



Current state of citizen science for invasive alien species in Bulgaria



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Introduction

Preventing introduction of Invasive Alien Species (IAS) is generally more cost-effective than measures taken following their introduction and establishment in a new location. The good awareness about the negative impact and early detection of IAS are crucial for prevention of their introduction and spread.

Citizen science (CS) projects actively involve citizens in scientific endeavor that generates new knowledge or understanding. Citizens may act as contributors, collaborators, or as project leader and have a meaningful role in the project.

Citizen science play important role for involvement of wide range of stakeholders and societal engagement with the issue of IAS.

In 2018 started implementation of COST Action CA 17122 “Increasing understanding of alien species (AS) through citizen science” (Alien CSI) addressing multidisciplinary research questions in relation to developing and implementing CS on Alien species (AS).

In 2019 we launched the project “State and perspectives of citizen science for invasive alien species in Bulgaria” contributing to implementation of tasks of two working groups of the Action. The main goal of the project is to study the state of the CS on IAS in Bulgaria and integrate the results obtained in the analysis at European level, within the framework of the COST action Alien SCI.

Methods

Questionnaire surveys were conducted to assess the existing (CS) initiatives related to IAS, the level of IAS awareness of different groups of society and their motivation to participate in CS were assessed through a questionnaire survey asking respondents to make judgments about their own level of knowledge about: the level of awareness of about existing IAS CS initiatives in Bulgaria; the experience in monitoring or registration of plants and animals; the motivation and appropriate ways to participate in CS; the most appropriate approach for IAS awareness raising.

Two groups of respondents were questioned: professionals (with educational background in biology or with professional activities related to the bio resources) and non-professionals (not connected with bio resources)

