

**COST Action CA17122 Increasing understanding of alien species through citizen science  
(Alien CSI)**

**Bulgaria – Report**

**Prepared by Teodora Trichkova and Rumen Tomov**

**1. Projects (2)**

**‘Increasing understanding of alien species through citizen science: Approaches to citizen science, data management and standards in Bulgaria** (No KII-06-COST-13) (2019–2022)

Co-funding: National Science Fund of Bulgaria

Organisation: Institute of Biodiversity and Ecosystem Research with the Bulgarian Academy of Sciences

Project co-ordinator: Teodora Trichkova

**‘State and perspectives of citizen science for invasive alien species in Bulgaria’** (No KII-06-COST-14) (2019–2022)

Co-funding: National Science Fund of Bulgaria

Organisation: University of Forestry

Project co-ordinator: Prof. Rumen Tomov

[http://esenias.org/index.php?option=com\\_content&task=view&id=553](http://esenias.org/index.php?option=com_content&task=view&id=553)

[http://esenias.org/index.php?option=com\\_content&view=category&id=91&Itemid=88](http://esenias.org/index.php?option=com_content&view=category&id=91&Itemid=88)

**2. Scientific publications (6)**

Todorov M., Kenderov M., Botev I., Hubenov Z. & Trichkova T. 2020. First records of *Pectinatella magnifica* (Leidy, 1851) (Bryozoa: Plumatellida: Pectinatellidae) in the Bulgarian shoreline zone of the Danube River. *Acta Zoologica Bulgarica* 72 (4): 507–515. [https://www.acta-zoologica-bulgarica.eu/downloads/acta-zoologica-bulgarica/2020/00SIO\\_3\\_04.pdf](https://www.acta-zoologica-bulgarica.eu/downloads/acta-zoologica-bulgarica/2020/00SIO_3_04.pdf)

Tomov R. & Trichkova T. 2019. Approaches to increase awareness and involvement of citizens in the science of invasive alien species in Bulgaria. *Knowledge International Journal*, Vol. 35 (6): 2059–2064.

Trichkova T., Paunović M., Cogălniceanu D., Schade S., Todorov M., Tomov R., Stănescu F., Botev I., López-Cañizares C., Gervasini E., Hubenov Z., Ignatov K., Kenderov M., Marinković N., Mitton I., Preda C., Spinelli F. A., Tsiamis K. & Cardoso A. C. 2021. Pilot application of ‘Invasive Alien Species in Europe’ smartphone app in the Danube Region. *Water*, 13, 2952. <https://doi.org/10.3390/w13212952> SJR (Q1) (2021); IF: 3.530 (2021)

Trichkova T., Todorov M., Kenderov M., Hubenov Z., Botev I., Stefanov T., Georgiev D. & Jurajda P. 2022. Invasive alien species of benthic macroinvertebrates and fish in the Bulgarian sector of the Danube River – results of the Joint Danube Survey 4 (JDS4). *Water*, 1 (15), 2299. <https://www.mdpi.com/2073-4441/14/15/2299/htm> SJR (Q1) (2021); IF: 3.530 (2021)

- Tsvetkova E., Milchev G., Stefanova H., Tomov R. 2022. Involvement of young people in the citizen science of invasive alien species in Bulgaria. *Acta Scientifica Naturalis* 9 (2): 10–19. <https://sciendo.com/article/10.2478/asn-2022-0010>
- Zdraveski K., Trajanovski S., Trichkova T., Tomov R. & Kalcheva H. 2020. Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop ‘Species, Ecosystems and Areas of Conservation Concern under Threat from the Invasive Alien Species’: Outcomes. *Acta Zoologica Bulgarica* 72 (4): 507–515. [https://www.acta-zoologica-bulgarica.eu/downloads/acta-zoologica-bulgarica/2020/00SIO\\_001.pdf](https://www.acta-zoologica-bulgarica.eu/downloads/acta-zoologica-bulgarica/2020/00SIO_001.pdf)

