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REVIEW

by

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To: The materials submitted for participation in the competition for the academic position of "Associate Professor" at the Institute of Biodiversity and Ecosystem Research (IBER), Bulgarian Academy of Sciences (BAS);

In: Field of higher education: 4. "Natural Sciences, Mathematics, and Informatics"; Professional field: 4.3. "Biological Sciences"; Scientific specialty: "Ecology and Ecosystem Conservation";

For: The competition for "Associate Professor" announced in State Gazette No. 38 of April 28, 2023, for the needs of the Section "Biomonitoring and Ecological Risk" / Department "Ecosystem Research, Ecological Risk, and Conservation Biology", with a **sole candidate**, Chief Assistant Professor Dr. Yordan Spasov Koshev.

1. Overall Introduction to the Received Materials

By order No. 47 / June 12, 2023, issued by the Director of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, I have been appointed as a member of the Scientific Jury for the competition for the academic position of "Associate Professor" in the Section "Biomonitoring and Ecological Risk" / Department "Ecosystem Research, Ecological Risk, and Conservation Biology" at the Institute of Biodiversity and Ecosystem Research. In this regard, I have received a set of documents in electronic format that are subject to evaluation in the present review.

2. General information about the candidate's career and thematic development

Chief Assistant Professor Dr. Yordan Spasov Koshev had graduated from the Faculty of Biology at Sofia University "St. Kliment Ohridski" in 2003 with a Master's degree in Biology, specializing in Zoology of Vertebrates. The topic of his master's thesis was "Dynamics of the spatial structure of a population of small rodents in the area of the Beglika Reserve (Western Rhodopes, Bulgaria)" (attachments 01 and 02.a). This demonstrates that even as a student, Dr. Koshev focused on and specialized in topics related to the study of small mammals. He continued these studies in his developed doctoral thesis as a Doctor of Zoology (Degree from 2012, attachment 02.b) with the theme "Ecological and ethological study of the European souslik (*Spermophilus citellus* L. 1766) in

model colonies." Thus, his entire professional journey, which began at the Technical College of Agriculture and Veterinary Medicine in Kostinbrod and continued at the Bulgarian Academy of Sciences (BAS) as a laboratory assistant, biologist, assistant, and currently as Chief Assistant at IBER, has been dedicated to vertebrate zoology, particularly in the field of small mammalogy. Additionally, Dr. Koshev has participated in several training programs, providing him with competencies in important contemporary methodological aspects of mammalogy, such as Geographic Information Systems, models and processes in ecology, and methods like Capture-Mark-Recapture, among others. According to the attached reference (attachment 03), the candidate's total work experience in the field is 23 years and five months, all of which have been at IBER/BAS. All of this demonstrates that Chief Assistant Professor Koshev has a systematic and consistent development within the scientific community, leading to the logical progression of his carrier.

Characteristics of the Overall Scientific Activity of Chief Assistant Professor Yordan Koshev

The submitted electronic materials by the candidate, as well as the reference regarding the minimum requirements according to Article 24 of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LRASRB) for the scientific field 4.3. Biological Sciences, indicate that the participant in the competition meets the conditions of the minimum national requirements for the respective academic position of "Associate Professor" in accordance with LRASRB and Article 53 of its Implementation Regulations. These materials demonstrate the adherence to the minimum requirements outlined in the Regulations on the Conditions and Procedure for Obtaining Academic Degrees and Holding Academic Positions at BAS, as well as the Regulations on the Conditions and Procedure for Obtaining Academic Degrees for Obtaining Academic Degrees and Holding Ac

According to the attached list of scientific works (attachment 05), the candidate has presented a **total of 30 scientific works**, including **18 scientific works with Impact Factor** in Web of Science, **two works** not indexed in Web of Science and/or Scopus, and **10 book chapters**. According to the list of scientific works (attachment 01), the total number of published works by Dr. Koshev **is 52**: 22 works indexed in Web of Science, seven works in non-indexed Web of Science/Scopus journals, co-authorship in one book, authorship of an Action Plan, co-authorship in 13 scientific-applied developments formulated as parts of books, and authorship or co-authorship in three unpublished reports.