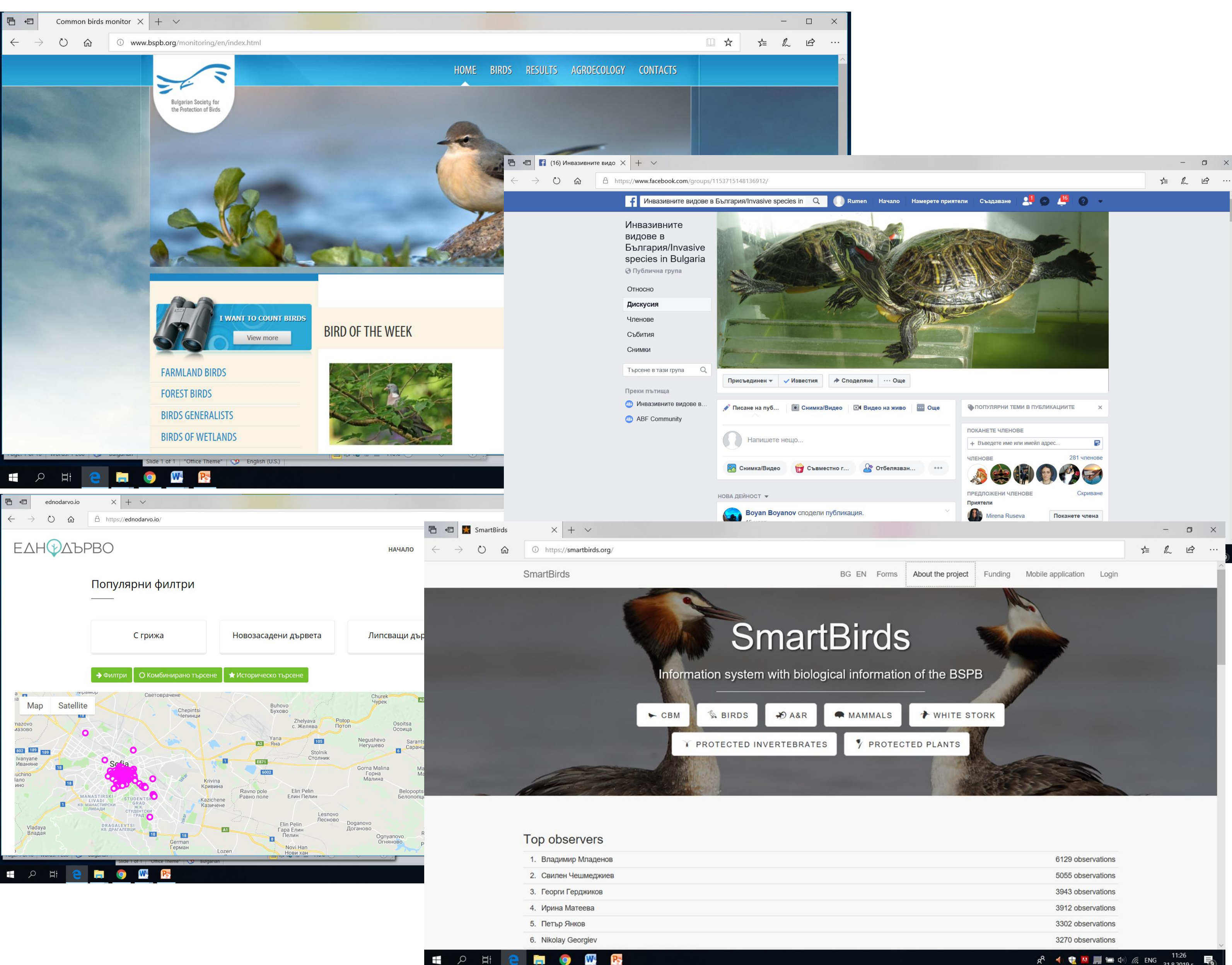
Results and discussion

Our results suggest that very few initiatives/projects related to Citizen science have a sole focus on alien species in Bulgaria

- “Pilot-study (data collection) on invasive alien species in the Danube Region with a smartphone application developed by the JRC (Danube-IASapp)”
- “State and perspectives of citizen science for invasive alien species in Bulgaria”
- “Increasing understanding of alien species through citizen science (Alien-CSI): Approaches to citizen science, data management and standards (Bulgaria)”

Only one CS on-line platform “Citizen science for invasive alien species in Bulgaria” is available.

The on-line formats available in Bulgaria have a partial focus on alien species (Smartbirds, Ednodurvo, databases collecting data about flora, hunting and fishing activities).