### 3. Published abstracts (19)

#### 2019

- Tomov R., Tsvetkova E., Bancheva-Preslavaska H., Stefanova H., Milchev G. 2019. Contribution of the project ‘State and perspectives of citizen science for invasive alien species in Bulgaria’ to implementation of COST Action CA 17122 (Alien CSI). pp.: 131. In: Trajanovski S., Trichkova T., Tomov R., Vladimirov V., Kalcheva H., Zdraveski K. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop ‘Species, ecosystems and areas of conservation concern under threat from the invasive alien species’, 03-06 September 2019, Ohrid, Republic of North Macedonia, HIO, ESENIAS, DIAS, IBER-BAS, A special edition of the ‘Review’ 44 (1): 160 pp. [http://esenias.org/files/9\\_ESENIASDIAS\\_Book\\_of\\_abstracts-6WEB.pdf](http://esenias.org/files/9_ESENIASDIAS_Book_of_abstracts-6WEB.pdf)
- Tomov R., Tsvetkova E., Bancheva-Preslavaska H., Stefanova H., Milchev G. 2019. The potential of citizen science for the early detection of alien plant pest. Book of Abstracts, VIII Congress on Plant Protection: „Integrated Plant Protection for Sustainable Crop Production and Forestry“, 25-29 November 2019, Zlatibor, Serbia, 196 pp.
- Trichkova T., Trajanovski S., Zdraveski K., Tomov R., Vladimirov V., Uludağ A. 2019. ESENIAS and DIAS activities towards protection of threatened species, ecosystems and areas of conservation concern against invasive alien species. pp.: 18. In: Trajanovski S., Trichkova T., Tomov R., Vladimirov V., Kalcheva H., Zdraveski K. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop ‘Species, ecosystems and areas of conservation concern under threat from the invasive alien species’, 03-06 September 2019, Ohrid, Republic of North Macedonia, HIO, ESENIAS, DIAS, IBER-BAS, A special edition of the ‘Review’ 44 (1): 160 pp. [http://esenias.org/files/9\\_ESENIASDIAS\\_Book\\_of\\_abstracts-6WEB.pdf](http://esenias.org/files/9_ESENIASDIAS_Book_of_abstracts-6WEB.pdf)
- Trichkova T., Todorov M., Botev I., Trajanovski S., Zdraveski K., Talevski T., Spirkovski Z. 2019. Inventory of alien fish species in Lake Ohrid catchment in 2016. pp.: 94 In: Trajanovski S., Trichkova T., Tomov R., Vladimirov V., Kalcheva H., Zdraveski K. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop ‘Species, ecosystems and areas of conservation concern under threat from the invasive alien species’, 03-06 September 2019, Ohrid, Republic of North Macedonia, HIO, ESENIAS, DIAS, IBER-BAS, A special edition of the ‘Review’ 44 (1): 160 pp. [http://esenias.org/files/9\\_ESENIASDIAS\\_Book\\_of\\_abstracts-6WEB.pdf](http://esenias.org/files/9_ESENIASDIAS_Book_of_abstracts-6WEB.pdf)
- Trichkova T., Tyufekchieva V., Todorov M., Vladimirov V., Kalchev R., Kalcheva H., Botev I., Ignatov K., Kenderov M. 2019. Increasing understanding of alien species through

citizen science (Alien CSI): Approaches to citizen science, data management and standards in Bulgaria. pp.: 132. In: Trajanovski S., Trichkova T., Tomov R., Vladimirov V., Kalcheva H., Zdraveski K. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop 'Species, ecosystems and areas of conservation concern under threat from the invasive alien species', 03-06 September 2019, Ohrid, Republic of North Macedonia, HIO, ESENIAS, DIAS, IBER-BAS, A special edition of the 'Review' 44 (1): 160 pp. [http://esenias.org/files/9\\_ESENIASDIAS\\_Book\\_of\\_abstracts-6WEB.pdf](http://esenias.org/files/9_ESENIASDIAS_Book_of_abstracts-6WEB.pdf)

Tyufekchieva V., Todorov M., Botev I., Trajanovski S., Zdraveski K., Kenderov L., Georgiev D., Vidinova Y., Teofilova T., Stoianova D., Stoichev S., Trichkova T. 2019. Inventory of benthic macroinvertebrates in Lake Ohrid catchment in 2016. pp.: 152, In: Trajanovski S., Trichkova T., Tomov R., Vladimirov V., Kalcheva H., Zdraveski K. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop 'Species, ecosystems and areas of conservation concern under threat from the invasive alien species', 03-06 September 2019, Ohrid, Republic of North Macedonia, HIO, ESENIAS, DIAS, IBER-BAS, A special edition of the 'Review' 44 (1): 160 pp. [http://esenias.org/files/9\\_ESENIASDIAS\\_Book\\_of\\_abstracts-6WEB.pdf](http://esenias.org/files/9_ESENIASDIAS_Book_of_abstracts-6WEB.pdf)

