output and citation count. However, when self-citations by the author are excluded, the index drops to 7; excluding all co-author self-citations, it falls to 5. Such a notable difference may suggest a degree of artificial inflation in the citation metrics for certain publications.

Group F indicators are fulfilled with 193 points (the national minimum is 150 points).

The candidate has served as a scientific advisor to two doctoral students who successfully defended their PhDs at the National Museum of Natural History–BAS under the mentorship of distinguished herpetologists Assoc. Prof. Dr. Nikolay Tsankov and Prof. Pavel Stoev. He is currently the sole supervisor of two PhD candidates at IBER–BAS, both of whom have been cleared for defense and are expected to complete their theses within the next two years. This demonstrates Dr. Naumov's effectiveness in mentoring and academic development within his field.

According to the report, he has participated in 14 scientific and applied research projects, acting as principal investigator in one successfully completed national research project funded by the Bulgarian National Science Fund (BNSF). He also leads a work package in another BNSF-funded project. All projects are closely aligned with his primary research interests, further illustrating his competence in scientific project management.

3. Main Research Areas and Key Scientific Contributions

In his submitted report, Assoc. Prof. Borislav Naumov classifies his scientific

contributions into the following categories: (1) Ecology and Faunistics, (2) Taxonomy and Phylogeny, (3) Morphology and Methodology, (4) Chemical Communication, and (5) Pathology. The candidate has listed a total of 32 contributions, all derived from the submitted publications (with some papers yielding more than one contribution). In my view, these contributions are fully within the scope of the announced competition. I accept the summary of contributions in its entirety, though I would like to express my reservations regarding the mandatory nature of such a section. In my opinion, it often duplicates the assessment of the significance of research results while placing undue weight on inherently subjective evaluations.

In accordance with the internal rules of IBER–BAS, I provide below an assessment of each major contribution's originality and value to science and/or society (excluding those drawn from joint publications in which I am a co-author):

Ecology and Faunistics

This section includes 23 contributions—over two-thirds of the total. In my view, the framing of this thematic area is not optimal, as ecology is a very broad discipline. It may have been more meaningful to combine faunistics with taxonomy and phylogeny, as species distribution studies are typically tightly linked to taxonomic classification. Nevertheless, I accept all of the contributions as presented, with the following evaluation:

Original contributions: Nos. 1, 8, 11, 13, 16, 17, 19, 22

Confirmatory contributions: Nos. 6, 7, 12, 20, 21

All contributions have scientific value. Those of a confirmatory nature are primarily relevant at the national or regional level, while the original contributions carry significance at the European and global levels. Contributions 2, 3, 4, 5, 9, 10, 14, 15, 18, and 23 stem from co-authored publications and have not been evaluated here.

Taxonomy and Phylogeny

The two contributions in this category (Nos. 24 and 25) are clearly original and of global scientific importance. Particularly noteworthy is the international collaboration resulting in a DNA barcode library for amphibians of the Western Palearctic. This resource includes reliably identified barcodes for 133 species—over 90% of the extant amphibian diversity in that biogeographic region. In my opinion, the contributions in this field represent the most significant scientific achievements of the candidate and underscore his leading role

in Bulgarian herpetological research.

Morphology and Methodology

Of the three contributions in this area, one (No. 26) is confirmatory and another (No. 28) is original. The tagging methodology developed in Contribution 28 is applicable to multiple species with similar body sizes and, as such, holds global scientific relevance. In contrast, the morphometric data presented in Contribution 26 are of primarily regional importance. Contribution 27 is from a co-authored publication and is not assessed here.

Chemical Communication

Both contributions in this section are derived from co-authored publications and are not evaluated.

Pathology

Of the two contributions in this category, one (No. 31) stems from a collaborative publication and is not assessed. The other (No. 32) is original and describes an atypical case of pregnancy in the horned viper (Vipera ammodytes), which is of scientific interest at the European level.

4. Scientific Profile and Professional Competencies of the Candidate

The information presented above clearly demonstrates that Assoc. Prof. Borislav Naumov has developed a well-defined and consistent scientific profile in the field of herpetology, with only one of the submitted publications falling outside this domain. This clear research focus contributes significantly to his ability to attract, mentor, and develop young scientists. This is evidenced by his successful supervision of two doctoral candidates who have already defended their theses, as well as two others expected to defend within the next two years. In his capacity as head of the Department of Community Ecology and Conservation Biology, Assoc. Prof. Naumov has exhibited strong organizational and leadership skills.

5. Questions and recommendations

Recommendations to the Candidate

1. In future research efforts, the candidate should aim to publish more frequently in journals ranked in the top two quartiles (Q1 and Q2) of the Web of Science.

2. Greater engagement in the preparation and leadership of project proposals is encouraged.
3. A more moderate use of self-citations is advisable in forthcoming publications.

Questions to the Candidate

1. What strategies do you believe are most effective for attracting new researchers and doctoral students to your field?
2. Are you interested in university-level teaching or other types of educational or outreach lecturing?

Conclusion

Assoc. Prof. Dr. Borislav Naumov meets and exceeds all scientometric criteria for appointment to the academic position of Professor, as defined by the Law on the Development of the Academic Staff in the Republic of Bulgaria, its Implementation Regulations, the internal rules of the Bulgarian Academy of Sciences (BAS), and the specific regulations of the Institute of Biodiversity and Ecosystem Research at BAS (IBER-BAS).

Having worked closely with the candidate over many years, I can confidently attest that he is a well-established researcher with a clearly delineated scientific profile and a track record of both fundamental and applied scientific contributions. His expertise and dedication place him among the leading herpetologists in Bulgaria.

Based on the foregoing, I strongly recommend that the members of the Scientific Jury support the appointment of Assoc. Prof. Dr. Borislav Naumov to the academic position of Professor in professional field 4.3. Biological Sciences, scientific specialty Ecology and Ecosystem Conservation, for the needs of the Community Ecology and Conservation Biology Section, Department of Ecosystem Research, Ecological Risk, and Conservation Biology at IBER-BAS.

Sofia: Reviewer:

24.06.2025 /S. Lukanov/