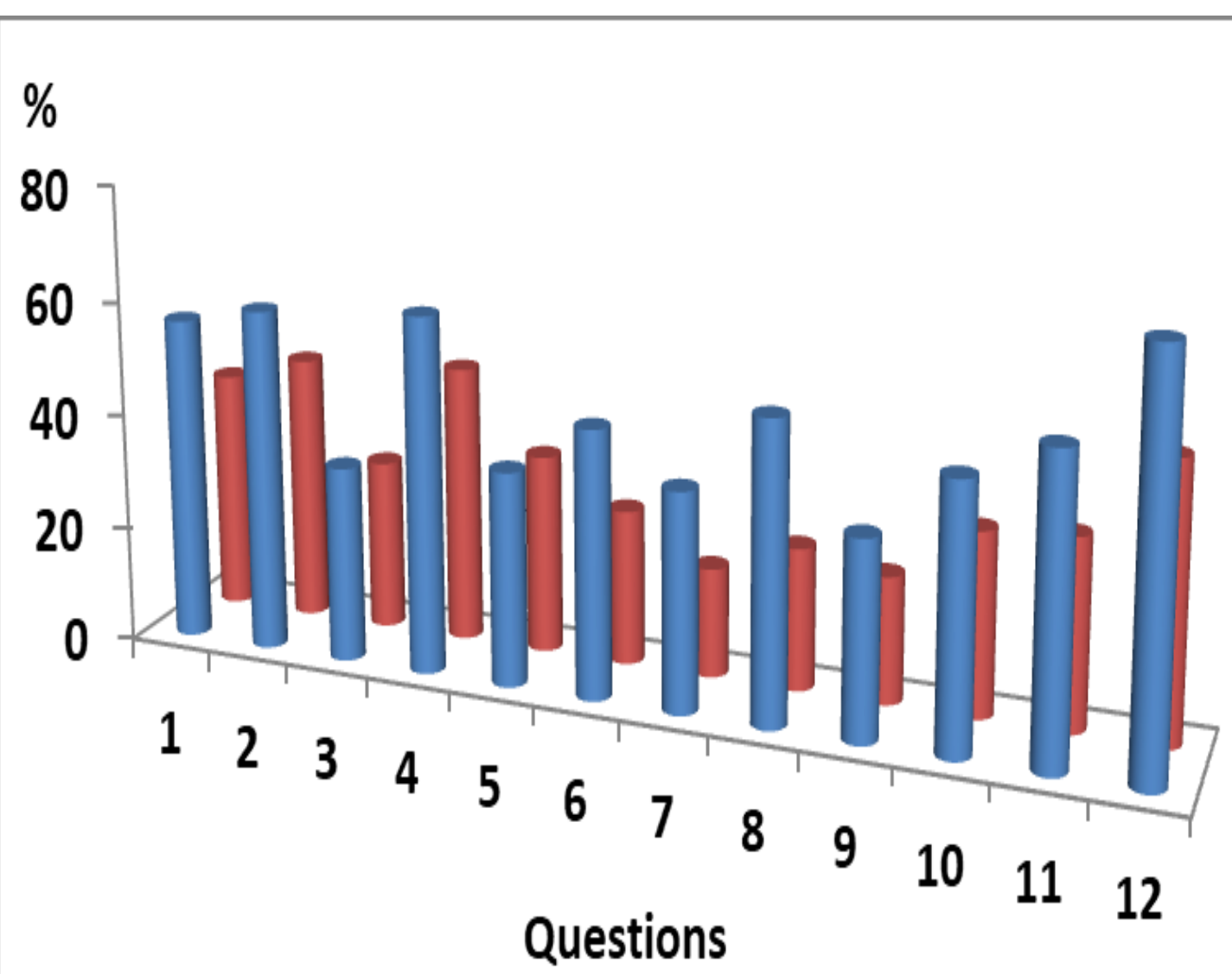


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Level of awareness about invasive alien species