## 2020

Tomov R., Tsvetkova E., Stefanova H., Milchev G., Bancheva-Preaslavska H. 2020. The current state of citizen science for invasive alien species in Bulgaria. P. 170. In: Jelaska S. D. (Ed.) NEOBIOTA 2020 – 11th International Conference on Biological Invasions: The Human Role in Biological Invasions – a case of Dr Jekyll and Mr Hyde? 15–18.09.2020, Vodice, Croatia, Hrvatsko ekološko društvo / Croatian Ecological Society, 207 pp. <https://www.neobiota.biol.pmf.hr/wp-content/uploads/2020/10/NEOBIOTA2020-Book-of-Abstracts-final2.pdf>

Trichkova T., Todorov M., Kenderov M., Botev I. & Hubenov Z. 2020. JDS4 monitoring of invasive alien species in the Bulgarian sector of the Danube River using standard and citizen science technologies. P. 189. In: Jelaska S. D. (Ed.) NEOBIOTA 2020 – 11th International Conference on Biological Invasions: The Human Role in Biological Invasions – a case of Dr Jekyll and Mr Hyde? 15–18.09.2020, Vodice, Croatia, Hrvatsko ekološko društvo / Croatian Ecological Society, 207 pp. <https://www.neobiota.biol.pmf.hr/wp-content/uploads/2020/10/NEOBIOTA2020-Book-of-Abstracts-final2.pdf>

Trichkova T., Todorov M., Kenderov M., Botev I. & Hubenov Z. 2020. First record of *Pectinatella magnifica* (Leidy, 1851) in the Bulgarian shoreline zone of the Danube River. P. 190. In: Jelaska S. D. (Ed.) NEOBIOTA 2020 – 11th International Conference on Biological Invasions: The Human Role in Biological Invasions – a case of Dr Jekyll and Mr Hyde? 15–18.09.2020, Vodice, Croatia, Hrvatsko ekološko društvo / Croatian Ecological Society, 207 pp. <https://www.neobiota.biol.pmf.hr/wp-content/uploads/2020/10/NEOBIOTA2020-Book-of-Abstracts-final2.pdf>

## 2021

Tomov R., Tsvetkova E., Stefanova H., Milchev G. 2021. Role of citizen science for plant health in Bulgaria. Scientific Conference with International Participation „100 Years Higher Agricultural Education in Bulgaria”, 27 May 2021, Stara Zagora, Bulgaria, p. 44.

Tomov R. 2021 State and perspectives of citizen science for invasive alien species in Bulgaria. Ninth International Conference „Modern Trends in Science”, 15–19 September 2021, Blagoevgrad, Bulgaria, p. 186.

Tsvetkova E., Milchev G., Stefanova H. 2021. Assessment of the motivation for participation in citizen science initiatives for invasive alien species in Bulgaria. Ninth International Conference „Modern Trends in Science”, 15–19 September 2021, Blagoevgrad, Bulgaria, p. 187.

## 2022

Tomov R. 2022. Citizen science as a tool for management of alien plant pests in Bulgaria. The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest. Agriculture For Life International Conference, 2–4 June 2022, Bucharest, Romania.

Trichkova T., Uludağ A., Tomov R., Karachle P. K., Vladimirov V., Kalcheva H. 2022. ESENIAS & DIAS: Ten years of cooperation and networking on invasive alien species in East and South Europe. In: Trichkova T., Kalcheva H., Uludağ A., Vladimirov V., Tomov R., Karachle P. K., Kanyılmaz M. & Atalay M. A. (Eds.) Abstract Book. Joint ESENIAS and DIAS Scientific Conference and 10<sup>th</sup> ESENIAS Workshop ‘Ten years of cooperation and networking on invasive alien species in East and South Europe’, 07–09 December 2021, Virtual Format. [http://esenias.org/index.php?option=com\\_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125)

Trichkova T., Riccardi N., Urbańska M., Todorov M., Lopes-Lima M. 2021. The Chinese pond mussel *Sinanodonta woodiana* (I. Lea, 1834) already established in a river system of the Aegean Sea basin in Bulgaria. In: Trichkova T., Kalcheva H., Uludağ A., Vladimirov V., Tomov R., Karachle P. K., Kanyılmaz M. & Atalay M. A. (Eds.) Abstract Book. Joint ESENIAS and DIAS Scientific Conference and 10<sup>th</sup> ESENIAS Workshop ‘Ten years of cooperation and networking on invasive alien species in East and South Europe’, 07–09 December 2021, Virtual Format. [http://esenias.org/index.php?option=com\\_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125)