The candidate's overall Impact Factor from the documents submitted for the competition is **28.371**, with the distribution of scientific works across Quartiles as follows: 5 articles in Q1, 6 articles in Q2, 4 articles in Q3, and 3 articles in Q4. The highest impact factor (IF = 6.494) is from

the journal *Molecular Ecology*. The most articles (4) have been published in the journal *Acta Zoologica Bulgarica* – 2 in Q3 and 2 in Q4. Two articles each have been published in the journals *Diversity* (Q1), *Mammalian Biology* (Q1), and *Biodiversity Data Journal* (Q2), while one article each has been published in the journals *Molecular Ecology* (Q1), *Nature Conservation* (Q2), *Acta Ethologica* (Q3), *Biotechnology & Biotechnological Equipment* (Q3), *European Journal of Wildlife Research* (Q2), *Journal for Nature Conservation* (Q2), *North-Western Journal of Zoology* (Q2), and *Russian Journal of Theriology* (Q4). Additionally, 10 book chapters have been presented.

According to his Scopus profile, Chief Assistant Professor Koshev has an h-index of 6, despite having indicated 5 in the documentation, with over 100 citations to his works.

In addition to his outstanding scientific production with a large number of publications in highranking journals, the candidate demonstrates active participation in scientific forums, project activities, and mentoring of students and interns. Besides the analysis of the scientific output presented below, the candidate has participated in 16 international and 14 national forums, with 40 published abstracts, guided three interns, one graduate student, and one doctoral student. Additionally, Dr. Koshev has been involved in 5 expert bodies, conducted 35 reviews of scientific articles, authored 12 popular science articles and materials, delivered 27 lectures, engaged in media appearances and training, and is a member of two international editorial boards of journals: Land (MDPI) (IF WoS = 3.905, SJR – Q2) and Journal of Wildlife and Biodiversity (JWB). This demonstrates the comprehensive profile of Dr. Koshev as a recognized and prominently visible scholar in the international arena.

3. The main directions in the candidate's research work and the most important scientific contributions in each of them

In his creative development, Chief Assistant Professor Yordan Koshev has specialized in two closely related scientific profiles: 1. Research on small mammals (Micromammalia), with a focus on rodents (Rodentia) and some predators from the Mustelidae family; 2. Studies on invasive alien species of mammals in Bulgaria. This specialization has provided him the opportunity to delve deeply into the conservation biology of his target species, their adaptation during translocations, as well as investigations into causes of mortality. A significant portion of his research is centred around the European souslik (*Spermophilus citellus*) – 11 works related to his dissertation and 5 beyond it, continuing to this day.

A distinctive characteristic of the candidate is his work within small scientific teams and a publication record predominantly in specialized international journals focused on the study of

mammals, which logically stems from his specific profile. Upon closer examination, Dr. Koshev's work can be summarized in **seven directions**:

1. Adaptation of S. citellus during Translocation for Conservation Purposes: The candidate is a pioneer in studying this crucial aspect for the species' conservation. Various aspects of this adaptation are explored in three scientific papers. Significant contributions include:

A) Establishing stress levels in the species during translocation by measuring cortisol metabolite concentrations in feces (paper B.4.2). Significant result of this study is the revealed higher stress levels in local individuals compared to translocated ones, with important practical implications. Recommendations were made regarding the number of released individuals and release site locations to reduce stress on the local population.

E). B). Another important scientific-applied contribution is related to the presence and transfer of parasites in souslik (paper D.7.3) - it was found that a greater distribution and diversity of helminths in the donor colony compared to the colony subjected to reinforcement. Seasonal parasite dynamics were confirmed, as was the positive relationship between host population density and parasite prevalence and species richness, typically predicted by epidemiological models and evidenced by empirical studies.