- professionals
- non-professionals



% positive answers

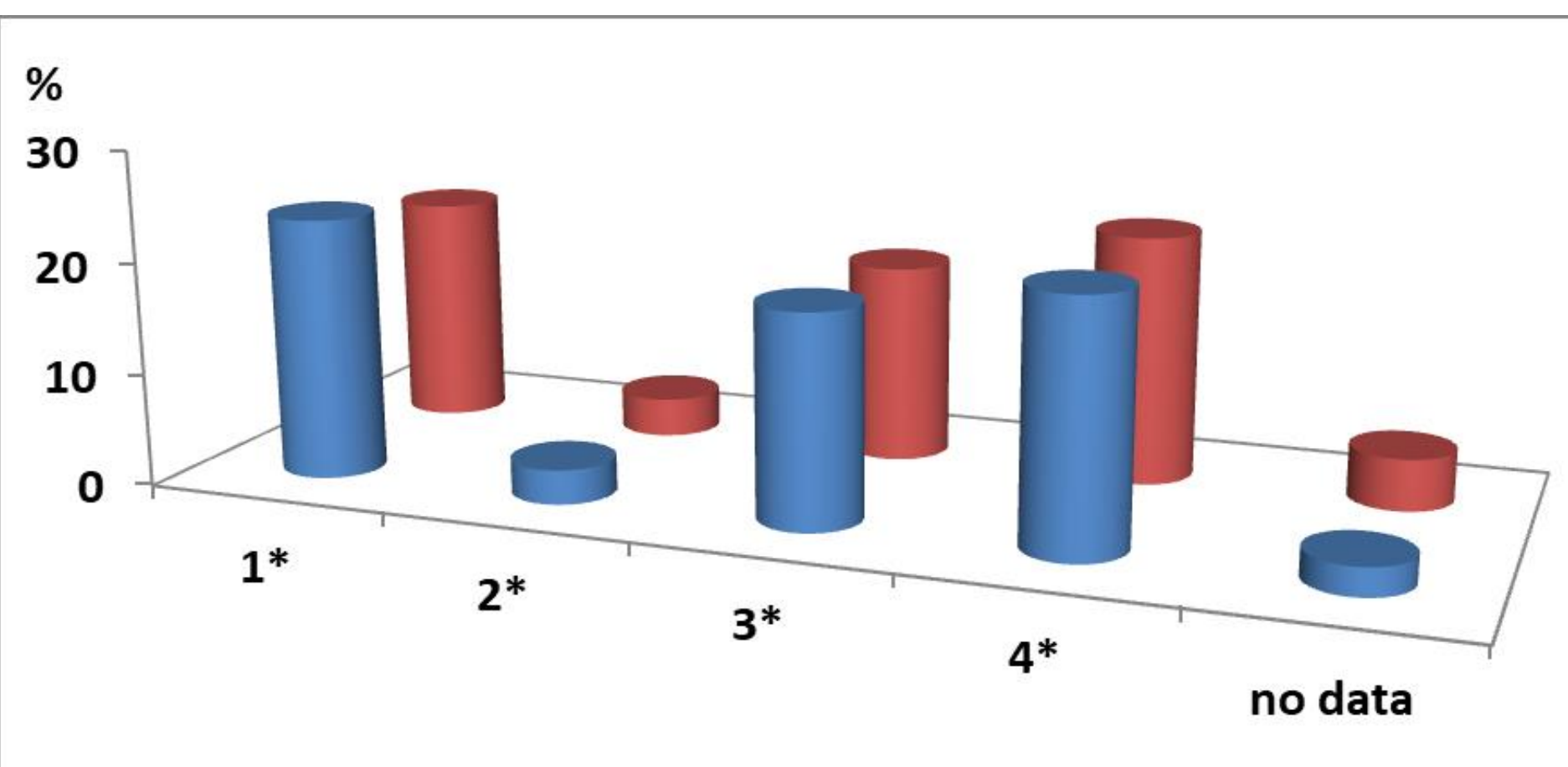
The IAS awareness of the majority of the respondents (professionals and non-professionals) is at an unsatisfactory level.

Questions:

1. Do you think that the term "invasive species" should refer to organisms that have a negative impact, regardless of whether they are expanding their range?
2. Do you think that the term "invasive species" should refer to organisms that expand their range, regardless of their impact?
3. Do you think that some species can be considered "invasive" in the places of their natural distribution?
4. Do you consider invasive species to be one of the main threats to biodiversity?
5. Do you think that invasive species can have a positive socio-economic impact?
6. Have you encountered information about invasive species in various information sources?
7. Did you know that a Regulation on invasive alien species has been adopted in the European Union (Regulation № 1143/2014)?
8. Can you name one or more invasive alien species relevant to the European Union?
9. Would you name a pet that is an invasive species of importance to the European Union?
10. Can you give an example of the negative impact of invasive species?
11. Can you indicate a way / way for introduction (transfer) of alien species in Bulgaria?
12. Can you name a structure / organization that you think is responsible for preventing the penetration and spread, as well as the control of invasive alien species in Bulgaria?