Trichkova T., Paunović M., Cogălniceanu D., Schade S., Todorov M., Tomov R., Stănescu F., Botev I., López-Cañizares C., Gervasini E., Hubenov Z., Ignatov K., Kenderov M., Marinković N., Mitton I., Preda C., Spinelli F. A., Tsiamis K., Cardoso A. C. 2022. Testing and update of ‘Invasive Alien Species in Europe’ smartphone app for the Danube Region. In: Trichkova T., Kalcheva H., Uludağ A., Vladimirov V., Tomov R., Karachle P. K., Kanyılmaz M. & Atalay M. A. (Eds.) Abstract Book. Joint ESENIAS and DIAS Scientific Conference and 10<sup>th</sup> ESENIAS Workshop ‘Ten years of cooperation and networking on invasive alien species in East and South Europe’, 07–09 December 2021, Virtual Format. [http://esenias.org/index.php?option=com\\_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125)

Trichkova T., Tomov R., Vladimirov V., Todorov M., Tsvetkova E., Tyufekchieva V., Kalcheva H., Nikova P. K. 2022. Applying citizen science tools for invasive alien species: case study from Bulgaria. Pp. 25. In: Kalcheva H., Ekmekçi F. G., Karachle P. K., Uludağ A., Tomov R., Trichkova T., Kanyılmaz M., Atalay M. A. (Eds.) Book of Abstracts, Joint ESENIAS and DIAS Scientific Conference 2022 and 11<sup>th</sup> ESENIAS Workshop ‘Invasive alien species under conditions of global crisis’, 13–15 November 2022, GDFa, MFRPTI, IBER-BAS, ESENIAS, Demre, Antalya, Türkiye, 109 pp.

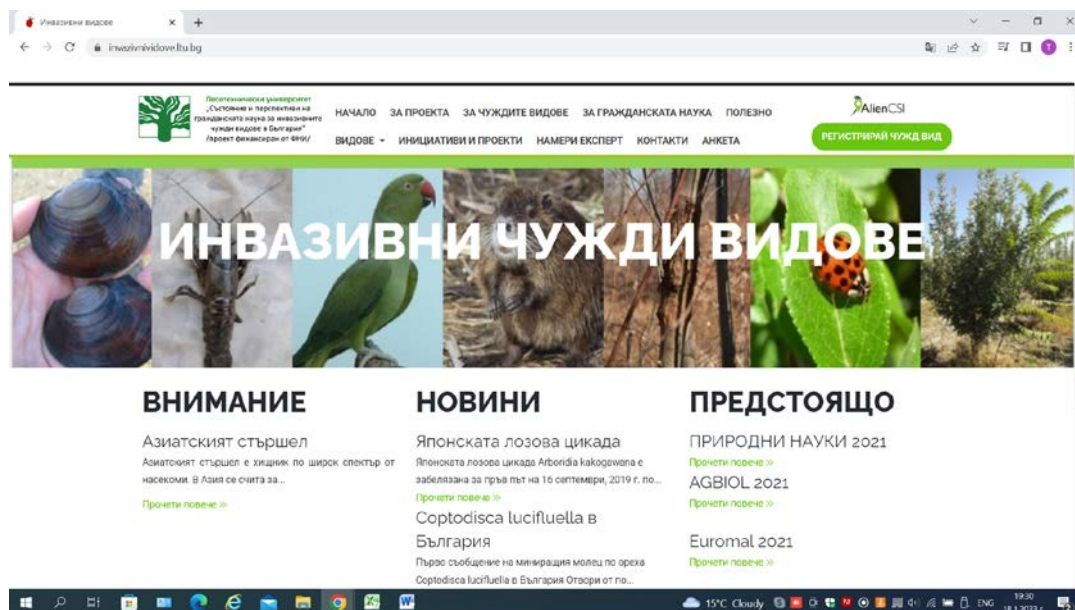
[http://esenias.org/index.php?option=com\\_content&view=article&id=581:11th-esenias-and-dias-conference-2022-and-11th-esenias-workshop-outcomes&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=581:11th-esenias-and-dias-conference-2022-and-11th-esenias-workshop-outcomes&catid=52:esenias-news&Itemid=125)

Tomov R., Trichkova T., Vladimirov V., Kalcheva H. 2022. The citizen science for invasive alien species in Bulgaria – a review. In: Trichkova T., Kalcheva H., Uludağ A., Vladimirov V., Tomov R., Karachle P. K., Kanyilmaz M. & Atalay M. A. (Eds.) Abstract Book. Joint ESENIAS and DIAS Scientific Conference and 10<sup>th</sup> ESENIAS Workshop ‘Ten years of cooperation and networking on invasive alien species in East and South Europe’, 07–09 December 2021, Virtual Format. [http://esenias.org/index.php?option=com\\_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125)