B). Conducting Bulgaria's first pilot telemetry study of sousliks using radio collars (work Γ .7.7). Important scientific and applied conclusions were drawn: 1. Translocated individuals do not venture far from the release site; 2. Translocated individuals have much larger territories compared to locals; 3. Males and adults are more mobile than females and juveniles; 4. The greatest mobility among translocated individuals occurs 5-10 days post-release (a crucial establishment period); 5. Predation is the primary cause of mortality, with high survivorship among translocated individuals (around 79%). Significant findings and recommendations regarding species translocation were provided.

2. Applied Conservation Biology with a Focus on Conservation Translocations of *S. citellus* – the scientific works in this direction (3 works) provide an important analysis of the relationship between conservation activities and accumulation of knowledge about the species, to increase their success. Two papers (B.4.3 and 19 - publication in a non-refereed journal) analysed the main reasons for failure in souslik translocations - poorly selected and maintained habitats, unfavourable climatic conditions (rainy and cool weather) during the relocation, as well as differences in the altitude between the donor population and the release site. Additionally, "soft" release of individuals was found to be a good strategy for translocation success. In publication B.4.4, an overview analysis of the results of the relocation of individuals of *S. citellus* in South-Eastern Bulgaria during five years of monitoring was made. A positive correlation was found in the spatial distribution of souslik burrows and colonies of Harting's vole *Microtus hartingi*.

The primary contribution of the overview analyses in the three publications lies in the specific recommendations provided regarding the activities related to the translocation of *S. citellus*. These recommendations encompass various aspects, such as the genetic lineages of released individuals, monitoring frequency, habitat management, meteorological conditions during release, territory size, elevation, and more.

3. Phylogeographic, molecular genetic, and cytogenetic studies of *S. citellus* for conservation biology purposes – Three scientific papers are dedicated to these studies. In G.7.1, the genetic diversity and variability of *S. citellus* across its entire range were examined to elucidate the species' phylogeography. Two main geographical groups were identified - northern and southern, with the population inhabiting the territory of present-day Bulgaria being a centre of species diversification and exhibiting the highest genetic diversity. This was further confirmed by publication G.7.2, where three different morphologies for X and Y chromosomes were discovered. The unique distribution of subtelocentric/acrocentric variants of the X chromosome and metacentric Y chromosomes in Bulgarian populations supports the hypothesis that Bulgaria is a centre of species diversification. The genetic status of the species in Bulgaria was explored in paper B.4.1. A good level of heterozygosity was observed, but the inbreeding index was significant for most regions. Bulgarian populations were categorized into two groups: northern and southern, with the Balkan Mountain acting as a barrier between the two groups.

4. The research and management of protected areas under the "Natura 2000" network with a focus on *S. citellus* are based on two papers (B.4.5 and G.7.9). They form the foundation of the developed "Action and Conservation Plan for the European Souslik *Spermophilus citellus* in Bulgaria 2022-2031". These papers underscore their significant scientific contribution. They assess the distribution and relative abundance of the species within two protected areas - Ponor and Besaparski Ridovi. In the second paper (G.7.9), a previously unapplied method and software, Distance, were utilized for the analyses within this group.

5. Investigation of Behavior and Interspecific Interactions of *S. citellus* – these aspects are examined in three scientific papers. Generally, the behaviour of the souslik and its interactions with other species are poorly studied. Aggressive behaviour directed towards species like *Lacerta trilineata*, *Corvus frugilegus*, and *Mustela nivalis* has been described (paper G.7.8). A unique case of active predation by *S. citellus* on an Eurasian tree sparrow (*Passer montanus*) has been documented, likely linked to the need for high-energy food at the end of the breeding season (paper G.7.10). An important practical interaction between *S. citellus* and ants (primarily Yellow meadow ant *Lasius flavus*) has been established, which facilitates the souslik and is mostly neutral for the

ants (paper G.7.5). This finding could potentially enhance the adaptation process following translocation of individuals, if considered when selecting release sites for sousliks.