Level of awareness about citizen science

Q. What do you think the term “citizen science” means?

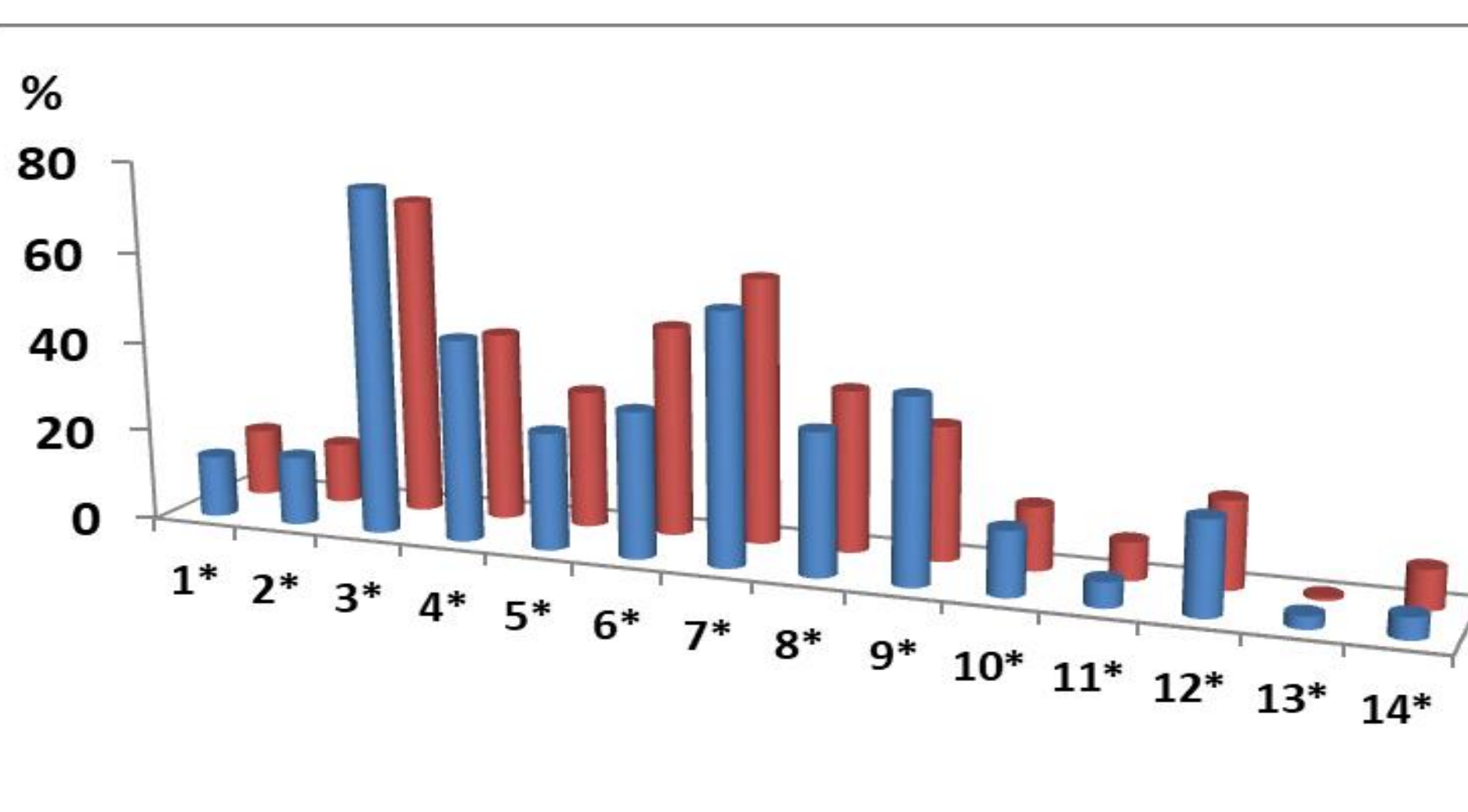


Answers:

- 1 * Transfer of knowledge from professionals to non-professionals (trainings, information campaigns)
- 2 * Sharing information on Facebook forums
- 3 * Voluntary collection of information and its provision for subsequent analysis and use
- 4 * Initiatives to promote science among the general public