Vladimirov V., Trichkova T., Tomov R. 2022. BioBlitz survey on invasive alien plants in the region of Pancharevo Lake, Bulgaria. Pp. 50. Book of Abstracts, 8th Balkan Botanical Congress, 4–8 July 2022, Athens, Greece, 122 pp. [https://www.uoa.gr/fileadmin/user\\_upload/PDF-files/ekdilwseis/Synedria/2022/0107\\_balkan\\_botanical\\_congress\\_programma.pdf](https://www.uoa.gr/fileadmin/user_upload/PDF-files/ekdilwseis/Synedria/2022/0107_balkan_botanical_congress_programma.pdf)

#### 4. Scientific-popular publications, films, websites, smartphone applications

Internet platform ‘Citizen science for invasive alien species’ developed (In Bulgarian) <https://invazivnividove.ltu.bg/>



‘AlienSci – Bulgaria’ Section at the ESENIAS webpage created and maintained [http://esenias.org/index.php?option=com\\_content&task=view&id=553](http://esenias.org/index.php?option=com_content&task=view&id=553)  
[http://esenias.org/index.php?option=com\\_content&view=category&id=91&Itemid=88](http://esenias.org/index.php?option=com_content&view=category&id=91&Itemid=88)




# ESENIAS

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## Alien CSI - Bulgaria



The **COST Action CA17122 Increasing understanding of alien species through citizen science (Alien CSI)** was launched in 2018. Currently, 39 countries participate in this COST Action, which is chaired by Dr. Helen Roy from the Natural Environment Research Council, Centre for Ecology and Hydrology, UK.

The Action addresses multidisciplinary research questions in relation to developing and implementing citizen science (CS), advancing scientific understanding of alien species (AS) dynamics while informing decision-making specifically implementation of technical requirements of relevant legislation such as the EU Regulation 1143/2014 on IAS, support of the EU biodiversity goals and embedding science within society. The Action explores and documents approaches to establishing a European-wide CS AS network. It embraces relevant innovations for data gathering and reporting to support the implementation of monitoring and surveillance measures, while ensuring benefits for society and citizens, through an AS CS European network. The Action will, therefore, increase levels of participation and quality of engagement with current CS initiatives, ensuring and evaluating educational value, and improve the value outcomes for potential users including citizens, scientists, alien species managers, policy-makers, local authorities, industry and other stakeholders.

**ESENIAS & DIAS Conference 2021**  
10th ESENIAS Workshop

**ESENIAS & DIAS Conference 2019**  
9th ESENIAS Workshop

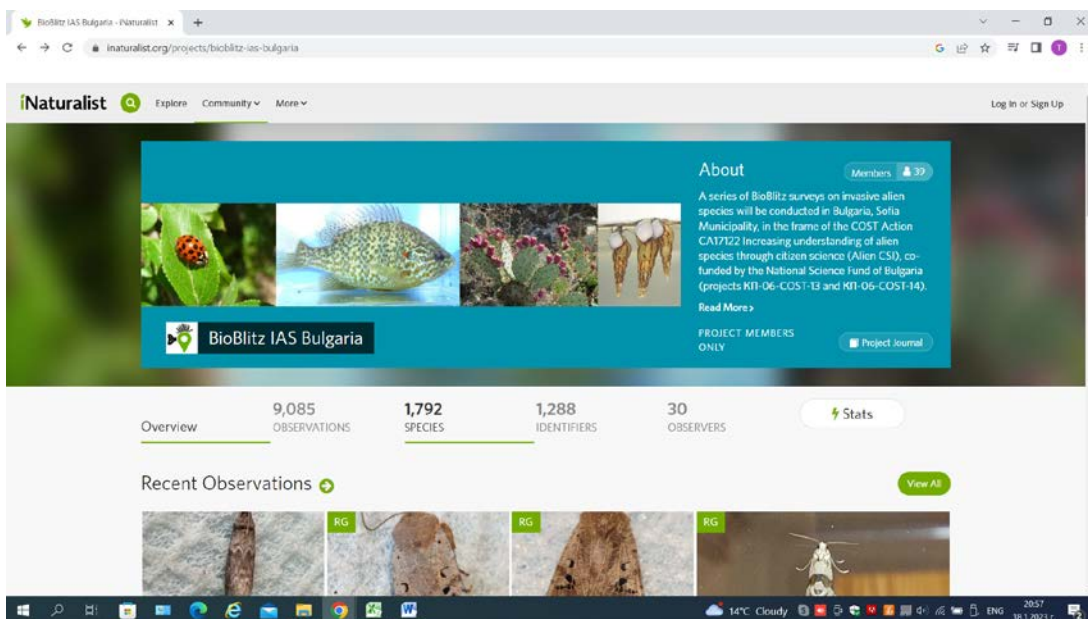
**ESENIAS & DIAS Conference 2018**  
8th ESENIAS Workshop