6. Small Mammals (Micromammalia) as Model Organisms for Ecological Studies are examined in three papers. An investigation into the impact of automobile traffic on the mortality of amphibians, reptiles, birds, and small mammals along the "Trakia" motorway and a control road segment of a first-class road between Pazardzhik and Plovdiv is conducted in paper B.4.6. The results reveal that small mammals (excluding domestic dogs and cats) along with reptiles are the least affected group, but rodents (Rodentia) constitute a significant portion of the affected small mammals.

During fieldwork and examination of zoological collections, colour variations have been observed in several small mammals - the white-toothed shrew (*Crocidura leucodon*), European mole (*Talpa europaea*), and house mouse (*Mus sp*), as documented in paper G.7.4. Despite the rarity of these variations, their discovery holds fundamental scientific significance.

An exceptional finding involved observing hunting behavior of the Steppe polecat (*Mustela eversmanni*) during the day within a souslik colony in Northwestern Bulgaria (paper 20 in unreferenced journal). This observation, unequivocally confirming this predator's presence in an area where information about its distribution was previously lacking, carries considerable importance. While this publication is in unreferenced journal and the significance of the finding is substantial, solid evidence for these observations (such as photographs or video material) is lacking. My recommendation is that such rare observations should be better documented and published in more prominent scientific outlets for greater visibility.

7. Study of the distribution and impact of invasive alien mammal species in Bulgaria – this constitutes the second major direction of the candidate's research, encompassing three publications and 10 book chapters. The impact of the invasive raccoon dog (*Nyctereutes procyonoides*) on the destruction of nests of the threatened Dalmatian pelican (*Pelecanus crispus*) has been explored in publication G.7.6, bearing significant conservation implications. An alarming impact has been identified, with approximately 30% of the Bulgarian population leaving breeding sites in search of new nesting areas. Documentation of escapes from fur farms has been observed in the American mink (*Neovison vison*) in a natural setting (publication G.7.11). An overview of the historical and current distribution of mink farms in Bulgaria has been conducted, including the present state of the largest remaining fur farm. The negative impact of escaped mink on the local population and economy has been analysed, making this study a crucial scientific foundation for potential legislative changes and measures to mitigate the spread of invasive species in the country.

A review of the distribution of three invasive species - the Muskrat (*Ondatra zibethicus*), the Coypu (*Myocastor coypus*), and the Raccoon dog - from their initial introduction to the present day - has been conducted in publication G.7.12. Three important conclusions have been drawn: 1. The most widespread invasive small mammal in Bulgaria is the coypu. 2. The muskrat can overcome the significant physiogeographical barrier of the Balkan Mountains. 3. As of now, *N. procyonoides* is distributed across almost the entire territory of Bulgaria.

Chapter G.8.1 of the book represents the first overview of the status, research, policies, and awareness of the invasive species issue in the first report on invasive species in Southeastern Europe. This report precedes and serves as the foundation for the creation of the Atlas of Invasive Alien Species of EU Concern, published by IBER/BAS.

In a series of 9 chapters in the Atlas of Invasive Alien Species of EU Concern, the status as of 2016 of 9 foreign invasive mammal species included in Regulation (EU) No 1143/2014 of the European Parliament is examined. These species are either already present in Bulgaria or have the potential to enter. The species covered include: Pallas's Squirrel *Callosciurus erythraeus* (G.8.2), Small Asian Mongoose *Herpestes javanicus* (G.8.3), Reeves's Muntjac *Muntiacus reevesi* (G.8.4), Coypu *Myocastor coypus* (G.8.5), South American Coati *Nasua nasua* (G.8.6), Raccoon *Procyon lotor* (G.8.7), Eastern Gray Squirrel *Sciurus carolinensis* (G.8.8), Fox Squirrel *Sciurus niger* (G.8.9), Siberian Chipmunk *Tamias sibiricus* (G.8.10). Descriptions of these species and analyses of their potential pathways for introduction in Bulgaria have been conducted. This serves as a crucial step in preventing the introduction and managing the spread of invasive alien species. These publications provide essential biological information for the development of national documents, management plans, and strategies for prevention, containment of spread, and response to the introduction of these species, both those not yet in Bulgaria and those already present.