Motivation and appropriate ways to participate in Citizen Science

Q. Indicate what would motivate you to participate in citizen science initiatives

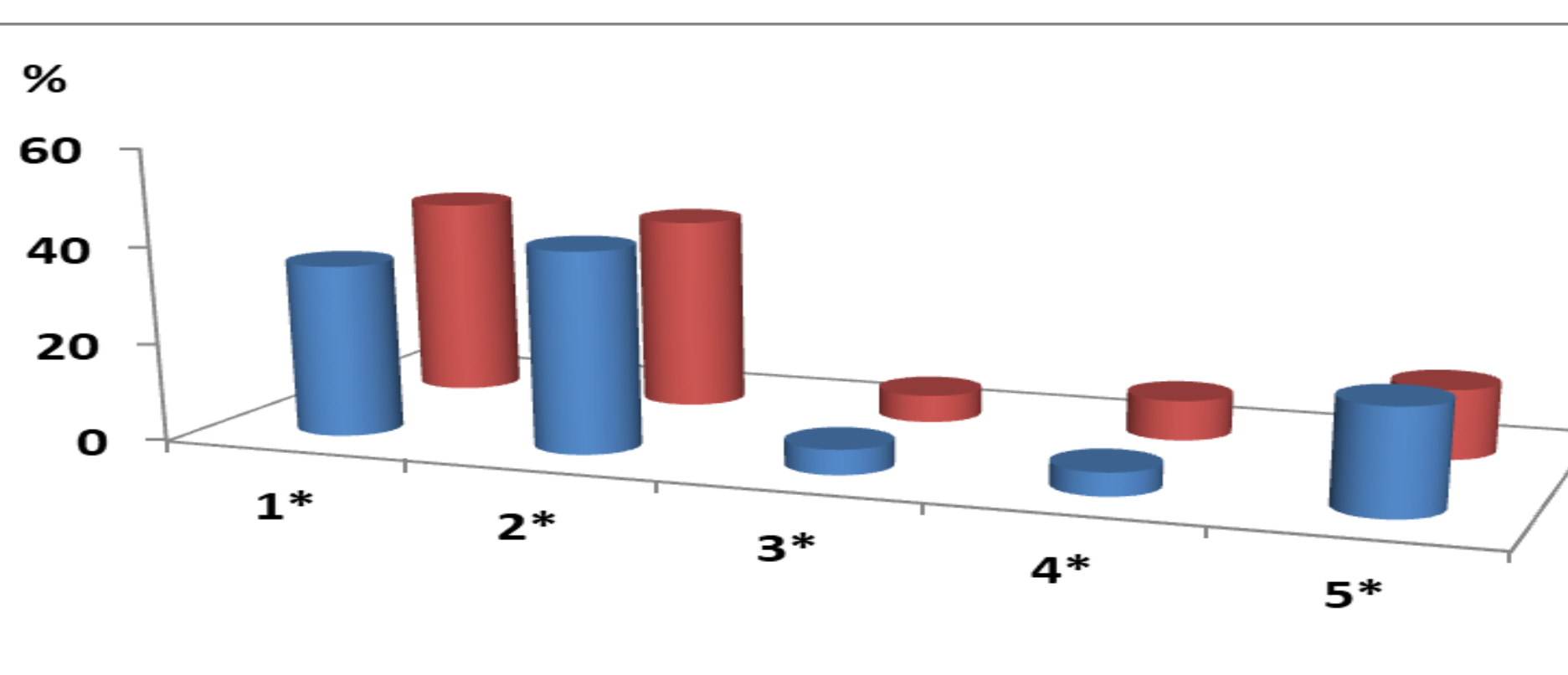


Answers:

1. Loss prevention for my business
2. Prevent damage to my hobby
3. Caring for nature
4. Engaging the younger generation with the topic of threats to biodiversity
5. To be connected with nature
6. To learn more about nature
7. To contribute to nature conservation
8. To spend more time in nature
9. To contribute to science
10. To notice as many species as possible
11. It gives meaning to my life

12. To work in a team with other nature lovers
13. Others
14. No answer

Q. Give a reason why you would not participate in civic science initiatives



Answers:

1. I have no time
2. I do not have enough information about such a possibility
3. I do not want to share information
4. Other
5. No answer

Q. Indicate the most appropriate / convenient way for you to participate in citizen science initiatives

Answers:

1. Independently
2. Organized by NGOs
3. Organized by a scientific institution
4. Using mobile applications for smartphones
5. Submitting data to internet forums/sites
6. Filling in paper forms
7. Other...
8. No answer

Conclusion

The main reasons for low participation in CS are the lack of accessible information on the problems posed by the IAS, as well as the lack of tools and initiatives for the IAS CS in Bulgaria. The answers given to most questions by professionals and non-professionals are almost the same.