**ESENIAS-TOOLS Project**

**Species alerts**

- First record of *Erigeron sumatrensis* (Asteraceae) for FYR Macedonia
- First record of *Diplachne fascicularis* (Poaceae) for Bulgaria

‘BioBlitz IAS Bulgaria’ project at iNaturalist created <https://www.inaturalist.org/projects/bioblitz-ias-bulgaria>



The screenshot shows the iNaturalist project page for 'BioBlitz IAS Bulgaria'. The page features a header with the iNaturalist logo and navigation options. Below the header, there is a main banner with a video player and an 'About' section. The 'About' section describes the project as a series of BioBlitz surveys on invasive alien species in Bulgaria, Sofia Municipality, funded by the National Science Fund of Bulgaria. The project has 39 members and is restricted to project members only. Below the banner, there is a statistics section showing 9,085 observations, 1,792 species, 1,288 identifiers, and 30 observers. The 'Recent Observations' section displays a grid of images of various species, including a ladybug, a fish, and several insects.

Educational Film ‘Invasive Alien Species and Citizen Science’ developed (In Bulgarian)

Trichkova T. (Ed.) 2020. Short guide to invasive alien species of concern to European Union and Bulgaria. IBER-BAS, DIAS, Sofia, Bulgaria 46 pp. (In Bulgarian)  
[http://esenias.org/index.php?option=com\\_content&view=article&id=583:alien-csi-12&catid=91:alien-csi-bulgaria-news&Itemid=88](http://esenias.org/index.php?option=com_content&view=article&id=583:alien-csi-12&catid=91:alien-csi-bulgaria-news&Itemid=88)



Trichkova T. 2020. Increasing understanding of alien species through citizen science: Approaches to citizen science, data management and standards in Bulgaria. IBER-BAS, DIAS, 6 pp. (Flyer) [http://esenias.org/files/AlienCSI\\_12\\_Bulgaria\\_web2.pdf](http://esenias.org/files/AlienCSI_12_Bulgaria_web2.pdf)

**Повишаване на познанията за чуждите видове с помощта на гражданската наука: Подходи за изпълнение на гражданската наука за чуждите видове, управление на данните и стандарти**

Договор № КП-06-COST-13 / 06.06.2019 г.

**Изпълнител:**  
 Институт по биоразнообразие и екосистемни изследвания  
 Българска академия на науките (ИБЕИ-БАН)

**Финансирание:**  
 Фонд „Научни изследвания“ в рамките на COST Акция CA17122 „Повишаване на познанията за чуждите видове с помощта на гражданската наука“ Alien CSI, <https://alien-csi.eu/>

Европейската програма за сътрудничество в областта на науката и технологиите COST се финансира от Европейския съюз

**Сътрудничество:**  
 Мрежата за инвазивни чужди видове в Дунавския регион (DIAS)

ар. София, 2020 г.

Можете да помогнете за предотвратяване на въвеждането и разпространяването на инвазивни чужди видове като регистрирате наблюденията си на чужди видове растения и животни с помощта на

приложението за мобилни телефони „Инвазивни чужди видове в Европа“ / Invasive Alien Species in Europe App

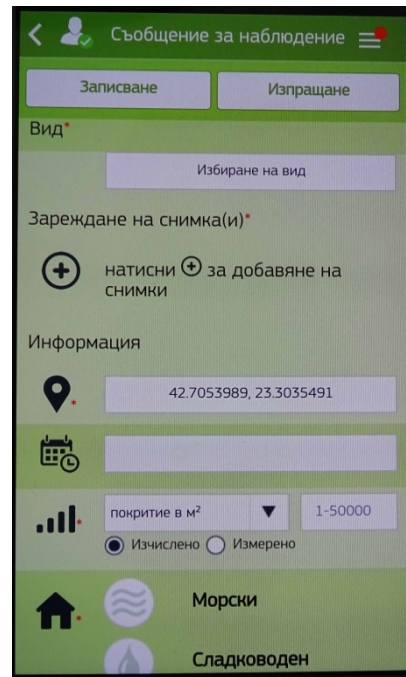
За Android

За iOS

**За контакти:**  
 Институт по биоразнообразие и екосистемни изследвания  
 Българска академия на науките  
 Тел.: +359 2 889 8887; +359 878 498183  
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**Текст:** Теодора Тричкова  
**Снимки:** Теодора Тричкова, Любомир Андреев  
 Полиграфическа реализация: HEO Арт – София