4. The significance of the obtained results, demonstrated through citations, publications in prestigious journals, awards, membership in international and national scientific organizations, etc., is related to the competition for the academic position of "Associate Professor."

According to the compliance report (appendix 04) in the competition for the "Associate Professor" position, Chief assistant professor Koshev has participated with **a total of 18 articles and 10 book chapters.** The two works that are not indexed in Web of Science and/or Scopus are not included in the current competition due to their inapplicability (participation with 0 points). Indicator A is fulfilled (50 points) with the attainment of the educational and scientific degree of "Doctor." The scientific works for indicators B, C, and D are distributed across quartiles and points, as follows:

- For indicator B4, a total of 6 articles are presented: 2 articles in Q1, 2 articles in Q2, and 1 article each in Q3 and Q4, totaling 117 points out of the required 100 points for the "Associate Professor" position. *The overall impact factor for this indicator in the competition is* **8.478**. In three of the presented articles, Dr. Koshev is the first author, and in the other 3, he is the second author, meaning that he has a leading role as a researcher in all of the scientific works.
- For indicator G7, a total of 12 articles are presented: 3 articles in Q1, 4 articles in Q2, and 3 articles each in Q3 and Q4, totalling 224 points out of the required 200 points (or 220 according to the elevated minimum requirements of the Bulgarian Academy of Sciences) for the entire G indicator for the "Associate Professor" position. *The overall impact factor for this indicator in the competition is 19.893.* In 4 of the presented articles (33%), Chief assistant professor Koshev is the first author, and in 4 (33%), he is the second author, meaning that he has a leading role as a researcher in 66% of the scientific works. In 3 articles (25%), he is the fourth and last author. It is notable that in two of the publications (#14 and #17), he is the sole author. My recommendation is to avoid this, as the lack of a team for corrective work often leads to a one-sided presentation of the problem, as well as to various technical or factual errors that might be missed by reviewers.
- For indicator G8, a total of 10 book chapters are presented 9 in Bulgarian from the same book "Atlas of Invasive Alien Species of Relevance to the European Union," published by the Institute of Biodiversity and Ecosystem Research (IBER) at the Bulgarian Academy of Sciences (BAS), and one in English, an international scientific-applied report titled "First ESENIAS Report: State of the Art of Invasive Alien Species in South-Eastern Europe". Both publications have ISSN numbers, meeting the requirements for monographs and book chapters as laid out in the Law for the Development of the Academic Staff in the Republic of Bulgaria (LDASRB). The total points earned from this indicator are 150. Therefore, the total points earned for indicator G are 374 out of the required 200 points (or 220 according to the elevated minimum requirements of the Bulgarian Academy of Sciences).

<u>Under the group of indicators D</u> (specifically D11), the candidate presents a total of 100 citations, accumulating **a total of 200 points, exceeding the required 50 points** (or 60 points according to the elevated criteria of the Bulgarian Academy of Sciences) for the Associate Professor position. Among these citations, 26 are based on the research presented in the defended dissertation, while 74 are from publications outside the scope of the dissertation topic. 96% of the citations are from scientific works where the candidate is either the first or second author (37% as the first author and 58% as the second author). The majority (87%) of these scientific works are cited in publications authored solely by foreign researchers. This indicates that Dr. Koshev's work is

prominently recognized within the academic community and serves as a robust scientific foundation.