Translation in Bulgarian of software (ver. 3.0) of 'Invasive Alien Species in Europe' smartphone app developed by EC JRC



Translation in Bulgarian of 66 factsheets of IAS of Union concern (ver. 7.8-4) and 64 factsheets of IAS of Danube River Basin concern (ver. 1.0-1) of 'Invasive Alien Species in Europe' app





## 5. Campaigns

### 5.1. Information campaigns (6)

Round-table on the topic ‘The role of universities, scientific and state institutions for the involvement of citizens in citizen science’, 27 September 2019, Vitosha Park Hotel, Sofia, Bulgaria

[http://esenias.org/index.php?option=com\\_content&view=article&id=561:alien-csi-3&catid=91:alien-csi-bulgaria-news&Itemid=88](http://esenias.org/index.php?option=com_content&view=article&id=561:alien-csi-3&catid=91:alien-csi-bulgaria-news&Itemid=88)

‘Green Academy’ Workshop on the topic ‘Sustainable use of biological resources: Citizen science and invasive alien species in the Danube Region’, 04 October 2019, Riga Grand Hotel, Ruse, Bulgaria

[http://esenias.org/index.php?option=com\\_content&view=article&id=563:alien-csi-5&catid=91:alien-csi-bulgaria-news&Itemid=88](http://esenias.org/index.php?option=com_content&view=article&id=563:alien-csi-5&catid=91:alien-csi-bulgaria-news&Itemid=88)

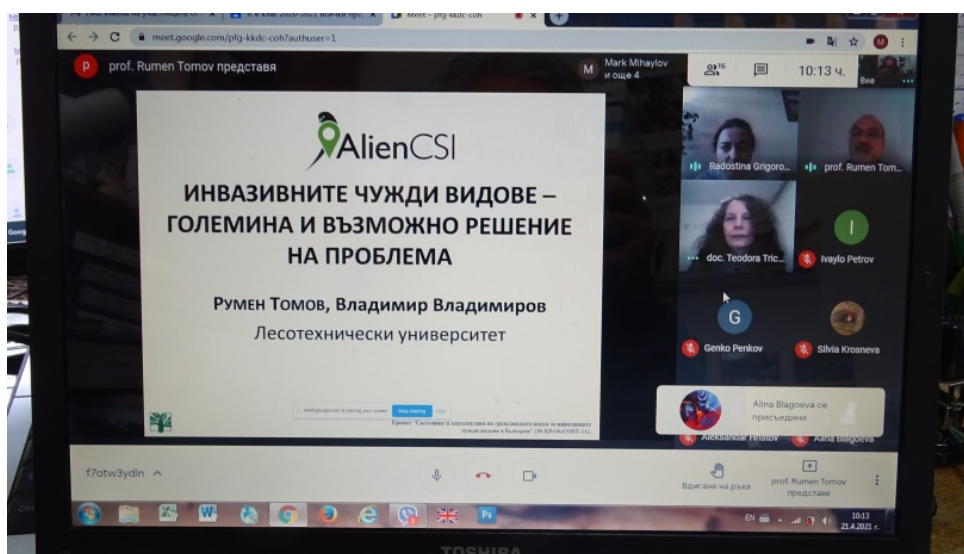
‘Green Academy’ Information Day on the topic: ‘Threats to human health and biodiversity’, 08 November 2019, Hotel Elit, Pernik Town, Bulgaria

[http://esenias.org/index.php?option=com\\_content&view=article&id=564:alien-csi-6&catid=91:alien-csi-bulgaria-news&Itemid=88](http://esenias.org/index.php?option=com_content&view=article&id=564:alien-csi-6&catid=91:alien-csi-bulgaria-news&Itemid=88)

Lecture and demonstration of the smartphone application ‘Invasive Alien Species in Europe’ to BSc students from the University of Forestry, the Faculty of Ecology and Landscape Architecture, Department of Ecology, Preservation and Restoration of Environment, and the Faculty of Forestry, 10th December 2019, Sofia, Bulgaria

[http://esenias.org/index.php?option=com\\_content&view=article&id=565:alien-csi-7&catid=91:alien-csi-bulgaria-news&Itemid=88](http://esenias.org/index.php?option=com_content&view=article&id=565:alien-csi-7&catid=91:alien-csi-bulgaria-news&Itemid=88)

Online lecture and demonstration of the smartphone application ‘Invasive Alien Species in Europe’ to 9th grade students from 119th Secondary School ‘Academician Mihail Arnaudov’, 21 April 2021, Sofia, Bulgaria



Lectures and demonstration of the use of the smartphone application 'Invasive Alien Species in Europe' to 9th grade students (28 April 2021) and 11th grade students (14 May 2021) from 119th Secondary School 'Academician Mihail Arnaudov', Sofia, Bulgaria



Lectures and demonstration of the use of the smartphone application 'Invasive Alien Species in Europe' to 10th grade students and teachers from 'Prof. Dr. Asen Zlatarov' Professional High School of Ecology and Biotechnology, Sofia, Bulgaria, 8–12 July 2021; 4–6 July 2022.





## 5.2. BioBlitz campaigns

BioBlitz survey on aquatic IAS in the region of Pancharevo Lake, 13 May 2022



BioBlitz survey on IAS in the region of Pancharevo Lake, 20–21 May 2022

<https://iasbioblitz.creaf.cat/bulgaria-pancharevo-lake>

<https://iasbioblitz.creaf.cat/bulgaria-pancharevo-lake-bg>

<https://worldfishmigrationday.com/event/citizen-science-bioblitz-survey-of-invasive-alien-species/>

<https://www.inaturalist.org/projects/bioblitz-ias-bulgaria>







BioBlitz survey on terrestrial, freshwater and marine IAS plants and animals in City Garden, Varna, Bulgaria, 28 May 2022





BioBlitz surveys with students in the region of Sofia, Bulgaria, July 2021 and July 2022



### 5.3. Field campaigns (8)

In the period 2020–2022, eight field surveys were conducted with participation of scientists with the aim to record observations of IAS with the smartphone applications ‘Invasive alien species in Europe’ and iNaturalist on the territory of Bulgaria.

## 6. Presentation of project and project results at scientific conferences (12)

Joint ESENIAS and DIAS Scientific Conference and 9<sup>th</sup> ESENIAS Workshop ‘Species, ecosystems and areas of conservation concern under threat from the invasive alien species’, 03–06 September 2019, Ohrid, Republic of North Macedonia

[http://esenias.org/index.php?option=com\\_content&task=view&id=488](http://esenias.org/index.php?option=com_content&task=view&id=488)

[http://esenias.org/index.php?option=com\\_content&view=article&id=555:48&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=555:48&catid=52:esenias-news&Itemid=125)

VIII Congress on Plant Protection: „Integrated plant protection for sustainable crop production and forestry“, 25–29 November 2019, Zlatibor, Serbia

<http://plantprs.org.rs/xvii-savetovanje-o-zastiti-bilja/>

23rd International Scientific Conference ‘Knowledge in practice’ (12–15 December 2019, Bansko, Bulgaria

<https://ikm.mk/2019/10/02/23rd-international-scientific-conference-knowledge-in-practice-bansko-bulgaria/>

NEOBIOTA 2020 – 11th International Conference on Biological Invasions: The Human Role in Biological Invasions – a case of Dr Jekyll and Mr Hyde? 15–18.09.2020, Vodice, Croatia.

<https://www.neobiota.biol.pmf.hr/>

Scientific Conference ‘Healthy plants – healthy food’, 27 April 2021, Sofia, Bulgaria

Scientific Conference with International Participation ‘100 Years higher agricultural education in Bulgaria’, 27 May 2021, Stara Zagora, Bulgaria

Ninth International Conference ‘Modern trends in science’, 15–19 September 2021, Blagoevgrad, Bulgaria

National Conference with International Participation ‘Natural Sciences 2021’, 1–3 October, 2021, Shumen, Bulgaria

Joint ESENIAS and DIAS Scientific Conference and 10<sup>th</sup> ESENIAS Workshop ‘Ten years of cooperation and networking on invasive alien species in East and South Europe’, 07–09 December 2021, Virtual Format

[http://esenias.org/index.php?option=com\\_content&task=view&id=557](http://esenias.org/index.php?option=com_content&task=view&id=557)

[http://esenias.org/index.php?option=com\\_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=576:57&catid=52:esenias-news&Itemid=125)

The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest. Agriculture For Life International Conference, 2–4 June 2022, Bucharest, Romania

8th Balkan Botanical Congress, 4–8 July 2022, Athens, Greece. <https://bbc2022.org/>

Joint ESENIAS and DIAS Scientific Conference 2022 and 11<sup>th</sup> ESENIAS Workshop ‘Invasive alien species under conditions of global crisis’, 13–15 November 2022, Demre, Antalya, Türkiye

[http://esenias.org/index.php?option=com\\_content&view=article&id=579:60&catid=52:esenias-news&Itemid=125](http://esenias.org/index.php?option=com_content&view=article&id=579:60&catid=52:esenias-news&Itemid=125)