Within the non-mandatory indicator E, the candidate provides supporting material for indicators E13 to E18, accumulating **a total of 373 points**. Chief assistant professor Koshev **has already supervised a doctoral student** (E13, 25 points for shared supervision with a scientific consultant, attachment 08) despite his status as a non-habilitated scholar. This highlights his significant role as an established scholar capable of guiding young researchers. For indicator E14, a list is provided (attachment 10) demonstrating participation in 18 national research projects (180 points), with 6 of them indicating that he was the lead researcher. There appears to be a discrepancy between the information presented in attachment 04 and attachment 10, particularly in the cases of indicators E16 and E17, where only two supervisions per each indicator are stated. Additionally, the list in attachment 04 does not include supervisions funded internationally, specifically the projects 1. MATRA/KNIP Small Royal Netherlands Embassy Nature Projects, Grant BG/KNIP05/04 and 2. The Whitley Laing Foundation for International Nature Conservation - Rufford Small Grant programme. These instances should either be excluded from the attachment 10 list or incorporated into indicator E14 accordingly.

All the mentioned scientometric indicators lead to two important conclusions: 1). The candidate possesses a rich and fully satisfying scientific output that aligns with the requirements for the "associate professor" position. 2). He is evidently a "visible" researcher in the field of micromammals on both national and international levels, as inferred from his diverse scientific activity.

5. Assessment of the candidate's scientific and scientific-applied activities and most significant scientific-applied achievements

I. Contributions with fundamental scientific value in the field of zoology

Direction 3: Phylogeographic, molecular genetic, and cytogenetic studies of *S. citellus* in support of conservation biology

- For the first time, the genetic diversity and variability of *S. citellus* across its entire range have been examined, aiming to elucidate the species' phylogeography, and the significant role of Bulgaria as a centre of speciation has been established (work Γ .7.1);
- For the first time, three distinct morphologies of the sex chromosomes have been identified, confirming the previously established location of speciation in ground squirrels as indicated in work reference Γ.7.1 (work Γ.7.2);

Direction 5: Study of behaviour and interspecific interactions of S. citellus

- For the first time, aggressive behaviour directed towards reptiles, birds, and small predators has been described (work G.7.8);
- > Active predation on passerine birds has been documented for the first time (work G.7.10);

Direction 6: Small mammals (Micromammalia) as model organisms for ecological research

Variation in coloration has been identified in certain small mammals, including the whitetoothed shrew, mole, and domestic mouse (work Γ.7.4);

II. Contributions with scientifically applicable value in the field of zoology

Direction 1: Adaptation of *S. citellus* during the translocation of individuals for conservation purposes

- For the first time in Bulgaria, the level of stress in translocated and local individuals of S. citellus has been determined, accompanied by important recommendations for reducing this stress (work B.4.2);
- The first analysis of parasite transmission in ground squirrels related to translocation has been conducted in Bulgaria, establishing a connection with seasonal dynamics, individual density, and parasite species richness (work G.7.3);
- A radio-telemetric study of souslik has been conducted in Bulgaria for the first time, yielding five significant practical conclusions related to individual relocations (work G.7.7);

Direction 2: Applied conservation biology with an overview of wildlife translocations of *S. citellus*

- A detailed analysis of the main reasons for the failure of souslik translocations has been conducted (works B4.3 and 19);
- An overview analysis of the results from the relocation of *S. citellus* individuals in Southeastern Bulgaria during a five-year monitoring period has been conducted, providing specific recommendations related to the species relocation activities (work B4.4);

Direction 3: Phylogeographic, molecular genetic, and cytogenetic studies of *S. citellus* to support conservation biology.

A review of the genetic status of the species has been conducted, identifying barriers to its distribution as well as areas with inbreeding that require support (work B.4.1);

Direction 4: Study and management of protected areas within the "Natura 2000" network with a focus on *S. citellus*.

> An assessment has been conducted in two protected areas within the "Natura 2000" network, evaluating the distribution and abundance of the species (works B.4.5 and Γ .7.9). Both

publications have been incorporated into the Action Plan for the Conservation of the European Ground Squirrel *Spermophilus citellus* in Bulgaria "2022-2031.";

Direction 5: Study of behaviour and interspecific interactions of *S. citellus*.

A symbiotic relationship with the yellow meadow ant has been identified, which could have important implications for planning the locations of future translocations of the species (work Γ.7.5);

Direction 6: Small mammals (Micromammalia) as model organisms for ecological research.

- For the first time, the impact of road traffic on the mortality of amphibians, reptiles, birds, and small mammals along the Trakia Highway and a control section of a first-class road between Pazardzhik and Plovdiv has been investigated (work B.4.6);
- In a brief scientific communication, observed hunting behavior of Steppe polecat (*Mustela eversmanni*) was reported for the first time in a souslik colony in Northwestern Bulgaria, contributing novel data to the distribution of the Steppe polecat (work 20);

Direction 7: Study of the distribution and impact of invasive alien mammal species in Bulgaria.

- > The impact of the raccoon dog on the nesting of the Dalmatian pelican has been investigated, which holds significant importance for the conservation of this bird species (work Γ .7.6);
- > The establishment of the American mink in the wild following escapes from fur farms has been documented (work Γ .7.11), and the negative impact of the species has been analysed;
- An overview of the distribution of three invasive species muskrat, coypu, and raccoon dog from their first introduction to the present day has been conducted (work Γ.7.12);
- > For the first time in Bulgaria, an overview of the state, research, policies, and awareness regarding the invasive species problem has been provided, which is crucial for necessary legislative changes (work Γ .8.1);
- In a series of chapters (Γ.8.2 Γ.8.10) in the Atlas of Invasive Alien Species of Relevance to the European Union, descriptions of 9 invasive species that have entered or could potentially enter Bulgaria have been included, outlining their potential pathways of entry;

6. Demonstrated skills or abilities in leading scientific research (project management, securing external funding, etc.)

As an established scholar, Dr. Koshev has significant experience in conducting and leading scientific research (attained indicators E14 to E18), demonstrated by the successful completion of 6

projects as a principal investigator/coordinator and participation in 18 projects with substantial external funding, including sources beyond the country's borders.

7. Summary comment and personal impressions

The comprehensive analysis of the professional development of the Chief Assistant Professor Yordan Koshev demonstrates that he has established himself as a researcher at IBEI with a clear profile and high qualifications that fully correspond to the thematic focus of the announced competition for "Associate Professor." The provided evidential materials indicate that his publication and research activities exceed both in volume and quality the requirements for holding the position of associate professor at IBEI/BAS. In Bulgaria, he is a leading scientist in the study of the souslik. His research is of particular importance for the conservation of numerous species of small mammals and for understanding the interaction between these animals and their ecosystem context. I highly appreciate his focused specialization and in-depth engagement with research issues.

My personal impressions of Dr. Koshev date back to the time when he was a doctoral student in zoology, and subsequently, we have worked together on several projects. In our collaborative work, he consistently demonstrated methodological rigor, erudition, and concentration on scientific tasks, which is confirmed by the review here of his achievements as a scholar.

MOTIVATED CONCLUSION

The documents and materials presented by Dr. Yordan Koshev meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LRASRB), the Implementation Regulation of LRASRB, and the respective Regulations of IBER-BAS. The candidate has submitted a significant number of scientific works exceeding the required minimum, with original fundamental scientific and applied contributions that have received international recognition through their publication in high-ranking scientific journals. His theoretical publications have important practical applicability in the conservation of the souslik as a species.

Based on these materials presented in the competition, along with the scientific products, the analysis of their significance, and the scientific, scientifically-applied, and applied contributions contained within them, I provide a positive assessment and high recognition of the candidate and I recommend to the Scientific Jury to prepare a proposal-report for the Scientific Council of IBEI/BAS for the appointment of Dr. Yordan Spasov Koshev to the academic position of

"Associate Professor" in the Section "Biomonitoring and Ecological Risk" / Department " Ecosystem Research, Environmental Risk Assessment and Conservation Biology ".

25.08. 2023 г. Sofia Reviewer:

prof. Dr. Diana Zlatanova